Proposed Battery Energy Storage Site, Corriemoillie
Tree Management Report
7th November 2024

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Appendices

CORRIEMOILLIE BATTERY STORAGE PROJECT
TREE MANAGEMENT REPORT
7th November 2024

1. INTRODUCTION

The proposed development comprises a Battery Energy Storage System (BESS) of up to 200 MW with associated infrastructure (including cable route to substation), access and ancillary works (including landscaping and biodiversity enhancement).

The majority of the site is located on an upland farm estate close by the settlement of Garve, in Wester Ross. The farm comprises mixed grazing and commercial woodland.

This survey has been undertaken by Dr Ben Lennon of Bowlts Chartered Surveyors on behalf of Field Corriemoillie Ltd (Field)

Bowlts Chartered Surveyors have been instructed to inspect the significant trees that could be affected by proposed development and to prepare the following information to support the planning application:-

- a schedule of the relevant trees and woodlands to include basic data and a condition assessment;
- an appraisal of the impact of the proposal on trees and woods;
- a preliminary arboricultural method statement setting out standard protective measures and management for trees to be retained.

This report provides an analysis of the impact of the development proposal on trees and local amenity with additional guidance on appropriate management and protective measures. Its primary purpose is for the planning authority to review the tree information and consider its relative merits against the planning proposal.

The survey and resulting report have been produced in accordance with the best practice guidelines set out in BS 5837 (2012) Trees In Relation To Construction Sites: Recommendations.

2./

2. SITE DESCRIPTION

2.1 Location

The survey site is located on an upland farm estate close by the settlement of Garve, in Wester Ross.

Centroid Grid ref: NH 349 641
Post code: IV23 2PZ
What 3 Words: ///marinated.punks.entire

2.2 Description

The proposed development comprises a grid-connected battery energy storage system with a capacity of 200 MW/400 MWh. The project will import and export energy to and from the transmission network via the nearby Corriemoillie sub-station. The project will include battery storage containers, power conversion systems, substation, access tracks, grid connection underground cable, fencing and other associated infrastructure.

The majority of the site is located on an upland estate close by the village of Garve. The farm comprises mixed grazing and woodland. The woodlands are predominantly commercial conifer plantations with some areas of native broadleaves and Scots pine. They are typical of the higher latitudes of the UK mainland. There are few individual trees in the area. All of the areas surveys have been shown as woods.

2.3 Site Constraints

The development area is not constrained by any statutory designations. On a record search, no statutory designations were noted.

3. SURVEY METHODOLOGY

The site survey was undertaken on 8th December 2023 using information supplied by the client.

In order to assess the impact of the proposed development, information was collected against the criteria below.

Once/

Once the trees were positioned, the tree data required in the BS5837:2012 process was collected for each tree:-

Tree no.	As per plan
Species	Common name/ Botanical Name
Height	Metres
Diameter at I .5m from	cm
Crown spread (north)	Metres
Crown spread (east)	Metres
Crown spread (south)	Metres
Crown spread (west)	Metres
Age class	Young/Semi mature/Mature/Over mature/Veteran
Physical condition	Grading of physical condition assessment of roots through to foliage
Structural condition	Grading of structure, identifying potential weaknesses
Preliminary	Arboricultural recommendations
Category	A = High, B = Medium, C = Low, U = Unsuitable
Criteria	I = Arboricultural value, 2 = Landscape value, 3 = Cultural/conservation value
Comments	Additional relevant information

Once the tree survey was completed in the field, the data was verified and downloaded into Arc Map. Analysis was undertaken to identify which trees were affected by the proposed development.

The area within the Red Line Boudnary, access track and cabling routes were surveyed and considered, as shown on the plans at Appendix II.

4. SURVEY RESULTS

The site was surveyed in relation to the proposed development. Trees and woods were divided into categories depending on their level of cultural and ecological importance with A regarded as the most important and C as the least important (U as unsuitable). Definitions may be found in Appendix I. In this case there were no individual trees, but hedgerows were noted for the sake of completeness.

Full and detailed tree survey data can be found in Appendix I.

