

Balliemeanoch Pumped Storage Hydro

Environmental Impact Assessment
Report

Volume 2: Main Report
Appendix 5.5 Forestry

ILI (Borders PSH) Ltd

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Quality information

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1. Introduction

This Technical Appendix considers the potential implications of the Development on the woodland resource within the Site and its long term management. This Technical Appendix was prepared by DGA Forestry LLP. It should be read in conjunction with *Chapters 5: Landscape and Visual Assessment (Volume 2: Main Report)*, *Chapter 6: Terrestrial Ecology (Volume 2: Main Report)* and *Appendix 5.4: LEMP (Volume 5: Appendices)*.

Forestry is not regarded as a receptor for EIA purposes. Commercial forests are a dynamic environment, and their structure continually undergoes change due to the following:

- Normal felling and restocking by the landowner;
- Natural events, such as storm damage, pests or diseases; and
- External factors, such as a wind farms or other development.

This Technical Appendix therefore describes:

- The plans as a result of the Development for felling, restocking and forest management practices;
- The process by which these were derived; and
- The changes to the physical structure of the forestry within the site boundary.

This Technical Appendix discusses the issue of forestry waste arising from the Development. The forestry proposals are interrelated with environmental effects, which are assessed separately. This Technical Appendix should be read in conjunction with the EIA Report technical chapters.

Management of the remainder of the forest outwith the Site lies with the landowners and therefore the wider felling operations, restocking, and aftercare operations within these areas do not form part of the Development for which consent is sought.

The majority of the proposed infrastructure is located outside of existing woodlands, however access for the development is taken via commercial forestry plantations. The forestry proposals have been developed to:

- Identify areas of forest to be removed for the construction and operation of the Development;
- Identify those areas which may or may not be replanted as part of the Development; and
- Propose management practices for the forestry works.

In general, throughout this Technical Appendix data labelled "baseline" refers to the current crop composition and any existing plans without any modification as a result of the Development. Data labelled "development" refers to the forestry plans incorporating the Development.

This Technical Appendix is structured as follows:

- Planning, Policy and Guidance;
- Forestry Study Area;
- Development of the Development Plans;
- Development Plans;
- Forestry Management Practices;
- Conclusion; and
- References.

2. Planning, Policy and Guidance

Relevant overarching planning policies for the Development are detailed in the Standalone Planning Statement. A desktop study was undertaken drawing upon published National, Regional and local level publications, assessments and guidance to establish the broad planning and forestry context within which the Development is located.

Forestry related policies and documents listed below have been considered within this forestry appendix. The following section provides an outline of those policies which are relevant to the Development and to forestry in particular.

2.1 Forestry and Land Management (Scotland) Act 2018

Until 1st April 2019, the Scottish Ministers owned the National Forest Estate (NFE), provided funding and had responsibility for forestry strategy and policy, but the management of the NFE and delivery of forestry functions had been the responsibility of the Forestry Commission.

The Forestry Commission was a cross-border public authority and a UK non-ministerial department with a statutory Board of Commissioners. The Commission was made up of a number of parts, including in Scotland:

- Forest Enterprise Scotland (FES), which carried out forestry operations and managed the NFE on Scottish Ministers' behalf; and
- Forestry Commission Scotland (FCS), which was responsible for the other forestry functions in Scotland.

When full devolution of forestry to the Scottish Government was completed on 1 April 2019, FCS and FES became two new agencies of the Scottish Government:

- Scottish Forestry (SF) will be responsible for regulatory, policy and support functions; and
- Forestry and Land Scotland (FLS) will be responsible for the management of the NFE and any other land managed for the purposes of the Forestry and Land Management (Scotland) Act 2018.

With the introduction of the Forestry and Land Management (Scotland) Act 2018 and its associated Regulations on April 1st 2019, the old regulatory regime of felling control under the Forestry Act 1967 was repealed in Scotland. From 1 April 2019, anyone wishing to fell trees in Scotland requires a Felling Permission issued by SF, unless an exemption applies or another form of felling approval such as a felling licence (including a forest plan) has previously been issued.

Under the new Regulations felling which is authorised by planning permission consent continues to be exempt from the Regulations and does not require a Felling Permission issued by SF.

2.2 Scotland's Forestry Strategy 2019-2029

Scotland's Forestry Strategy 2019 – 2029 (SFS), was published in 2019 after a consultation period. The strategy provides an overview of contemporary Scottish forestry; presents the Scottish Government's 50-year vision for Scotland's forests and woodlands; and sets out a 10-year framework for action.

The vision is that *"...in 2070, Scotland will have more forests and woodlands, sustainably managed and better integrated with other land uses. These will provide a more resilient, adaptable resource, with greater natural capital value, that supports a strong economy, a thriving environment, and healthy and flourishing communities."*

It lists a number of objectives summarised below:

- Increase the contribution of forests and woodlands to Scotland's sustainable and inclusive economic growth;
- Improve the resilience of Scotland's forests and woodlands and increase their contribution to a healthy and high quality environment; and

- Increase the use of Scotland's forest and woodland resources to enable more people to improve their health, well-being and life chances.

It further describes the priorities as:

- Ensuring forests and woodlands are sustainably managed;
- Expanding the area of forests and woodlands, recognising wider land-use objectives;
- Improving efficiency and productivity, and developing markets;
- Increasing the adaptability and resilience of forests and woodlands;
- Enhancing the environmental benefits provided by forests and woodlands; and
- Engaging more people, communities and businesses in the creation, management and use of forests and woodlands.

There are ambitious targets included within the strategy for new woodland creation:

- 10 000 ha per year in 2018;
- 12 000 ha per year from 2020/21;
- 14 000 ha per year from 2022/23; and
- 15 000 ha per year from 2024/25.

The stated objective is to increase Scotland's woodland cover from the current 18.5% to 21% by 2032.

2.3 Scotland's Third Land Use Strategy 2012-2026

Scotland's Third Land Use Strategy 2021 – 2026 stresses the importance of forestry in the balancing the demands on land use in Scotland and its transition to a net zero economy. It states: "...*there will need to be a significant land use change from current uses to forestry and peatland restoration.*" This will involve rapidly increasing the pace of woodland and forest creation. To support this, Scotland's Forestry Strategy 2019 – 2029 emphasises the continued protection of Scotland's forest resource.

2.4 National Planning Framework 4

National Planning Framework 4 (NPF4) was adopted by the Scottish Ministers on 13 February 2023.

NPF4 states that development proposals that enhance, expand and improve woodland and tree cover will be supported.

