Biodiversity Net Gain Assessment

Prepared by: Arthian Ltd.

For: Westport Energy Storage Ltd.

Site: Westport BESS

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Quality Assurance

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1. Introduction

1.1 Brief

1.1.1 Arthian Ltd. (Arthian) has been requested by Westport Energy Storage Ltd. (the Client) to undertake and provide a report for a Biodiversity Net Gain assessment on land at Westport, East Ayrshire centred on National Grid Reference: NS 48099 20888 (the Site) for the construction and operation of a Battery Energy Storage System (BESS) development with a capacity of up to 150MW and its associated infrastructure (the Proposed Development).

1.1.2 The Scottish Governments National Planning Framework 4 (NPF4) Policy 3 requires biodiversity to be considered in developments. NPF4 Policy 3 does not specify or require a particular assessment approach or methodology to demonstrate the delivery of positive effects for biodiversity. Therefore, in the absence of an established Scottish approach, England's statutory biodiversity metric has been used to measure biodiversity on this development site.

1.2 Proposed Development

1.2.1 The development includes a hardstanding compound for battery storage and buildings/structures, surrounded by an acoustic fencing. The remainder of the existing field will continue to be managed as farmland, and new landscaping will be created around the development area.

1.2.2 A 33kV overhead line crosses the middle of the site and an 11kV overhead line crosses at the east corner and briefly at the north. The development layout has been designed to avoid these lines and maintain a buffer between them.

1.3 Purpose of this Report

1.3.1 This report has been produced to document whether the Proposed Development will result in a net gain or loss in biodiversity. This report is intended to be submitted as part of the planning application and complements the metric itself, which is included as an Excel spreadsheet.

2. Methodology

2.1 Baseline Habitats

2.1.1 The onsite baseline habitats have been informed by a Phase 1 Habitat Survey, using methodology set out in the 'Handbook for Phase 1 Habitat Survey: A technique for Environmental Audit' report (JNCC, 2010) undertaken on the 30th October 2024 by Arthian. The pre-development baseline habitat areas were calculated using measurements from the pre-development Phase 1 Habitat Plan (Appendix A).

2.2 Proposed Development

2.2.1 The post-development habitat areas were calculated from the Proposed Landscape Plan (Arthian, 2025). The plan is shown in Appendix B.

2.3 Biodiversity Units

2.3.1 The statutory biodiversity metric calculation tool (hereafter referred to as the biodiversity metric tool) was used to calculate the change in biodiversity units and the overall percentage of gain / loss. The biodiversity metric tool has been submitted as a separate Excel document and should be read in conjunction with this report.

2.4 Metric Principles

2.4.1 The Statutory Biodiversity Metric User Guide (DEFRA, 2024) was used as guidance on how to use the biodiversity metric tool.

2.4.2 Section 3 within the Statutory Biodiversity Metric User Guide sets out rules and principles which should be followed by the metric. This includes following good practice guidance, applying the mitigation hierarchy, avoiding loss of irreplaceable habitats, and created habitat delivering strategically important outcomes for nature conservation.

2.5 Condition Assessment

2.5.1 Each habitat was assigned a condition using following set criteria within the Statutory Biodiversity Metric Condition Assessment Excel document.

2.6 Strategic Significance

2.6.1 The strategic significance of the habitats was assessed by determining if the habitats are identified within published plans, strategies or policies which are relevant to the habitat's location. There is no Local Nature Recovery Strategy (LNRS) for East Ayrshire. However, the Local Nature Conservation Sites (East Ayrshire Council, 2024) has been used as an alternative.

2.7 Trading Rules

2.7.1 The biodiversity metric tool sets minimum habitat creation and enhancement requirements to compensate for specific habitat losses (up to the point of no net loss). These requirements are based on habitat type and distinctiveness.

