

Design and Access Statement CROMARTY HYDROGEN PROJECT

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1 INTRODUCTION

1.1 Background

- 1.1.1 ScottishPower Energy Retail Limited ('SPERL') (hereafter 'the applicant') is leading a joint development with Storegga Hydrogen Limited ('Storegga') for erection of a hydrogen production and storage facility (Class 3: Business & General Industry, Storage and Distribution), road haul tanker loading facility, underground electricity connection, import substation, improvements to existing access road, site offices, parking, gatehouse and perimeter fencing, temporary construction and laydown area and ancillary development (hereafter the 'Proposed Development') at land to the east of the Beinn Tharsuinn Windfarm (NGR NH 64225 81469), for which planning permission is sought under Section 32 of the Town and Country Planning (Scotland) Act 1997 ('the Act'). The location of the Proposed Development is shown on **Figure 1**. The Application Boundary is approximately 11.9 ha and lies 12 km north of Alness. Site access would come via the existing Beinn Tharsuinn Wind Farm access track, which runs from the B9176 Struie road, approximately 2 km to the east (**Figure 2**).
- 1.1.2 Green hydrogen gets its name because the process to create the hydrogen is powered by renewable energy sources like solar or wind power. These renewable sources power an electrolyser which separates water into hydrogen and oxygen gases. The hydrogen can then be used, distributed or stored. Green hydrogen is incredibly versatile and can be used to support a variety of industries such as steel works, distilleries, heavy-duty transport and businesses using high temperature processes.
- 1.1.3 The intention is for the Proposed Development to be powered by 100% renewable energy provided by ScottishPower Renewables from the co-located onshore wind generation at Beinn Tharsuinn and through power purchase agreements with off-site renewable generation within the ScottishPower portfolio. It is acknowledged that the current operational lifetime of the existing Beinn Tharsuinn Windfarm is time limited by planning condition as part of the extant consent. The Applicant has discussed this issue with THC during pre-application consultation and it is proposed that a subsequent application for a grid connection would be submitted if Beinn Tharsuinn Windfarm was decommissioned (this would be a separate application).
- 1.1.4 This Design and Access Statement (DAS) has been prepared to accompany the planning application for consent. In addition to this Design and Access Statement, the application documents also comprise the following reports:
- Supporting Statement;
 - Environmental Appraisal Report (EAR);
 - Planning Statement;
 - PAC Report; and
 - Transport Statement.

1.2 The Applicant

- 1.2.1 ScottishPower is part of Iberdrola, a world leader in clean energy with an installed capacity of over 28,000 MW and the leading wind energy producer worldwide. Iberdrola is a global leader in tackling climate change, with a commitment to reaching carbon

neutrality by 2050. As part of the energy transition to zero carbon, ScottishPower, of which SPERL is a part, is developing a network of hydrogen production facilities utilising renewable energy to create hydrogen for a range of industrial and transportation uses.

- 1.2.2 Storegga Hydrogen Limited is part of the Storegga Group. Storegga is an independent, UK-based decarbonisation development business. It develops early-stage carbon capture and storage and hydrogen projects in the UK and internationally to contribute to achieving Net Zero targets. The company employs approximately 80 people in the UK, US, and Singapore, with its head office in London.
- 1.2.3 Storegga is a private company backed by GIC, Mitsui & Co. Ltd., M&G Investments, Macquarie Group and Snam.

1.3 Site description

- 1.3.1 The application site is on land located adjacent to the east of the operational Beinn Tharsuinn Windfarm, approximately 12 km north of Alness (**Figure 1**). It comprises the main site area, site access and the cable route corridor (**Figure 5**). The application site is approximately 11.9 ha.
- 1.3.2 The application site currently comprises open moorland. In the immediate surroundings there are steep slopes, including Cnoc Muigh-bhlàraidh to the north, valleys and numerous watercourses. There is a habitat management area (HMA) associated with Beinn Tharsuinn Wind Farm adjoining the main site area and the access track¹. North west of the main site area there is a restored borrow pit that was in use during the construction of the Beinn Tharsuinn Wind Farm. There are two overhead lines that run largely parallel with the B9176 and cross the proposed access track. The wider area comprises upland moorland, broad rounded hills and forestry plantation, with limited development except for windfarms. The nearest properties are approximately 2 km to the east at Aultnamain.
- 1.3.3 Photos of the Application Site are included in **Appendix 4**.

1.4 Purpose and structure of the report

- 1.4.1 RSK has been commissioned by the applicant to prepare the application documents for the Proposed Development. Regulation 13 of *The Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013* requires major development planning applications to be accompanied by a Design and Access Statement which:
 - explains the policy or approach adopted as to design and how any policies relating to design in the development plan have been taken into account;
 - describes the steps taken to appraise the context of the development and demonstrates how the design of the development takes that context into account in relation to its proposed use;
 - states what, if any, consultation has been undertaken on issues relating to the design principles and concepts that have been applied to the development and what account has been taken of the outcome of any such consultation,

¹ ScottishPower Renewables, who manage the HMA, have been consulted to ensure that any scheme proposed within the Area of Search would not impact on the HMA.

- describes how issues relating to access to the development for disabled people have been dealt with and which—
 - explains the policy or approach adopted as to such access and, in particular, how—
 - policies relating to such access in the development plan have been taken into account; and
 - any specific issues which might affect access to the development for disabled people have been addressed;
 - describes how features which ensure access to the development for disabled people will be maintained; and
 - states what, if any, consultation has been undertaken on issues relating to access to the development for disabled people and what account has been taken of the outcome of any such consultation.

1.4.2 This DAS has therefore been prepared to accompany the application for consent and seeks to fulfil these requirements by exploring the principles and factors that have influenced the design and discusses the access arrangements of the Proposed Development. It has been prepared with consideration of relevant guidance, including the THC's advice note on Design and Access Statements and Scottish Government Planning Advice Note 68.

1.4.3 Information relating to sustainability topics, including design, building materials and minimising environmental impacts of development incorporated into the DAS; therefore, it is considered to cover the requirements for a Sustainable Design Statement as per THC's Sustainable Design Guide: Supplementary Guidance (SDGSG). An appraisal of the Proposed Development against THC's Sustainable Design Checklist is included in **Appendix 3**. The DAS should be read in conjunction with all the supporting material supplied.

1.4.4 The DAS does not assess potential environmental impacts of the Proposed Development, this is included in **Chapters 2-5** of the EAR.

1.5 Terminology

1.5.1 **Table 1.1** lists the key terminology used throughout the DAS.

Table 1.1: Terminology

Terminology	Definition / Explanation
the Applicant	ScottishPower Energy Retail Limited
developable area	Areas of land adjacent to the existing access track between the site access junction and north west of the main site area. This developable area was based on known constraints at the time and was used for initial site feasibility to identify an Area of Search for the Hydrogen Production Facility.
Area of Search	Following initial site feasibility this area was identified as preferred for the Hydrogen Production Facility as it was the least sensitive from an environmental and planning perspective. The Area of Search was larger than the area required for the Hydrogen Production Facility so further siting and design evolution could respond to ongoing environmental investigation and pre-application consultation.
Proposed Development	Used to refer to the proposed hydrogen production facility.

Terminology	Definition / Explanation
the application site	refers to everything within the application red line boundary.
site access	Comprises the existing junction with the B9176 Struie road, approximately 2 km to the east, and Beinn Tharsuinn Windfarm access track up to the main site area (Figure 5).
main site area	The area where the hydrogen production facility will be sited (Figure 5).
cable route corridor	The area comprising the existing access track plus a 10-15m buffer, running between the main site area and the existing Beinn Tharsuinn Wind Farm substation (Figure 5).

2 DESIGN POLICIES

2.1 Introduction

- 2.1.1 The following section outlines the relevant planning policy that has informed the siting, design and layout of the Proposed Development and the content of this DAS.

2.2 Development Plan

- 2.2.1 The Development Plan comprises the national planning framework, any strategic development plan and any local development plan. National Planning Framework 4 (NPF4) has been subject to consultation and parliamentary scrutiny over the last year since it was first laid before Parliament in November 2021, coming into force on 13th February 2023.
- 2.2.2 There is currently no relevant Strategic Development Plan covering the application site. The Local Development Plan for the Proposed Development is the Highland-wide Local Development Plan (HwLDP), and its associated Supplementary Guidance. The Highland Council Area Local Development Plan covering the proposed site is the Caithness and Sutherland Local Development Plan 2018 (CaSPlan). The Inner Moray Firth Local Development Plan 2023 (IMFLDP) covers land from approximately 250 m south west of the proposed site. The Area Local Development Plans focus is on the regional and settlement strategies of the respective areas. They identify specific site allocations and as such, much of the content of those plans is not directly relevant to this proposal.
- 2.2.3 The Planning Statement provides a full assessment of the Proposed Development against the Development Plan and material considerations relevant to the decision-making process.

2.3 National Planning Framework 4

- 2.3.1 Part 1 of NPF4 sets out the national spatial strategy key to delivering on the United Nations (UN) Sustainable Development Goals (SDGs) and Scotland's national outcomes. The national spatial strategy (as outlined in Part 1 of NPF4) will support the planning and delivery of:
- *“sustainable places, where we reduce emissions, restore and better connect biodiversity;*
 - *liveable places, where we can all live better, healthier lives; and*
 - *productive places, where we have a greener, fairer and more inclusive wellbeing economy.”*
- 2.3.2 Part 2 of NPF4 details the planning policies aimed at supporting the delivery of the national spatial strategy. The key national planning policies in relation to design and access are as follows:
- Policy 2 – Climate mitigation and adaptation
 - a) Development proposals will be sited and designed to minimise lifecycle greenhouse gas emissions as far as possible.
 - b) Development proposals will be sited and designed to adapt to current and future risks from climate change.

- Policy 3 – Biodiversity
 - d) Any potential adverse impacts, including cumulative impacts, of development proposals on biodiversity, nature networks and the natural environment will be minimised through careful planning and design. This will take into account the need to reverse biodiversity loss, safeguard the ecosystem services that the natural environment provides, and build resilience by enhancing nature networks and maximising the potential for restoration.
- Policy 4 – Natural places
 - f) Development proposals that are likely to have an adverse effect on species protected by legislation will only be supported where the proposal meets the relevant statutory tests. If there is reasonable evidence to suggest that a protected species is present on a site or may be affected by a proposed development, steps must be taken to establish its presence. The level of protection required by legislation must be factored into the planning and design of development, and potential impacts must be fully considered prior to the determination of any application.
- Policy 5 – Soils
 - a) Development proposals will only be supported if they are designed and constructed:
 - i. In accordance with the mitigation hierarchy by first avoiding and then minimising the amount of disturbance to soils on undeveloped land; and
 - ii. In a manner that protects soil from damage including from compaction and erosion, and that minimises soil sealing.
 - d) Where development on peatland, carbon-rich soils or priority peatland habitat is proposed, a detailed site specific assessment will be required... This assessment should inform careful project design.
- Policy 11 – Energy
 - e) In addition, project design and mitigation will demonstrate how the following impacts are addressed:
 - i. impacts on communities and individual dwellings, including, residential amenity, visual impact, noise and shadow flicker;
 - ii. significant landscape and visual impacts, recognising that such impacts are to be expected for some forms of renewable energy. Where impacts are localised and/ or appropriate design mitigation has been applied, they will generally be considered to be acceptable;
 - iii. public access, including impact on long distance walking and cycling routes and scenic routes;
 - iv. impacts on aviation and defence interests including seismological recording;
 - v. impacts on telecommunications and broadcasting installations, particularly ensuring that transmission links are not compromised;
 - vi. impacts on road traffic and on adjacent trunk roads, including during construction;
 - vii. impacts on historic environment;
 - viii. effects on hydrology, the water environment and flood risk;
 - ix. biodiversity including impacts on birds;
 - x. impacts on trees, woods and forests;

- xi. proposals for the decommissioning of developments, including ancillary infrastructure, and site restoration;
 - xii. the quality of site restoration plans including the measures in place to safeguard or guarantee availability of finances to effectively implement those plans; and
 - xiii. cumulative impacts.
- Policy 14 – Design, quality and place
 - a) Development proposals will be designed to improve the quality of an area whether in urban or rural locations and regardless of scale.
 - b) Development proposals will be supported where they are consistent with the six qualities of successful places:
 - Healthy: Supporting the prioritisation of women's safety and improving physical and mental health.
 - Pleasant: Supporting attractive natural and built spaces.
 - Connected: Supporting well connected networks that make moving around easy and reduce car dependency
 - Distinctive: Supporting attention to detail of local architectural styles and natural landscapes to be interpreted, literally or creatively, into designs to reinforce identity.
 - Sustainable: Supporting the efficient use of resources that will allow people to live, play, work and stay in their area, ensuring climate resilience, and integrating nature positive, biodiversity solutions.
 - Adaptable: Supporting commitment to investing in the long-term value of buildings, streets and spaces by allowing for flexibility so that they can be changed quickly to accommodate different uses as well as maintained over time.
 - c) Development proposals that are poorly designed, detrimental to the amenity of the surrounding area or inconsistent with the six qualities of successful places, will not be supported.
- Policy 26 – Business and Industry
 - d) Development proposals for business, general industrial and storage and distribution uses outwith areas identified for those uses in the LDP will only be supported where:
 - ii. The nature and scale of the activity will be compatible with the surrounding area.
- Policy 29 – Rural development
 - b) Development proposals in rural areas should be suitably scaled, sited and designed to be in keeping with the character of the area. They should also consider how the development will contribute towards local living and take into account the transport needs of the development as appropriate for the rural location.

2.4 The Highland-wide Council Local Development Plan (HwLDP)

- 2.4.1 The Highland Council Adopted the HwLDP on 5 April 2012 and was constituted as the local development plan in law. It sets out the overarching spatial planning policy for the

whole of the Highland Council area, except the area covered by the Cairngorms National Park Local Plan.

2.4.2 The following are considered the key policies in relation to design and access:

- Policy 28 Sustainable Design
 - Policy 28 seeks to deliver sustainable developments which promote and enhance the social, economic and environmental wellbeing of the people of Highland. The Policy states that proposed developments will be assessed against a number of criteria, of which the following are considered to be relevant to the Proposed Development:
 - maximise energy efficiency in terms of location, layout and design, including the utilisation of renewable sources of energy and heat;
 - are affected by physical constraints described in Physical Constraints on Development: Supplementary Guidance;
 - demonstrate that they have sought to minimise the generation of waste during the construction and operational phases. (This can be submitted through a Site Waste Management Plan);
 - impact on individual and community residential amenity;
 - demonstrate sensitive siting and high quality design in keeping with local character and historic and natural environment and in making use of appropriate materials; and
 - contribute to the economic and social development of the community.
 - Policy 28 also states that all development proposals must demonstrate compatibility with the SDGSG, which requires that all developments should: conserve and enhance the character of the Highland area; use resources efficiently; minimise the environmental impact of development; enhance the viability of Highland communities.
 - The Policy also emphasises developments that will have significant adverse effects will only be supported if no reasonable alternatives exist, if there is demonstrable over-riding strategic benefit or if satisfactory overall mitigating measures are incorporated.
- Policy 29 - Design Quality & Place Making General
 - Policy 29 is concerned with design quality and place making. The Policy states that new development should be designed to make a positive contribution to the architectural and visual quality of the place in which it is located. Applicants should demonstrate sensitivity and respect towards the local distinctiveness of the landscape, architecture, design and layouts in their proposals. Where relevant, the Policy states that Council will judge proposals in terms of their contribution to place-making. Proposals should have regard to the historic pattern of development and landscape in the locality and should, where relevant, be an integral part of the settlement.
- Policy 30 - Physical Constraints
 - General Policy 30 is concerned with physical constraints to development in the Highlands. It requires developers to consider whether their proposals would be located within areas of constraints as set out in Physical Constraints: Supplementary Guidance. The main principles of the guidance are to provide developers with up-to-date information regarding physical constraints to development in the Highlands and to ensure proposed developments do not adversely affect human health and

safety or pose risk to safeguarded sites. Where a proposed development is affected by any of the constraints detailed within the guidance, developers must demonstrate compatibility with the constraint or outline appropriate mitigation measures to be provided.