It further states that Development proposals will not be supported where they will result in:

- Any loss of ancient woodlands, ancient and veteran trees, or adverse impact on their ecological condition;
- Adverse impacts on native woodlands, hedgerows and individual trees of high biodiversity value, or identified for protection in the forestry and woodland strategy;
- Fragmenting or severing woodland habitats, unless appropriate mitigation measures are identified and implemented in line with the mitigation hierarchy; and

It further states that development proposals involving woodland removal will only be supported where they will achieve significant and clearly defined additional public benefits in accordance with relevant Scottish Government policy on woodland removal and, where woodland is removed, compensatory planting will most likely be expected to be delivered.

2.5 Right Tree in the Right Place

Scottish Forestry's 'Right Tree in the Right Place - Planning for Forestry & Woodlands' 2010 sets out detailed guidance to planning authorities when considering development proposals involving forestry and woodland. It advises that planning authorities should:

- Assess the current and likely future public benefits (social, economic and environmental) deriving from the existing woodland;
- Determine whether the development should be modified or the woodland redesigned to avoid or reduce woodland loss (e.g. By accommodating new development within 'open space' within woodlands);
- Where woodland loss cannot be avoided, assess the public benefit of a proposed development to see if it would justify the loss of the woodland;
- Consider whether any loss of woodland should be mitigated by compensatory planting; and
- Consider whether any felling consent needs to specify the timing of forestry operations to avoid disturbance to wildlife present on the proposed development.

If an authority decides that a development proposal involving woodland loss should receive planning permission, it should specify the precise area of felling permitted and ensure that planning conditions and/or agreements would ensure the provision of any compensatory planting which is required.

2.6 Control of Woodland Removal Policy

In parallel with the SFS and other national policies on woodland expansion, there is a strong presumption against permanent deforestation unless it addresses other environmental concerns. In Scotland, such deforestation is dealt with under the Scottish Government's 'Control of Woodland Removal Policy' 2009. The guidance relating to the implementation of the policy was revised and updated in 2019.

The purpose of the policy is to provide direction for decisions on woodland removal in Scotland. The policy document lays out the background to the policy, places it into the current policy and regulatory context, and discusses the principles, criteria and process for managing the policy implementation. The following paragraphs summarise the policy relevant to the Development.

The principal aims of the policy include:

- To provide a strategic framework for appropriate woodland removal; and
- To support climate change mitigation and adaptation in Scotland.

The guiding principles behind the policy include:

- There is a strong presumption in favour of protecting Scotland's woodland resources; and
- Woodland removal should be allowed only where it would achieve significant and clearly defined additional public benefits. In appropriate cases a proposal for compensatory planting may form part of this balance.

Woodland removal, without a requirement for compensatory planting, is most likely to be appropriate where it would contribute significantly to:

- Enhancing priority habitats and their connectivity;
- Enhancing populations of priority species;
- Enhancing nationally important landscapes, designated historic environments and geological sites of special scientific interest (sssi);
- Improving conservation of water or soil resources; or
- Public safety.

Woodland removal, with compensatory planting, is most likely to be appropriate where it would contribute significantly to:

- Helping Scotland mitigate and adapt to climate change;
- Enhancing sustainable economic growth or rural/community development;
- Supporting Scotland as a tourist destination;
- Encouraging recreational activities and public enjoyment of the outdoor environment;
- Reducing natural threats to forests or other land; or

- Increasing the social, economic or environmental quality of Scotland's woodland cover.

The consequences of the policy are stated as:

- Minimising the inappropriate loss of woodland cover in Scotland;
- Enabling appropriate woodland removal to proceed with no net loss of woodland -related public benefits other than in those circumstances detailed in the policy; and
- Facilitating achievement of the Scottish Government's woodland expansion ambition in a way that integrates with other policy drivers (such as increasing sustainable economic growth, tackling climate change, rural/community Development, renewable energy and biodiversity objectives).

Addressing the policy requirements can be met through changes to forest design, increasing designed open space, changing the woodland type, changing the management intensity, or completing off site compensation planting.

2.7 Argyll and Bute Woodland and Forestry Strategy

The Argyll and Bute Woodland and Forestry Strategy was published in 2011. The vision for the strategy was defined as:

"The woodlands of Argyll and Bute will make a significant contribution to climate change mitigation and adaptation, have significant levels of economic value retained locally, enhance biodiversity and environmental quality and support the further development of recreation opportunities, for the benefit and well-being of local people and visitors alike. Sustainable and responsible stewardship of the resource will enable communities to play an active role in the ownership and management of woodlands in their area, developing business opportunities and helping to maintain the viability of rural living."

The Strategy was developed as statutory supplementary planning guidance which will be adopted as part of the Argyll and Bute Local Development Plan. The Strategy integrates with other local strategies and action plans, including the Council's Core Path Plan, Economic Development Action Plan and the Argyll and Bute Renewable Energy Action Plan Strategy. It will primarily be used to guide woodland expansion within the region.

The Strategy is based on the following seven themes:

- Climate change;
- Timber;
- Business development;
- Community development;
- Access and health;
- Environmental quality; and
- Biodiversity.

Strategic priorities have been defined for each of the above themes which are translated into detailed priority actions.

Section 3.6 of the Strategy states that the net area of forest cover within the region is forecast to decrease due to forest restructuring as part of existing approved Forest Plans. The loss of woodland area is estimated at 7 - 8 %, equivalent to the removal of 15,000 ha of woodland. In Section 3.7, the Strategy refers to further woodland loss having arisen in recent years as a result of wind farm development in afforested areas and refers to the Scottish Government's Control of Woodland Removal Policy.

It noted that further wind energy development within the National Forest Estate may result in further woodland removal. Given the importance of maintaining and expanding total woodland cover, and in the light of the Control of Woodland Removal Policy, the Strategy states that any loss of woodland will require compensatory planting.

Where new wind farm development is proposed (particularly if woodland removal is required), the Strategy proposes that native woodland creation and habitat enhancement programmes could be delivered, at least in part, through developer contributions. Similarly, where important sites for timber production are likely to be lost or

reduced in size in this way, appropriate provision for replanting should be secured to safeguard future timber resources.

Under the theme of Climate Change a key Strategic Priority is stated as:

- *"CC1: Encourage the net expansion of woodland cover in Argyll and Bute in order to further contribute to national targets for carbon sequestration."*

Priority Actions to support this include:

- *"CC1.1: Ensure that forest restructuring results in no net loss of woodland."*
- *CC1.2: Ensure that woodland removal associated with developments such as windfarms is compensated for at a ratio of at least 1:1 in terms of area and quality of woodland."*

The Strategy therefore supports and reinforces the aims of the Scottish Government's Control of Woodland Removal Policy.