3. Results

3.1 On-Site Habitat Baseline

3.1.1 A summary of the baseline habitats and areas retained or enhanced are presented in the table below.

Table 1: Habitat Baseline

Phase 1 Habitat	Metric Habitat Type	Condition	Area (ha)	Retained (ha)
Cultivated/disturbed land – arable	Non-cereal crops	N/A	19.14	11.5962
Bare ground	Bare ground	Poor	0.073	0.055
Neutral grassland – semi-improved	Other neutral grassland	Moderate	0.06	0.06
Ephemeral/short perennial	Ruderal/Ephemeral	Poor	0.018	0.012
Marsh/marshy grassland	Other neutral grassland	Moderate	0.018	0.018

3.1.2 An area of arable land, comprising of 11.5962ha will be retained as part of the proposals to maintain agricultural management and the remaining area will be lost to facilitate the development and for creation of new landscaping.

3.1.3 Partial areas of bare ground, 0.055ha, and ephemeral/short perennial, 0.012ha, will be retained as part of the proposals.

3.1.4 The remaining baseline habitats of neutral grassland semi-improved and marsh/marshy grassland will be retained in whole.

3.1.5 The baseline habitats have been assigned low strategic significance as they have not been formally identified in a local strategy.

3.2 On-Site Hedgerow Baseline

3.2.1 A summary of the baseline hedgerows and lengths are presented in the table below.

Table 2: Hedgerow Baseline

Phase 1 Habitat	Metric Habitat Type	Condition	Length (km)	Retained (km)	Enhanced (km)
Intact hedgerow (defunct south section)	Native hedgerow	Poor	0.522	0.462	0.06
Intact hedgerow	Native hedgerow	Poor	0.23	0.217	0

3.2.2 There will be a new western entrance along the western hedgerow for emergency access which will require c. 13m of the hedgerow to be removed. 462m of the east hedgerow will be retained and 60m will be enhanced to native hedgerow at moderate condition through additional planting and managed to a height of 3m for the duration of the development.

3.2.3 The baseline hedgerows have been assigned low strategic significance as they have not been formally identified in a local strategy.

3.2.4 The results demonstrate a 10.11% net gain for hedgerows and all trading rules have been satisfied.

3.3 On-Site Watercourse Baseline

Table 3: Watercourse Baseline

Phase 1 Habitat	Metric Habitat Type	Condition	Length (km)	Watercourse encroachment	Riparian encroachment	Enhanced (km)
Running water	Ditch	Poor	0.096	No encroachment	Major/Major	0.096

3.3.1 Trabboch Burn runs directly adjacent to the northeastern most boundary; all watercourses directly adjacent to site boundaries must be included within the metric as per the guidance. Trabboch Burn is an artificial ditch used as an agricultural drainage path and therefore qualifies as ditch in the metric and does not require a river condition assessment (RCA).

3.3.2 The ditch has no watercourse encroachment due to the absence of engineered bank revetment. The extent of the riparian encroachment for the ditch is major/major as agricultural land is present 0-2 metres from the bank top. The banks comprise of c.2m on both northern and southern banks and arable land is present down to the water edge.

3.3.3 The ditch will be enhanced post-development to major/no riparian encroachment. The land north of the ditch will still be used for agriculture and/or grazing so will still be classed as major riparian encroachment. The banks themselves will remain within agricultural land to maintain its use as an agricultural drainage path to nearby fields, however, from the southern bank top there will be no riparian encroachment due to the presence of wildflower grassland and native shrub and woodland planting within 5 metres of the bank top.

3.3.4 The ditch has been assigned low strategic significance as it has not been formally identified in a local strategy.

3.3.5 The ditch is to be retained in whole as part of the development. No ditches have been included in the landscaping plans as it is not considered necessary as there is no net loss in watercourse units. The ditch is located c. 362m north from the development area, therefore will be unaffected directly or indirectly by the proposals. The results therefore demonstrate a 16% net gain and trading rules have been satisfied.