5./

5. ARBORICULTURAL IMPACT ASSESSMENT

The impacts on trees can be considered in several discrete sections:-

- Access tracks
- Development areas
- Temporary Compound
- Cable route

5.1 Access Track

The current primary access track seems to be well constructed with a sufficiently wide footprint to allow for construction traffic. Providing there is no aspiration to broaden the footprint, there is likely to be no impact on the adjacent woodland (W1, W2 and W3).

The route of a secondary track for emergency access is noted to the south and east of the main construction site. This follows an existing route. Along the southern edge of the site before turning north and west into the eastern part of the site. It is understood that this is not a high specification route for construction traffic but for low level and emergency use only. While the majority of this route is unproblematic, there is a short section where is follows a soft ride between W 6 and W 10 Approx 85m).

W10 is mature Scots pine suitable for retention. There is a probability of root systems from the pine running under this ride. To avoid the potential for negative impacts on the roots systems it is proposed that this section of track (85m) be constructed over geo-textile. Specification is give in section 6.7.

5.2 Development Area

The Development area covers six discrete young conifer plantations. W4 , W5, W6, W 7,W 8 and W 9. These are all restocked conifer sites, less than ten years old and comprising mostly Sitka spruce with some strips of broadleaves. In arboricultural, landscape and biological terms they are all of low value and quality, being commercial in nature and of recent origin.

The Battery Energy Storage Unit will occupy a space across W 4 and W5 with landscaping around the outside. Therefore, it is proposed these areas are removed to facility the BESS and associated landscaping. These areas are shown on Map 2 in Appendix 2.

To compensate for this loss, it is proposed that an equivalent area of similar woodland be established off-site.

5.3 Temporary Compound

Located to the west of the BESS, this area comprises a felled area of commercial woodland that is currently awaiting restock. While there are no trees currently on this site, the developer recognises that this area is subject to a restocking requirement as part of the

Felling Permission granted by Scottish Forestry. Therefore, it is proposed that this area be used for the temporary compound. Thereafter, all infrastructure will be removed and the area replanted as per the original Felling Permission.

In addition, the developer has agreed to compensate the temporary loss by adding an additional 1 Ha of new woodland creation to the off-site scheme proposed above.

5.4 Cable Route

The cable has been routed to follow the route of the access track. No trees will be affected by the chosen line.

5.5 Summary of Areas affected

All measures have been taken to minimise the loss of woodland associated with this project, However, given the scale of the works, this project cannot proceed without the removal of some moderate losses. Efforts have been made to avoid having to remove anything of ecological or cultural value. All of the removals area deemed to be of low value in these respects

In total 9.2 Ha is proposed for removal. In terms of compensation it is proposed that an equivalent area be identified off-site that shall be established on a like for like basis. In addition to this an additional 1 Ha will be added as a gesture for the use of the temporary compound. In total this will amount to 8.3 Ha of conifer (Sitka spruce) and 1.9 Ha of Mixed native broadleaf (birch, willow, rowan, etc,)

Table 1 - Summary of Trees That May be Affected

	Category A	Category B	Category C	Category U
Area of woodland to removed (Hectares)	0	0	9.2	1.0
Area of woodland to be retain (Hectares)		0.4	12.2	4.2
Total area surveyed	0	0.4	21.4	5.2

6. PRELIMINARY ARBORICULTURAL METHOD STATEMENT

This section sets out management and protection details that must be implemented to secure successful tree retention.

The areas that may be affected by the development are the Option area and the cable route. These are generally low-quality woodlands that are relatively straight forward to replace with off-site compensatory planting.

6.1 Mitigation

Construction Exclusion Zones (CEZs) have been identified for all trees and woodlands that are to be retained. For the areas that are to be removed to facilitate construction, compensatory planting should be established off-site to the same extent as that which is lost.

6.2 Construction of Protective Fencing

In terms of tree and woodland impact, the main receptors are the impact on tree roots arising as a result of excavation and machinery tracking. This

The potential impact on the habitat will be ephemeral and likely to be of minimal consequence. Machinery impact will be localised and the vegetation affected is abundant and will recover quickly. This is mostly comprised of heather species, bilberry and rank grasses.