3. Forestry Study Area

The Forestry Study Area (FSA) is comprised three forest blocks, Keppochan, Keppochan East and Upper Sonachan which extend to 1,322.6 ha as shown in *Figure 5.5.1 - Forestry Study Area* at the end of this report. The forest contains a range of woodland types and age classes due to original planting and current felling programmes, together with areas of unplanted land. The crops are comprised largely of commercial conifers with areas of mixed broadleaves and open ground. The woodlands are in the production phase with rotational felling and restocking underway. Further information on the composition of the woodlands in the FSA is provided in the baseline description below.

As the Development access is to be taken along existing forestry tracks with minimal coupe felling, it has been determined that a full analysis of the Baseline Forest Plans and the impact on these is not warranted in this instance. This TA will instead focus on the felling and restocking along the access route and subsequent loss of woodland area as a result.

4. Preparation of the Proposed (forestry) Development Plans

4.1 Introduction

This Section describes the process by which a typical Development (forestry) Plan is prepared. Existing crop information is collated from the landowner including current forestry information on species, planting year and felling and restocking plans where available. This is followed by field surveys and further desk-based assessment as necessary.

Details of infrastructure locations, new tracks, construction compounds, borrow pits, substation compound and other infrastructure are provided by the project team. This data will then be amalgamated with the forestry data to construct the forestry proposals for the Development.

The location infrastructure is influenced by environmental constraints and technical considerations, e.g. sensitive habitats, wind capture, ground conditions, etc. The final location of infrastructure takes the various site constraints into consideration. Land management requirements associated with the construction and operation of the Development are also taken into account in the forestry proposals, where appropriate.

Within forests and woodlands, areas of crop require to be felled to accommodate the construction and operation of the Development. The felling programme for the Development will largely be driven by technical constraints relating to both forestry management and the Development.

A 10 m buffer was applied around each item of infrastructure and an indicative 30 m corridor was applied to all access tracks to be used for component delivery and construction purposes. This will be reviewed at the detailed design stage post consent and prior to construction. Please refer to *Chapter 2: Project and Site Description (Volume 2: Main Report)* which contains information on all the infrastructure elements.

4.2 Development Felling Plan

The crops were assessed to identify those areas which will require to be felled for the construction and operation of the Development. Due to the current baseline composition of the woodlands and current crop ages and height, it has been assessed that where the infrastructure deviates from the existing track and moves within woodland areas will require a combination of keyholing into younger crops while in the mature crops, clear felling of entire coupes back to either a wind firm edge or management boundaries will be required. Where entire coupes are to be felled, the infrastructure will be incorporated into the Development Restocking Plan as described below.

Additional minor felling was required for forest management purposes, for example, to reduce the risk of subsequent windblow; to reduce coupe fragmentation; and to ensure access for future forest operations.

The resultant Development Felling Plan shows which woodlands within the FSA will be felled as a result of the Development and when this felling will take place.

4.3 Development Restocking Species Plan

The Development Restocking Species Plan shows which woodlands will be restocked and with which species. The majority of the areas to be felled for the Development will be restocked except for the areas detailed below:

- Land required for the Development's permanent infrastructure subject to the buffer zones described above; and
- Land to be left unplanted for forest management; or forest design purposes.

In preparing the Development Restocking Species Plan a number of points will be considered as detailed below:

- Fragmentation of coupes to be minimised as much as possible;
- Coupe shapes to be modified to ensure that access for future forestry operations, principally harvesting, is maintained; and
- Coupe shapes and edges to be modified to follow forestry good practice.

Species composition was considered taking into account the Development operational requirements such as separation distances between wind turbines (none are proposed in relation to this Development) and forest edges, landowner objectives and forestry policies.

The Development forestry felling and restocking proposals have been assessed by each of the separate environmental disciplines / consultants as part of the EIA process where required, and the effects are reported in individual chapters of this EIA Report and their supporting appendices.

5. Development Plans

5.1 Introduction

Details of infrastructure locations, new tracks, construction compounds, borrow pits, substation compound and other infrastructure were provided by the project team. This data was amalgamated with the forestry data to construct the forestry proposals for the Development.

The location of infrastructure is influenced by environmental constraints and technical considerations, e.g. sensitive habitats, wind capture, ground conditions, etc. The final location of infrastructure takes the various site constraints into consideration. Land management requirements associated with the construction and operation of the Development are also taken into account in the forestry proposals, where appropriate.

Within forests and woodlands, areas of crop are required to be felled to accommodate the construction and operation of the Development. The felling programme for the Development will largely be driven by technical constraints relating to both forestry management and the Development.

5.2 Access Route Felling/Restocking Requirements

Access for the Development runs through 3 different properties, Keppochan, Keppochan East and Upper Sonachan, together totalling 1,322.6 ha, of which the vast majority is commercial conifer. Felling and restocking will be required for the construction of the access tracks and associated infrastructure.

As the works within commercial forestry are for access only and predominately follow existing forestry tracks, the felling and restocking required are minimal compared to the overall Forestry Study Area.

A 10 m buffer was applied around each item of infrastructure and an indicative 30 m corridor was applied to all access tracks to be used for component delivery and construction purposes. This will be reviewed at the detailed design stage post consent and prior to construction. Please refer to *Chapter 2: Project and Site Description (Volume 2: Main Report)* which contains information on all the infrastructure elements.

Construction has been provisionally programmed for 2027.

As a result, an access track footprint of 37.8 ha was identified in which clearance of trees totalling 31.7 ha will be required for infrastructure and advanced felling. Areas identified for advanced felling will be restocked accordingly. The extent and location of this felling plus the effect to the species composition of the forest are detailed in *Figure 5.5.2 - Development Felling Access Route* at the end of this report and summarised in Table 1.

Table 1, totals the areas of felling, subsequent restocking and woodland loss by property. This is further expanded upon in Table 2, detailing out the species and planting year of the woodlands to be felled by property.