3.4 On-Site Habitat Creation

3.4.1 The table below details the on-site post-intervention created habitats

Table 4: Habitat Creation

Post-Development Habitat	Metric Habitat Type	Condition	Area (ha)
Battery Energy Storage System and associated tracks	Developed land; sealed surface	N/A	3.714
Tree and shrub woodland mix	Other woodland; broadleaved	Moderate	1.601
Wildflower grassland	Other neutral grassland	Moderate	1.89
Tree and shrub woodland mix (southeast compartment of scrub only)	Mixed scrub	Moderate	0.111
Balancing pond	Sustainable drainage system	Poor	0.253

3.4.2 The Battery Energy Storage System (BESS) and associated tracks is to be created in the southern extent of the site.

3.4.3 The tree and shrub woodland mix is to be planted as small compartments around the BESS with species including pedunculate oak (*Quercus robur*), rowan (*Sorbus aucuparia*), gean (*Prunus avium*), silver birch (*Betula pendula*), sessile oak (*Quercus petaea*), hazel (*Corylus avellana*), holly (*Ilex aquifolium*) and hawthorn (*Crataegus monogyna*). Feathered whip trees will also be included within these compartments with the same tree species listed above. Due to the high number of trees being planted and its purpose to be used as a screening belt, the habitat has been assigned to woodland as its intended to be managed as groups of trees with a scrub understorey with the exception of the southeast compartment, comprising of an aera of 0.111ha which is proposed to just be mixed scrub.

3.4.4 Proposed wildflower grassland will be planted around the BESS and in the northeast extent of the Site, seeded with 'Emorsgate EM2 General Purpose Meadow Mix'. Grassland areas may include grazing management. This should be done on a rotational basis and restrict grazing from spring to summer to ensure moderate condition is achieved; this can be detailed in a conditioned landscape management plan or similar document.

3.4.5 A balancing pond is proposed to be created in the eastern extent of the site to control run-off from within the Proposed Development.

3.4.6 All created habitats have been assigned low strategic significance as they have not been formally identified in a local plan.

3.4.7 The results demonstrate there is 15.59% net gain and trading rules have been satisfied.

3.5 Biodiversity Net Gain Results

3.5.1 The headline results are shown in the table below.

Table 5: Headline Results

On-site baseline	Habitat units	39.09
	Hedgerow units	1.50
	Watercourse units	0.29
On-site post intervention	Habitat units	45.18
	Hedgerow units	1.66
	Watercourse units	0.33
On-site net change	Habitat units	6.09
	Hedgerow units	0.15
	Watercourse units	0.05
Final Results		
Total net % change	Habitat units	15.59%
	Hedgerow units	10.11%
	Watercourse units	16.00%
Trading rules satisfied?	Habitat units	Yes
	Hedgerow units	Yes
	Watercourse units	Yes

