

CLIENT:	Entegro
PROJECT:	ESG Fibrus
SUBJECT:	Millom Desk Study
JOB NO.:	ST21363
DATE OF ASSESSMENT:	June 2025
PREPARED BY:	Taylor Clare – Ecologist
REVIEWED BY:	Jake Smith – Principal Ecologist
APPROVED BY:	Tosha Allen – Technical Director (Ecology)

Background

Wardell Armstrong (WA) undertook a high-level desk-based assessment of a proposed Optical Line Terminal (OLT) in Millom in June 2025 to identify potential ecological constraints to the proposed fibre optic infrastructure works. This Technical Note provides a summary of results from a desk-based assessment. The OLT covers a large area and runs from near Haverigg in the south (National Grid Reference (NGR): SD 17204 78853), before following the A5093 and A595 through Bootle (NGR: SD 10752 88272) and towards Waberthwaite (NGR: SD 10110 91549).

Survey Methods

Desk Study

A desk study was undertaken in April 2025 which included a review of Entegro's Geographic Information System (GIS) shapefiles of the site location, review of freely accessible online data sources including MAGIC Maps (DEFRA, 2025) as well species records provided by Cumbria Biodiversity Data Centre. The desk study was undertaken to establish potential ecological constraints. MAGIC Maps was used to identify any local or national statutory designated sites within 2km of the OLT boundary as well as any International designated sites within 10km, and any records of priority habitats and European protected species licences (EPSL) within 1km. The species data records were used to identify the locations of any protected/ notable species, and invasive non-native species within 1km of the OLT boundary.

Key Results

Designated Sites

The planned works are within the Impact Risk Zone (IRZ) for several SSSI designations including, the Duddon Estuary SSSI, Shaw Meadow & Sea Pasture SSSI, Annaside SSSI and Drigg Coast SSSI, some of which underpin further international designations. According to the Natural England website *"The Impact Risk Zones for Sites of Special Scientific Interest (SSSI IRZs) indicate that at the location of the planned works, there is potential for all proposed developments to have a harmful effect on terrestrial Sites of Special Scientific Interest (SSSIs) and those Special Areas of Conservation (SACs), Special*

Protection Areas (SPAs) or Ramsar sites that they underpin". The designated sites evaluation is detailed within Table 1 below.

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Table 1. Designated Sites Evaluation			
Site Name and Status ¹	Distance and Direction from Planned Works	Reason for Designation	Potential Constraints
Morecombe Bay SAC SPA and Duddon Estuary Ramsar SSSI	The planned works enter the designation at Port Haverigg Holiday Village (NGR: SD 17009 78782). Planned works also lie within 200m of the SPA designation near Silecroft (NGR: SD 12234 81169), Hill Farm (NGR: SD 07674 89335) and on Cumbria Coastal Way (NGR: SD 08026 90789).	The SAC is under article 4(4) of the Directive (92/43/EEC) as it hosts the following qualifying habitats: • Estuaries • Mudflats and sandflats not covered by seawater at low tide • Perennial vegetation of stony banks • <i>Salicornia</i> and other annuals colonizing mud and sand • Atlantic salt meadows <i>Glaucopuccinellietalia maritimae</i> • Atlantic decalcified fixed dunes <i>Calluno-Ulicetia</i> (Coastal dune heathland) • Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) • Fixed coastal dunes with herbaceous vegetation (grey dunes) • Sandbanks which are slightly covered by seas water all the time (subtidal sandbanks) • Humid dune slacks • Coastal lagoons • Reefs • Large shallow inlets and bays • Embryonic shifting dunes	There may be direct impacts to both the habitats and species within the designation through vegetation clearance and direct habitat loss where planned works enter. Furthermore, the designations may be indirectly impacted through accidental run off, air pollution and dust produced during construction works in close proximity to the designation's boundaries. Additionally, there may be impacts or disturbance to the notable bird populations as a result of noise generated during construction. There is also hydrological connectivity between the planned works and the designation, with works adjacent to the River Annas (NGRs: SD 08989 86772, SD 11564 91701 and SD 09081

¹ **Ramsar** – Site designated under the Ramsar Convention on Wetlands, **SAC** – Special Area for Conservation, **SPA** – Special Protected Area, **SSSI** – Site of Special Scientific Interest, **LNR** – Local Nature Reserve