- Policy 36 - Development in the Wider Countryside
 - Policy 36 is concerned with controlling development outwith defined Settlement Development Areas, which includes the Application Site. In such areas, development proposals will be assessed against criteria including the extent to which they: are acceptable in terms of siting and design; are sympathetic to existing patterns of development in the area; are compatible with landscape character and capacity; avoid incremental expansion of one particular development type within a landscape whose distinct character relies on an intrinsic mix/distribution of a range of characteristics avoid, where possible, the loss of locally important croft land; and would address drainage constraints and can otherwise be adequately serviced, particularly in terms of foul drainage, road access and water supply, without involving undue public expenditure or infrastructure that would be out of keeping with the rural character of the area. Development proposals may be supported if they are judged to be not significantly detrimental under the terms of this policy..
- Policy 55 - Peat and Soils
 - Development proposals should demonstrate how they have avoided unnecessary disturbance, degradation or erosion of peat and soils.
- Policy 56 - Travel Policy
 - Development proposals that involve travel generation must be designed for the safety and convenience of all potential users.
- Policy 57 - Natural, Built and Cultural Heritage
 - This policy supports developments that can be shown not to compromise the natural environment, amenity and heritage resource.
- Policy 61 – Landscape
 - Policy 61 is concerned with landscape, stating that new developments should be designed to reflect the landscape characteristics and special qualities identified in the relevant, refreshed and published (2019) Nature Scot (formerly SNH) Landscape Character Assessments (LCAs) of the area in which they are proposed. This will include consideration of the appropriate scale, form, pattern and construction materials, as well as the potential cumulative effect of developments where this may be an issue. The policy encourages developers to take measures to enhance the landscape characteristics of the area. In the assessment of new developments, the Council will take account of Landscape Character Assessments, Landscape Capacity Studies and its supplementary guidance on Siting and Design and Sustainable Design, together with any other relevant design guidance.
- Policy 64 – Flood Risk
 - Development proposals should avoid areas susceptible to flooding and promote sustainable flood management.
- Policy 66 – Surface Water Drainage Policy
 - All proposed development must be drained by Sustainable Drainage Systems (SuDS) designed in accordance with The SuDS Manual (CIRIA C697) and, where appropriate, the Sewers for Scotland Manual 2nd Edition.
- Policy 77 – Public Access

- For a proposal classified as a Major Development, the Council will require the developer to submit an Access Plan. This should show the existing public, non-motorised public access footpaths, bridleways and cycleways on the site, together with proposed public access provision, both during construction and after completion of the development (including links to existing path networks and to the surrounding area, and access point to water).

2.4.3 In addition, although the Proposed Development is not explicitly addressed within policy of the current development plan, HwLDP Policies 67 Renewable Energy Developments (as policy for generation proposals) and 69 Electricity Transmission Infrastructure (as policy for major grid infrastructure) were also consulted, particularly given the direct relationship of this proposal to the nearby Beinn Tharsuinn Windfarm.

- Policy 67: Renewable Energy Developments
 - Policy 67 Renewable Energy Developments sets out the Council's support in principle for renewable energy developments. This support is subject to addressing key issues and criteria. Renewable energy development proposals should be well related to the source of the primary renewable resources that are needed for their operation. The Council must be satisfied that the development is located, sited and designed in a way that will not be significantly detrimental to a number of considerations as set out in the policy. This includes both individual impacts and cumulative impacts with other renewable energy developments. There is Supplementary Guidance associated with this policy; though specifically for onshore wind energy development proposals rather than being aimed at hydrogen production.
- Policy 69 Electricity Transmission Infrastructure
 - Policy 69 highlights the strategic importance the Highlands will play in generating and transmitting renewable electricity from areas of generation to areas of consumption. Given the size and scale of this proposal, it would likely be considered of significant importance and there is general support for the development under this policy, subject to balancing and mitigating any detrimental impacts the scheme might create, including to natural, built and cultural heritage features.

2.4.4 An appraisal of the Proposed Development against the Development Plan is included as part of the Planning Statement.

3 SITE SELECTION AND DESIGN EVOLUTION

3.1 Introduction

- 3.1.1 This section discusses the key design principles and environmental constraints relevant to the Proposed Development and the way they have been addressed in the siting, layout and design.
- 3.1.2 The Cromarty Firth Area has been identified as a candidate regional hydrogen hub under national policy and there is a requirement for a small-scale, decentralised hydrogen production facility as part of the Cromarty Distilleries Project. Decentralised production in this location offers strong synergies and 'win-win' potential to address overlapping challenges around maximising Scotland's renewable energy potential and reducing possible curtailment that might arise due to electricity grid network constraints, creating new revenue and diversification opportunities for renewables operators, and accelerating the decarbonisation of energy intensive activities and sectors. Further detail regarding the need for this development in the Cromarty region and the advantages of this application site are included in the Supporting Statement.
- 3.1.3 The development partners identified the area near the existing Beinn Tharsuinn Windfarm for the location of a hydrogen production facility within the Cromarty region due primarily to the availability of existing infrastructure, proximity to a source of renewable energy and grid connection, and proximity to potential end users and Cromarty Green Freeport bid area.
- 3.1.4 In addition, hydrogen production facilities and their supporting ancillary infrastructure of this scale, are generally located outside of urban areas and within the countryside where the capacity to accommodate such developments exists. The application site offers many benefits in this regard, specifically the developable area has a relationship with the current Beinn Tharsuinn Windfarm that will provide affordable, green energy from Beinn Tharsuinn Wind Farm and allows existing infrastructure to be used and the Proposed Development would be in a location close to potential end users and Cromarty Green Freeport bid area.

3.2 Key design principles and objective

- 3.2.1 Key design principles that reflect relevant national and local policy were adopted to provide a framework within which the overall siting, layout and design of the Proposed Development could be refined. These included:
- Siting and designing to avoid or minimise impact on physical constraints on development;
 - Siting and designing to minimise lifecycle greenhouse gas emissions as far as possible;
 - Siting and designing to adapt to current and future risks from climate change;
 - Minimising potential impacts on the natural environment through careful planning and design;
 - Siting and designing to avoid or minimise impacts on communities and individual dwellings, including, residential amenity, visual impact, and noise;

- Siting and designing to avoid or minimise significant landscape and visual impacts;
- Siting and designing to avoid or minimise impacts on public access; and
- Suitably scaling, siting and designing the Proposed Development to be in keeping with the character of the area.

3.2.2 Following this an overall design objective was distilled:

“To identify a technically feasible and economically viable Proposed Development. The final site, layout and design should, on balance, cause the least disturbance to the environment and the people who live, work and enjoy recreation within it”

3.3 Environmental considerations

3.3.1 For operational reasons and to minimise potential environmental impacts resulting from ground disturbance it was necessary for the Proposed Development to be situated as close to the existing infrastructure as possible. Thus, the developable area was limited to a 250m buffer from the existing access track and avoiding known constraints, such as areas of excessive slope and watercourses. The developable area is shown on **Figure 3**.

3.3.2 An initial site feasibility in Autumn 2021 (**Appendix 1**), involving a desk survey combined with observations made on-site was subsequently completed, to examine the application site in its wider and immediate context, to assess the current baseline conditions. The following investigation and analysis was completed as part of the initial site appraisal:

- undertaking site surveys;
 - Extended Phase 1 habitat survey; and
 - Phase 1 peat depth survey.
- desk based assessments;
 - Landscape appraisal.
- a review of planning history, previous environmental reports and planning submissions for the Beinn Tharsuinn Windfarm;
- review of current and previous land uses, including consultation with owners/occupiers;
- consideration of the proximity of sensitive receptors, including surrounding residential properties;
- a baseline data search of local and national constraints;
- consideration of the ground conditions and the engineering considerations of construction of the Proposed Development;
- hydrological considerations such as potential impacts on watercourses, and ground water dependent terrestrial ecosystems;
- pre-application consultation with THC.

3.3.3 The key environmental considerations identified are described below. The EAR includes a detailed description of the baseline conditions together with associated plans and

figures as well as presenting the findings of the appraisal work which has been undertaken.

Landscape and visual

- 3.3.4 The developable area is rural with limited development except for wind farms. Developments of the type and scale of the Proposed Development would have potential for impacts on landscape character. The application site coincides with Landscape Character Type (LCT) 330 Rounded Hills and Moorland Slopes - Ross & Cromarty. This LCT comprises smooth rounded hills, sweeping moorland slopes and broad, high level unfarmed straths.
- 3.3.5 There is also the potential for visual effects where the Proposed Development could be seen from key receptors, such as designated sites and the visual amenity of local residents, roads, and recreational routes.
- 3.3.6 Initial feasibility considered the landscape and visual effects from the west, middle and east of the developable area. It was found that visibility in each location would be constrained in some way by the landform and/or vegetation. In each case there would be some distant views; however, the western location would have the greatest distance from visual receptors, in particular the local residential properties. It was also considered the constrained theoretical visibility of the development within the local landscape character area would minimise potential landscape impacts.

Ecology and Ornithology

- 3.3.7 The developable area contains areas of marshy grassland with areas of blanket bog and dry and wet heath, which are locally relatively common. During the survey, no evidence of protected species was identified. The area to the west of the developable area was considered as having only limited value for protected species, with no ponds, hedgerows and trees onsite. This area is also considered entirely unsuitable for scarce and protected bird species, such as waders or raptors. Although it was identified that there are some habitats of conservation value and potential for Groundwater Dependent Terrestrial Ecosystems (GWDTE), given their prevalence in the surrounding area it was not necessarily considered to be prohibitive to development. More noteworthy was the identification of a habitat management area, which was part of the proposals for the existing Beinn Tharsuinn Windfarm, along the southern extent of the developable area. The avoidance of this feature was a priority for siting the Proposed Development.

Historic environment

- 3.3.8 The desk-based review and initial assessment found that there was no known heritage assets within the developable area. Historical mapping and previous survey work undertaken for the development and construction of Beinn Tharsuinn Windfarm also indicated there is negligible potential for unknown archaeological remains within the developable area. It was also considered unlikely that the developable area contributes to the significance of any heritage assets and the nature and scale of the Proposed Development is unlikely to challenge the prominence of any monuments. Therefore, potential impacts that may affect the preservation of a heritage asset or the setting of

heritage assets were not considered in relation to siting, layout and design of the Proposed Development.

Hydrology, the water environment and flood risk

- 3.3.9 Natural watercourses were identified within the developable area and some artificial drainage channels are present, notably alongside the existing access track and cross-drainage below the track. A 50m development buffer was consequently applied to natural watercourses in order to suitably inform the design and minimise impacts. There are no sites designated for features linked to hydrology or water quality within the developable area or surrounding area. Published mapping indicated that there was no risk of flooding.

Peat and soils

- 3.3.10 The presence of peat in and around the developable area was identified early in the planning stages of the Proposed Development. The developable area contains areas of Class 1 and Class 2 peatland. Classes 1 and 2 are considered to be nationally important carbon-rich soils, deep peat and priority peatland habitat. In addition, a peat depth survey of the developable area generally coincided with the location of the habitat management area with deeper peat also present in pockets elsewhere.

3.4 Site selection and design evolution

- 3.4.1 Following the initial site feasibility study of the developable area an Area of Search for the Proposed Development that avoided or minimised potential impacts on the natural environment, increased separation distances from residential receptors and took advantage of natural screening from topography was identified, which was taken forward for EIA Screening (**Figure 3**).
- 3.4.2 The Area of Search was selected for the following reasons:
- maintains appropriate setback distances from natural watercourse;
 - avoids areas of deepest peat;
 - relatively well contained by the landscape to the north and west;
 - avoids a habitat management area (**Appendix 2**);
 - avoids areas of steeper slope; and
 - avoids potential impacts on existing overhead lines.
- 3.4.3 The size of the Area of Search exceeded the land take required for the Proposed Development so that due consideration could be given to refining the design whilst taking cognisance of consultee comments and constraints identified through ongoing environmental surveys and appraisals. This approach facilitates the identification of a final site location and, ultimately, a final design that minimises potential environmental

impacts. It is the Area of Search that was taken forward for pre-application consultation and EIA Screening.

3.5 Pre-application consultation advice meeting, community engagement and EIA Screening

3.5.1 The design concept of a development within the Area of Search was taken forward to pre-application consultation advice meeting, community engagement and EIA Screening.

3.5.2 A pre-application advice meeting was held in June 2022 with THC and representatives of key consultees. The purpose of the meeting was to provide early indications of their view of the scheme. The discussion, and subsequent written pre-application advice pack contained the following advice relating to design and access:

“Based on our understanding of the scale and location of the hydrogen facility, its siting appears to be relatively well contained by the landscape to the north and west. Given the rural location, albeit within an operational wind farm, the proposed infrastructure as currently designed is not entirely sympathetic to the landscape character of the local area and existing pattern of built development. There would however appear to be scope to mitigate adverse landscape and visual effect through careful siting and design, ensuring that the infrastructure’s materials and finishes are well specified to help blend into the hillside, with perimeter fencing and lighting being kept to a minimum, with the introduction of additional landscape planting wherever feasible.”

3.5.3 The other principal design considerations discussed comprised:

- Impacts on peat – *“We welcome the initial peatland habitat condition and peat depth surveys undertaken to date and are pleased see that these factors have been acknowledged as a major constraint in the project design and avoidance has been the first principle in site screening. We are also pleased to note that further detailed surveys are planned and that these will further inform the detailed site design.”*
- Impacts on habitats – *“Initial survey work shows that the site include areas of wet heath and blanket bog and we note that NVC surveys are planned. Initial peat surveys indicate that deeper peat areas correspond with the mapped blanket bog and we recommend the design and layout seeks to avoid direct and indirect impacts to these areas in particular. Where impacts to priority peatland habitats cannot be avoided, they should be minimised, and opportunities for mitigation and/or compensation be identified within Peatland and Habitat Management Plans.”*
- Flood risk – *“If any new or upgraded watercourse crossings are required, small watercourse crossings should be oversized and larger scale watercourse crossings should be demonstrated to be adequately designed to accommodate the 1 in 200 year flow (including an allowance for climate change and freeboard) to avoid increasing the risk of flooding, or information provided to justify smaller structures. A minimum buffer strip of 50m should be kept free from development from the top of bank(s) of any watercourse or waterbody. Storage of materials within this area during construction is not permitted.”*
- Drainage – *“The Drainage Impact Assessment will need to detail the proposed surface water and foul drainage systems and include appropriate drawings and calculations... The drainage should be designed in line with general Sustainable Drainage Systems (SuDS) principles.”*

- Ground Water Dependent Terrestrial Ecosystems (GWDTE) – “GWDTE are protected under the Water Framework Directive and therefore the layout and design of the development must avoid impact on such areas... If the minimum buffers above cannot be achieved, a detailed site specific qualitative and/or quantitative risk assessment will be required. We are likely to seek conditions securing appropriate mitigation for all GWDTE affected.”