4. Conclusion

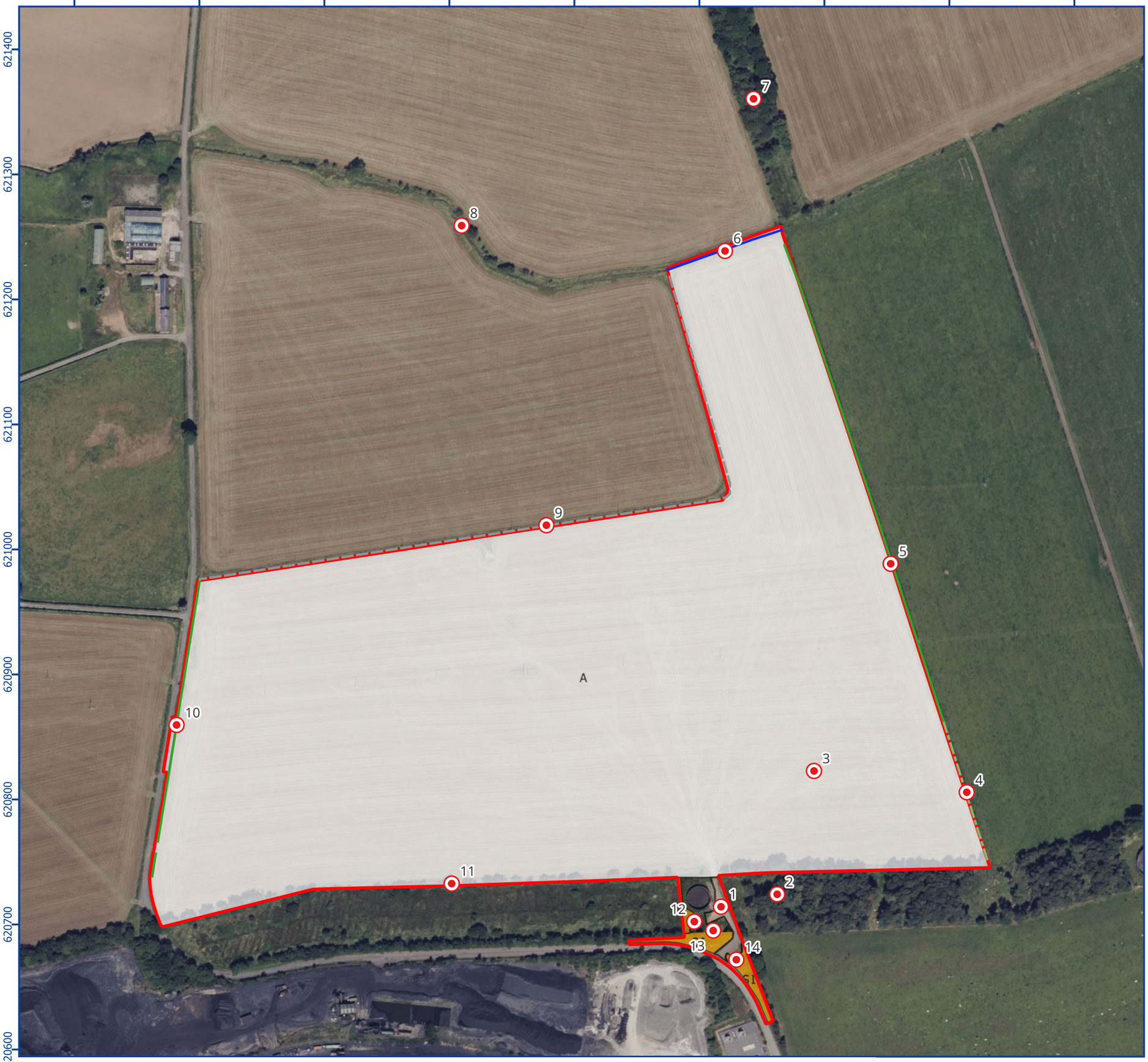
4.1.1 The Proposed Development will result in a 15.59% net gain for habitats, 10.11% net gain for hedgerows and 16% net gain for watercourses. The trading rules have been satisfied for habitats, hedgerows and watercourses.

4.1.2 The National Planning Framework 4 (NPF4) sets out policies to protect biodiversity, reverse biodiversity loss, deliver positive effects from development and strengthen nature networks (Policy 3). The East Ayrshire Local Development Plan 2 (LDP2) sets out policies for development to enhance biodiversity, proportionate to the nature and scale of the development proposal (Policies OS1 and NE4). However, there is no current mandatory or otherwise quantitative target for biodiversity net gain in Scotland.

4.1.3 The England statutory biodiversity metric has been used to measure biodiversity on the development site, which has shown a % gain for habitats, hedgerows and watercourses. A landscape management plan can be conditioned as part of the planning permission to ensure created and enhanced habitats are managed appropriately.

Appendices

Appendix A: Pre-Development Baseline



Basemap sourced through Quick Map Services by NextGIS. Bing Satellite Imagery © Microsoft 2025.