Construction Exclusion Zone have been identified in the Tree Protection Plan. On this occasion high visibility netting is deemed sufficient to demarcate the Construction Exclusion Zone. The netting should be at least 1000mm in height, high visibility, securely fastened and upright.

The use of any alternative method of fencing should only be allowed following prior approval from the site Arboricultural Consultant or the Local Planning Authority.

The fencing will remain in place until completion of the development and then only removed with the consent of the local planning authority to permit completion of the scheme.

Other than works detailed within a method statement or approved in writing by the local planning authority, no works including storage or dumping of materials shall take place within the Construction Exclusion Zones (CEZs) as defined by the protective fencing.

This specification does not relate to the area of the temporary compound which does not affect any trees. This is likely to be surrounded by Herras type fencing in any event.

6.3 Construction Exclusion Zones (CEZ)

Based on the evidence provided, it is considered that this project is likely to have little or no impact on the trees and woodlands surveyed other than those to be removed.

Some CEZs shall be required to clarify boundaries and these will be demarcated using the fencing specification above.

No works access should be allowed into the CEZs during the development phase. No storage of any building materials or any other materials should be allowed within the CEZs.

In addition, the following should be addressed or avoided:-

- Material which will contaminate the soil, e.g. concrete mixings, diesel oil and vehicle washings, should not be discharged within 5m of any tree stem.
- Fires should not be lit in a position where their flames can extend to within 5m of foliage, branches of trunk. This will depend on the size of the fire and the wind direction.
- Notice boards, telephone cables or other services should not be attached to any part of the trees.

It is essential that allowance should be made for the slope of the ground so that damaging materials such as concrete washings, mortar or diesel oil cannot run towards trees.

6.4 Special Construction Techniques

No special construction techniques are proposed for this operation.

6.5 Installation of Underground Utilities

None of these affect the surveyed trees other than those mentioned above.

6.6 Ground Protection During Works Within CEZs

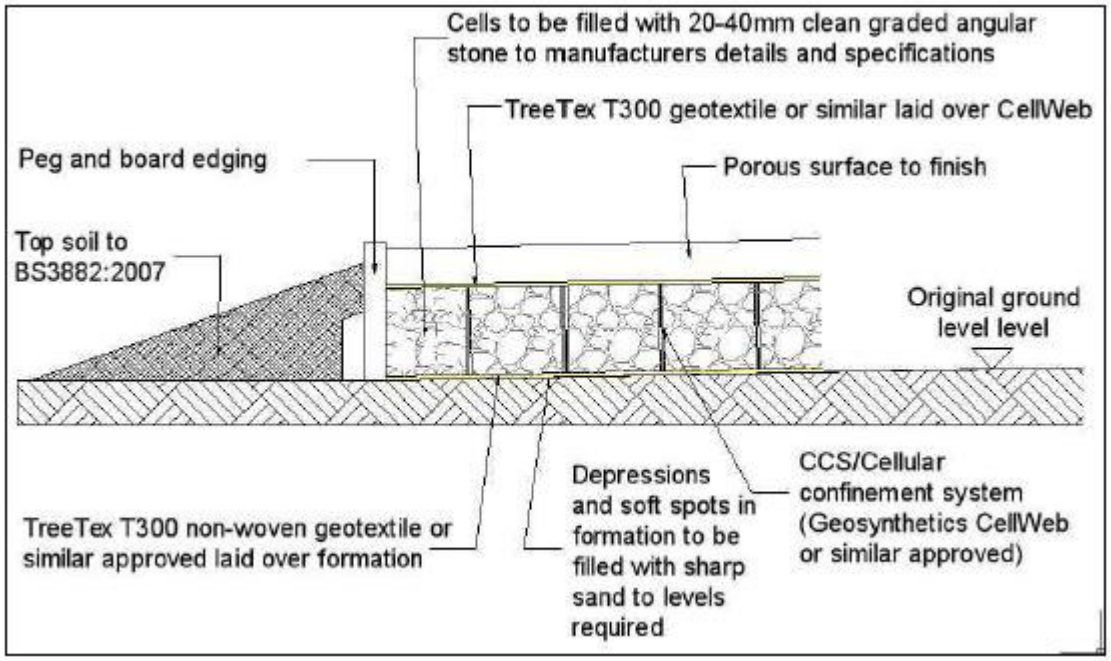
No works are scheduled within CEZs.