- 3.5.4 Public consultation was conducted in Autumn 2022, with three in-person events hosted in the local vicinity from September to November. The consultation material was also made available online via the project webpage. The events included a number of information boards, photomontages and visualisations, which outlined key design factors, such as the project location, description of the Proposed Development, viewshed maps, several key viewpoints, and environmental considerations. To supplement this, face to face consultation and discussion between attendees and the exhibition team was undertaken and feedback forms supplied to allow attendees to provide written feedback.
- 3.5.5 In order to provide visualisations for public consultation a preliminary site layout plan (**Figure 5**) was used as the basis for a general massing model and an interim compound site within the Area of Search was selected (**Figure 3**). As per THC’s pre-application advice, a second set of visualisations showing the Proposed Development with a colour of finish more attuned to the surrounding environment was produced. **Appendix 5** presents the visualisations produced for the public consultation events.
- 3.5.6 There were two responses received relating to design and access: one concerned the perceived prominence of the Proposed Development in the visualisations and wanted to know what mitigation is proposed, and the other concerned potential for light pollution and the impact this could have on the dark rural night skies. The design of the Proposed Development has evolved to minimise potential visual impacts arising as a result of introducing industrial development into a rural landscape. The Proposed Development is relatively small-scale and low level and the choice of site provides natural screening from the topography. Furthermore, the layout is compact, which reduces visual spread and prominence of the Proposed Development, and this would be further improved by using a natural finish to the buildings so they blend more with the surrounding environment. Permanent night-time lighting is proposed along the perimeter of the site and at the entrance, and where possible, directed downward and carefully designed not to contribute to light pollution.
- 3.5.7 An EIA Screening Report was submitted as part of a request for a Screening Opinion from THC on 22 December 2022. A Screening Opinion was received on 1 February 2023, which confirmed that an EIA was not required for the Proposed Development indicating that with appropriate siting and design and additional mitigation as required the Proposed Development in the Area of Search was unlikely to result in significant adverse effects.
- 3.5.8 More information regarding all pre-application consultation with stakeholders, including community engagement, is provided in the stand alone Pre-application Consultation (PAC) Report included as part of the application documents.

3.6 Design solution

Siting

- 3.6.1 The main site area (**Figure 3**) selected for the Proposed Development was chosen through an iterative design process which sought to carefully balance the factors listed above. As far as possible, the main site area proposed for the hydrogen production facility

has been reduced so as to only accommodate the infrastructure required, and has been sited so as to minimise its potential impact on areas of deep peat and associated ecological constraints. It was ultimately deemed to be the most appropriate location for the Proposed Development as it addressed a number of onsite constraints and allowed for the Proposed Development to be integrated into the existing infrastructure as a way of mitigating, to a degree, its limited visual impacts. The finalised location and layout can be viewed within **Figures 4**.

- 3.6.2 The potential impact upon the local landscape character has been given careful consideration during the site selection process for the Proposed Development. While a development of this size will inevitably have some effect on landscape character, it has been located so to minimise its effect as far as possible. In support of this application, a Landscape and Visual Appraisal (LVA) has been undertaken which considers the landscape and visual effects of the Proposed Development. This LVA is in **Chapter 2** of the EAR.
- 3.6.3 It is considered that the landform helps in the mitigation of the potential effects resulting from the installation of the development and views of the Proposed Development would be largely limited to those experienced at close proximity from the Beinn Tharsuinn Windfarm access track and views from hilltops to the north, west and at longer distance to the south west from the summit of Beinn Tharsuinn. Vegetation including a large bank of mature forestry to the south of the main site area does provide further screening from views in that direction; however, it is recognised that this forestry is commercial in nature and therefore its use as a screening device cannot be guaranteed in perpetuity.
- 3.6.4 While it has not been possible to completely screen the Proposed Development from visual receptors, it is considered that the Proposed Development is as compact and visually discrete as possible and achieves a balance between location and visual impact. In order to deliver a financially viable scheme and in order to minimise other environmental impacts it has been necessary to site the hydrogen production facility as close to the existing infrastructure as possible.

Layout and scale

- 3.6.5 The design of the Proposed Development is based on the plant requirements for the electrolyser technology and the form and scale of the Proposed Development is fully informed by these requirements. The Proposed Development is of a low scale with the maximum height of its structures not exceeding 25 m . Of the structures proposed, the tallest are the vent stack (25 m) and electrolyser building (15 m), with the majority of the buildings and infrastructure at a level of 9.5 m or lower. Details of the infrastructure required for the Proposed Development are included in **Section 4** below.
- 3.6.6 Due to its intrinsic link to Beinn Tharsuinn Windfarm and in order to integrate the Proposed Development within the surrounding infrastructure, the HV cable apparatus would be buried within the verge of the existing access track between the hydrogen production facility and the existing substation, which would minimise the amount of cable run and cut and fill required.
- 3.6.7 It is accepted that the Proposed Development does represent the introduction of an industrial development within an otherwise undeveloped rural site, however, contextually the impact is greatly minimised due to the high modification of the landscape character as a result of the turbines which form Beinn Tharsuinn Windfarm, Beinn nan Oighrean Windfarm and Coire na Cloiche Windfarm to the west of the application site.

Visualisations of the Proposed Development, which provide an indicative representation of the development from key views, are included in **Appendix 6**.

3.7 Sustainable design

Overview

3.7.1 As per THC's SDGSG:

"Good design in this context is a building that is fit for purpose and respects both its location and its function. Good design leads to buildings which relate well to their location, are functional, well-constructed and accessible, have a long lifespan and are affordable as well as being sustainable..."

Sustainable design is as much about selecting the right site and appropriate architectural style as it is about utilising environmentally-friendly materials and construction techniques."

3.7.2 In order to realise this design objective there are four key sustainable design principles:

- Conserving and enhancing the character of the Highland area;
- Using resources efficiently;
- Minimising the environmental impact of development; and
- Enhancing the viability of Highland communities.

3.7.3 In order to comply with THC's request for a Sustainable Design Statement, the applicant has identified, in the following section, how the Proposed Development has satisfied the four design objectives and their respective key design issues where relevant. It should be noted that the majority of the SDGSG is predominantly related to housing development so is not directly applicable to the Proposed Development. The final detailed design of the Proposed Development would be completed at a later stage therefore not all of the required elements are applicable at this time. A completed version of the THC's Sustainable Design Checklist, which shows how the Proposed Development meets the minimum standards for the applicable elements, is included in **Appendix 3**.

Conserving and enhancing the character of the highland area

3.7.4 The relationship between landscape and the built environment creates the diverse and distinctive settlements which contribute to the overall character of the Highland area. Thus all new development should be designed with the Highland environment and climate in mind. The key design issues are considered to be:

- Buildings and their setting
- Materials and traditional skills
- The natural environment

3.7.5 Information relating to wildlife species and habitats on-site have been taken into account in the design and planning process to ensure that measures to protect existing wildlife will be implemented if the development proceeds.

3.7.6 The materials used for the final construction of the Proposed Development have not been determined at this stage; however, the applicant is committed to adhering to guidance on

the use of sustainable materials in the SDGSG where reasonably practicable. The applicant will consider how the final combination of traditional skills, materials and knowledge of the landscape and climate, along with any modern sustainable materials and construction techniques, could result in a development that reflects the special qualities of the local area.

Using resources efficiently

- 3.7.7 There are significant pressures on infrastructure arising from energy, water use and the management of waste. All new development should incorporate sustainable energy, water and waste management systems in order to reduce these pressures. In addition, using development land efficiently is necessary to minimise the area of land that is required for the built environment and associated infrastructure, such as roads and footpaths, drainage facilities, and energy generation. The key design issues are considered to be:
- Energy efficiency;
 - Generating energy where it's needed;
 - Making the most of water resources;
 - Flooding;
 - Waste water;
 - Reducing construction waste; and
 - Valuing land as a scarce resource;
- 3.7.8 During construction, a Site Waste Management Plan (SWMP) would be implemented such that waste streams are managed. The Waste Hierarchy (Scottish Government, 2017) of prevention, reuse, recycle, recover and disposal to landfill - as a last resort - would be applied to the methodology of the SWMP.
- 3.7.9 The Proposed Development will make use of renewable energy from the co-located Beinn Tharsuinn Windfarm and it is intended that water will be supplied from a local, natural water source so power and water supply are considered to be sustainable. Furthermore, the Proposed Development will be designed and installed in accordance with relevant legislation, standards and best practice and will be regularly maintained to ensure that the Proposed Development continues to operate optimally, which includes the efficient use of resources. Only a small number of staff (5 shifts of 5 crew, and 10 HGV drivers on shift patterns) would be employed during operation and optimising the siting, design, layout and orientation of buildings for energy efficiency has been one of a number of considerations. As described above, other considerations such as conserving and enhancing the character of the Highland and minimising the environmental impact of development area have largely dictated the siting and design of the Proposed Development, however, consideration will be given to the final materials and layout of buildings in order to use resources more efficiently where possible.

Minimising the environmental impact of development

- 3.7.10 No matter how well-designed a development proposal may be there are still a number of potential environmental impacts which can arise from the development process or the way the finished development is used. The key design issues are considered to be:
- Minimising the impacts of construction;
 - Unobtrusive developments; and
 - Transport.

- 3.7.11 As described above, the design of the Proposed Development has evolved to mitigate where possible potential adverse effects on the receiving environment. A Schedule of Mitigation (**Technical Appendix 1.2** of the EAR) has collated all of the additional mitigation measures identified as part of the technical appraisals conducted for the final site layout.
- 3.7.12 To minimise the impacts of construction, the applicant would prepare a Construction Environmental Management Plan (CEMP) and Construction Traffic Management Plan (CTMP) in line with best practice guidelines prior to the start of construction, detailing measures to avoid or mitigate potential effects associated with key construction activities. These would be agreed with key stakeholders, where appropriate. It is anticipated that the requirement for a CEMP and CTMP would form a condition of consent. The applicant would consider whether the Principal Contractor is part of the Considerate Construction Scheme, which is a voluntary scheme designed to promote and encourage safe, considerate, clean and responsible builders and building sites.

Enhancing the viability of Highland Communities

- 3.7.13 Sustainable buildings will be flexible and accessible in their design, so that they remain fit for purpose and function effectively for the long-term. The key design issues are considered to be:
- Adapting to climate change.
- 3.7.14 -Due to siting and design, it is considered that none of the following climate trends identified in UKCP18 could affect the Proposed Development:
- increased temperature;
 - changes in the frequency, intensity, and distribution of rainfall events (e.g. an increase in the contribution to winter rainfall from heavy precipitation events and decreases in summer rainfall); and
 - sea level rise and associated coastal flood risk.
- 3.7.15 An outline drainage strategy is included in **Technical Appendix 4.2** of the EAR. The application site currently drains naturally via overland flow, drainage ditches and natural channels to the existing watercourses in the wider study area. The outline drainage strategy promotes maintenance of natural runoff characteristics where possible, and drainage infrastructure to mimic these characteristics where required. Runoff attenuation and treatment proposals are to be designed to prevent any detrimental effects to the water quality or quantity of existing waterbodies. Drainage systems will be designed to enable excess runoff during storm events and sized to account for increased and heavier rainfall. Proposed SuDS to be incorporated in the detailed drainage strategy may include use of swales and filter strips, filter drains, check dams, silt fences and straw bales, settlements ponds and sumps at different stages of the Proposed Development.
- 3.7.16 The final design of the Proposed Development has yet to be confirmed however roof designs and external walls will be designed and use materials which are durable, locally-sourced and easily obtained, as appropriate.

Summary

- 3.7.17 It is considered that all new developments should make a positive contribution to their location and that this can be achieved by carefully considering the site, scale, layout and design of the development, and how this relates to its surroundings. It is considered that the Proposed Development complies with the guidance relating to sustainable design as



the siting, layout and design have minimised potential impacts of the Proposed Development on the natural environment and would not be at odds with the landscape and surrounding environment. The potential environmental impacts of the Proposed Development would be further minimised through the environmental commitments the applicant has made as part of the Schedule of Mitigation, such as implementation of a CEMP and CTMP. The Proposed Development would use resources efficiently and sustainably given its co-location with and use of energy supplied from the existing Beinn Tharsuinn Windfarm. The applicant is not at a stage where they can confirm the final proposals for the materials to be used in the development; however, is committed to considering the advice outlined in the SDGSG as part of their final design.

4 PROPOSED DEVELOPMENT

4.1 Overview

4.1.1 The Proposed Development would comprise the following components:

- Hydrogen production and storage facility comprising:
 - hydrogen electrolyzers
 - hydrogen purification plant
 - hydrogen and oxygen processing plant
 - compression and cooling equipment
 - low and high pressure storage vessels
- Road haul tanker loading facility and transport access roads;
- Power import infrastructure: including underground cabling, substation, transformer(s) and switchgear;
- Water import, buffer storage and water demineralisation package;
- Waste water treatment infrastructure: including effluent treatment plant and holding tanks;
- Chemical storage and dosing equipment (if alkaline electrolyser technology is selected);
- Site office, control room, admin and welfare facilities, gatehouse, internal access roads, parking and hardstanding and perimeter security fencing;
- Improvements to existing access road;
- Temporary construction and laydown area; and
- Ancillary infrastructure, incl. flood mitigation and site drainage, stand by power generation and emergency equipment.

4.2 Hydrogen production facility

4.2.1 Whilst relatively compact in footprint, the hydrogen production facility will include the following infrastructure as shown in **Table 2**.

Table 2: Balance of plant and associated infrastructure

Plant Information	Indicative dimensions		
	Length (m)	Width (m)	Height (m)
Vent stack	0.5 m in diameter		25
Electrolyser building	72.5	25.7	15
Compression building	36.8	11.6	9.5
Fire protection system	12	2.5	3
Warehouse / Workshop	15	22	7
Electrical building	13	8	8

Plant Information	Indicative dimensions		
	Length (m)	Width (m)	Height (m)
Administration control building	19	19	4.5
Water treatment plant	12	10	4.5
Air compressor building	12	2.5	3
Waste storage	5	2	2
Controlled storage	2	1	2
Standby generator	6	2.5	3
Nitrogen generator system	12	2.5	3
Chemical dosing and storage (if alkaline electrolyser technology is selected)	12	2.5	3
Security gate house	6	2.5	3
Waste water treatment	12	2.5	3

4.3 Cabling and grid connection

- 4.3.1 Electricity would be supplied via the existing Beinn Tharsuinn Wind Farm. Power supply is required by means of HV cable transfer at 33 kilovolts (kV). Underground cabling will link the hydrogen production facility to the existing Beinn Tharsuinn Wind Farm substation. **Figure 1.11** of the EAR shows an indicative cable trench cross-section. Detailed construction and trenching specifications will depend on the ground conditions encountered at the time. To minimise ground disturbance, cables will be laid in the road verge or alongside the site access tracks where possible and plant and equipment to enable grid connection will operate from the access track.

4.4 Temporary construction compound

- 4.4.1 Associated with the Proposed Development would be a temporary construction laydown area approximately 0.26 ha. The compound would be enclosed by means of security fencing and details of on-site security during construction would be finalised prior to the commencement of construction activities.

5 ACCESS

5.1 Access guidance

- 5.1.1 The policies in the Development Plan relating to access to the outdoors in the vicinity of the Proposed Development are outlined in Section 2, and include NPF4 policies 11 (Energy), 14 (Design, quality and place) and 29 (Rural development) and LDP policies 56 (Travel), 67 (Renewable Energy Developments), 77 (Public Access). Generally, although there are no formal recreational/access receptors that would be affected by the Proposed Development there is still a requirement to protect the amenity, safety and convenience of all potential users of the informal receptors identified above.
- 5.1.2 As this is a site containing high voltage electrical infrastructure, access by members of the public into the hydrogen production facility will not be considered as the only people accessing the main site area will be employees or trained personnel. Furthermore, due to its remote location and minimal workforce it is not considered necessary to improve public or active transport connectivity between the application site and the surrounding area.
- 5.1.3 The Scottish Government's Planning Advice Note 68: Design Statements provides advice on how access can be considered in the design process and THC's Design Statements & Design And Access Statements advice note outlines the requirements for Design and Access Statement.