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		- Dunes with <i>Salix repens</i> ssp. <i>Argentea</i> <i>Salicion arenariae</i> (dunes with creeping willow) The SAC is also designated under article 4(4) of the Directive (92/43/EEC) for hosting the following qualifying Annex II species: - Great crested newts <i>Triturus cristatus</i> Morecombe Bay and Duddon Estuary are also designated as an SPA under Article 4.1 of the Directive (2009/147/EC) as it is regularly used by 1% or more of the Great Britain populations of the following species listed in Annex I in any season: <table border="1"> <thead> <tr> <th>Species</th><th>Season</th><th>Count (Period)</th><th>% of population</th></tr> </thead> <tbody> <tr> <td>Whooper swan <i>Cygnus Cygnus</i></td><td>Non-breeding</td><td>113 individuals (2009/10 – 2013/14)¹</td><td>1.0% of GB population</td></tr> <tr> <td>Little egret <i>Egretta garzetta</i></td><td>Non-breeding</td><td>134 individuals (2009/10 – 2013/14)¹</td><td>3.0% of GB population</td></tr> <tr> <td>European golden plover <i>Pluvialis apricaria</i></td><td>Non-breeding</td><td>1,900 individuals (Morecambe Bay SPA citation value 1991)²</td><td>1.0% of GB population (1991)</td></tr> <tr> <td>Bar-tailed Godwit <i>Limosa lapponica</i></td><td>Non-breeding</td><td>3,046 individuals (2009/10 – 2013/14)¹</td><td>8.0% of GB population</td></tr> <tr> <td>Ruff <i>Calidris pugnax</i></td><td>Non-breeding</td><td>8 individuals (2009/10 – 2013/14)¹</td><td>1.0% of GB population</td></tr> <tr> <td>Mediterranean gull <i>Larus melancephalus</i></td><td>Non-breeding</td><td>18 individuals (2009/10 – 2013/14)¹</td><td>1.0% of GB population</td></tr> <tr> <td>Little tern <i>Sternula albifrons</i></td><td>Breeding</td><td>84 individuals (2010 – 2014)³</td><td>2.2% of GB population</td></tr> <tr> <td>Sandwich tern <i>Sterna sandvicensis</i></td><td>Breeding</td><td>1,608 individuals (1988 - 1992)⁴</td><td>5.7% of GB population (1992)</td></tr> <tr> <td>Common tern <i>Sterna hirundo</i></td><td>Breeding</td><td>570 individuals (Morecambe Bay SPA citation value 1991)⁵</td><td>2.0% of GB population (1991)</td></tr> </tbody> </table> The site qualifies under Article 4.2 of the Directive (79/409/EEC) as it is used regularly by 1% or more of the biogeographical populations of the following	Species	Season	Count (Period)	% of population	Whooper swan <i>Cygnus Cygnus</i>	Non-breeding	113 individuals (2009/10 – 2013/14) ¹	1.0% of GB population	Little egret <i>Egretta garzetta</i>	Non-breeding	134 individuals (2009/10 – 2013/14) ¹	3.0% of GB population	European golden plover <i>Pluvialis apricaria</i>	Non-breeding	1,900 individuals (Morecambe Bay SPA citation value 1991) ²	1.0% of GB population (1991)	Bar-tailed Godwit <i>Limosa lapponica</i>	Non-breeding	3,046 individuals (2009/10 – 2013/14) ¹	8.0% of GB population	Ruff <i>Calidris pugnax</i>	Non-breeding	8 individuals (2009/10 – 2013/14) ¹	1.0% of GB population	Mediterranean gull <i>Larus melancephalus</i>	Non-breeding	18 individuals (2009/10 – 2013/14) ¹	1.0% of GB population	Little tern <i>Sternula albifrons</i>	Breeding	84 individuals (2010 – 2014) ³	2.2% of GB population	Sandwich tern <i>Sterna sandvicensis</i>	Breeding	1,608 individuals (1988 - 1992) ⁴	5.7% of GB population (1992)	Common tern <i>Sterna hirundo</i>	Breeding	570 individuals (Morecambe Bay SPA citation value 1991) ⁵	2.0% of GB population (1991)	86697), Kinmont Beck (NGRs: SD 10815 88473 and SD 10881 88215) and Millergill Beck (NGR: SD 11483 84628) which flow into the SPA designation downstream.
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Table 1. Designated Sites Evaluation			
Site Name and Status ¹	Distance and Direction from Planned Works	Reason for Designation	Potential Constraints
		It qualifies under the following Ramsar criterion: • Criterion 4 – the site is a staging area for migratory waterfowl including internationally important numbers of passage common ringed plover • Criterion 5 – internationally important waterfowl assemblage greater than 20,000 birds • Criterion 6 – over winter the site regularly supports internationally important populations of bar-tailed godwit, curlew, dunlin, grey plover, knot, oystercatcher, pink-footed geese, pintail, redshank, shelduck and turnstone.	
Drigg Coast SAC SSSI	The closest planned works lie approximately 700m south of the designation, along Cumbria Coastal Way (NGR: SD 08031 90925).	The SAC is under article 4(4) of the Directive (92/43/EEC) as it hosts the following qualifying habitats: • Estuaries • Atlantic decalcified fixed dunes (<i>Calluno-Ulicetea</i>) • Dunes with <i>Salix repens</i> ssp. <i>argentea</i> (<i>Salicion arenariae</i>) • Mudflats and sandflats not covered by seawater at low tide • <i>Salicornia</i> and other annuals colonizing mud and sand • Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) • Embryonic shifting dunes • Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) • Fixed coastal dunes with herbaceous vegetation (grey dunes) • Humid dune slacks	Due to the minimal nature of the planned works within existing road infrastructure, and the distance between them and the designation, no direct impacts or indirect impacts to the designation through dust or air pollution are anticipated. However, there is hydrological connectivity between the planned works and the designation, with works adjacent to Eskmeals Pool (NGR: SD 10669 91510), which flows into the designation approximately 5.25 km downstream via the River Esk's