Table 1 Summary of Access Route Felling and Restocking

Woodland	Felling Area (ha)	Restocking Area (ha)	Woodland Loss Area (ha)
Keppochan	8.97	6.15	2.82
Keppochan East	5.15	2.73	2.42
Upper Sonachan	17.74	10.82	6.92
Total	31.86	19.70	12.16

Table 2 Access Route Felling Requirement

Property	Baseline Species	Planting Year	Development Restock Species	Area (ha)	Area (%)
Keppochan	Other conifer	1983	Development open ground	0.08	0.3
	Sitka spruce	1983	Development open ground	1.35	4.3
	Other conifer	1983	Other conifer	0.07	0.3
	Sitka spruce	1983	Sitka spruce	6.08	19.2
	Mixed broadleaves	2023	Development open ground	0.01	0.0
	Sitka spruce	2023	Development open ground	0.21	0.7
	Other conifer	2023	Development open ground	0.01	0.0
	Mixed broadleaves	2024	Development open ground	0.02	0.0
	Other conifer	2024	Development open ground	1.15	3.6
Keppochan East	Other conifer	1984	Development open ground	0.04	0.1
	Mixed broadleaves	1984	Development open ground	0.18	0.6
	Sitka spruce	1984	Development open ground	1.91	6.0

Property	Baseline Species	Planting Year	Development Restock Species	Area (ha)	Area (%)
	Other conifer	1984	Other conifer	0.20	0.7
	Sitka spruce	1984	Sitka spruce	2.53	8.0
	Mixed broadleaves	2018	Development open ground	0.05	0.1
	Other conifer	2018	Development open ground	0.01	0.0
	Sitka spruce	2018	Development open ground	0.04	0.1
Upper Sonachan	Other conifer	1982	Development open ground	0.16	0.5
	Sitka spruce	1982	Development open ground	6.14	19.4
	Other conifer	1982	Other conifer	2.62	8.3
	Sitka spruce	1982	Sitka spruce	8.20	25.8
	Sitka spruce	2021	Development open ground	0.03	0.1
	Other conifer	2022	Development open ground	0.60	1.9
	Sitka spruce	2022	Development open ground	0.01	0.0
Total				31.86	100.0

It may be necessary to clear self seeded trees from the roadside along the entirety of the access track. It is envisaged that any planning permission granted for the Development will include permission to clear such roadside regeneration where required.

Areas of advanced felling to wind firm edges will be restocked to match the pre-existing crop.

Of the 31.86 ha of felling along the access route, 19.7 ha will be restocked as shown in *Figure 5.5.3 - Development Restocking Access Route* at the end of this report. Therefore, the total area of woodland lost to the access track works will be 12.16 ha.

In addition to the felling and restocking required within the FSA of the Development, additional felling is required for the construction of the inlet as detailed in *Chapter 2: Project and Site Description (Volume 2: Main Report)*. Siting of the compound and access tracks is along the shore edge and lies within an area of ancient and native woodland. Details of the felling within this area are described in Table 3 below and shown on *Figure 5.5.4 Development Felling Restocking Inlet* at the end of this report.

Table 3 Inlet Construction Felling Requirement

Inlet Construction Felling	Area (ha)	Area (%)
Native woodland (wet and upland oak)	1.17	33.9
Ancient woodland (of semi natural origin)	1.60	46.4
Native and Ancient Woodland	0.68	19.7
Total	3.45	100.0

A total of 3.45 ha of felling is required to accommodate the access tracks and compound required for the inlet.

Chapters 5: Landscape and Visual Assessment (Volume 2: Main Report) and *Chapter 6: Terrestrial Ecology (Volume 2: Main Report)* provide a more detailed description of the areas of woodland. They describe these areas as degraded due to human impact and outline prescribed mitigation measures, including native planting, totalling 40.6 ha. This new planting is shown on *Figure 5.5.3 – Development Restocking Access Route* at the end of this report. The 3.45 ha loss of native and ancient woodland for the construction of the above ground infrastructure of the inlet is balanced by an overall increase in new planting across the Development area.

5.3 Requirement for Compensatory Planting

The total area of woodland loss across the entire Development is 15.61. The total area of onsite native planting across the whole Development totals 40.6 ha. As a result of the construction of the Development, there would be

a net gain of woodland area. The area of stocked woodland in the FSA would increase by 24.99 ha. As a result there is no requirement for compensatory planting.

5.4 Forestry Waste

The Scottish Environment Protection Agency (SEPA) guidance document WST-G-027, 'Management of Forestry Waste' (SEPA, 2017) highlights that all waste producers have a statutory duty to adopt the waste hierarchy as per the Waste (Scotland) Regulations 2012 (the Scottish Government, 2012), which amended Section 34 of the Environmental Protection Act (EPA) 1990 (duty of care) (UK Government, 1990). This places a specific duty on any person who produces, keeps or manages (controlled) waste to take all such measures available to them to apply the waste hierarchy in Article 4 (1) of the revised Waste Framework Directive (rWFD), which is:

- Prevention;
- Preparing for re-use;
- Recycling;
- Other recovery, including energy recovery; and
- Disposal, in a way which delivers the best overall environmental outcome.

Further guidance is contained in the document LUPS-GU27, 'Use of Trees Clear Felled to Facilitate Development on Afforested Land'" (SEPA, 2014).

A hierarchy of uses for forestry materials is proposed, derived from the waste hierarchy contained within the Regulations, summarised as follows:

- Prevention via the production of timber products and associated materials for use in timber and other markets;
- The re-use of materials on-site for a valid purpose, where such a use exists e.g. track construction including floating tracks;
- There is no valid re-cycling use for forestry residues;
- Other recovery via collection and use as biomass for energy recovery or other markets, where not included above; and
- Where no valid on-site or off-site use can be found for the material, disposal would be in a way that is considered to deliver the best overall environmental outcome.

Where no valid on-site or off-site use, or other disposal method, can be found for the material, it should be regarded as waste and handled accordingly. Disposal of timber residues as waste in or on land requires a landfill permit or a waste exemption licence and should be considered the option of last resort.

As discussed above, the crops will be replanted except where the land is required for infrastructure associated with the Development. Brash would be left in situ to provide nutrients for the next rotation where the crops are being replanted as per standard forestry practice. Where crops are not being replanted brash would be removed and treated in line with the proposed hierarchy described above.

Stumps would be left in situ as per good practice guidance, except where excavated as part of the construction activities. Excavated stumps would be treated in line with the proposed hierarchy described above.

In areas of lower yielding crops, into which the Development infrastructure would be keyholed, the objective would be to recover as much merchantable timber as possible. Failing that to treat them in line with the hierarchy outlined above. Where suitable, whole trees would be extracted and used in the biomass market. As a result, it is anticipated the forestry waste arising from the works will be minimal.

It is proposed that full consideration and further clarification on this issue would be included in a Forestry Waste Management Plan to form part of the Construction Environmental Management Plan (CEMP) following receipt of consent and prior to commencement of construction.

6. Forestry Management Practices

6.1 Crop Clearance

Areas of crops of sufficient tree size and standing volume would be harvested conventionally. Timber operations would be undertaken with conventional harvesting and forwarding equipment utilising, as required, flotation tracks.