5.2 Site access

- 5.2.1 During construction, it is anticipated that traffic would originate from the A9 to the south of the B9176 Struie Road. During operation it is anticipated that traffic would approach and depart from the application site by travelling south along the B9176 towards the A9 and then continuing the journey east or west along the A9.
- 5.2.2 It is not anticipated that abnormal loads will be required to support the delivery of site infrastructure and that in most cases standard HGV movements can be predicted.
- 5.2.3 Access to the Proposed Development would be from the existing Beinn Tharsuinn Windfarm access track which runs from the B9176 "Struie Road" (to the north of Aultnamain at NGR NH 66321 81768), approximately 2 km to the east. This section of track is approximately 2.6 km long. There could be localised resurfacing as required from the windfarm access track, between the site access junction with the Struie Road and the entrance to the Proposed Development, to provide a road suitable for HGV use; however, there would be no change to the footprint of the access track and no groundworks along the access track are proposed.
- 5.2.4 Operationally in respect of the Proposed Development, it is anticipated that the hydrogen is exported via metering to tube trailers. Based on the Applicant's current understanding of the compressed Hydrogen transportation trailer market, we have assumed single trailers could be filled or decanted in 3 to 10 hours depending on trailer manufacturer and sizing. As per the transport statement we have assumed a frequency for transport movements during operations based on 840 kg tube trailers. However, these values are indicative based on current market specifications and both fill/decanting rate and tube trailer capacity could change in the future. It is intended that tube-trailers would enter the main site area from the west and be able to directly access six filling bays for their use

only. These filling bays are located directly adjacent to the high-pressure hydrogen storage vessels. The contracted Transporter would drive low emission vehicles to haul the trailers to Off-taker sites. General vehicles would use the same access route via the access track and would access the hydrogen production facility via the same designed access point. General vehicles would then go onwards to the administration and control and associated staff and visitor parking. There would be provision for charging electric vehicles in the parking facilities.

- 5.2.5 It is anticipated that, prior to construction works being undertaken, a CTMP will be prepared, and agreed with the Highways Authority, in line with best practice guidance, and the applicant anticipates that such a requirement would form a condition of any consent granted.
- 5.2.6 More information in relation to the access, traffic and transport arrangements for the Proposed Development are included in the Transport Statement and accompanying Construction Traffic Management Plan as part of the application documents.

5.3 Public access

- 5.3.1 The proposal will see more frequent use of the access track from the Struie public road for the export of produced hydrogen by HGVs. Currently the main wind farm traffic is light goods vehicles with infrequent HGV/crane traffic.
- 5.3.2 The track to Beinn Tharsuinn Windfarm is well used by the public for recreation. Though it is not a core path or public right of way, any disruption to this public use during the construction period would be minimised. Any closures for delivery of large plant, blasting or associated track works would be for a minimal time period with closures ideally marshalled to permit some continued public access. In accordance with the Construction (Design and Management) Regulations 2015, notices would be placed in prominent locations around the application site to outline areas of restricted access. Measures for ensuring public safety during construction would be secured by the CEMP. Though unlikely to affect public access, the increase in HGV use has been considered as part of the accompanying Transport Statement to ensure that passing places on the track are suitable for the increased use and there is a suitable running surface for HGVs to safely pass non-motorised users with no blind corners. A draft CTMP has been prepared as part of the application documents.
- 5.3.3 There would also be an increase in HGV movements along the B9176 “Struie Road” during construction and operation of the Proposed Development. The THC identified that *“the operational long term impacts associated with HGV movements along the connecting public road are of concern, with vehicles coming into regular conflict with walkers and cyclists along this popular recreational route.”* The Transport Statement has considered impacts on other road users, including pedestrians and cyclists along the Struie Road.
- 5.3.4 Once constructed, a security fence will extend around the perimeter of the hydrogen production facility. This will include panels, gates and posts which are industry standards. The main site area will have strict security due to health and safety concerns; entrance

to the main site area will be restricted to employees and contractors who have received relevant and sufficient health and safety training.

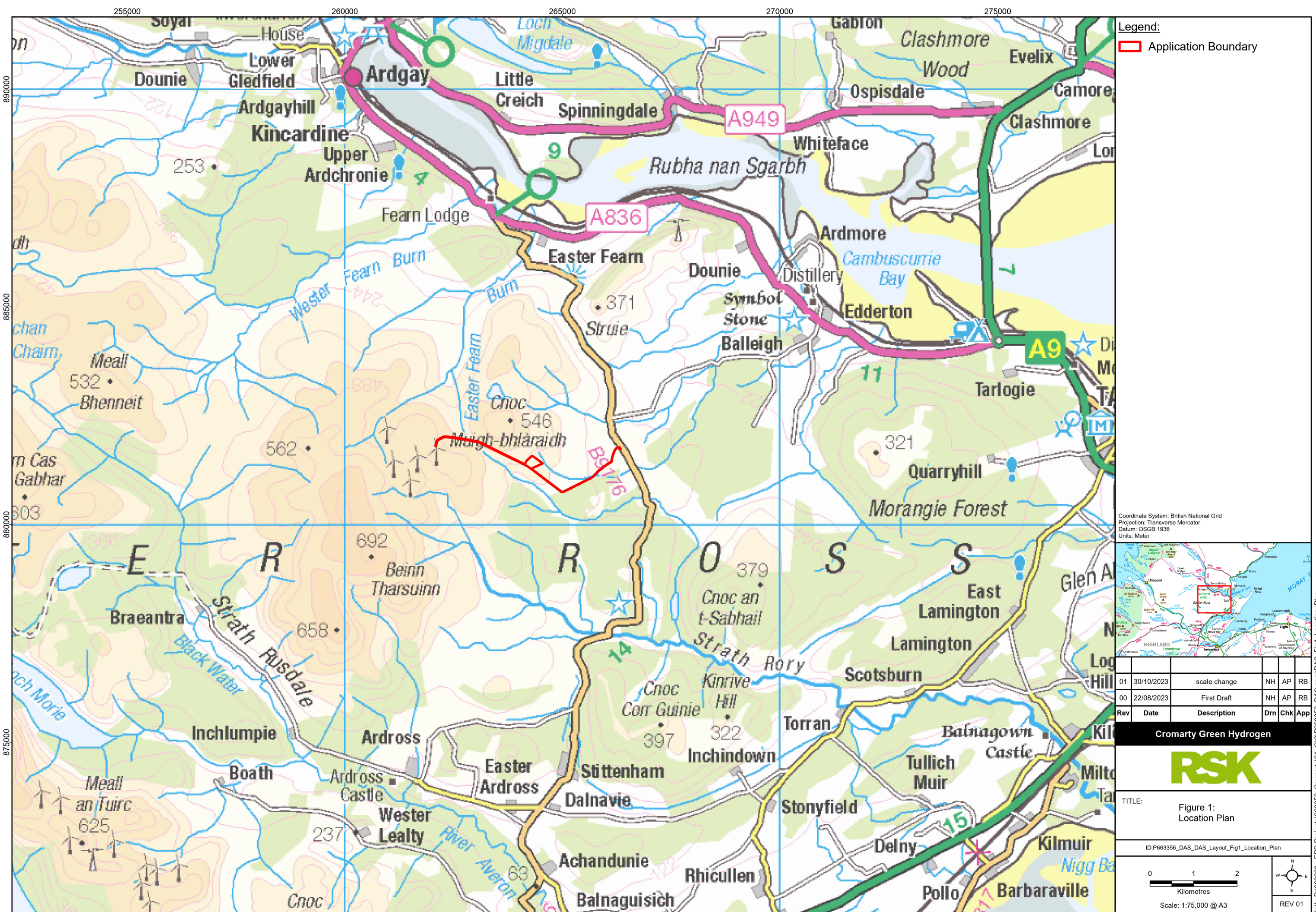
- 5.3.5 Overall, the undeveloped land within the application site (i.e. the existing access track) would still be considered to be fully accessible to visitors and the Proposed Development is not predicted to have any adverse effects on the public highway.

5.4 Disabled access

- 5.4.1 As stated above, access to the main site area by members of the public will not be permitted. Access to the main site area will be by employees or trained personnel who have been formally assessed as competent to access and undertake works in a safe manner.
- 5.4.2 Access is restricted to operational staff, tube trailer drivers and authorised persons for maintenance or operational reasons and is regulated by Scottish Power Limited Safety Rules (Electrical & Mechanical) 4th Edition (Issue 4ii). Also relevant is the Scottish Building Standards Technical Handbook 2019: non-domestic, paragraph 0.3 Exempted buildings and services, fittings and equipment, Schedule 1, Table 0.1. Exempted buildings and services, fittings and equipment, Type 5 and 6.
- 5.4.3 In addition, under the Health and Safety at Work Act 1974 employers have a duty of care to prevent the ill-health of workers. The Proposed Development will be designed to be accessible to persons with disabilities. At least one of the parking spaces for the Proposed Development will be specifically demarcated as a disabled space. Within the main site area the hydrogen production facility would be constructed on a flat one-level concrete platform and the main buildings will be wheelchair accessible meaning that areas of the Proposed Development which need to be accessed by operational staff and visitors can be accessed by wheelchair users and others with mobility issues. For those that will be accessing the application site for maintenance or operational reasons, under the Health and Safety act, safety-critical workers should not be suffering from medical conditions or undergoing any medical treatment which could lead to a sudden loss of consciousness or incapacity, impairment of awareness, concentration, balance or coordination or significant limitation of mobility. Therefore, due to the safety-critical nature of the maintenance and operational work which will be undertaken at the application site, access for people with reduced mobility would not be incorporated into certain elements of the design of the Proposed Development.

6 CONCLUSION

- 6.1.1 The iterative process of determining the siting, layout and design of the Proposed Development have taken potential environmental effects into consideration in order to seek to mitigate by design predicted adverse effects as far as reasonably practicable. The resultant proposal balances the environmental and technical constraints, whilst producing an economically viable project.
- 6.1.2 A series of technical appraisals accompany this application, assessing the potential environmental effects of the Proposed Development both on the application site and on identified receptors beyond the application site. These technical appraisals form **Chapters 2-5** of the accompanying EAR.
- 6.1.3 As a result of the iterative design process, development is located where effects are minimised as far as possible and are considered justifiable when considered in the context of potential benefits, including to support national targets in the decarbonisation targets set by the Scottish Government under the Net Zero agenda. Consideration of the planning balance which weighs up all material factors associated with the Proposed Development is contained within the accompanying Planning Statement.



Legend:

Application Boundary

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter

Rev	Date	Description	Drn	Chk	App
01	30/10/2023	scale change	NH	AP	RB
00	22/08/2023	First Draft	NH	AP	RB

Cromarty Green Hydrogen

TITLE: Figure 1:
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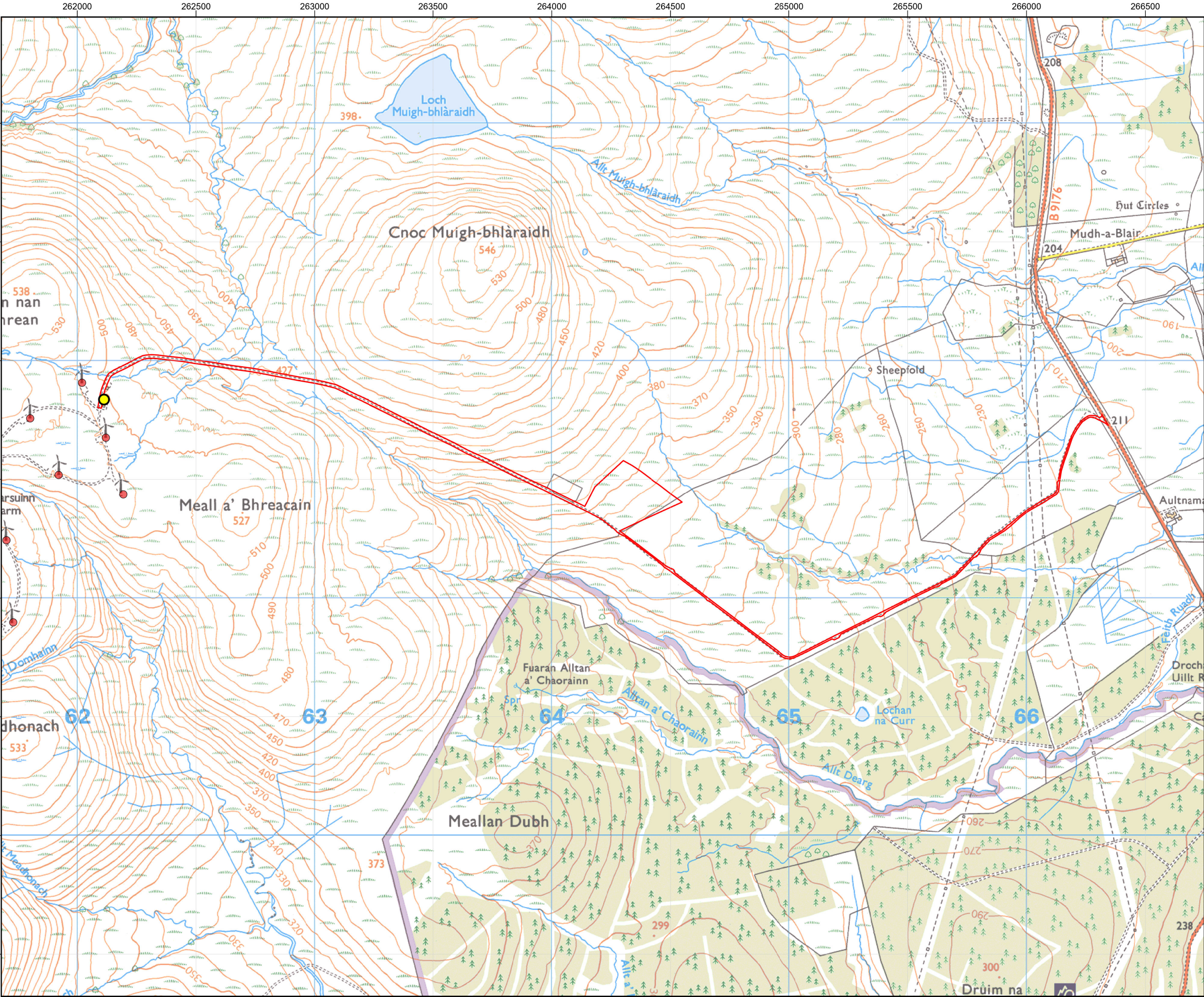
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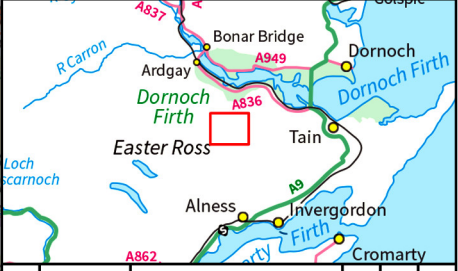
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REV 01



- Legend:**
- Application Boundary
 - Beinn Tharsuinn Substation
 - Beinn Tharsuinn Windfarm

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter



02	24/10/2023	Main site area removed	NH	AP	RB
01	07/09/2023	Base mapping and turbines	NH	AP	RB
00	22/08/2023	First Draft	NH	AP	RB
Rev	Date	Description	Drn	Chk	App