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Table 1. Designated Sites Evaluation			
Site Name and Status ¹	Distance and Direction from Planned Works	Reason for Designation	Potential Constraints
		The site is also designated as a SSSI due to its coastal habitats and the diverse floral and faunal species it supports. Habitats within the designation include both fixed and mobile dunes, dune slacks, vegetated shingle, fixed dune grasslands and large areas of dune heath and saltmarsh. Rare or notable plant species include moonwort <i>Botrychium lunaria</i>, adder's-tongue <i>Ophioglossum vulgatum</i>, royal fern <i>Osmunda regalis</i>, northern marsh orchid <i>Dactylorhiza purpurella</i>, pyramidal orchid <i>Anacamptis pyramidalis</i>, limestone bedstraw <i>Galium sternerii</i>, common twayblade <i>Neottia ovata</i>, bee orchid <i>Ophrys apifera</i>, field gentian <i>Gentianella campestris</i>, ephemeral pearlwort <i>Sagina maritima</i>, lax-flowered sea-lavender <i>Limonium humile</i> and slender spike-rush <i>Eleocharis uniglumis</i>. Over ten species of dragonfly, over twenty species of butterfly, including the dark green fritillary <i>Speyeria aglaja</i> and the small pearl-boarded fritillary <i>Boloria selene</i>, as well as a nationally rare weevil and woodlouse species are also known to inhabit the dune habitats. Lastly, the site supports one of the two largest natterjack toad colonies in England, as well of populations of all common amphibians, great crested newts and all common reptiles.	estuary. Considering the small scale nature of the works and the distance downstream, indirect impacts to the designation via hydrological connectivity are considered unlikely.
Duddon Mosses SAC SSSI	The closest planned works lie approximately 5.37km south-west of the designation, along the A5093 (NGR: SD 15503 80122).	The SAC is under article 4(4) of the Directive (92/43/EEC) as it hosts the following qualifying habitats: • Active raised bogs • Degraded raised bogs still capable of natural regeneration The SSSI designation that underpins the SAC, has been designated in support of the extensive system of raised mires and their associated bog, wet heath, scrub, broad-leaved and mixed woodland, and acid grassland communities. Given the	Due to the minimal nature of the planned works within existing road infrastructure, and the distance between them and the designation, no direct impacts or indirect impacts to the designation through dust or air pollution are anticipated.

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Table 1. Designated Sites Evaluation			
Site Name and Status ¹	Distance and Direction from Planned Works	Reason for Designation	Potential Constraints
		array of habitat types within the site, the SSSI is known to support a diverse floral and faunal community, with known populations of roe deer <i>Capreolus capreolus</i> , adder <i>Vipera berus</i> , common lizard <i>Zootoca vivipara</i> , common toad <i>Bufo bufo</i> , common frog <i>Rana temporaria</i> and rich breeding bird and invertebrate assemblages.	Furthermore, there is no hydrological connectivity between the planned works and the designation, and as such, pollution through accidental run off is considered unlikely. Finally, notable breeding bird populations are also unlikely to be impacted by the planned works, as noise created during construction is unlikely to exceed that of existing vehicular noise or travel the distance between the works and the designation.
Shaw Meadow & Sea Pasture SSSI	The planned works lie immediately adjacent to the designation, along Main Street, Silecroft (NGR: SD 12236 81176).	This Site has been designated as a SSSI as it contains a diverse range of heath, wet pasture, mire, gorse, scrub and grassland habitat types. Shaw Meadow comprises of a heath community established on an old ridge and furrow system, with the ridges being dominated by heather <i>Calluna vulgaris</i> and dwarf gorse <i>Ulex galli</i> and is of particular significance being the best-known example of this community in Cumbria, and so far, is known as the most northerly example in Britain. Sea pasture supports a similar community to Shaw Meadow but lacks the dwarf shrubs and is dominated by a range of grasses and sedges including red fescue <i>Festuca rubra</i> , sweet vernal-grass <i>Anthoxanthum odoratum</i> , common <i>Carex nigra</i> and carnation sedges <i>C. panicea</i> , with herbs such as dyer's greenweed <i>Genista tinctoria</i> and common knapweed <i>Centaurea nigra</i> . Further	As the planned works do not enter the designation and take place within existing road infrastructure, no direct impacts are anticipated. However, there may be indirect to the habitats in which the site is designated for through accidental run off, air pollution and dust produced during construction.

Technical Note

Table 1. Designated Sites Evaluation			
Site Name and Status¹	Distance and Direction from Planned Works	Reason for Designation	Potential Constraints
		interest is provided by the occurrence of two plants of local interest, adder's tongue fern and northern marsh-orchid, with both occurring in good numbers.	
Annaside SSSI	The closest planned works lie approximately 410m east of the designation, near Little Annaside (NGR: SD 09087 86622).	This site is designated as a SSSI as it forms one link in the chain of nationally important natterjack toad colonies on the west coast of Cumbria. The site comprises a narrow strip of land bounded by the sea on its western margin, and the River Annas to the east. The vegetation shows a transition from coastal shingle and sand dunes through to dune grassland and semi-improved grassland further inland. Within the grasslands are a series of shallow pools used as the breeding ground for upwards of fifty adult toads, whilst the surrounding land provides important terrestrial habitat for foraging and winter hibernation.	Due to the minimal nature of the planned works within existing road infrastructure, and the distance between them and the designation, no direct impacts or indirect impacts to the designation through dust or air pollution are anticipated. However, there is hydrological connectivity between the planned works and the designation, with works lying adjacent to the River Annas (NGRs: SD 08989 86772, SD 11564 91701 and SD 09081 86697), Kinmont Beck (NGRs: SD 10815 88473 and SD 10881 88215) and Millergill Beck (NGR: SD 11483 84628) which later flow immediately adjacent to the coastal designation.
Millom Ironworks LNR	The closest planned works lie approximately 1.25km south-west of the designation, at Port	This site is designated as an LNR for the habitats it comprises of, including large slag piles, which are being slowly colonised by plants and animals alike, areas of species rich grassland and a pond supporting natterjack toads. Butterflies and ground nesting birds are also frequent onsite.	Due to the minimal nature of the planned works within existing road infrastructure, and the distance and limited ecological connectivity

