



Balmullo Quarry EIA Scoping Report

Proposed Lateral Extension and Periodic Review

Breedon Trading Limited

Balmullo Quarry, Quarry Road, Lucklawhill, Balmullo, KY16 0BH

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Basis of Report

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1.0 Introduction

Breedon Trading Limited (Breedon) intends to apply to Fife Council for planning permission for a lateral extension to Balmullo Quarry, Quarry Road, Lucklawhill, Balmullo, KY16 0BH. The intended application will also include periodic review of the extant planning conditions pursuant to section 74 and Schedule 10 of the Town and Country Planning (Scotland) Act 1997, as amended. The site location is shown on **Drawing SCO-01**.

Breedon has appointed SLR Consulting Limited (SLR) to undertake a scoping study and prepare this report to accompany a request to Fife Council as the local planning authority to adopt a Scoping Opinion under Regulation 17(1) of the EIA Regulations as to the required approach to the EIA and content of the EIA Report.

In accordance with the EIA Regulations, this request for Fife Council to adopt a Scoping Opinion is accompanied by:

- (a) a description of the location of the development (**Section 2.0**), including a plan sufficient to identify the land (**Drawings SCO-01** and **SCO-02**);
- (b) a brief description of the nature and purpose of the development (**Section 3.0**) and of its likely significant effects on the environment (**Section 5.0** and **Section 6.0**, and **Drawing SCO-03**); and
- (c) such other information or representations as the developer may wish to provide or make (**Section 4.0**, **Section 7.0** and **Section 8.0**).

1.1 Purpose of this Report

The purpose of this report is to provide Fife Council with the necessary information to adopt a Scoping Opinion under the provisions of the EIA Regulations as to the form and content of the EIA and EIA Report.

The report is also intended to engage Fife Council in pre-application consultation in respect of the proposed application and in this regard the report sets out a description of the proposed development and outlines the format of the planning application that is intended to be made.

1.2 Report Structure

Following this introductory section, the remainder of this report comprises the following Sections:

- | | |
|-------------|--|
| Section 2.0 | Site and Surrounding: describes the location, setting and physical characteristics of the site and describes baseline features in and around the site; |
| Section 3.0 | Proposed Development: provides an outline of the proposed development and the rationale for the development; |
| Section 4.0 | Scoping the EIA: provides details on the approach to the scoping study and describes the specialist studies that will be undertaken as a result of the scoping exercise, irrespective of whether or not a full EIA Report Chapter is required; |
| Section 5.0 | Environmental Topics - EIA: describes the specialist environmental studies that are proposed to be undertaken as part of the EIA to assess the impact of the proposed development on the environment; |



- Section 6.0 Other Environmental Topics: describes those environmental topics which it is intended to scope out of full consideration in the EIA and, where applicable, how these will be reported;
- Section 7.0 Planning Policy: identifies the development plan and provides a list of policy and guidance to be considered; and
- Section 8.0 Planning Application: lists the proposed contents of the planning application submission package.

Drawings that are referred to in the main text are included at the end of this report in **Appendix A**.

1.3 Breedon Trading Limited

Breedon is the leading vertically-integrated construction materials group based in Great Britain and Ireland, supplying the construction industry with essential products and services needed to build the places where we live and work, play and in-between. Breedon's purpose is to make a material difference to the lives of their colleagues, customers and communities.

Breedon employs approximately 3,700 people and has an overall revenue of about £1.4 billion.

Breedon has three strategic priorities, to embed a culture of sustainability, to optimise its assets and processes, and to expand its geographic footprint and product portfolio. All of its strategic decisions are viewed through the lens of sustainability, and governed by its disciplined financial framework, to ensure its capital continues to be deployed appropriately.

Further information on Breedon can be found on its corporate website at www.breedongroup.com/.