Stemwood down to 7 centimetres (cm) or below would be removed from site and sold into the timber markets. The harvester would maximise timber recovery wherever possible, this would result in the maximum timber volume being recovered to ensure the volume used in the brash mats is kept to a minimum. On wetter ground the harvester would build stronger brash mats to ensure there would be minimal damage to the peat and soil structure by the forwarder during extraction. On soft ground, the bottom layers of brash mats become embedded into the soil and removal could result in more environmental damage than leaving the material to naturally degrade.

In areas of young or lower yield class crops, where little or no merchantable timber would be recovered, a number of options could be utilised depending on the factors prevailing at the time of clearance. The methodology used would depend on tree size; site conditions; the availability of suitable equipment; and the markets prevailing at the time of the works being carried out. Where there is suitable access and ground conditions the trees could be whole tree harvested and extracted to roadside for chipping as biomass.

Where trees are very small due to age or poor growth it may be more viable to fell the crop manually using scrub cutters or chainsaws. The end use of the material would depend on the factors mentioned above but in some cases there would be no recoverable material. Where material was recoverable it could potentially be used on-site in the base of floating roads; extracted and processed for biomass; or used for ecological enhancement if applicable.

Stumps would be left in situ as per the guidance contained in the Forestry Commission Research Note "Environmental effects of stump and root harvesting" (Forestry Commission, 2011) except where they would be removed for borrow pits, excavated tracks, wind turbine foundations and other infrastructure requiring excavation. Such material would be treated as described above.

6.2 Restocking/Planting Methodology

Wind Farm Restocking would be carried out to current standard practice, the forest manager's internal guidance and practices and in accordance with the guidelines contained in the UKFS and UKWAS as a minimum, where applicable. The methodology would vary depending on the type of restocking being carried out. The following information is provided for guidance as to the restocking methodology which may be adopted.

On commercial conifer areas the methodology would normally include:

- Site preparation by machine cultivation and drainage;
- Manual planting;
- Subsequent follow-up establishment operations such as the replacement of failures, weeding and protection measures until the crops are satisfactorily established; and
- Replanting would be carried out with the conifer species identified in the restocking plan at the minimum density of 2,500 trees per ha.

Restocking within the broadleaf woodland areas would be carried out to the same specification with the following changes:

- A lower planting density of 1,600 trees per ha; and
- The principal species would be mixed native broadleaves including, for example, downy and silver birch with small components of other species as appropriate to site such as oak, rowan, hazel, gean, grey willow, goat willow, alder and woody shrubs.

6.3 Aftercare Works

Aftercare establishment works would normally include, but are not limited to, the following:

- The woodlands would be beaten up (replacement of failures) to ensure satisfactory stocking levels by year 5, broadleaf woodlands by year 10;
- The woodlands would be weeded as necessary to ensure satisfactory establishment by year 5 / year 10 for broadleaf woodlands;
- The woodlands would be protected against pine weevils by management inspections and remedial treatment as necessary;
- The woodlands would be protected against browsing damage from wild and domestic animals;
- The woodlands would be protected against fire;
- Fertiliser would be applied as necessary to ensure satisfactory establishment and growth; and
- Other works as reasonably required ensuring satisfactory establishment of the woodlands.

6.4 Standards and Guidelines

All forestry operations would be carried out in strict accordance with current good practice and guidelines. This would include, but not be limited to:

- UK Forestry Standard (Forestry Commission 2017);
- Forest Industry Safety Accord Guides (or equivalent) (FISA, 2014); and
- current relevant legislation including, but not limited to, Health and Safety at Work Act 1974 (UK Government, 2014).

7. Conclusion

The Forestry Study Area (FSA) is comprised three forest blocks, Keppochan, Keppochan East and Upper Sonachan and extends to 1,322.6 ha

Felling would be advanced on 35.31 ha for construction of the Development.

There would be a loss of woodland totalling 12.16 ha in the commercial forestry blocks due to the access track and a loss of 3.45 ha of ancient and native woodland for the construction of the inlet / outlet.

40.6 ha of native woodland planting is proposed within the application boundary.

The area of stocked woodland in the FSA would increase by 24.99 ha. As a result, there is no requirement for compensatory planting.

8. References

The Scottish Government (2018). The Forestry and Land Management (Scotland) Act 2018, Edinburgh. Available at <http://www.legislation.gov.uk/asp/2018/8/contents/enacted> [accessed on 15.04.19].

The Scottish Government (2019). Scotland's Forestry Strategy 2019 -2029, Edinburgh.

Scottish Government (2021): Scotland's Third Land Use Strategy 2021 - 2026 <https://www.gov.scot/publications/scotlands-third-land-use-strategy-2021-2026-getting-best-land/> [accessed 10/03/2022]).

The Scottish Government (2023): National Planning Framework 4, Edinburgh.

The Scottish Planning Policy (2014): Scottish Planning Policy, Edinburgh.

Forestry Commission Scotland (2010): Right Tree in the Right Place - Planning for Forestry & Woodlands. Forestry Commission, Edinburgh.

Forestry Commission Scotland (2009). The Scottish Government's Policy on Control of Woodland Removal. Edinburgh.

Forestry Commission Scotland (2019): Scottish Government's policy on control of woodland removal: implementation guidance. Available at <https://forestry.gov.scot/publications/349-scottish-government-s-policy-on-control-of-woodland-removal-implementation-guidance>.

Argyll and Bute Council and Forestry Commission Scotland (2011) The Argyll and Bute Council Woodland and Forestry Strategy [Online] Available at: <https://www.argyll-bute.gov.uk/woodland> (Accessed 04/03/2022).

Argyll and Bute Council (2015) Argyll and Bute Local Development Plan [Online] Available at: <https://www.argyll-bute.gov.uk/ldp> (Accessed 04/03/2022).

Argyll and Bute Council (2011) Core Path Plan: Formalised Draft [Online] Available at: <https://www.argyll-bute.gov.uk/core-paths> (Accessed 04/03/2022).

Argyll and Bute Council (2010) Argyll and Bute Council's Economic Development Action Plan [Online] Available at: <https://www.argyll-bute.gov.uk/business-and-trade/economic-development-action-plan#:~:text=Argyll%20and%20Bute%20Council%20has,and%20Scotland%20as%20a%20whole> (Accessed 04/03/2022).

Argyll and Bute Council (2010) Argyll and Bute Renewable Energy Action Plan Strategy [Online] Available at: <https://www.argyll-bute.gov.uk/planning-and-environment/renewable-energy-action-plan#:~:text=Our%20vision%20is%3A,of%20its%20communities%20and%20Scotland.%E2%80%9D> (Accessed 04/03/2022).