Technical Note

Table 1. Designated Sites Evaluation			
Site Name and Status ¹	Distance and Direction from Planned Works	Reason for Designation	Potential Constraints
	Haverigg Holiday Village (NGR: SD 17204 78853).		between them and the designation, no direct indirect impacts are anticipated. Notable bird populations are also unlikely to be impacted by the planned works, as noise created during construction is unlikely to exceed that of existing vehicular noise or travel that far.

Priority Habitats

The following Priority Habitats are located within 100m of the OLT:

- Coastal and floodplain grazing marsh
- Deciduous woodland
- Good quality semi-improved grassland
- Grass moorland
- Lowland heathland
- Saline lagoons
- Traditional orchard
- Upland heathland

In addition to the Priority Habitats listed above, 22 ponds were identified within 250m of planned works (Appendix 1), one of which also lies within 50m. These ponds have the potential to be 'Habitats of Principal Importance', as well as support a number of protected and notable species.

Protected Species

Table 2: Protected and Notable Species Evaluation		
Receptor (species/taxa)	Status ²	Desk Study records
Badger <i>Meles meles</i>	BA	Three records of badger were returned within 1km of the planned works from the previous 10 years. No records of a badger setts were returned.
Bats <i>Chiroptera</i>	EPS, WCA, s.41,	No records of granted EPSLs for bats were identified. However, the data search returned 11 records of bats, including the following species: • Myotis bat species <i>Myotis</i> spp. • Noctule bat <i>Nyctalus noctula</i> • Pipistrelle bat species <i>Pipistrellus</i> spp. • Soprano pipistrelle <i>Pipistrellus pygmaeus</i> • Brown long-eared bat <i>Plecotus auritus</i> The closest records was of a foraging common pipistrelle immediately adjacent to the planned works near Annaside Farm (NGR: SD 091 866).

² **EPS** – European Protected Species, **WCA** – Wildlife and Countryside Act, **WCA (9)** – species listed under Schedule 9, **A1** – Annex 1 (Birds Directive), **BA** – Protection of Badgers Act, **s.41** – species listed under section 41 of the NERC Act as species of principal importance, **BoCC** – Birds of Conservation Concern.

Table 2: Protected and Notable Species Evaluation

Receptor (species/taxa)	Status ²	Desk Study records
Birds	s.41, WCA BoCC	There were 3315 records returned of protected or notable bird species, including 540 records of WCA Schedule 1 and s.41 listed species. Records of Schedule 1 and s.41 species included: • Greylag goose <i>Anser anser</i> • Scaup <i>Aythya marila</i> • Long-tailed duck <i>Clangula hyemalis</i> • Whooper swan <i>Cygnus cygnus</i> • Common scoter <i>Melanitta nigra</i> • Little gull <i>Hydrocoloeus minutus</i> • Roseate tern <i>Sterna dougallii</i> • Wood sandpiper <i>Tringa glareola</i> • Greenshank <i>Tringa nebularia</i> • Spoonbill <i>Platalea leucorodia</i> • Red-throated diver <i>Gavia stellata</i> • Slavonian grebe <i>Podiceps auritus</i> • Whimbrel <i>Numenius phaeopus</i> • Kingfisher <i>Alcedo atthis</i> • Great northern diver <i>Gavia immer</i> • Redwing <i>Turdus iliacus</i> • Lapwing <i>Vanellus Vanellus</i> • Curlew <i>Numenius arquata</i> • Cuckoo <i>Cuculus canorus</i> • Skylark <i>Alauda arvensis</i> • Reed bunting <i>Emberiza schoeniclus</i> • Lesser redpoll <i>Acanthis cabaret</i> • House sparrow <i>Passer domesticus</i> Many of the records were located offshore, however, some lay immediately adjacent to the planned works, including a record of a redwing near Hycemoor (NGR: SD 091 907).
Brown hare <i>Lepus europaeus</i>	s.41	Two records of brown hare were returned. The closest record lay immediately adjacent to the planned works between High Hyton Farm and Far Hyton Farm (NGR: SD 09170 87573).
European hedgehog <i>Erinaceus europaeus</i>	s.41	There were 29 records of hedgehog returned. Numerous records lay immediately adjacent to the planned works, including records in Hycemoor (NGR: SD 08995 89858) and Bootle (NGR: SD 10482 88304).