1.4 SLR Consulting Limited

SLR is a Registered Environmental Assessor Member of the Institute of Environmental Management and Assessment (IEMA) and holder of the EIA Quality Mark (<http://www.iema.net/qmark>). SLR is also a Registered Organisation validated by the Institute for Archaeologists (IfA), a member of the Association of Geotechnical and Geo-environmental Specialists, and a Landscape Institute (LI) Registered Practice.

The company has significant experience in the preparation of planning applications and undertaking EIA for a wide variety of projects, including waste, minerals, renewable energy, manufacturing and infrastructure developments.

Further information on SLR can be found on its corporate website at www.slrconsulting.com.

2.0 Site and Surroundings

2.1 Site Location and Access

Balmullo Quarry is located to the north-west of Balmullo on the southern slope of Lucklaw Hill, approximately centred on NGR NO418214. The site is located approximately 3km west of Leuchars and 9km north-west of St Andrews, in Fife. The location of the site is shown on **Drawings SCO-01** and **SCO-02**.

Access to the site is from Quarry Road via a dedicated access point located at NGR NO4201321306.



2.2 The Proposed Development Site

The consented quarry site extends to c.14ha, and the maximum extent of the proposed extension would be c.3ha. The proposed extension to the quarry workings is in a northerly direction from the consented quarry. The existing quarry site is outlined in green and the proposed extension area is outlined in purple on **Drawing SCO-02**.

The general ground elevation across the quarry site ranges from approximately 190mAOD at the peak of Lucklaw Hill, falling away to approximately 160mAOD along the eastern and western site boundaries, and approximately 151mAOD at the northern boundary.

The existing quarry is designated as Balmullo Quarry Regionally Important Geological Site (RIGS). The extension area is within the Lucklaw Hill Wildlife Site and the site and extension are within a FIFEPlan Green Network Policy Area. The designations covering the site and in the surrounding area can be seen on **Drawing SCO-03**.

2.3 Surrounding Area

The area surrounding Balmullo Quarry is largely rural in character, with the exception of Balmullo village located approximately 0.5km south-east of the proposed development. There are a variety of land uses in close proximity to the site, including forested land to the north of the site, with agricultural land beyond that and to the south of the site.

There are no Sites of Special Scientific Interest (SSSI), Ramsar site, Special Conservation Areas (SAC) or Special Protection Areas (SPA) within 2km of the site. The Firth of Tay and Eden Estuary SPA, SSSI and Ramsar site is located c.2.6km to the south-east and the St Michael's Wood Marshes SSSI is located c.2.6km to the north-east.

There are a number of Scheduled Monuments located to the north of the site towards and at North Straiton; the closest being c.1.25km. The closest Scheduled Monument to the east is c. 1.4km, beyond Balmullo towards Leuchars. There are no Listed Buildings or Gardens and Designed Landscapes within 2km of the site.

There are no National Scenic Areas, National Parks, Country Parks or Regional Parks within 5km on the site.

2.4 Site History

There has been quarrying at Lucklaw Hill since the early 20th century. The quarry operates under extant planning permission 05/00835/EEIA (granted 10th July 2008) for an extension to Balmullo Quarry and construction of a new access route.

2.5 Current Operations

The quarry extracts from a felsite intrusion for the production of construction aggregates at a maximum rate of 150,000 tonnes output per annum.

The quarry is worked in a generally northerly direction establishing a series of quarry benches at various elevations. Rock is won by blasting taking place between six and ten occasions per annum. Rock is transported by dump truck to processing plant located on the quarry floor which is utilised for crushing and screening to produce aggregates of varying sizes. Conveyors are used to transfer material between processing plant and stockpiles. On completion of processing, products are despatched to market.

The quarry operations are regulated by the Scottish Environment Protection Agency (SEPA) under permit number PPC/E/0030065 granted pursuant to the Pollution Prevention and Control (Scotland) Regulations 2000.



3.0 Proposed Development

The proposed extension to Balmullo Quarry would be operated as a continuation of the current permitted operations, subject to an updated set of planning conditions as a result of the periodic review.