Cromarty Green Hydrogen



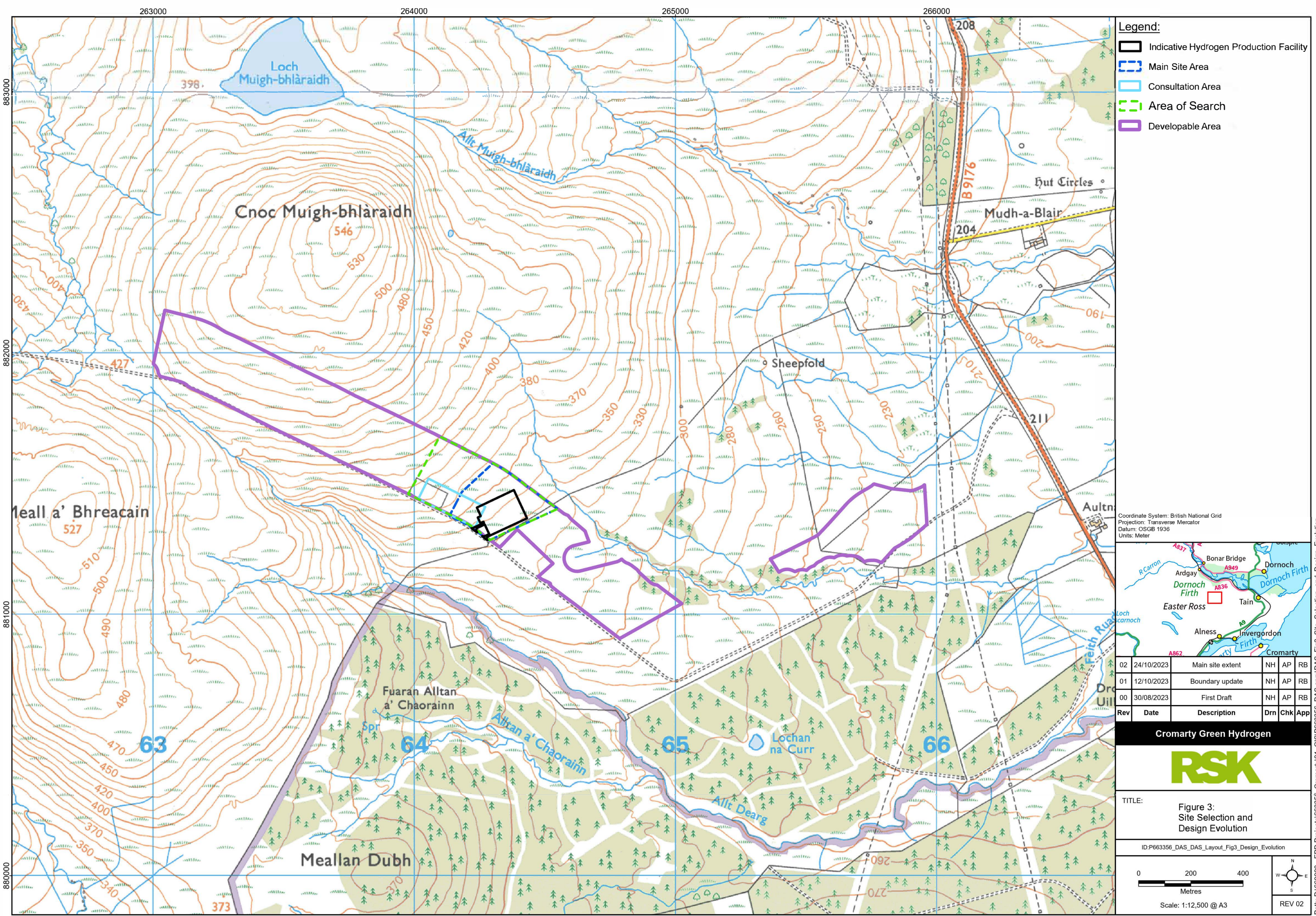
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Application Boundary

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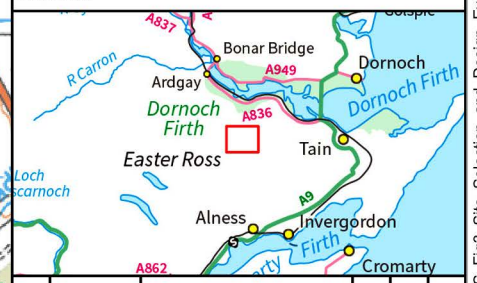
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REV 02



- Legend:**
- Indicative Hydrogen Production Facility
 - Main Site Area
 - Consultation Area
 - Area of Search
 - Developable Area

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter



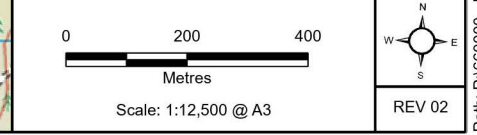
Rev	Date	Description	Drn	Chk	App
02	24/10/2023	Main site extent	NH	AP	RB
01	12/10/2023	Boundary update	NH	AP	RB
00	30/08/2023	First Draft	NH	AP	RB

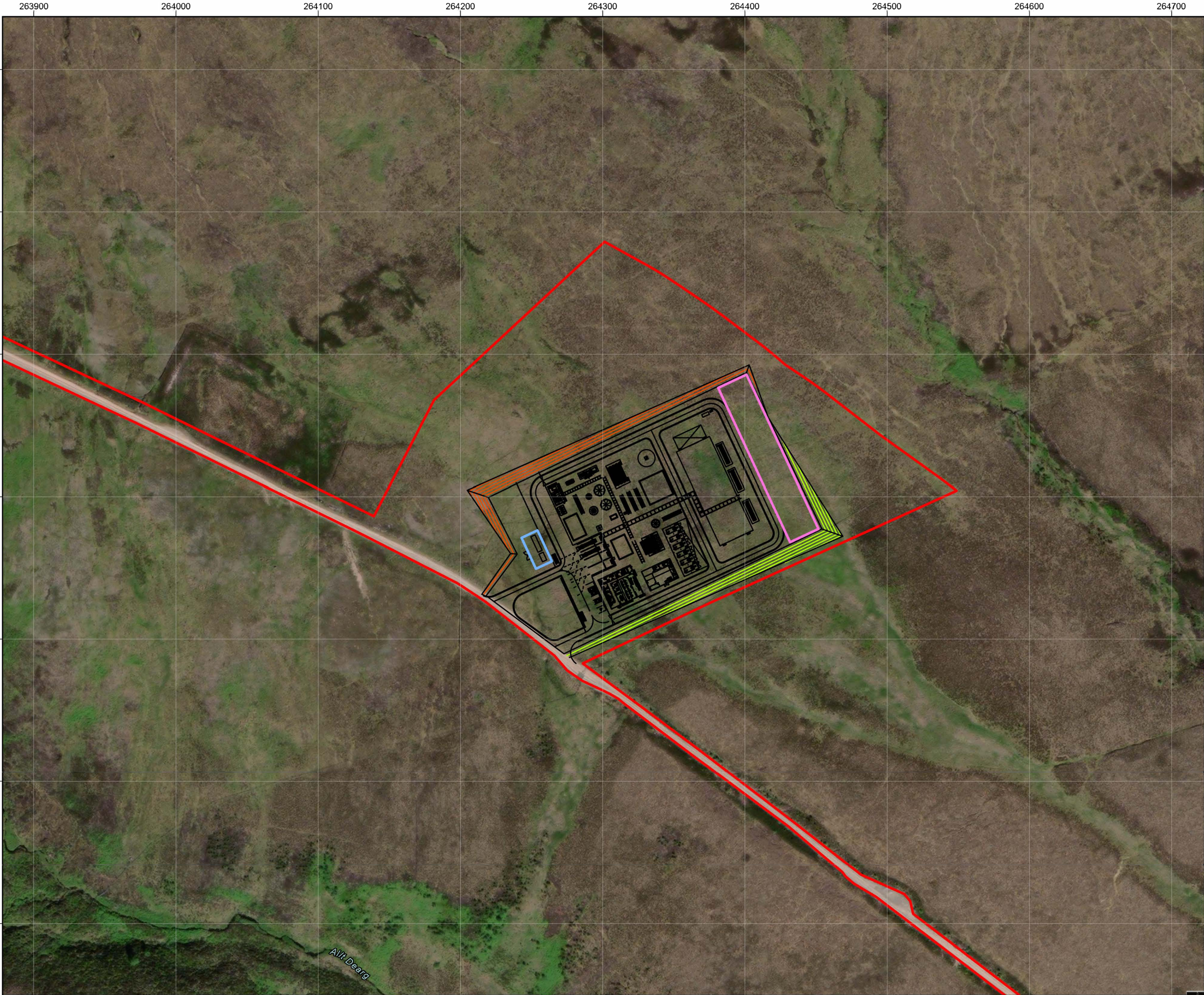
Cromarty Green Hydrogen



TITLE: Figure 3:
Site Selection and
Design Evolution

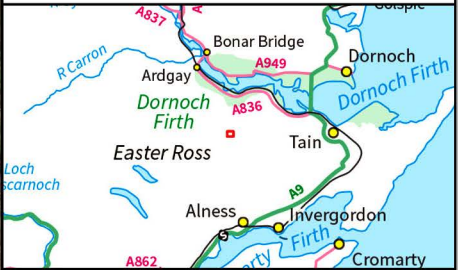
ID:P663356_DAS_DAS_Layout_Fig3_Design_Evolution





- Legend:
- Application Boundary
 - Substation
 - Temporary Construction Compound
 - Indicative Hydrogen Production Facility (see Figure 1.4: General Arrangement for further details)
 - Cut
 - Fill

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter



02	25/10/2023	Main site removed	NH	AP	RB
01	12/10/2023	Hydrogen Facility Bdy	NH	AP	RB
00	07/06/2023	First Draft	NH	AP	RB
Rev	Date	Description	Drn	Chk	App

Cromarty Green Hydrogen

TITLE:
Figure 4:
Site Plan Layout

ID:P663356_DAS_DAS_Layout_Fig4_Site_Layout_Plan

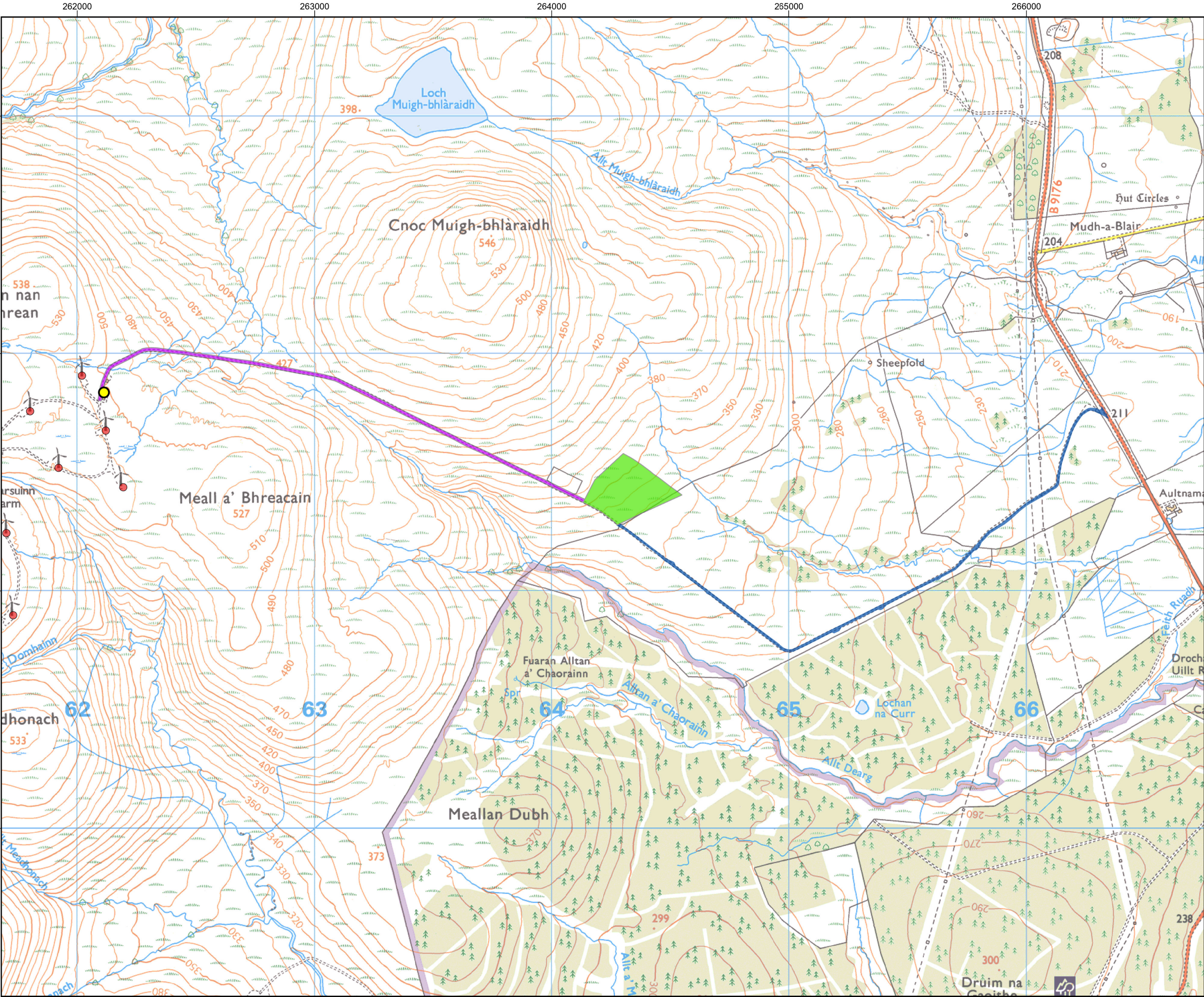
04080

Metres

Scale: 1:2,500 @ A3

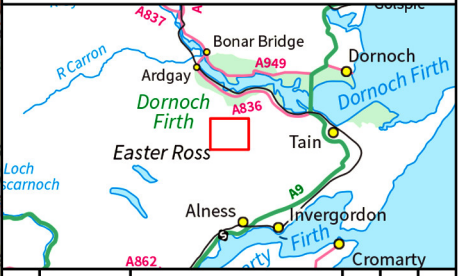
N
W
E
S

REV 02



- Legend:
- Beinn Tharsuinn Substation
 - Beinn Tharsuinn Windfarm
 - Cable Route Corridor
 - Main Site Area
 - Site Access

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter



Rev	Date	Description	Drn	Chk	App
00	25/10/2023	First Draft	NH	AP	RB

Cromarty Green Hydrogen



TITLE:
Figure 5:
Site Components

ID:P663356_DAS_DAS_Layout_Fig5_Site_Components





APPENDIX 1 – SITE FEASIBILITY STUDY

The background features abstract, overlapping green geometric shapes, primarily triangles and polygons, in various shades of green, creating a modern and dynamic feel. The shapes are layered, with some appearing more prominent than others, and they are set against a light gray background.

Cromarty Green Hydrogen Project

Site Selection Process

▶ Criteria

▶ Environment

- ▶ Avoid watercourses
- ▶ Avoid overhead lines
- ▶ Avoid nationally important carbon and peatland
- ▶ Keep close to access track

▶ Commercial/Technical

- ▶ Keep north of access track
- ▶ Avoid corner
- ▶ Avoid restored borrow pit



- Legend:**
- Beinn_Tharsuinn_WF
 - Wind Farm Developable Area
 - Developable Area
 - Potential Hydrolyser Compound
 - Former Borrow Pit
 - Waterbody
 - Surfacewater 50m Buffer
 - Watercourse
 - Overhead Power Line
 - 50m OHL Buffer