Table 2: Protected and Notable Species Evaluation

Receptor (species/taxa)	Status ²	Desk Study records
Great crested newt <i>Triturus cristatus</i>	EPS, WCA, s.41	Data searches returned no records of GCN within 1km of the planned works. Furthermore, there were no records of granted EPSLs or positive GCN Pond Survey results within 1km. However, one Class Survey Licence Return with GCN presence was reported near Silecroft (NGR: SD117821), approximately 1.05km north-west of the nearest planned works. There are 22 ponds within 250m of planned works (Appendix 1), 1 of which also lies within 50m (NGR: SD 11278 88357).
Toads	WCA, s.41	Twenty-six records of natterjack toad <i>Epidalea calamita</i> and one record of common toad <i>Bufo bufo</i> were returned. The closest record was of a natterjack toad and lay approximately 270m south-west of the planned works along the A595 (NGR: SD 11220 85070).
Common reptiles	WCA, s.41	Four records of common lizard <i>Zootoca vivipara</i> were returned. All records were located in RSPB Hodbarrow Reserve, with the closest approximately 725m east of the planned works in Port Haverigg Holiday Village (NGR: SD 1785 7852).
Protected and notable invertebrates	WCA, s.41	There were 135 records of protected and notable invertebrates returned, including 98 records of WCA or s.41 listed species. Records of WCA or s.41 listed species include: • Black oil-beetle <i>Meloe proscarabaeus</i> • Ghost moth <i>Hepialus humuli</i> • Dingy skipper <i>Erynnis tages</i> • Small heath <i>Coenonympha pamphilus</i> • Wall <i>Lasiommata megera</i> • Grayling <i>Hipparchia semele</i> • Northern brown argus <i>Aricia artaxerxes artaxerxes</i> • Latticed heath <i>Chiasmia clathrate</i> • Small phoenix <i>Ecliptopera silaceata</i> • Shaded broad-bar <i>Scotopteryx chenopodiata</i> • Dark-barred twin-spot carpet <i>Xanthorhoe ferrugata</i> • Garden tiger <i>Arctia caja</i> • White ermine <i>Spilosoma lubricipeda</i> • Buff ermine <i>Spilosoma lutea</i> • Cinnabar <i>Tyria jacobaeae</i> • Grey dagger <i>Acronicta psi</i> • Knot grass <i>Acronicta rumicis</i> • Small square-spot <i>Diarsia rubi</i> • White-line dart <i>Euxoa tritici</i>

Table 2: Protected and Notable Species Evaluation

Receptor (species/taxa)	Status ²	Desk Study records
		• Crescent <i>Helotropha leucostigma</i> • Rosy rustic <i>Hydraecia micacea</i> • Rustic <i>Hoplodrina blanda</i> • Centre-barred sallow <i>Atethmia centrigo</i> Numerous records of WCA or s.41 listed species lay immediately adjacent to the planned works, including the record of a buff ermine in Bootle (NGR: SD 1051 8831). However, many of the records of WCA or s.41 listed species only provided 4-figure OS Grid References so proximity of record to the planned works could not be accurately determined. The majority of these records are thought to be from RSPB Hodbarrow Reserve.
Otter <i>Lutra lutra</i>	EPS, WCA, s.41	Seven records of otter were returned. The closest record was located immediately adjacent to the planned works near Skellerah Bridge, Corney (NGR: SD 1156 9170).
Red squirrel <i>Sciurus vulgaris</i>	WCA, s.41	No records of red squirrel were returned.
Water vole <i>Arvicola amphibius</i>	WCA, s.41	No records of water vole were returned.
White-clawed crayfish <i>Austropotamobius pallipes</i>	EPS, WCA, s.41	No records of white-clawed crayfish were returned.
Protected and notable fish species	EPS, s.41	Two records of protected or notable fish species were returned from within 1km of the planned works, including the following species: • European eel <i>Anguilla Anguilla</i> • Brook lamprey <i>Lampetra planeri</i> Both records of the protected or notable fish species, one European eel and one brook lamprey were located in Whicham Beck (NGR: SD 135 815), approximately 580m south-east of the nearest planned works, along Main Street, Silecroft.
Protected and notable plant species	WCA, s.41	There were 67 records of protected or notable plant species returned, including the following species: • Bluebell <i>Hyacinthoides non-scripta</i> • Pyramidal orchid • Early marsh-orchid <i>Dactylorhiza incarnata</i> • Northern marsh-orchid • Lesser butterfly-orchid <i>Platanthera bifolia</i> • Marsh hellebrine <i>Epipactis palustris</i>

Table 2: Protected and Notable Species Evaluation

Receptor (species/taxa)	Status ²	Desk Study records
		• Common twayblade • Bogbean <i>Menyanthes trifoliata</i> • Corn spurrey <i>Spergula arvensis</i> • Lax-flowered sea-lavender • Sun spurge <i>Euphorbia helioscopia</i> • Sea spurge <i>Euphorbia paralias</i> • Petty spurge <i>Euphorbia peplus</i> • Sea buckthorn <i>Hippophae rhamnoides</i> The closest record of a protected or notable plant species to planned works was of a lesser butterfly-orchid approximately 160m south of planned works on Main Street, Silecroft (NGR: SD 12198 81011). Many of the records only provided 4-figure OS Grid References so proximity of the protected and notable plant to the planned works could not be accurately determined.
Non-native invasive species (INNS)	WCA (9)	One record of a grey squirrel <i>Sciurus carolinensis</i> was returned. This record was located approximately 130m north-west of the planned works in Silecroft (NGR: SD 130 820). One record of an American mink <i>Neovison vison</i> was also reported. This record was located approximately 650m west of planned works along Steel Green (NGR: SD 1608 7868). Data searches also returned 10 records of INNS plant species, including the following Schedule 9 species: • Himalayan balsam <i>Impatiens glandulifera</i> • Variegated yellow archangel <i>Lamium galeobdolon</i> subsp. <i>argenteum</i> • Montbretia <i>Crocodymia pottsii</i> x <i>aurea</i> = <i>C. x crocosmiiflora</i> • Japanese rose <i>Rosa rugosa</i> • New Zealand Pigmyweed <i>Crassula helmsii</i> The closest record to planned works was of New Zealand pigmyweed located at NGR: SD 3797 8135 approximately 310m south-west of planned works near Silecroft Holiday Park (NGR: SD 1233 8087). Several records only provided 4-figure OS Grid References so proximity of the INNS to the planned works could not be accurately determined. Montbretia was reported at NGRs: SD1280, SD1281 and SD1778, Japanese rose at NGRs: SD1577 and SD1578, variegated yellow archangel reported at NGR: SD1778 and New Zealand pigmyweed at SD1778.