3.1 Proposed Extension

The quarry extracts a red felsite aggregate, which is a hard wearing and durable construction aggregate. It has many applications, including, but not limited to, driveway chippings, rail ballast, and as a road sub-base among others. It is estimated that the proposed extension to the quarry could yield up to 3 million tonnes. There would be no change to the current maximum output of 150,000tpa.

The proposed extension would allow operations at Balmullo to continue beyond the current reserve ensuring a critical supply of aggregate to the local market and continuation of employment at the quarry.

3.2 Working Methods

The quarry and ancillary operations can be conveniently described in five component parts comprising:

- stripping of soil and overburden;
- extraction of rock by drilling and blasting;
- transfer of extracted rock for processing;
- material processing, stocking and dispatch; and
- progressive restoration.

3.2.1 Stripping of Soils and Overburden

The first stage of the extraction process involves the removal of soil and subsoil to expose the extractable rock underneath ready for extraction. The removal of soil is undertaken separately using a tracked excavator.

The stripped materials are loaded on to dump trucks and managed in their separate horizons for either direct placement in previous extraction areas as part of ongoing restoration or stored temporarily in separate piles (bunds) for subsequent use in restoration.

The soils and overburden materials that are stored in bunds are grass seeded in order to preserve the quality of the soil and help prevent wind-blown losses.

3.2.2 Extraction of Aggregate

The exposed rock is won by blasting which takes place on between approximately six and ten occasions per year. Blasts typically yield between 10,000 and 20,000 tonnes of rock. The extraction in the extension area would progress in a broadly northerly direction from the northern extent of the existing extraction area.

3.2.3 Transfer of Extracted Material for Processing

Following blasting, the won material is transferred by dump truck to the plant area on the quarry floor for crushing and screening into the different grades of product for sale from the quarry.



3.2.4 Material Processing, Stocking and Despatch

The processing of hard rock entails primary, secondary and tertiary crushing followed by screening of the extracted rock into marketable materials.

Rock from the blast pile is transported to the primary crusher by dump truck. The output from the primary crusher is screened into different fractions, some for sale and some for further processing. The larger fraction is transferred by conveyor from the primary surge pile to the secondary crusher. The output from the secondary crusher is also screened into different fractions, some for sale and some transferred by conveyor from the secondary surge pile to the tertiary crusher.

The aggregates are ultimately dispatched from the quarry by way of HGVs and light commercial vehicles. Unladen vehicles arriving at the quarry for loading are weighed in at the weighbridge upon arrival, before progressing to the stocking area where they are loaded by a wheel shovel loader and then weighed back out at the weighbridge and sheeted before leaving the quarry.

3.2.5 Restoration

The restoration proposals for Balmullo are envisaged as currently permitted, with heathland on restoration blasted upper faces and benches, with a mosaic of grasses, heathland species and naturally weathering rock on the lower benches, and sparse grassland sward and heathland on the quarry floor. Public access would be provided in accordance with the approved scheme.

Opportunities for initial landscaping and progressive restoration will be considered within the application. Progressive restoration at Balmullo is constrained to a degree by the substantial (and beneficial) depth of rock i.e. less area need be stripped. However, it is envisaged that some of the historic faces will be targeted at an early stage, utilising soils from the extension to reinstate the upper visible faces.

Opportunities for advance tree planting around site boundaries would also be reviewed as part of the design development. This would be carried out at the earliest opportunity to maximise growth and screening potential, as well as new habitat creation.

Where practicable, opportunities will be sought within the wider Breedon landholding at Balmullo to deliver biodiversity enhancement measures.

3.3 Water Management

Surface water within the extension area would be managed in the same way as currently within the operational quarry. Incident rainfall infiltrates into the underlying bedrock through naturally occurring joints and fissures, therefore no discharge is required.