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Metre

00	16/09/2021	First Draft	NH	AP	RB
Rev	Date	Description	Dm	Chk	App

Cromarty Green Hydrogen



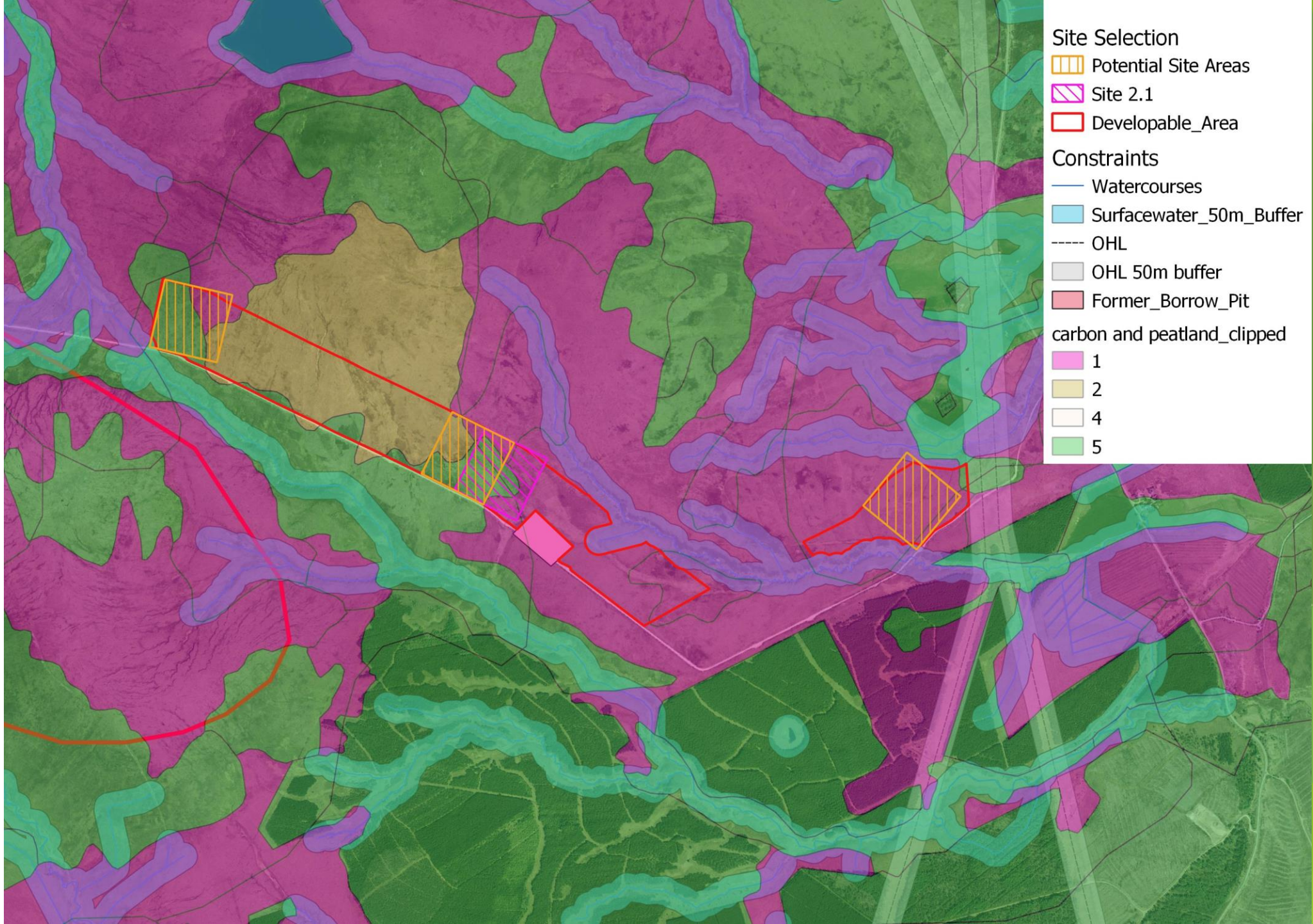
TITLE:
Figure XX:
Site Location Plan

0200400Metres

SCALE: 1:15,000 @ A3

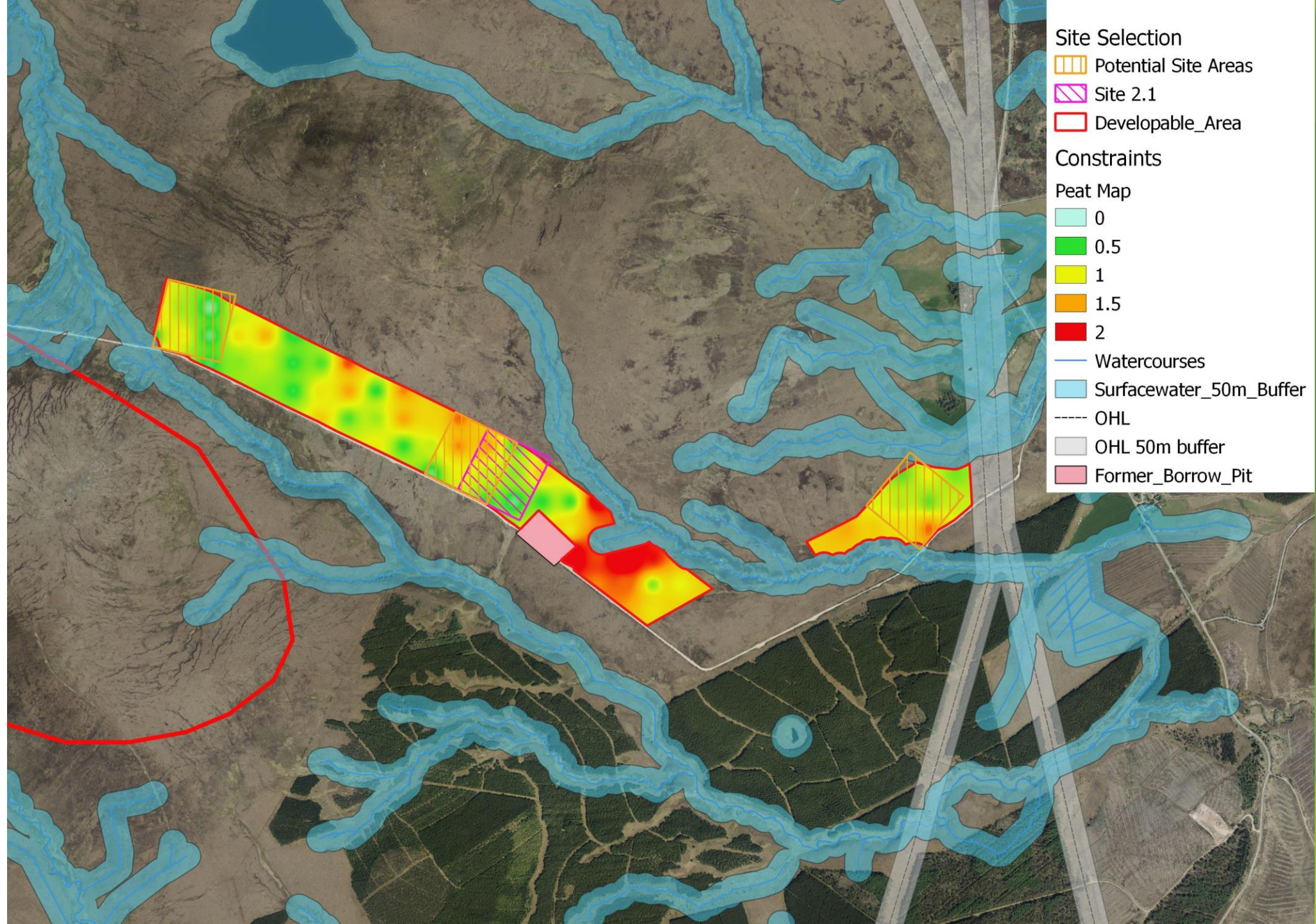
REV 00

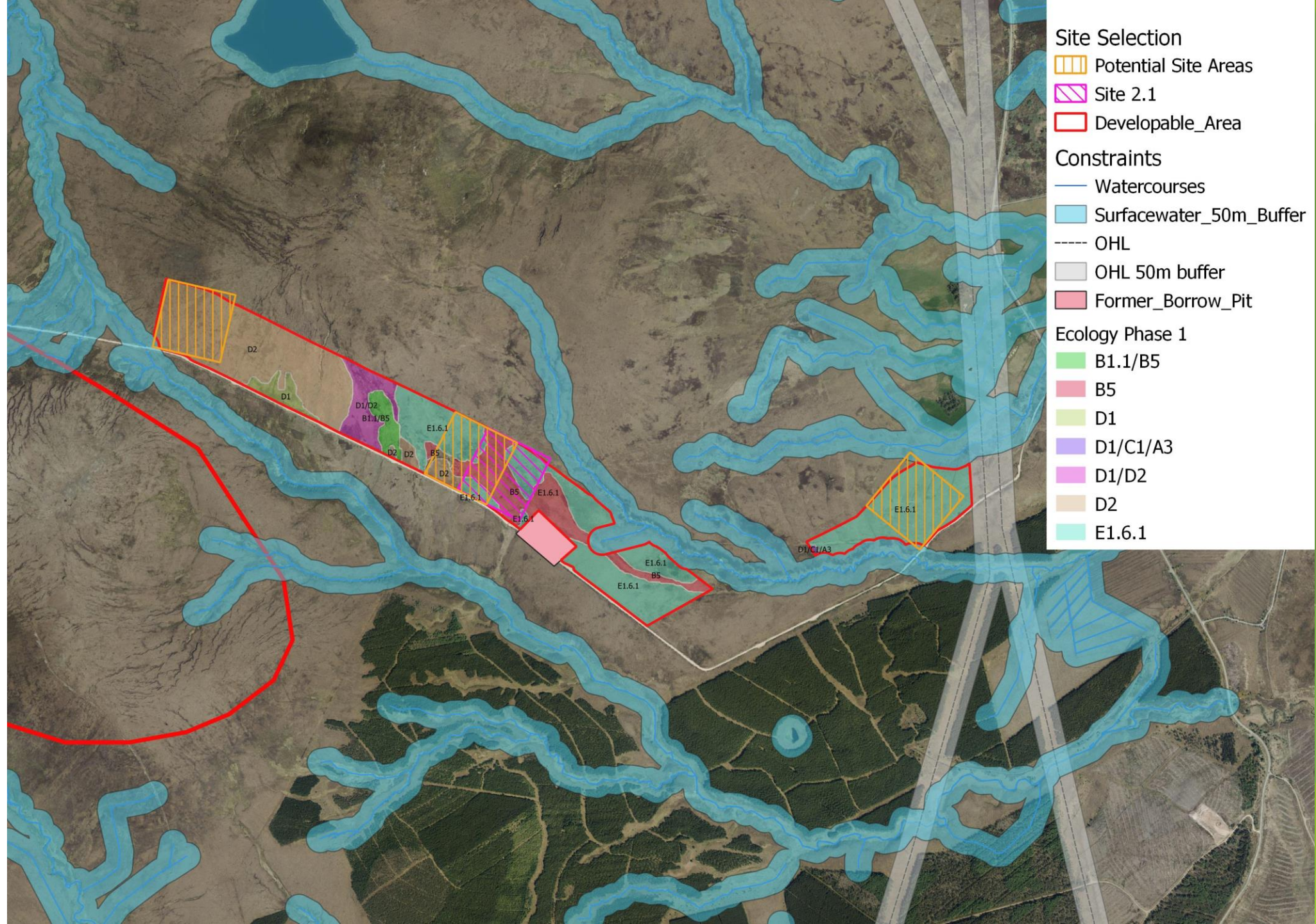
Document Path: C:\Projects\0003336_Cromarty\05_COS\A3\03 Site.mxd



Site Survey

- ▶ Phase 1 Peat Survey and site walkover
 - ▶ Possible to avoid peat deeper than 1m
- ▶ Preliminary Ecological Assessment
 - ▶ All three options have at some habitats of conservation value and are also GWDTE. However, these habitats are locally relatively common
- ▶ LVIA deskbased review
 - ▶ west – potential distant visibility from Wild Land; potential distant views from A949 and Bonar Bridge within NSA, furthest from visual receptors - limited visual effects;
 - ▶ middle – visibility tightly constrained by the valley landform but towards local community, potential distant views from areas around Edderton, Dornoch Firth bridge and Dornoch within NSA;
 - ▶ east – visibility channelled by forestry and terrain but towards local community - closer views from than the other two locations; potential distant views from Ardmore, Dornoch Firth Bridge, A949 and Skibo Castle GDL within NSA;
 - ▶ Should be able to avoid some potential LVIA impacts by design



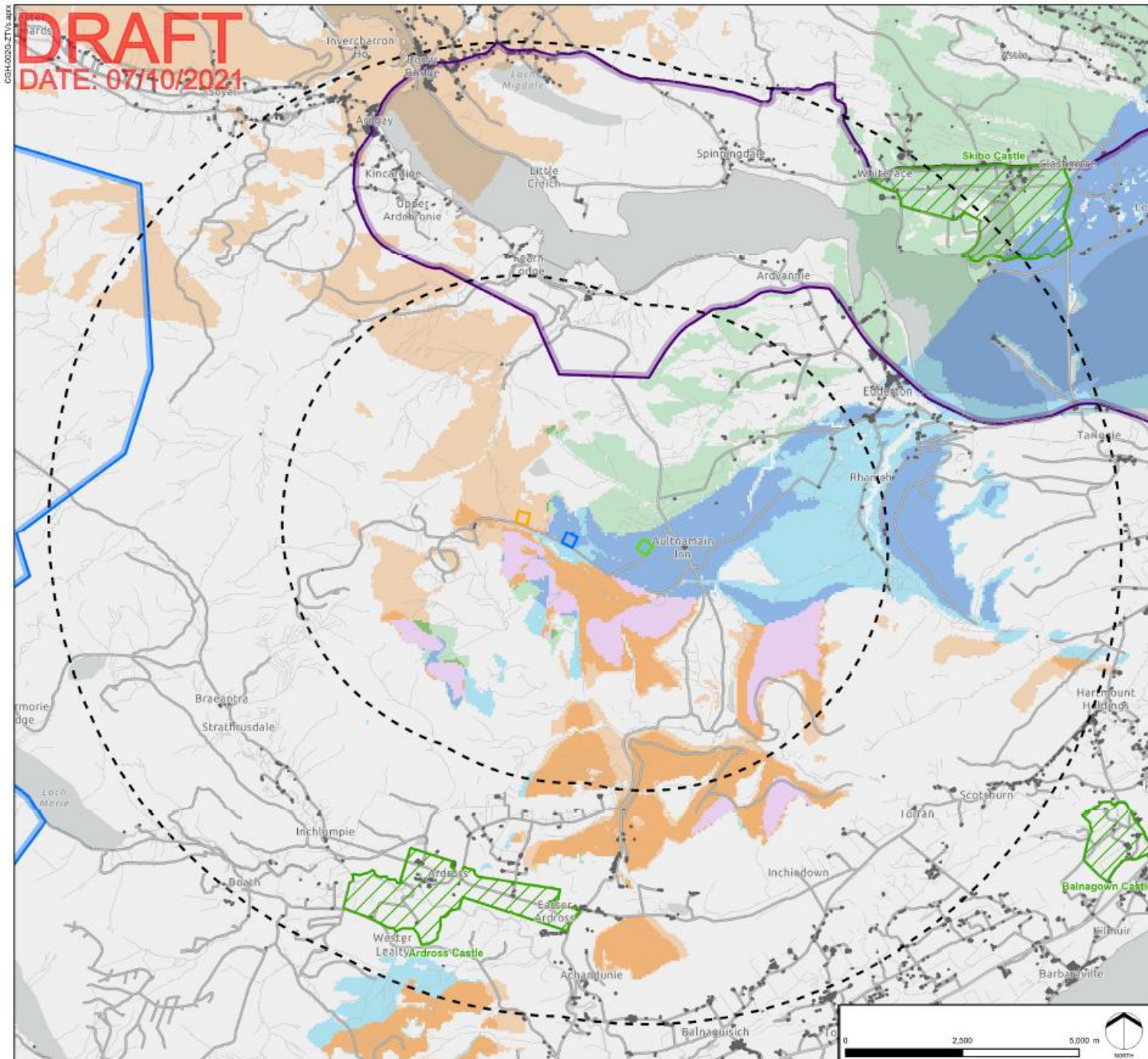


DRAFT
DATE: 07/10/2021

CROMARTY GREEN HYDROGEN

FIGURE 2

Bare Ground ZTV



KEY

- Site 1
- Site 2
- Site 3
- Distance Radii from Sites (5, 10km)
- Rhiddoroch - Beinn Dearg - Ben Wyvis Wild Land Area
- Gardens and Designed Landscapes
- Dornoch Firth National Scenic Area

Zone of Theoretical Visibility (sites modelled at 10m)

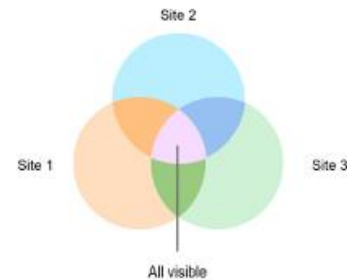


FIGURE DATA:

This figure has been based on the following data:

Layout file: obvs-10m-T50-10km.shp
Terrain data: T50-OGM.asc
Viewer's eye height: 2m above ground level
Calculation grid size: 50m

NOTES:

This drawing is based upon computer generated Zone of Theoretical Visibility (ZTV) studies produced using the Viewshed routine in the Visibility Analysis plugin for QGIS.

The areas shown are the maximum theoretical visibility, taking topography into account.

This visibility map is based on a 'bare earth' model of the landform and does not show any effects of screening from obstacles such as buildings and vegetation.