Potential Impacts and Mitigation

International Designated Sites

The planned works enter the overlapping Morecombe Bay SAC SPA and Duddon Estuary Ramsar designated sites at NGR: SD 17119 7882, and as such, may lead to direct impacts to the qualifying habitats and species through vegetation clearance, habitat loss and degradation or incidental harm caused by works. Furthermore, where works lie in close proximity to the designation boundaries (NGRs: SD 12234 81169, SD 07674 89335 and SD 08026 90789), the designation may be indirectly impacted through accidental run off, air pollution and dust produced during construction works. Furthermore, the designated sites are also hydrologically connected to the planned works, with works immediately adjacent to the River Annas (NGRs: SD 08989 86772, SD 11564 91701 and SD 09081 86697), Kinmont Beck (NGRs: SD 10815 88473 and SD 10881 88215) and Millergill Beck (NGR: SD 11483 84628) which later flow into the SPA designation downstream. As such, the planned works may lead to indirect impacts through accidental pollution via run-off into a watercourse upstream, air pollution and dust. Additionally, the notable breeding and wintering bird populations within the designation may also be impacted through disturbance by noise created during construction.

The planned works also have the potential to indirectly impact the Drigg Coast SAC / SSSI through accidental pollution via run-off into a watercourse upstream, air pollution and dust. There is hydrological connectivity between the designations and the planned works, where the works cross Eskmeals Pool (NGR: SD 10669 91510), which later flows into the designation via the estuary of the River Esk.

Due to work taking place within international designations, it is recommended a Habitats Regulation Assessment (HRA) is undertaken to assess any likely significant effects from planned works on the abovementioned SAC SPA ramsar designations. Due to the location of the works being in close proximity to several international designations, it is also recommended that Natural England are consulted in relation to any proposed developments.

National Designated Sites

The planned works enter the Duddon Estuary SSSI designated site at NGR: SD 17119 7882, and as such, may lead to direct impacts to the qualifying habitats and species through vegetation clearance, habitat loss and degradation or incidental harm caused by works. As such, the LPA will be required to be notified of the planned works which lie inside the Duddon Estuary SSSI boundaries.

The planned works also lie in close proximity to Shaw Meadow & Sea Pasture SSSI designation (NGR: SD 12236 81176), and therefore, may cause indirect impacts through accidental pollution via run-off, air pollution and dust. There is also hydrological connectivity between the planned works and the Annaside (SSSI) designation, with works lying adjacent to the River Annas (NGRs: SD 08989 86772, SD

11564 91701 and SD 09081 86697), Kinmont Beck (NGRs: SD 10815 88473 and SD 10881 88215) and Millergill Beck (NGR: SD 11483 84628) which later flow alongside the coastal designation's boundary.

Furthermore, the planned works also fall under the criteria for 'Infrastructure (Pipelines and underground cables, pylons and overhead cables)' so may result in adverse impacts upon nearby SSSIs. Therefore, LPA notification may be required, as they have a duty to consult Natural England on any development that is in or likely to affect a SSSI. However, it is currently considered that any indirect impacts to SSSI designated sites could be mitigated through the implementation of an EMP.

Finally, the planned works also lie within 2km of two SSSI's designated for their geological features. Annaside & Gutterby Banks SSSI is designated for its cliff exposures and lies approximately 270m west of the closest planned works near Little Annaside (NGR: SD 08964 86560). Buckbarrow Beck SSSI is designated for its range of stream and hillside exposures and lies approximately 1.92km east of the closest planned works in Corney (NGR: SD 11723 91288). Given their geological nature, no ecological impacts to the designations are anticipated. However, should groundworks take place in close proximity to either designation, damage to the geological exposures may occur. As such, it is recommended that if works are to take place nearby to either designation, advice is sought from a suitably qualified geologist.

Priority Habitats

Although the majority of the planned works are scheduled to use existing road infrastructure, there are small sections which cut through areas of Priority Habitat coastal and floodplain grazing marsh (NGRs: SD 09036 86716 and SD 09018 86893). As such, the works have the potential to impact upon these habitats through direct loss of habitat, if vegetation clearance is to be required. It is therefore recommended that the OLT should be redesigned to ensure that only existing road infrastructure is utilised throughout. It is also recommended that where works are to be carried out in close proximity to areas of Priority Habitat deciduous woodland (NGRs: SD 17112 78810, SD 14501 80703, SD 10777 88061, SD 11197 89167, SD 10615 91501 and SD 11404 91215) or traditional orchards (NGRs: SD 10122 91511, SD 10955 88240, SD 11093 88274, SD 09042 86957, SD 11280 85320, SD 11480 84647 and SD 14080 80780) that specialist arboriculture advice is sought to identify the necessary survey and/or mitigation requirements.