Water required for dust suppression on haul roads and stockpiles is taken from site's mains water supply.

3.4 Operational Hours

The current operational hours for plant and equipment associated with the extraction, processing and transport of hard rock are:

- Mondays to Fridays 07:00 to 17:00; and
- Saturdays 08:00 to 12:00.

Blasting is restricted to between 10:00 – 12:00 and 14:00 – 16:00 on Mondays to Fridays.

Operational hours for the proposed extension would be the same as currently permitted.



3.5 Site Access, Traffic and Parking

During normal operation the existing quarry generates approximately 60 vehicle movements per day. It is not anticipated that the proposed development would result in any increase in vehicle trips associated with the site as the volume of export is not expected to increase.

Access to the quarry would continue to be via the dedicated junction on Quarry Road.

3.6 Fencing

Fencing is located on all current site boundaries which would be maintained throughout continued operations. The extension area would be similarly secured prior to the commencement of operations in that area to ensure there is no public access and that the operational area is stockproof.

3.7 Employment

The existing Balmullo Quarry provides employment for six people; the majority of whom reside in close proximity to the site and within Fife. The extension would provide employment security to these employees.

The quarry also uses a significant number of firms local to Fife and Tayside for e.g. supplies and maintenance thereby indirectly contributing to additional local employment.

4.0 EIA Scoping

4.1 Overview

An EIA scoping study has been carried out by SLR, following the practice described in Circular 1/2017 and taking account of the best practice guidelines from the Institute of Environmental Management and Assessment (IEMA), from the Scottish Natural Heritage (SNH) handbook on EIA and from PAN 1/2013.

The remainder of this section sets out the scoping assessment of the proposed development in order to assist Fife Council in adopting a Scoping Opinion as prescribed by the EIA Regulations.

4.2 Approach to the Scoping Study

The scoping study has largely comprised a desk-based appraisal that has considered datasets from a variety of sources including the existing operational features, Ordnance Survey mapping and development plans. Geographic Information System (GIS) technology has been used to collate and identify potential environmental receptors and environmental designations that may be affected by the proposed extension. The GIS datasets comprise details of ecologically important sites, sites of archaeological and/or cultural heritage importance, landscape designations and other important receptors (dwellings and watercourses etc.).

The desk based appraisal has been complemented by site walkovers and surveys, as described in Sections 5.0 and 6.0.

4.3 Considering EIA Regulations Schedule 2

The proposed development is not of a type described in Schedule 1 of the EIA Regulations, nor is the proposed development within a 'sensitive area' as defined in Regulation 2(1) of the EIA Regulations and in this regard the development is not of a type requiring mandatory EIA.



The proposed development falls within paragraph 2(a) “*Quarries, open-cast mining and peat extraction (unless included in Schedule 1)*” of Schedule 2 of the EIA Regulations and meets the applicable criteria “*All development except the construction of buildings or other ancillary structures where the floorspace does not exceed 1,000 square metres*” and therefore requires to be screened for EIA.

Paragraph 13 of Schedule 2 of the EIA Regulations provides that, in the case of changes or extensions to already authorised, executed or in the process of being executed development of a description mentioned in Schedule 2, the applicable thresholds apply to the development as changed or extended and in such a case the change or extension may have significant adverse effects on the environment.

It is acknowledged that by virtue of its scale and nature the proposed development is likely to require EIA. It is therefore proposed that an EIA Report is volunteered.

4.4 Proportionate EIA

An EIA Report is a report of an EIA that is required to be submitted with a planning application for major and other developments that are likely to have significant impacts on the environment. It evaluates the likely environmental impacts of the development, together with an assessment of how the severity of the impacts could be reduced (mitigated) where applicable.

Referring to paragraph 76 of Circular 1/2017 the EIA Report is to include the information that may reasonably be required for reaching a reasoned conclusion on the significant effects of the project on the environment, taking into account current knowledge and methods of assessment. It goes on to add that “*other impacts may be of little or no significance for the particular development in question and, if included in the EIA report, will need only very brief treatment to indicate that their possible relevance has been considered*”.