6.7 New Surfacing Within Root Protection Areas

N.B. This section relates to the 85m of emergency track to be constructed between W 10 and W 6.

If access is required within Root Protection areas then ground protection will be required. Where required a practical solution to ground protection within areas requiring special construction techniques is the installation of a temporary surface to reduce ground compaction. This should take the form of a multi-layered protective barrier as the suitability of such surfacing for this purpose should be evaluated by the arboricultural consultant and an engineer as appropriate as per BS 5837:2012.

To ensure that tree roots, within the ground under this proposed surface, continue to survive during and after construction a cellular system such a CellWeb (Geosynthetics Ltd, 01455 617139, www,geosyn.co.uk) of 100-200mm depth is to be used . Cells to be filled with 20-40 mm clean graded, angular aggregate. The cellular system to be covered with a porous running surface of 75mm minimum crusher run material. See illustration below.



6.8 Backfilling (if applicable)

Not applicable.

7. ARBORICULTURAL SUPERVISION

During the construction phase, it is recommended that an appropriately qualified arboricultural consultant should be appointed to oversee and record works on site to ensure compliance with

the Tree Protection Plan. This would likely constitute an initial visit once the site has been laid out and protective fencing in place, and at least once more during the construction phase.

Any deviation from the agreed prescribed method statement or the occurrence of any unforeseen damage to the trees must be immediately reported to the Arboricultural Consultant for the site. All works around the affected area on site must be halted immediately. The Arboricultural Consultant will make a site visit to assess the extent of the damage or deviation from the prescribed method statement and any resulting works required.

Plan prepared by Dr B Lennon FIC For., MRICS, M.A.
Date: 7th November 2024

BL/NH 4100c
22nd December 2023
Updated 7th November 2024

APPENDIX I

SCHEDULE OF TREES

APPENDIX I - TREE SURVEY RESULTS

SITE: Corriemoillie
CLIENT: Field Energy Ltd
DATE OF VISIT: 8th December 2023

No.	Name	Botanical Name	Dia (cm)	TREE HEIGHT (m)	COMMENT	Crown spread				Category	AGE	STEM No.2	DIA STEM No.3	CONDITION	RECOMMENDATION	RPZ Dia (m)
						N	S	E	W							
Woodland area/ groups																

No.	NVC/ Woodland type	Status (ASNW/LEPO, etc)	Approx. Area (Ha)	Av. Ht (m)	COMMENT	Category	AGE	CONDITION	RECOMMENDATION	RPZ radius (m) from edfge	Area removed (Ha)	Area retained Ha)
W1	CONIFEROUS WOODLAND	Recent	0.5	10	Young conifer plantation. Mostley Sitka spruce. Unlikely ot be affected by access	C	Y	Young. Unthinned	Retain- unaffected	3	0	0.5
W2	Upland birch	Recent	0.4	7	Young roadside strip. Unlikely to be affected by access,	C	SM	Unthinned	Retain- unaffected	3	0	0.4
W3	CONIFEROUS WOODLAND	Recent	1.4	14	Semi mature commercial plantation.	C	SM	Good- mixed.	Cable route runs along roadside edge. Protective fencing required for	3	0	1.4
W4	CONIFEROUS WOODLAND	Recent	1.7	3	Young restock plantation commercial	C	Y	Good- mixed.	Fell and compensate off-site		1.7	0
W5	CONIFEROUS WOODLAND	*Recent*	2.1	3	Young restock plantation commercial	C	Y	Good- mixed.	Remove 1.4 Ha. Retain eastern end. Compensate off-site.		1.5	0.6
W6	CONIFEROUS WOODLAND	*Recent*	2.2	3	Young restock plantation	C	Y	Good- mixed.	Remove 1.0 Ha. Retain eastern end. Compensate off-site.		1.1	1.1
W7	BROADLEAVED WOODLAND	*Recent*	1.9	2	Young restock plantation	C	Y	Good- mixed.	Remove 1.9 Ha. Retain eastern end. Compensate off-site.		1.9	0
W8	CONIFEROUS WOODLAND	*Recent*	10.4	3	Young restock plantation	C	Y	Good- mixed.	Remove 1.9 Ha. Retain eastern end. Compensate off-site.		3	7.4
W9	FELLED	*Recent*	5.2	0	Felled commercial plantation awaiting restocking.	U	NA	Felled			1	4.2
W10	PINEWOOD	*Recent*	0.4	14	Mature Scots pine stand, commercial origin.	B	M	Good-some mortality but adds diversity.	Retain. Protect root structure along the emergency road with geotextile.	3	0	0.4
W11	CONIFEROUS WOODLAND	*Recent*	0.8	11	Semi-mature Mixed conifer stand (SS/LP).	C	SM	Unthinned commercial plantation.	Retain- protect edge	3	0	0.8
			27.0						**Totals**		**10.2**	**16.8**