There may also be indirect impacts to both the above-mentioned habitats and additional priority habitats via accidental pollution and dust. There are several watercourses within proximity to the OLT, where accidental pollution may impact priority habitats downstream. Pollution prevention measures should be detailed within an EMP.

Protected Species

Bats

Eleven records of bats were returned within 1km of planned works, and suitable roosting, foraging and commuting habitats are adjacent and close to planned works. Therefore, bats may be present in close proximity to the works and may be impacted e.g. via a temporary increase in noise or artificial lighting. Roosting bats may be impacted if trees are to be felled/pruned or commuting routes are fragmented e.g. lines of trees or hedgerows. Most of the works are within existing infrastructure and are unlikely to require vegetation clearance, however, tree felling should be avoided and pruning minimised. If trees will be impacted by the proposed works, a Daytime Bat Walkover (DBW) will be required to assess the impacted trees potential to support roosting bats and identify if further survey or mitigation is required. Protection measures for bats should be included within the EMP.

Birds

Numerous records of notable and protected bird species were returned in the desk study, however, as most of the works are within existing infrastructure, habitat loss will be minimal and major impacts on these species are unlikely. However, to avoid works affecting nesting birds, it is recommended that any vegetation clearance (if required) should avoid the nesting bird season (March - August inclusive), particularly where the planned works run adjacent to sections of woodland (NGRs: SD 17112 78810, SD 14501 80703, SD 10777 88061, SD 11197 89167, SD 10615 91501, SD 11404 91215, SD 10122 91511, SD 10955 88240, SD 11093 88274, SD 09042 86957, SD 11280 85320, SD 11480 84647 and SD 14080 80780). If such timescales cannot be accommodated, a check for the presence of active nests and nesting birds should be undertaken by a suitably qualified ecologist no more than 48hrs prior to the commencement of works. Any active nests should be identified and protected, subject to the relevant legal provisions, until the nesting attempt is complete or abandoned (to be confirmed by a suitably experienced ecologist).

Badger, brown hare and hedgehog

The desk study revealed three records of badger, two records of brown hare and 29 records of hedgehog. Additionally, suitable habitat for these species can be found near to the planned works. Therefore, there may be impacts to this species during construction works, especially in locations where the planned works do not utilise existing infrastructure or are located adjacent to woodland parcels, hedgerows or lines of trees. Impacts to these species during construction works can be avoided by measures which should be outlined in an EMP and may require a pre-commencement walkover survey. Where works cut through or are located within 30m hedgerows, treelines and woodland edges, a pre-construction walkover of these planned works is recommended to identify if these species present and the appropriate mitigation measures required.

Great crested newt

The desk study returned no data records of GCN. Furthermore, no records of granted EPSLs, GCN Class Survey Licence Returns with GCN presence, or positive GCN Pond Survey results were found. There are, however, 22 ponds within 250m of planned works, one of which also lie within 50m. There is suitable terrestrial habitat in the form of woodland edges, scrub, hedgerows and grassland parcels surrounding the ponds and planned works are within or near these suitable terrestrial habitats. The ponds appear to be suitable for GCN with good suitable terrestrial habitat in the immediate vicinity, therefore environmental DNA (eDNA) analysis of the ponds is recommended to confirm the presence or absence of GCN. Should it not be possible to undertake eDNA analysis, planned works in close proximity to these ponds must be undertaken under ecological supervision from a licenced ecologist and following protection measures detailed within an EMP. If GCN are present, then a District Level Licence (DLL) may be required to facilitate the works. Where vegetation clearance and works are to take place in close proximity to suitable habitat for GCN, protective measures detailed within an EMP must be followed.

Common toad

The desk study revealed one record of common toad, whilst suitable terrestrial habitat is present to support common toad nearby to some of the sections of planned works. Furthermore, the aforementioned ponds also provide suitable habitat for breeding. As such, there may be impacts to this species during planned works. Therefore, where vegetation clearance and works are to take place within, or in close proximity to, suitable habitat for amphibians, protective measures should be detailed in an EMP and must be followed.

Natterjack toad

The desk study revealed 26 records of natterjack toads. Furthermore, the aforementioned ponds may also be suitable to support natterjack toads. There is suitable terrestrial habitat is also present nearby to planned works, particularly within the Morecombe Bay SAC SPA, Duddon Estuary ramsar SSSI, Drigg Coast SAC SSSI, Annaside SSSI and Millom Ironworks LNR. Therefore, where eDNA analysis of the ponds within 250m of the planned works is performed to confirm presence or absence of GCN, it is recommended that the presence of natterjack toads is also assessed for. Should it not be possible to undertake eDNA analysis, planned works in close proximity to these ponds must be undertaken under ecological supervision from a licenced ecologist and following protection measures detailed within the EMP. If natterjack toads are present, Natural England licence may be required to facilitate the works. Where vegetation clearance and works are to take place in close proximity to suitable habitat for natterjack toad, protective measures will be detailed in an EMP and must be followed.

Common reptiles

The desk study revealed four records of common lizard. As most of the works are within existing infrastructure, habitat loss will be minimal and major impacts on these species are unlikely. However, as previously mentioned, the planned works run adjacent to sections of suitable habitat, particularly near RSPB Hodbarrow, where records show that reptiles are located. As suitable habitat is present for reptiles in these areas (e.g. woodland edge and coastal scrubland), vegetation clearance could lead to killing/injuring of reptiles. If possible planned works should be relocated to avoid habitat clearance. If works cannot be relocated, then supervision of vegetation clearance and constructions may be required alongside protection measures outlined within an EMP.