PAN 1/2013 (paragraph 3.1) adds that one of the key principles of EIA is proportionality commenting that “*EIAs should be fit for purpose. Excessively long, repetitive and poorly co-ordinated EIA Reports can prove a barrier to informed decision-making. ... Proportionality can best be achieved by seeking information from the planning authority and the Consultation Bodies on the scope of the assessment, paying attention to their views from the outset, and by focusing on the significant environmental effects of the proposed development*”.

Section 5.0 provides discussion of each of the environmental topics in turn and outlines the proposed scope of environmental studies for each, as well as how each assessment will be reported. Section 6.0 provides discussion of those environmental topics scoped out of full consideration within the EIA and, where appropriate, how it will be reported. Section 8.0 provides an overview of the proposed contents of the EIA Report and planning application.

5.0 Environmental Topics – EIA

5.1 Air Quality

An initial review of the site and surroundings has been used to inform the proposed scope of the assessment; this indicates that there are residential receptor locations within approximately 300m and a Site of Special Scientific Interest within approximately 2.5km. Fife Council have declared two Air Quality Management Areas (AQMAs) for exceedances of the air quality objectives at locations of relevant exposure. However, the closest AQMA to site is located approximately 7.6km away in Cupar and therefore AQMAs have not been considered relevant to this assessment.



Given that the proposed development would not result in any changes to output levels and associated vehicle movements, an assessment of road vehicle emissions is scoped out of the assessment.

The scope of the air quality assessment would therefore focus on potential impacts from dust emissions associated with the proposed extension:

- baseline evaluation – a review of the baseline environment would include a desk-based review of the site location with respect to sensitive receptors (human and ecological), and a review of baseline air quality and meteorological conditions.;
- dust assessment - an assessment of potential dust emissions from the proposed extension and associated activities would be undertaken in accordance with Institute of Air Quality Management (IAQM) '*Guidance on the Assessment of Mineral Dust Impacts for Planning*'. The dust assessment will include:
 - a review of the proposed site layout and operations with respect to dust emissions;
 - assessment of impacts at sensitive receptor locations using IAQM methodology (the source – pathway – receptor conceptual model) incorporating existing/proposed environmental design measures; and
 - identification of additional dust controls to mitigate impacts, where required.
- mitigation measures – the assessment will identify the nature and significance of potential air quality impacts that may arise due to the proposed extension. Embedded mitigation measures integrated as part of the scheme will be discussed, along with identification of additional mitigation requirements, if required. The nature and significance of any residual effects will be reported.

An EIA Report Chapter will be provided reporting on the findings of the dust assessment for the proposed extension.

5.2 Geology and Soils

Balmullo Quarry quarries a Siluro-Devonian Felsite intrusion, formed around 410 million years ago, for construction aggregates. The felsite worked at Balmullo Quarry is documented to contain mineralisation of a range of different metals and minerals, which can occur in veins and pockets. The quarry is designated as a Regionally Important Geological Site (RIGS).

The existing quarry has previously been stripped of soils and rock extracted; as such the existing quarry is scoped out of further consideration for soils and geology. The EIA will therefore consider the effects on the soils and the RIGS by the proposed extension and provide for mitigation strategies, where necessary, to reduce the impact on the designation.

There are no published environmental assessment techniques relating specifically to soils, geology or geodiversity impact assessment. Soils are listed in the EIA Directive and Regulations as an environmental factor, but they are often overlooked in EIA. There are however a number of guidance documents that explain the issues likely to arise during EIA process and set out criteria that can be used to assess the potential effects and significance of impacts upon geological assets.