Forestry Commission (2017). The UK Forestry Standard: The Government's Approach to Sustainable Forestry, Forestry Commission, Edinburgh.

UKWAS (2018). The UK Woodland Assurance Standard Fourth Edition, UKWAS, Edinburgh.

SEPA (2017): SEPA Guidance Notes WST-G-027 "Management of Forestry Waste". https://www.sepa.org.uk/media/28957/forestry_waste_guidance_note.pdf [accessed 04/03/2022].

The Scottish Government (2012): The Waste (Scotland) Regulations 2012 No. 148 available at <https://www.legislation.gov.uk/sdsi/2012/9780111016657> [accessed 20/01/2019].

UK Environmental Protection Act 1990 1990 c. 43 Part II Duty of care etc. as respects waste Section 34 available at <http://www.legislation.gov.uk/ukpga/1990/43/section/34> [accessed 20/01/2019].

EU Waste Legislation Waste Framework Directive <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32008L0098> [accessed 20/01/2019].

SEPA (2014): LUPS-GU27 "Use of Trees Cleared to Facilitate Development of Afforested Land". https://www.sepa.org.uk/media/143799/use_of_trees_cleared_to_facilitate_development_on_afforested_land_sepa_snh_fcs_guidance-_april_2014.pdf [accessed 20/01/2019].

Forestry Commission Research Note "Environmental effects of stump and root harvesting" (Forestry Commission, 2011). [https://www.forestry.gov.uk/pdf/FCRN009.pdf/\\$FILE/FCRN009.pdf](https://www.forestry.gov.uk/pdf/FCRN009.pdf/$FILE/FCRN009.pdf) [accessed 20/01/2019].

Forest Industry Safety Accord (2014). FISA Safety Guides (various). Edinburgh.

UK Government (1974): Health and Safety at Work etc. Act 1974 available at <http://www.legislation.gov.uk/ukpga/1974/37/contents> [access 20/01/2019].

9. Figures

Figure 5.5.1 Forestry Study Area

Figure 5.5.2 Development Felling Access Route

Figure 5.5.3 Development Restocking Access Route

Figure 5.5.4 Development Felling Restocking Inlet

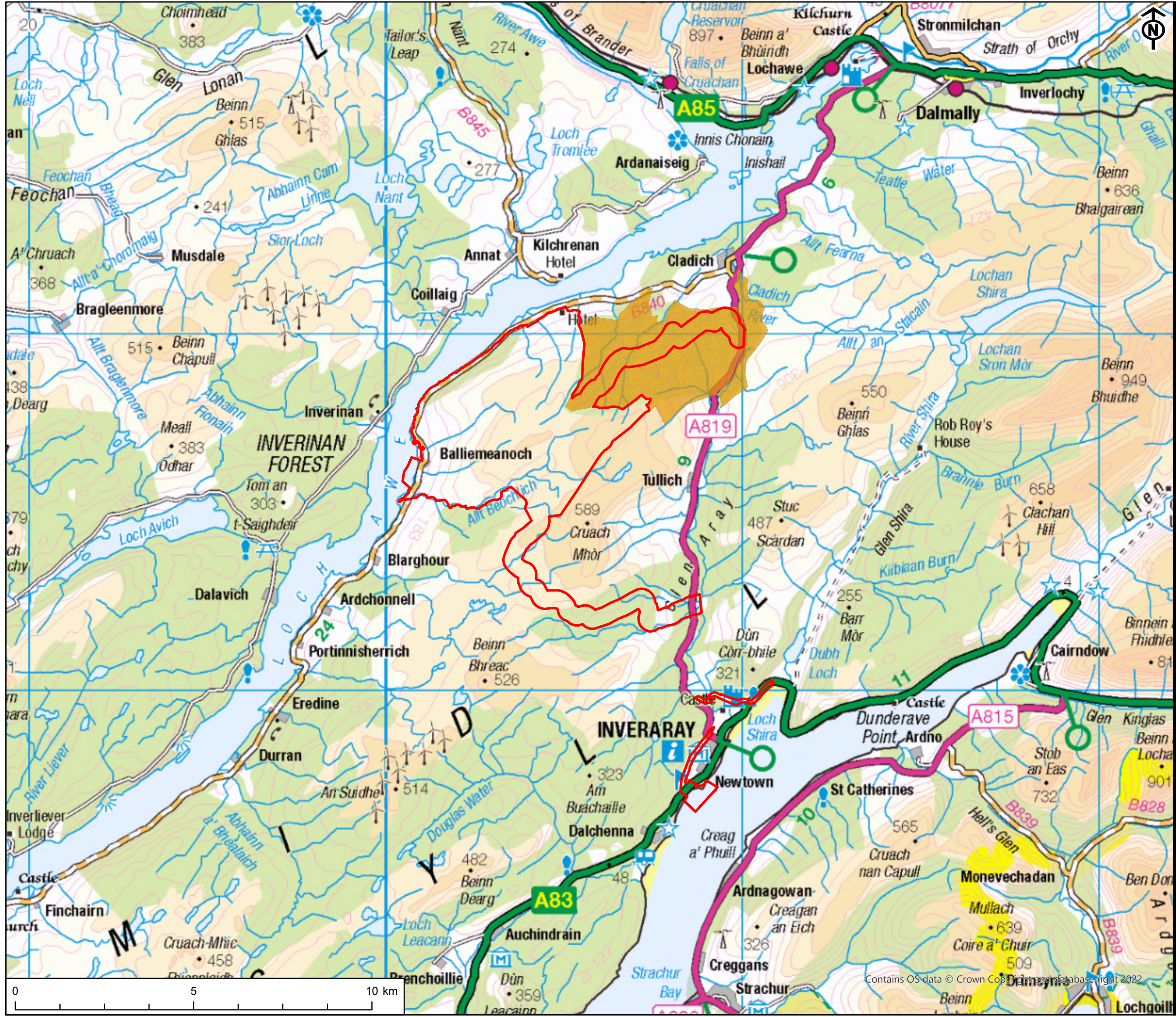
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BALLIEMEANOCH PUMPED STORAGE HYDRO

CLIENT
ILI (Borders PSH) Ltd.

KEY

- Development Boundary
- Forestry Study Area

Project Management Initials: M.L.S. Designer: E.R. Checked: L.C. Approved: V.D.