Red squirrel

Data searches returned no records of red squirrel within 1km of the planned works, however, it is well known that this species is present in the area due to the presence of suitable woodland habitat. To avoid impacts to this species, tree felling and pruning should be avoided. If tree felling or pruning is required, it is recommended this avoids the red squirrel breeding season (February – September inclusive). If this isn't possible, then a pre-works check of trees for red squirrel will be required by a suitably qualified ecologist.

Otter, white-clawed crayfish and other protected fish species

The desk study revealed seven records of otter and two records of notable or protected fish species. No records of white clawed crayfish were returned. Otter may be impacted by disturbance from works adjacent to or near watercourses. As such, it is recommended that a survey to check for the presence of otter is conducted where works are scheduled to cross the Skellerah Bridge, Corney (NGR: SD 1156 9170), close to previous records. Otters and other protected aquatic species (e.g. fish), may also be indirectly adversely impacted by accidental pollution to rivers, lakes and the numerous other connected watercourses. Pollution may also negatively impact the invertebrate assemblage of watercourses and waterbodies which, in turn, would impact on species such as European protected fish species and otter. Pollution prevention and protection measures should be outlined within an EMP, in order to mitigate any impacts of pollution run-off.

Protected and notable invertebrate and plant species

There were numerous records of protected and notable invertebrate and plant species. As the majority of the works in the OLT are to take place utilising existing infrastructure and are not situated in supporting habitat for protected plant and invertebrate species, it is unlikely that planned works will have major impacts. However, some sections of the works do deviate from existing road infrastructure or are located adjacent to habitats that may be suitable to support protected plant and invertebrate species, such as sections of ancient woodland and nearby road verges, which may be suitable for native bluebell, or the protected invertebrate species mentioned in Table 2 above. To reduce the impacts to these species, it is therefore recommended that the OLT should be redesigned

to ensure that only existing road infrastructure is utilised throughout. However, should this not be possible, and vegetation clearance be required, particularly in areas of suitable habitat, protective measures outlined should be outlined within an EMP, which may include a pre-construction walkover of these sections of planned works.

Invasive non-native species

The desk study revealed 10 records of INNS plant species, including the following species: Himalayan balsam, variegated yellow archangel, montbretia, Japanese rose and New Zealand pigmyweed. As such, the planned works hold the potential to facilitate the spread of these species, which would constitute an offence under the WCA. Furthermore, the locations of many of the records of INNS were only available to the nearest 1km grid reference square so accurate proximity to the OLT could not be determined. As such, these INNS could be present close to the OLT, and the proposed works could facilitate the spread of these species too. We recommend a pre-construction walkover of works close to records of INNS, watercourses or ditches, as well as within the following grid references: SD1280, SD1281, SD1577 and SD1578 and SD1778. These walkovers will identify any INNS present adjacent to the works and where measures will be required to prevent the spread of INNS. These measures should be outlined within the EMP.

Summary

In summary, the planned works within the Millom OLT have potential to impact upon the Morecombe Bay SAC SPA, Duddon Estuary Ramsar SSSI, Drigg Coast SAC SSSI, Annaside SSSI and Shaw Meadow & Sea Pasture SSSI designations, to impact priority habitats and the following protected species: bats, birds, badgers, brown hare, hedgehog, great crested newt, common toad, common reptiles, otter and other protected aquatic, plant or invertebrate species. The works may also facilitate the spread of INNS.

It is therefore recommended that the following surveys/assessments are undertaken:

- Habitats Regulation Assessment for Morecombe Bay SAC SPA Duddon Estuary Ramsar and Drigg Coast SAC designated sites
- SSSI Notification for works inside the Duddon Estuary SSSI
- Works to follow measures within an Ecological Management Plan.
- Arboricultural Impact Assessments (AIA) where works lie adjacent to priority woodlands.
- Daytime Bat Walkover (DBW) of any trees should they need to be felled/pruned.
- Vegetation clearance undertaken outside of the bird nesting season and red squirrel breeding season, or pre-works inspection carried out by an appropriately qualified ecologist.

- eDNA survey of GCN and natterjack toad suitable ponds or works nearby to be undertaken under ecological supervision.
- Otter survey where works are scheduled to cross the River Annas at Skellerah Bridge, Corney.
- Invasive non-native species walkover.

References

DEFRA (2025) *MAGIC Maps* <https://magic.defra.gov.uk/MagicMap.aspx>

Appendix 1 – Millom Pond Locations

Pond Number	OS Grid Reference
1	SD 17055 78768
2	SD 16831 78902
3	SD 16738 78911
4	SD 16602 78889
5	SD 16535 79460
6	SD 13928 80534
7	SD 13794 80635
8	SD 13994 80889
9	SD 13979 80929
10	SD 13951 81008
11	SD 13226 81752
12	SD 12247 81116
13	SD 11825 84681
14	SD 10943 88472
15	SD 10525 88384
16	SD 09127 86903
17	SD 09216 89285
18	SD 09409 90016
19	SD 11278 88357
20	SD 11075 91445
21	SD 11437 91564
22	SD 11599 91179