The ZTV includes an adjustment that allows for Earth's curvature and light refraction. It is based on a DTM and has a 50m resolution.

Projected Coordinate System: British National Grid

DATE	BY	PAPER	SCALE	QA	REV
OCT 2021	MP	A3	1:80,000	MF	-

Consenting Route

Description of development	Threshold or criterion
<p>3. Business & General Industry, Storage and Distribution</p> <p>Construction of a building, structure or other erection for use for any of the following purposes–</p> <p>(a)as an office;</p> <p>(b)for research and development of products or processes;</p> <p>(c)for any industrial process; or</p> <p>(d)for use for storage or as a distribution centre.</p>	<p>(a)The gross floor space of the building, structure or other erection is or exceeds 10,000 square metres; or</p> <p>(b)The area of the site is or exceeds 2 hectares.</p>



APPENDIX 2 – BEINN THARSUINN WIND FARM HABITAT MANAGEMENT AREA

Legend



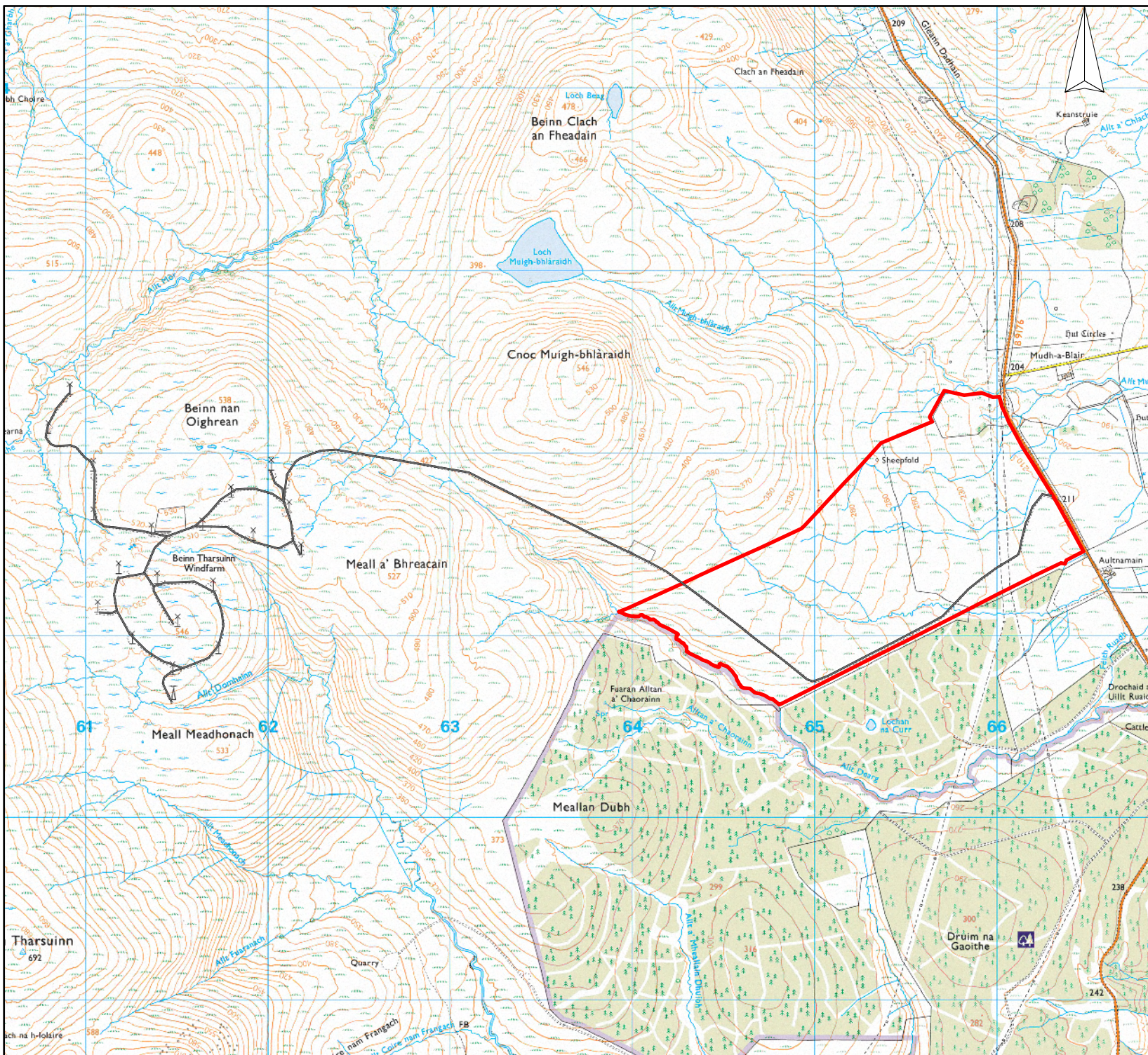
Scale: 1:29000 @ A4

Status:	Date:	Dr.	Ch.	Apj
FINAL	Apr 2018	SR	PR	PR

Overview

Beinn Tharsuinn
Version 5.0

Map 1



APPENDIX 3 – SUSTAINABLE DESIGN CHECKLIST

Sustainable design checklist	Minimum standards	Appraisal
<p>1. Layout, scale, proportion, materials, construction and finishing</p> <p>Will the appearance of the development be visually appropriate, complementing local character whilst reinforcing local distinctiveness (e.g. materials, road pattern etc) and be clearly integrated with the wider community?</p> <p>A. Building materials and colour complement local character</p> <p>B. Site layout, building style and scale enhance local character</p> <p>C. Roof-scapes visually respect the local context (allowing for low carbon technologies where appropriate)</p> <p>D. Continuity of local building details such as simple and uncomplicated design of roofs, dormers, windows and doors</p> <p>E. Potential for personalisation by prospective residents.</p> <p>F. Contemporary approach which reflects the local vernacular where appropriate.</p>	A – D achieved	N/A
<p>2. Landscaping</p>	Landscape Scheme drawn up covering criteria A – E.	The siting, layout and design of the Proposed Development has evolved to minimise impacts on landscape. An appraisal of potential impacts of the Proposed Development on landscape is included in Chapter 2 of the

Sustainable design checklist	Minimum standards	Appraisal
<p>Has a landscaping scheme been drawn up for the site which ensures that:</p> <p>A. Landscape forms the context for the development</p> <p>B. The development integrates into or enhances the present landscape character</p> <p>C. Green spaces are provided for public/private and site boundaries (including tree and shrub planting)</p> <p>D. Public open space and recreational provision is given as required</p> <p>E. Safeguards green networks within the site, and establishment of green network features that link into the wider green network.</p>		<p>EAR. Landscaping has been considered as part of the Outline Biodiversity Enhancement Plan (Technical Appendix 3.1 of the EAR).</p>
<p>3. Cultural heritage</p> <p>Are the culturally and archaeologically important features on the site and their settings known, and how will these be affected by the development?</p>	<p>Important features are identified, assessed and protected.</p>	<p>Potential impacts that may affect the preservation of a heritage asset or the setting of heritage assets are considered unlikely. It was agreed with THC that this could be scoped out of further appraisal.</p>
<p>4. Materials</p> <p>Which materials are from secondary or recycled sources, have low-embodied energy, and are from sustainable and/or local sources?</p> <p>A. Roof</p>	<p>At least 3 out of the 5 key elements achieve a Green Guide rating of A+ to D.</p> <p>100% of timber must be from FSC/PEFC sources.</p>	<p>N/A</p>

Sustainable design checklist	Minimum standards	Appraisal
<p>B. External walls</p> <p>C. Internal walls (including separating walls)</p> <p>D. Upper and ground floors (including separating floors)</p> <p>E. Windows</p>		
<p>5. Natural heritage</p> <p>Has an assessment been made of the site's ecology and will the ecological value of the site be protected or recreated to equal quality and or enhanced?</p>	<p>Assessment undertaken and strategy produced by an ecologist (or equivalent) to protect or recreate existing ecological value.</p>	<p>It has been demonstrated within the EAR there will be no substantial adverse impacts as a result of the Proposed Development. Where necessary, mitigation measures and enhancements form an integral part of the proposals to ensure that the environment is suitably protected.</p>
<p>6. Enhancing wildlife</p> <p>Will there be:</p> <p>A. No net loss in relation to habitats and species?</p> <p>B. A mixture of locally occurring species specified for planting and landscaping schemes? C. Any new links between habitats within the site or links to habitats outside the development boundary?</p> <p>D. An increase in important or sensitive habitats identified in the Local Biodiversity Action Plan (LBAP), either by creating or restoring ecological value (as assessed by an ecologist), or support for a species identified in the LBAP?</p>	<p>A – D achieved</p>	<p>Biodiversity net gain has been considered as part of the Outline Biodiversity Enhancement Plan (Technical Appendix 3.1 of the EAR).</p>

Sustainable design checklist	Minimum standards	Appraisal
<p>7. Energy efficiency</p> <p>What steps have been taken towards reducing CO2 emissions through energy-efficient design for the proposed development?</p> <p>A. Minimising energy demand for the site through orientation and maximising passive solar gain</p> <p>B. Maximising the thermal efficiency of individual buildings through thermal mass, insulation, natural shelter, and appropriate glazing.</p> <p>C. Minimising demand for water heating, space heating and cooling, lighting and power in individual dwellings through efficient equipment and controls.</p>	<p>A – C achieved</p>	<p>N/A</p>
<p>8. Renewable energy</p> <p>Has the energy demand for the development been calculated to determine:</p> <p>A. The amount of low or zero carbon technology e.g. wind, solar, hydro, photovoltaic (PV), Combined Heat and Power (CHP) that is practicable to meet the extant Building Standards CO2 emissions reduction target.</p> <p>B. The % of total site energy demand that will be produced from on-site renewable energy technologies.</p>	<p>A - C is required only where the development is 500m2 or over.</p> <p>The CO2 emissions reduction target should be met through a combination of on-site low or zero carbon technologies (LZCT) and other appropriate measures.</p> <p>The amount of low or zero carbon technologies (LZCT) employed will depend on the technical constraints and scale of the proposed development.</p>	<p>The Proposed Development will be powered by 100% renewable power provided by ScottishPower Renewables from the co-located Beinn Tharsuinn Windfarm and through power purchase agreements with off-site renewable generation within ScottishPower Renewables UK portfolio.</p>

Sustainable design checklist	Minimum standards	Appraisal
C. Meeting the remaining energy demand efficiently, e.g. non-renewable or waste powered district heating and cooling.		
<p>9. Foul wastewater treatment</p> <p>Will the development be connected to the public sewer; if not has a sustainable waste water treatment system been designed to avoid unacceptable damage to the water environment?</p>	<p>Separate systems are proposed for foul and surface water drainage.</p> <p>Foul drainage is via a connection to the public sewer, or where no connection is available, system is designed and built to a standard to allow adoption by Scottish Water and can easily be connected to the public sewer at a later date.</p> <p>Discharges from private sewerage systems will be registered or licensed by Scottish Environment Protection Agency (SEPA) depending on the development size.</p>	<p>Residual water from the process would be treated as required prior to discharge. The intention is to discharge water to a new sewage connection. Details of the new sewage connection would be provided as part of the application for the water supply and is therefore not considered further in this application.</p>
<p>10. Flooding</p> <p>What measures have been taken to ensure that the development will:</p> <p>A. Be free from significant risk of flooding;</p> <p>B. Not add to the area of land that requires flood prevention measures; and</p>	<p>Reference has been made to SEPA's Flood Risk Maps to determine if a Flood Risk Assessment is required.</p> <p>In all cases the development site is demonstrated to be outwith the functional floodplain (i.e. there is not more than a 1:200 year flood risk).</p>	<p>Published mapping confirms that most of the application site is not located in an area identified as being at risk indicated that there was no risk of flooding.</p>

Sustainable design checklist	Minimum standards	Appraisal
C. Not affect the ability of the functional floodplain to store or move flood waters?		
<p>11. Surface water runoff</p> <p>Which of the following localised strategies for ensuring that runoff from the finished development does not exceed runoff from the previously undeveloped site have been proposed and designed in accordance with the SUDS Manual C697 published by CIRIA:</p> <p>A. Prevention of runoff at source – through simple design measures on individual buildings (e.g.; minimising paved areas) to allow water to return to the natural drainage system as near to the source as possible and not to contribute to runoff.</p> <p>B. Source control of runoff rate/volume - through control of the rate/volume of runoff generated close to source e.g.: rainwater harvesting systems, green roofs and individual soakaways for buildings.</p> <p>C. Site control of water management – water is managed from several areas e.g.: roofs and parking areas into one large soakaway or device such as an infiltration basin. This incorporates enhancing biodiversity and amenity, and is sized to allow incorporation of further developments in future.</p>	A and B	An outline drainage strategy is included in Technical Appendix 4.2 of the EAR.

Sustainable design checklist	Minimum standards	Appraisal
12. Water conservation How will the development sustainably meet the required water demands including through the use of: A. Water efficient appliances such as dual flush toilets, aerating taps, and water-efficient white goods; B. Rainwater collection for reuse; C. Green roofs	A	The water supply will form a separate application for consent.
13. Waste and recycling Has suitably screened space been made available for the storage of waste and recyclables in or around each building including: A. Space for sorting and storing recyclable materials; B. Space for general waste storage; C. Space for composting organic kitchen and garden waste?	A - C	<p>A Site Waste Management Plan (SWMP) would detail how waste streams are managed. The Waste Hierarchy (Scottish Government, 2017) of prevention, reuse, recycle, recover and disposal to landfill - as a last resort - would be applied to the methodology of the SWMP.</p> <p>It is not anticipated that the Proposed Development would give rise to waste in large quantities once operational.</p>
14. Site management How will development of the site be undertaken in a manner which minimises disturbance to neighbouring properties and the environment including addressing: A. Noise pollution B. Light pollution	<p>Considerate Constructors Scheme is implemented to minimise noise, light and air pollution and a Site Waste Management Plan is put in place which reflects the requirements of Netregs, including identifying:</p> <ul style="list-style-type: none"> types of waste removed from the site; 	It has been demonstrated within the EAR there will be no substantial adverse impacts as a result of the Proposed Development. Where necessary, mitigation measures and enhancements form an integral part of the proposals to ensure that the environment is suitably protected.