DIA:	Tree diameter in Cm at 1.5m from ground level
TOP HEIGHT:	Height estimated using a Suunto clinometer and rounded to the nearest metre
CROWN SPREAD	Measured (to bark at 1.5m) to the four compass points indicated
CATEGORY:	Retention category see below:
	A - Trees of high quality and value in such condition as to be able to make a substantial contribution for a minimum of 40 years
	B - Trees where retention is desirable - moderate category
	C - Trees of low quality and value currently in adequate condition to remain until new planting could be established and expected to remain for a minimum of 10 years
	U - Trees in such condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural management
	1 - Mainly arboricultural qualities
	2 - Mainly landscape qualities
	3 - Mainly cultural values, including conservation
ASSESSMENT	Tree removal or retention decision following condition survey. Tree removal in red indicates tree to be removed due to both silvicultural qualities and proposed development
AGE:	Age class of each tree: OM- Over mature M- Mature, MA- Middle aged, SM - Semi mature, Y - Young
STEM NO:	Number of stems
RPZ Dia (m)	Root Protection Zone expresses as concentric circle in radius (in metres). Based on x12 of stem diameter.

APPENDIX II

TREE CONSTRAINTS PLAN

W 8

W 9

W 7

W4

W5

W 10

W3

W6

W11

W1

W2

Legend

Site Layout

Red Line Boundary

Surveyed Woods-Category

A

B

C

U

0 50 100 200 300 400 500 Meters

Rev:

Client:
FIELD CORRIEMOILLIE LTD
Proposed Battery Energy Storage Site, Corriemoillie

BOWLTS
chartered surveyors
Barnhill, Pluscarden, by Elgin, Moray IV30 8TZ
Tel: (01343) 890400 :: Fax: (01343) 890222
email: mail@bowlts.com :: www.bowlts.com

Title:
MAP 1
TREE CONSTRAINTS PLAN

Drawn:	Scale:	Date:
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W 7 & 8 Young plantation of conifers with a fringe of young broadleaves. Loss to be compensatoed for off-site

W10 is mature Scots pine to be retained. Emergency Access road runs along the adjacent ride. Root disturbace will be minimised by laying geotextile and building above.

W 9 Felled but not restocked Compound is temporary but area shall be compensated for off-site.

W4, W5 & W6 Young conifer plantations Partially removed, Loss to be compensated for off-site.

W 8
W 9
W 9
W 8
W 7
W4
W5
W5
W5
W 10
W3
W3
W6
W6
W11
W2
W1

Surveyed Features

Site Layout

Layer

- Landscaping
- Red Line Boundary
- Emergency Access Road
- Cable Route Construction
- Compound

Woodland Planning Proposal

Proposal

- Remove
- Retain

0 50 100 200 300 400 500 Meters

Rev:

Client:
FIELD CORRIEMOILLIE LTD
Proposed Battery Energy Storage Site, Corriemoillie

BOWLTS chartered surveyors
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Tel: (01343) 890400 :: Fax: (01343) 890222
email: mail@bowlts.com :: www.bowlts.com