Arthian See a Difference

Figure 3 - Phase 1 Habitat Survey Map

RES	Westport BESS

Key:

- Westport Development Boundary

Phase 1 Habitat

- SI — B2.2 - Neutral grassland - semi-improved
- B5 - Marsh/marshy grassland
- A — J1.1 - Cultivated/disturbed land - arable
- J1.3 - Cultivated/disturbed land - ephemeral/short perennial
- J4 - Bare ground
- J5 - Sealed surface/Hardstanding
- G2 Running water
- J2.1 Intact hedge
- J2.2 Defunct hedge
- J2.5 Stone wall
- Target Notes

0 100 200 m

N

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Appendix B: Post-Development

Landscape Strategy

A Maintain a 15m width between the existing overhead wires and any form of development, including new landscaping.

B To mitigate potential views from the north, a proposed belt of native shrub and tree planting is to be implemented along the northern boundary of the site and to wrap around the eastern and western corners.

C Areas affected by earthworks i.e regrading, to facilitate the development, to be reinstated with a wildflower grass seed mix to aid biodiversity.

D Pockets of woodland planting to be included between the existing woodland belt and the proposed development to filter potential views of the development from the adjacent road to the south. Planting to be native species, initially planted as whips with occasional trees planted throughout to provide some coverage until planting establishes. Understorey within planting areas to be sown with shade tolerant grass seed mix. Tree / shrub guards to be installed in all new planting areas.

E New native hedgerow to be planted along the western boundary with the local road where currently missing. All new and existing hedgerow along western boundary to be managed to a height of 3m for the duration of the development.

F Remainder of existing field to be managed as farmland and in the interim, seeded with EM2 General Purpose Meadow Mix.

G Existing access point to be adjusted.

H Proposed access point using existing field gate. Visibility splay lines and localised widening to require loss of c. 13m length of existing hedgerow.

J Proposed balancing pond to control water run-off fom within Proposed Development

0m 50m 125m

1:2500

Legend

- Proposed Development
- Existing trees and vegetation
- Existing farmland / grassland (G2) — EM2 General Purpose Meadow Mixture
- Proposed wildflower grassland (G1) — (18,892m2) EM3 Special Purpose Meadow Mixture
- Proposed native shrub planting (N2)
- Proposed Feathered / Whip tree planting
- Proposed aggregate access track
- Proposed 4m high fencing
- Proposed stock-proof fencing to pond perimeter and wildflower grassland area *
- Existing overhead electric
- Proposed building / infrastructure.

* Extent of stock proof fencing to be reviewed when intended use of grassland areas (G2) are confirmed.

Planting Schedule - Proposed Hedgerow

Common Name	Botanical Name	Size (cm)	Type	Shelter	% Mix	Plant Numbers										Total
						N1	N2	N3	N4	N5	N6	N7	N8	N9	N10	
Tree and Shrub Woodland Mix (Small Compartments):						5,086 m2	1,339 m2	5,356 m2	244 m2	833 m2	635 m2	919 m2	1,438 m2	1,074 m2	192 m2	17,116 m2
				Centres (m):		1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Pedunculate oak	*Quercus robur*	60-80	Transplant	600mm Tree guard	20	452	119	476	22	74	56	82	128	95	17	**1,521**
Rowan	*Sorbus aucuparia*	60-80	Transplant	600mm Tree guard	10	226	60	238	11	37	28	41	64	48	9	**761**
Gean	*Prunus avium*	60-80	Transplant	600mm Tree guard	5	113	30	119	5	19	14	20	32	24	4	**380**
Silver birch	*Betula pendula*	60-80	Transplant	600mm Tree guard	10	226	60	238	11	37	28	41	64	48	9	**761**
Sessile Oak	*Quercus petraea*	60-80	Transplant	600mm Tree guard	5	113	30	119	5	19	14	20	32	24	4	**380**
Hazel	*Corylus avellana*	60-80	Transplant	600mm Shrub guard	15	339	89	357	16	56	42	61	96	72	13	**1,141**
Holly	*Ilex aquifolium*	60-80	5Ltr+ Container	600mm Mesh guard	10	226	60	238	11	37	28	41	64	48	9	**761**
Hawthorn	*Crataegus monogyna*	60-80	Transplant	600mm Shrub guard	25	565	149	595	27	93	71	102	160	119	21	**1,902**
				Total:	**100**	**2,260**	**595**	**2,380**	**108**	**370**	**282**	**408**	**639**	**477**	**85**	**7,607**
Feathered / Whip Trees						**N1**	**N2**	**N3**	**N4**	**N5**	**N6**	**N7**	**N8**	**N9**	**N10**	
Pedunculate oak	*Quercus robur*	100-120h	Bagged	600mm Tree guard		20	3	4	5	3	6	5	10	0	3	**59**
Rowan	*Sorbus aucuparia*	100-120h	Bagged	600mm Tree guard		15	3	4	0	0	0	0	3	0	3	**28**
Gean	*Prunus avium*	100-120h	Bagged	600mm Tree guard		15	3	4	0	0	0	0	0	0	0	**22**
Silver birch	*Betula pendula*	100-120h	Bagged	600mm Tree guard		20	3	7	0	3	0	0	0	0	0	**33**
Sessile Oak	*Quercus petraea*	100-120h	Bagged	600mm Tree guard		16	3	7	0	2	0	6	5	0	0	**39**
				Total:		**86**	**15**	**26**	**5**	**8**	**6**	**11**	**18**	**0**	**6**	**181**