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Figure 5.5.1: Forestry Study Area

REFERENCE
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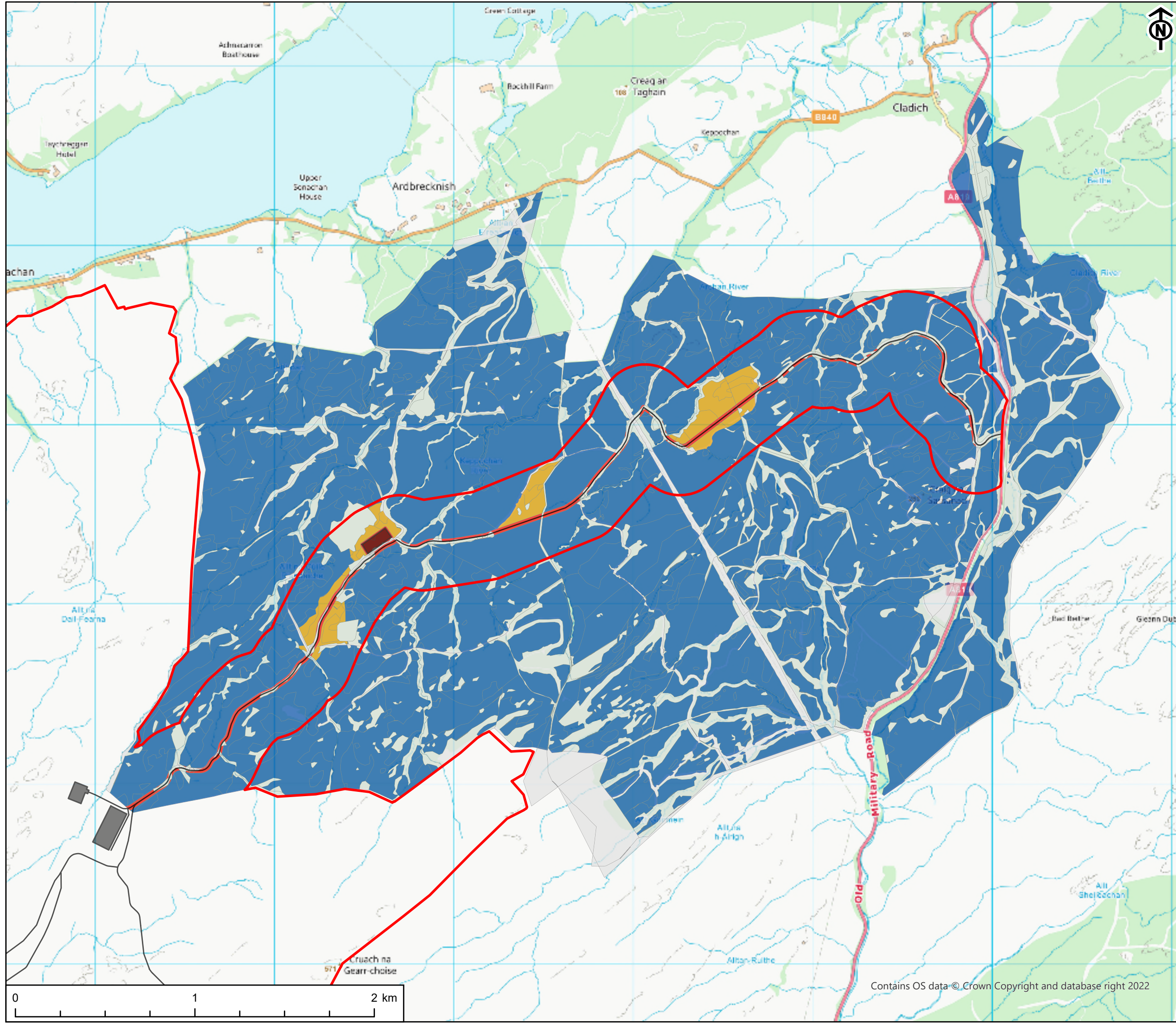
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PROJECT
BALLIEMEANOCH PUMPED STORAGE HYDRO

CLIENT
ILI (Borders PSH) Ltd.

- KEY
- Development Boundary
 - Infrastructure
 - Felling Type
 - No Felling - open ground
 - Infrastructure Felling
 - Advanced Felling
 - No Felling - woodland

Project Management Initials: MLS Designer: ER Checked: LC Approved: VD



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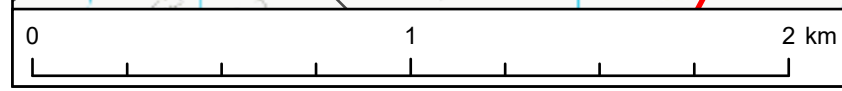
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Figure 5.5.2: Access Route
Infrastructure Felling Plan

REFERENCE
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1 of 1

DATE
01/07/24

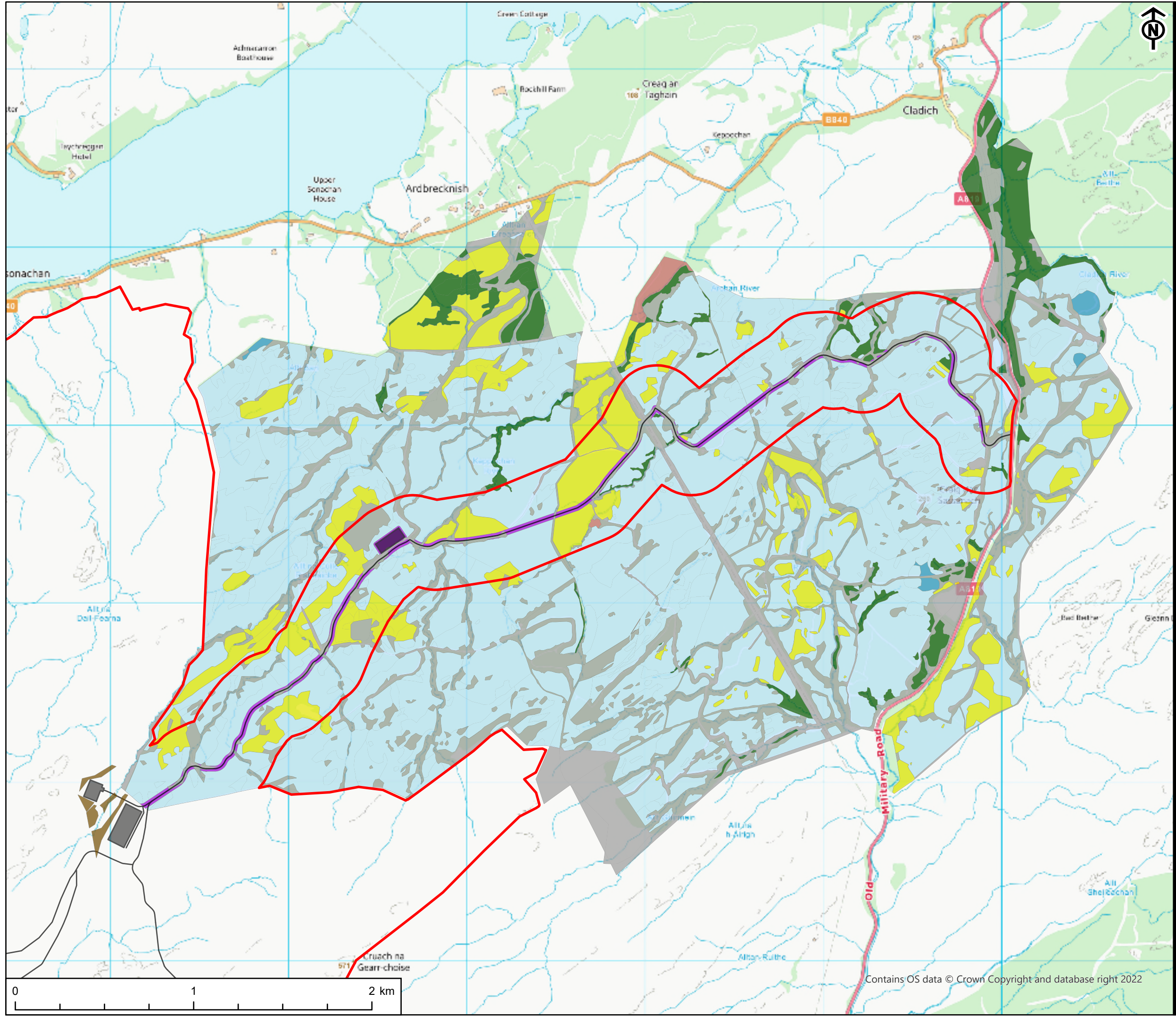
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PROJECT
BALLIEMEANOCH PUMPED STORAGE HYDRO