Sustainable design checklist	Minimum standards	Appraisal
C. Air pollution D. Construction waste E. Surface water run-off F. Soil handling G. Protection of trees H. Traffic movements I. Access	<ul style="list-style-type: none"> the person who removed the waste; and the site that the waste is taken to. <p>Key sources of potential disturbance and pollution are identified and mitigation measures put in place.</p>	
15. Transport How does the development proposal make a positive contribution towards the improvement of the sustainable transport network by: A. Reducing car dependency; B. Promoting sustainable transport modes; C. Creating or linking to existing sustainable travel modes including the core path network, safe routes to schools and workplaces by cycle, pedestrian or public transport; D. Reducing the need to travel; demonstrated through a Transport Assessment where transport impacts are considered to be significant.	<p>Positive impacts are demonstrated on A - D</p>	<p>The Transport Statement shows this development would have a negligible impact on the local road network. A number of traffic management measures are available to mitigate the impact of construction traffic during the 18-month period, which will be adequately secured through a Construction Traffic Management Plan.</p>
16. Pedestrians and cyclists How close is the development to existing public transport networks?	<p>State approximate distance from the centre of the development to nearest bus stop. For residential development the design provides external cycle storage space, for example in private garden area garages, or in the case of flats</p>	<p>An Access Statement has been included as part of this DAS.</p>

Sustainable design checklist	Minimum standards	Appraisal
What provision is made for secure cycle storage in new buildings and at associated local facilities including transport hubs?	secure communal cycle storage. For non-residential development secure cycle storage is provided onsite.	
17. Efficient use of land and existing buildings How does the design ensure that: A. Disturbance to soils is minimised for example through minimising required earthworks. B. Where appropriate demolition materials will be re-used on-site, rather than transported off-site as waste materials. C. Existing redundant and derelict buildings are sympathetically converted and/or restored where appropriate with a bat survey and mitigation plan carried out if necessary	A-B C is required where derelict and redundant buildings exist on the development site. Their exclusion from a development proposal should be adequately explained and evidenced.	As detailed in this DAS, the siting, layout and design of the Proposed Development have been refined and finalised and have taken potential environmental effects into consideration in order to seek to mitigate by design predicted adverse effects as far as reasonably practicable.
18. Design for flexibility Has flexibility been designed into all units to provide adaptability to changing needs? A. Has design to Lifetime Homes Standards been adopted? B. Has infrastructure been installed to allow for home working, e.g. telephone / WiFi for all developments?	A-B required for residential developments. C-D required for non-residential developments	N/A

Sustainable design checklist	Minimum standards	Appraisal
<p>C. Does building structure and position allow for future extension?</p> <p>D. Have construction techniques been used which enable internal walls to be easily removed or repositioned to create new spaces?</p>		
<p>19. Private amenity space</p> <p>Is there provision for private amenity space e.g.: private garden, balcony, roof terrace or patio, or a communal garden/courtyard which is easily accessible for occupants of designated properties, and does the size and type of area provided allow for:</p> <p>A. All occupants to sit outside at once;</p> <p>B. Safe access by those using wheelchairs or mobility aids;</p> <p>C. Growing fruit or vegetables;</p> <p>D. Composting of kitchen and garden waste;</p> <p>E. Drying washing.</p>	A - E	N/A
<p>20. Accessibility of community facilities</p> <p>How far in miles is the development from the following facilities?</p> <p>A. Healthy facilities such as a surgery or pharmacy;</p>	<p>State approximate distances from the development to the facilities listed A-E.</p>	N/A

Sustainable design checklist	Minimum standards	Appraisal
<p>B. Education facilities such as a crèche, primary and secondary schools;</p> <p>C. Shop;</p> <p>D. Bank, Post Office or cash machine;</p> <p>E. Leisure facilities such as a community centre or indoor sports facility.</p>		

APPENDIX 4 – APPLICATION SITE PHOTOS

The following photos were taken during the initial site walkover survey. The photos illustrate the topography, ground conditions and land use within the application boundary and the surrounding area. Figure 1 below shows the site photo locations for reference.

Figure 1: Site photo locations

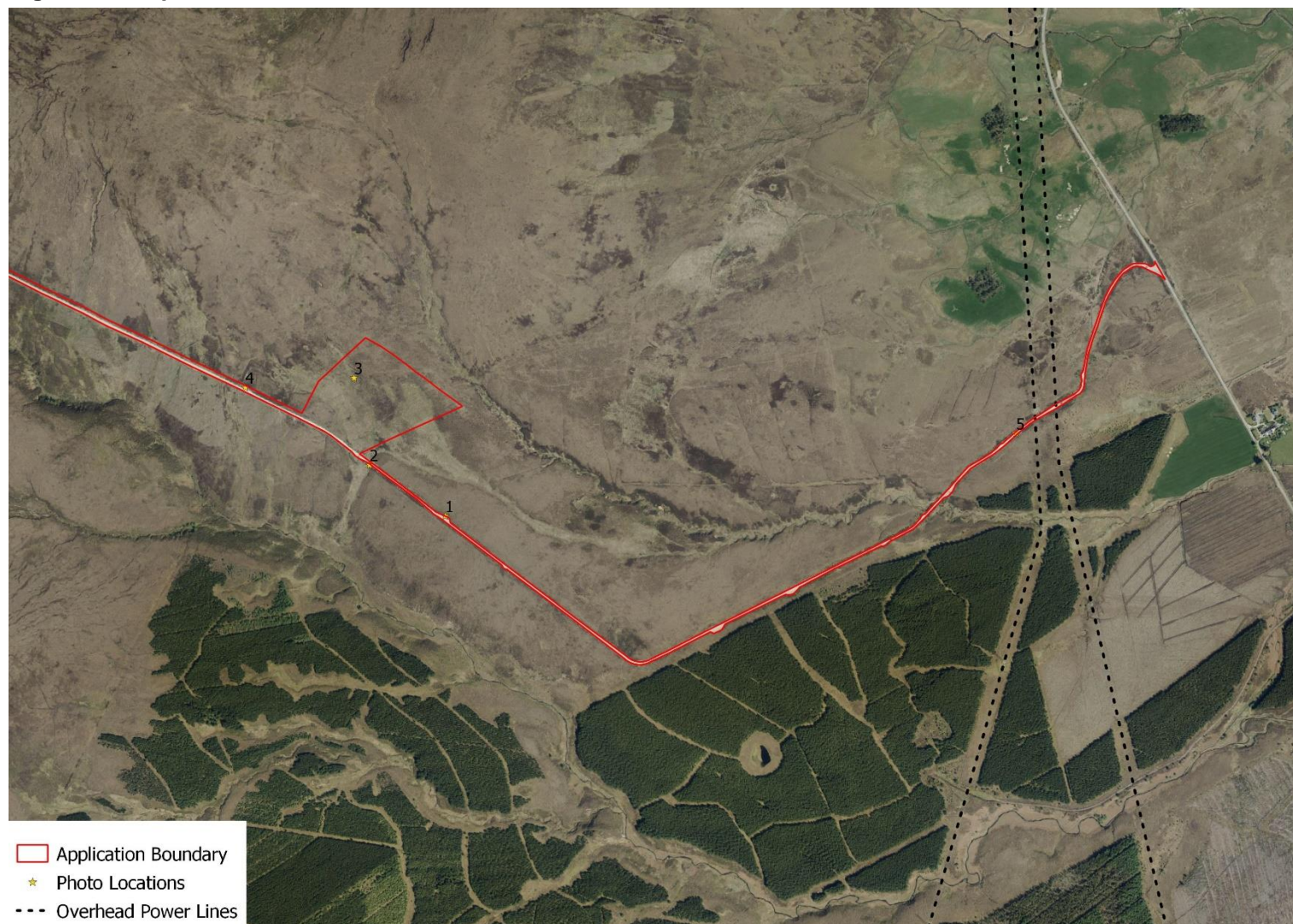


Photo 1: Shows the existing access track in the vicinity of the Area of Search (which is within the flat area to the right of the access track) and the view looking north



Photo 2: Shows the topography and ground conditions of the Area of Search and the view looking north east



Photo 3: Taken from the centre of the Area of Search showing the ground conditions and the view looking south east towards the Struie Road (which is screened by the topography and the commercial forestry)



Photo 4: Shows the side profile where the slope steepens north of the Area of Search and the location and ground conditions of the restored borrow pit



Photo 5: Shows the overhead lines crossing the access track (with a maximum clearance of 5.5 m) and view looking east





APPENDIX 5 – PUBLIC CONSULTATION VISUALISATIONS



VIEWPOINT 1 - Beinn Tharsuinn wind farm access track (Fig. 1)

Camera: Canon EOS 6D MkII Focal Length: 50mm vertical (27°) x 28mm horizontal (65.5°) Camera height: 1.5m Date: 17/08/2022 Time: 10:22

The images contained on this page and the following page are not representative of scale and distance from the actual viewpoint and show the development in its wider landscape context only.



VIEWPOINT 1 - Beinn Tharsuinn wind farm access track (Fig. 2)

Camera: Canon EOS 6D MkII Focal Length: 50mm vertical (27°) x 28mm horizontal (65.5°) Camera height: 1.5m Date: 17/08/2022 Time: 10:22

The images contained on this page and the following page are not representative of scale and distance from the actual viewpoint and show the development in its wider landscape context only.



VIEWPOINT 1 - Beinn Tharsuinn wind farm access track (Fig. 4)

Camera: Canon EOS 6D MkII Focal Length: 50mm vertical (27°) x 28mm horizontal (65.5°) Camera height: 1.5m Date: 17/08/2022 Time: 10:22

The images contained on this page and the following page are not representative of scale and distance from the actual viewpoint and show the development in its wider landscape context only.



Existing View

VIEWPOINT 3 - Aultnamain (Fig. 1)

Camera: Canon EOS 6D MkII Focal Length: 50mm vertical (27°) x 28mm horizontal (65.5°) Camera height: 1.5m Date: 17/08/2022 Time: 11:21

The images contained on this page and the following page are not representative of scale and distance from the actual viewpoint and show the development in its wider landscape context only.



Photomontage

VIEWPOINT 3 - Aultnamain (Fig. 3)

Camera: Canon EOS 6D MkII Focal Length: 50mm vertical (27°) x 28mm horizontal (65.5°) Camera height: 1.5m Date: 17/08/2022 Time: 11:21

The images contained on this page and the following page are not representative of scale and distance from the actual viewpoint and show the development in its wider landscape context only.



Photomontage

VIEWPOINT 3 - Aultnamain (Fig. 4)

Camera: Canon EOS 6D MkII Focal Length: 50mm vertical (27°) x 28mm horizontal (65.5°) Camera height: 1.5m Date: 17/08/2022 Time: 11:21

The images contained on this page and the following page are not representative of scale and distance from the actual viewpoint and show the development in its wider landscape context only.



VIEWPOINT 5 - Beinn Tharsuinn (Fig. 1)

Camera: Canon EOS 6D MkII Focal Length: 50mm vertical (27°) x 28mm horizontal (65.5°) Camera height: 1.5m Date: 17/08/2022 Time: 14:29

The images contained on this page and the following page are not representative of scale and distance from the actual viewpoint and show the development in its wider landscape context only.



VIEWPOINT 5 - Beinn Tharsuinn (Fig. 3)

Camera: Canon EOS 6D MkII Focal Length: 50mm vertical (27°) x 28mm horizontal (65.5°) Camera height: 1.5m Date: 17/08/2022 Time: 14:29

The images contained on this page and the following page are not representative of scale and distance from the actual viewpoint and show the development in its wider landscape context only.



VIEWPOINT 5 - Beinn Tharsuinn (Fig. 4)

Camera: Canon EOS 6D MkII Focal Length: 50mm vertical (27°) x 28mm horizontal (65.5°) Camera height: 1.5m Date: 17/08/2022 Time: 14:29

The images contained on this page and the following page are not representative of scale and distance from the actual viewpoint and show the development in its wider landscape context only.



APPENDIX 6 – PROPOSED DEVELOPMENT VISUALISATIONS



VIEWPOINT 1 - Beinn Tharsuinn wind farm access track (Figure 2.6a)

Camera: Canon EOS 6D MkII Focal Length: 50mm vertical (27°) x 28mm horizontal (65.5°) Camera height: 1.5m Date: 17/08/2022 Time: 10:22

The images contained on this page and the following page are not representative of scale and distance from the actual viewpoint and show the development in its wider landscape context only.



VIEWPOINT 1 - Beinn Tharsuinn wind farm access track (Figure 2.6b)

Camera: Canon EOS 6D MkII Focal Length: 50mm vertical (27°) x 28mm horizontal (65.5°) Camera height: 1.5m Date: 17/08/2022 Time: 10:22

The images contained on this page and the following page are not representative of scale and distance from the actual viewpoint and show the development in its wider landscape context only.



Photomontage

VIEWPOINT 1 - Beinn Tharsuinn wind farm access track (Figure 2.6c)

Camera: Canon EOS 6D MkII Focal Length: 50mm vertical (27°) x 28mm horizontal (65.5°) Camera height: 1.5m Date: 17/08/2022 Time: 10:22

The images contained on this page and the following page are not representative of scale and distance from the actual viewpoint and show the development in its wider landscape context only.



VIEWPOINT 2 - B9176 (Figure 2.7a)

Camera: Canon EOS 6D MkII Focal Length: 50mm vertical (27°) x 28mm horizontal (65.5°) Camera height: 1.5m Date: 17/08/2022 Time: 09:47

The images contained on this page and the following page are not representative of scale and distance from the actual viewpoint and show the development in its wider landscape context only.



VIEWPOINT 2 - B9176 (Figure 2.7b)

Camera: Canon EOS 6D MkII Focal Length: 50mm vertical (27°) x 28mm horizontal (65.5°) Camera height: 1.5m Date: 17/08/2022 Time: 09:47

The images contained on this page and the following page are not representative of scale and distance from the actual viewpoint and show the development in its wider landscape context only.



VIEWPOINT 2 - B9176 (Figure 2.7c)

Camera: Canon EOS 6D MkII Focal Length: 50mm vertical (27°) x 28mm horizontal (65.5°) Camera height: 1.5m Date: 17/08/2022 Time: 09:47

The images contained on this page and the following page are not representative of scale and distance from the actual viewpoint and show the development in its wider landscape context only.



Existing View

VIEWPOINT 3 - B9176, Aultnamain (Figure 2.8a)

Camera: Canon EOS 6D MkII Focal Length: 50mm vertical (27°) x 28mm horizontal (65.5°) Camera height: 1.5m Date: 17/08/2022 Time: 11:21

The images contained on this page and the following page are not representative of scale and distance from the actual viewpoint and show the development in its wider landscape context only.



Photomontage

VIEWPOINT 3 - B9176, Aultnamain (Figure 2.8b)

Camera: Canon EOS 6D MkII Focal Length: 50mm vertical (27°) x 28mm horizontal (65.5°) Camera height: 1.5m Date: 17/08/2022 Time: 11:21

The images contained on this page and the following page are not representative of scale and distance from the actual viewpoint and show the development in its wider landscape context only.



Photomontage

VIEWPOINT 3 - B9176, Aultnamain (Figure 2.8c)

Camera: Canon EOS 6D MkII Focal Length: 50mm vertical (27°) x 28mm horizontal (65.5°) Camera height: 1.5m Date: 17/08/2022 Time: 11:21

The images contained on this page and the following page are not representative of scale and distance from the actual viewpoint and show the development in its wider landscape context only.



VIEWPOINT 4 - Unclassified road west of Balleigh (Figure 2.9)

Camera: Canon EOS 6D MkII Focal Length: 50mm vertical (27°) x 28mm horizontal (65.5°) Camera height: 1.5m Date: 17/08/2022 Time: 11:41

The images contained on this page are not representative of scale and distance from the actual viewpoint and show the development in its wider landscape context only.



Existing View

VIEWPOINT 5 - Beinn Tharsuinn (Figure 2.10a)

Camera: Canon EOS 6D MkII Focal Length: 50mm vertical (27°) x 28mm horizontal (65.5°) Camera height: 1.5m Date: 17/08/2022 Time: 14:29

The images contained on this page and the following page are not representative of scale and distance from the actual viewpoint and show the development in its wider landscape context only.



VIEWPOINT 5 - Beinn Tharsuinn (Figure 2.10b)

Camera: Canon EOS 6D MkII Focal Length: 50mm vertical (27°) x 28mm horizontal (65.5°) Camera height: 1.5m Date: 17/08/2022 Time: 14:29

The images contained on this page and the following page are not representative of scale and distance from the actual viewpoint and show the development in its wider landscape context only.



VIEWPOINT 5 - Beinn Tharsuinn (Figure 2.10c)

Camera: Canon EOS 6D MkII Focal Length: 50mm vertical (27°) x 28mm horizontal (65.5°) Camera height: 1.5m Date: 17/08/2022 Time: 14:29

The images contained on this page and the following page are not representative of scale and distance from the actual viewpoint and show the development in its wider landscape context only.



VIEWPOINT 6 - Unclassified road at Rhanich (Figure 2.11)

Camera: Canon EOS 6D MkII Focal Length: 50mm vertical (27°) x 28mm horizontal (65.5°) Camera height: 1.5m Date: 17/08/2022 Time: 11:59

The images contained on this page are not representative of scale and distance from the actual viewpoint and show the development in its wider landscape context only.



Existing View

VIEWPOINT 7 - B9176, Strathy junction (Figure 2.12)

Camera: Nikon D810 Focal Length: 50mm vertical (27°) x 28mm horizontal (65.5°) Camera height: 1.5m Date: 20/08/2022 Time: 13:23

The images contained on this page are not representative of scale and distance from the actual viewpoint and show the development in its wider landscape context only.