Planting Schedule - Proposed Hedgerow

Common Name	Botanical Name	Size (cm)	Type	Shelter	% Mix	Quantity						Total
						H1	H2	H3	H4	H5	H6	
Hedgerow Mix:				Length (m)		21	31	8	3	11	8	**81**
				Plants per metre:		6	6	6	6	6	6	
Hawthorn	*Crataegus monogyna*	40-60h	Transplant	600mm Mesh Guard	60	76	112	29	11	38	27	**292**
Field Maple	*Acer campestre*	40-60h	Transplant	600mm Mesh Guard	15	19	28	7	3	9	7	**73**
Hazel	*Corylus avellana*	40-60h	Transplant	600mm Mesh Guard	5	6	9	2	1	3	2	**24**
Guelder rose	*Viburnum opulus*	40-60h	Transplant	600mm Mesh Guard	5	6	9	2	1	3	2	**24**
Holly	*Ilex aquifolium*	30-40h	3Ltr+ Container	600mm Mesh Guard	5	6	9	2	1	3	2	**24**
Spindle	*Euonymus europaeus*	40-60h	Transplant	600mm Mesh Guard	5	6	9	2	1	3	2	**24**
Dog Rose	*Rosa canina*	40-60h	Transplant	600mm Mesh Guard	5	6	9	2	1	3	2	**24**
Total					**100%**	**126**	**186**	**48**	**18**	**63**	**45**	**485**

0m 20m 50m

1:1000

Final Revision:	Date:	Description:	By:	Chk:
4.0	24/04/25	Revised to client's comments	IS	-
3.0	09/04/25	Application Boundary updated.	IS	-
2.0	07/04/25	Final Issue	IS	-
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0.2	17/02/25	Draft - Second Issue	IS	-
0.1	31/01/25	Draft - First Issue	IS	-

Consultant: Arthian

Client: **RENEWABLE ENERGY SYSTEMS LTD.**

Site: **Killoch BESS**

Drawing Title: **Landscape Proposals**

Date:	Scale:	Paper Size:
24 Apr 2025	1:1000	A2 (594×420 mm)

Drawn By:	Checked By:	Status:	Final Revision:
IS	-	Final	4.0

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Drawing No. / Client Ref: **Figure L14**

References

DEFRA, 2024. *The Statutory Biodiversity Metric User Guide*. s.l.:s.n.

East Ayrshire Council, 2024. *Local Nature Conservation Sites,* s.l.: s.n.

JNCC, 2010. *Handbook for Phase 1 Habitat Survey: A technique for Environmental Audit*. s.l.:s.n.