CLIENT
ILI (Borders PSH) Ltd.

- KEY**
- Development Boundary
 - Infrastructure
 - Development Restock Species**
 - Sitka spruce
 - Sitka spruce/Other conifer
 - Other conifer
 - Mixed woodland
 - Mixed broadleaves
 - Open ground
 - Access Route open ground
 - New woodland planting



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TITLE
Figure 5.5.3 Access Route
Development Restock Species Composition

REFERENCE
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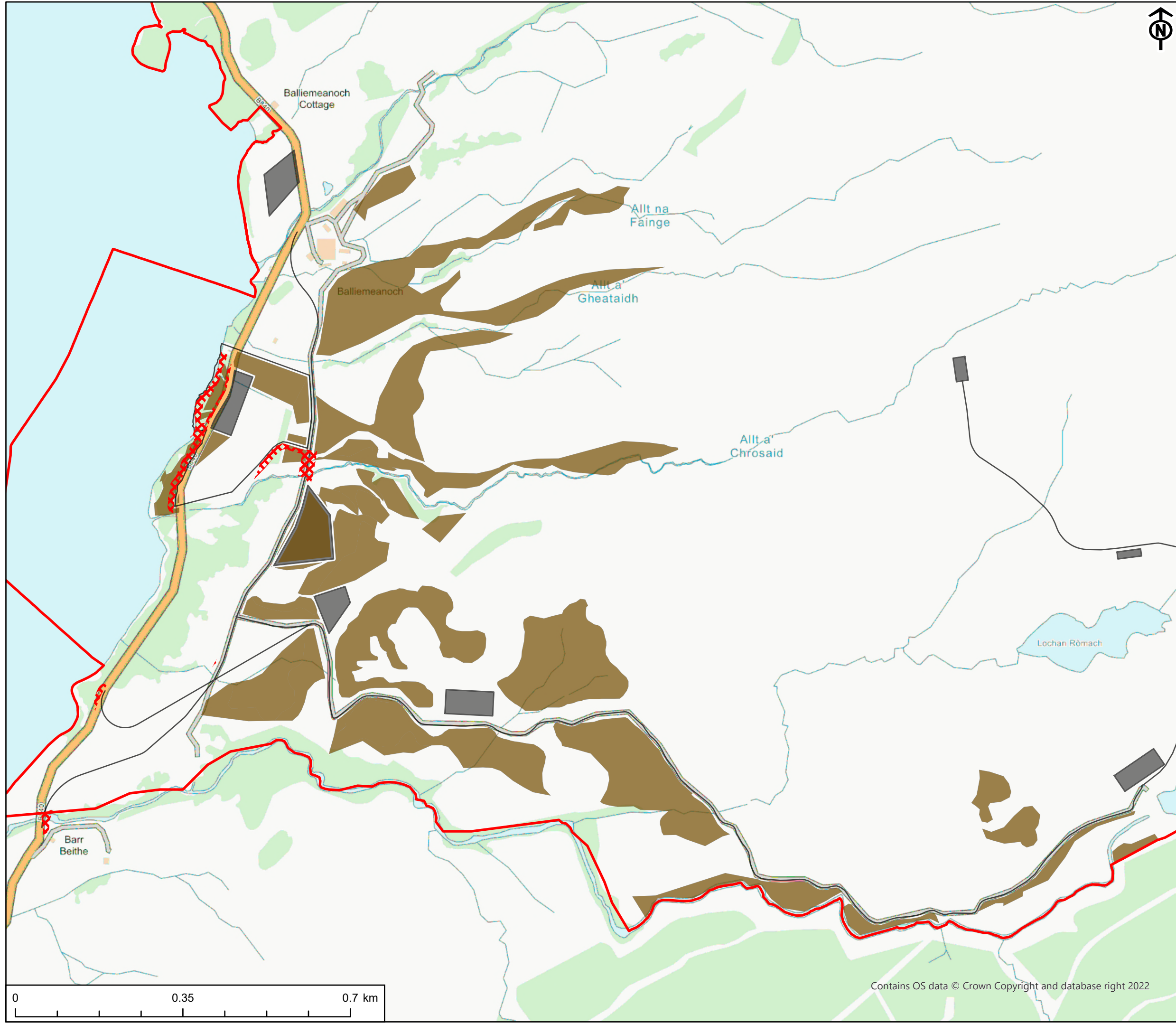
PROJECT
BALLIEMEANOCH PUMPED STORAGE HYDRO

CLIENT
ILI (Borders PSH) Ltd.

KEY
Development Boundary
HCV Felling Areas
Infrastructure
New woodland planting

Project Management Initials: MLS Designer: ER Checked: LC Approved: VD

Scale @ A3 1:7,500



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TITLE
Figure 5.5.4 Inlet
Infrastructure Felling and Woodland Planting Plan

REFERENCE
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