Title:
MAP 2
SUMMARY OF REMOVALS AND RETENTIONS

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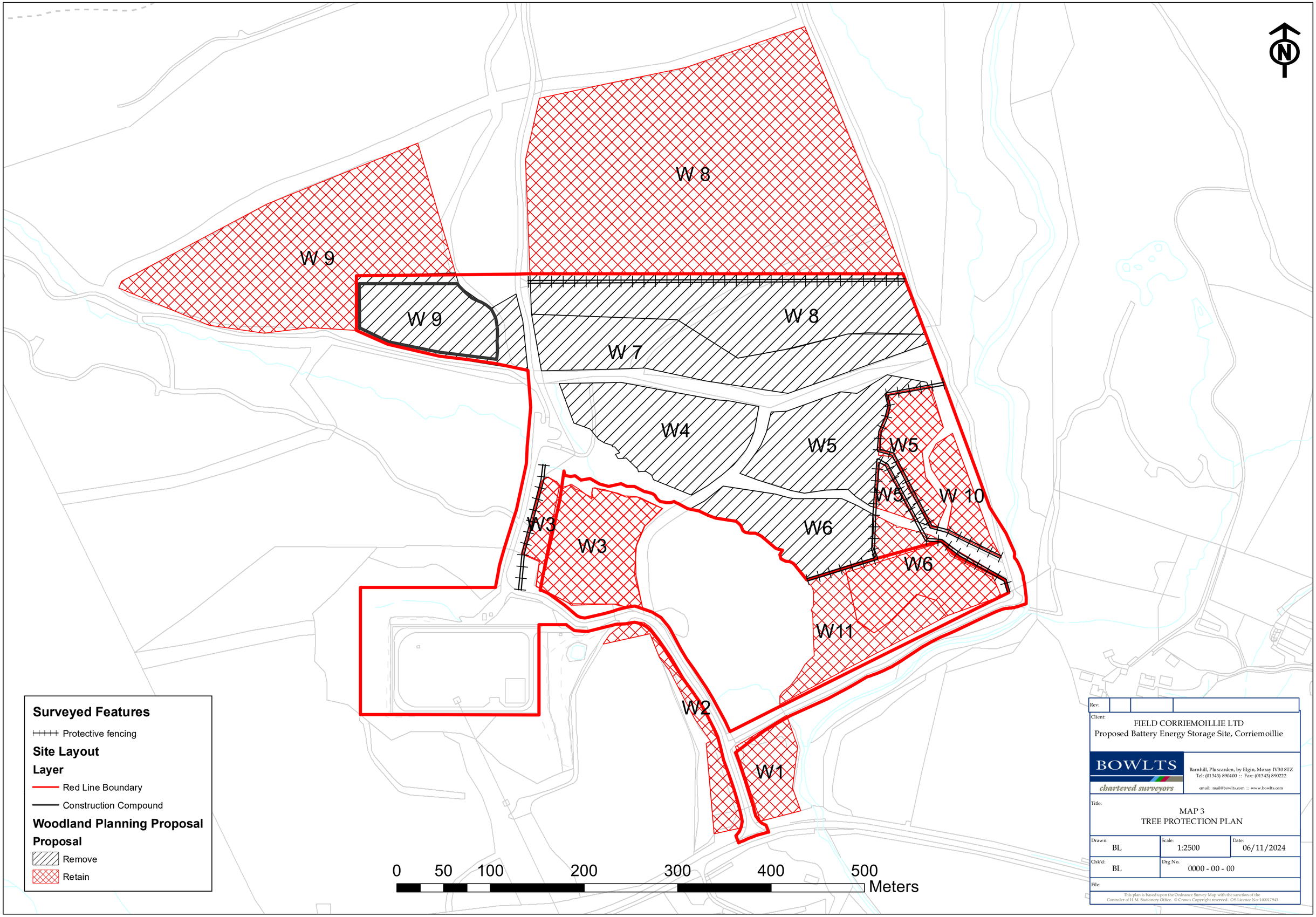
APPENDIX III

TREE PROTECTION PLAN



Surveyed Features

Protective fencing

Site Layout

Layer

Red Line Boundary

Construction Compound

Woodland Planning Proposal

Proposal

Remove

Retain

Rev:

Client:

FIELD CORRIEMOILLIE LTD

Proposed Battery Energy Storage Site, Corriemoillie

BOWLTS chartered surveyors

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Title:

MAP 3

TREE PROTECTION PLAN

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