The following guidance will be drawn upon as part of the EIA:

- Environmental Impact Assessment Handbook (NatureScot, 2018);
- DMRB LA 109 Geology and Soils (DMRB 2019), provides a framework for assessing and managing the effects associated with geology and soils; and



- Good Practice Guide for Handling Soils (Institute of Quarrying, 2021).

The proposed scope is as follows:

- report on results of site survey of geological and soil (in so far as soils connect to the RIGS designation) exposures, and current condition of RIGS;
- literature review of published research on the site and other sites with similar settings;
- qualification of magnitude of impact on RIGS; and
- proposals for mitigation of impacts.

The findings of the geological survey and assessment of the proposed extension area will be reported in an EIA Report Chapter.

5.3 Landscape and Visual Amenity

Quarrying at Balmullo is a long-established feature in the local landscape. A Landscape and Visual Impact Assessment (LVIA) will be prepared to assess the likely landscape and visual effects that would be experienced as a result of the proposed extension to Balmullo Quarry. The assessment will be carried out in accordance with industry standard guidance and recommendations including the following:

- Guidelines for Landscape and Visual Impact Assessment, Third Edition;
- Landscape Institute Technical Guidance Note 06/19: Visualisation Representation of Development Proposals; and
- Landscape Institute Technical Guidance Note 02/21: Assessing landscape value outside national designations.

An initial desk-based review of the site and surrounding area has been undertaken, alongside a review of the relevant local planning policy.

The proposed quarry extension and surrounding areas are not part of any national landscape designation (such as a National Scenic Area (NSA) or National Park), or local landscape designation, with the nearest being at 2km to the north-west and 4km to the south-east as designated in the Fife Local Development Plan, Adopted September 2017.

There are several core paths which extend over land to the south of the site, including No. 129 which passes along the quarry access road and No. 128 which extends between Balmullo and Logie.

The Fife Coastal Path passes through Guardbridge at 2km to the east of the site and the North Fife Tourist Trail follows the A91 at c3km to the south-east of the site.

The proposed quarry extension and surrounding areas are within 'Upland Foothills' landscape character type and UF14 Ochill Foothills Lucklaw as defined by the Fife Landscape Character Assessment (1999) – N113, with a band of 'Coastal Terraces' at 1km to the east and 'Lowland Valleys' at a similar distance to the north.

A preliminary Zone of Theoretical Visibility mapping has been prepared to inform an appropriate study area and the selection of proposed representative viewpoint locations for inclusion within the visual assessment. This indicated theoretical visibility extending over an area to the south-west, south and south-east of the site, including the edge of Balmullo, A914 and A91, several farmsteads, Clayton and Dairsie, with no coverage to the north of the site.



There are no proposals for a change to the existing working hours or provision of additional lighting and as such it is not anticipated night-time assessment will be required and hence will not be considered further.

Fieldwork was subsequently undertaken in October 2022 to ascertain the baseline landscape and visual context of the site and the wider study area. This site visit included the capturing of panoramic baseline photography for inclusion within the LVIA at the following 10 representative viewpoints:

- Viewpoint 1 – Core Path 129, by site entrance;
- Viewpoint 2 – A914 Balmullo;
- Viewpoint 3 – Guardbridge, Coastal Trail;
- Viewpoint 4 – North Fife Tourist Route on A91 by Lodge;
- Viewpoint 5 – North Fife Tourist Route on A91 edge of Dairsie;
- Viewpoint 6 – Core Path 118 / A914 Minor road by Thai Teak;
- Viewpoint 7 – Minor road on elevated ground to south-west of site;
- Viewpoint 8 – Core Path 127 / Minor road, by Logie House;
- Viewpoint 9 – part of Woodland Walk to west of site; and
- Viewpoint 10 – Core path 128 south of site, by Cuplahills recreational facility / woodland walks.

The LVIA will be reported in an EIA Report Chapter which will be accompanied by the following:

- Landscape Character (national and local) drawing;
- Landscape Designations drawing;
- Zone of Theoretical Visibility mapping;
- Viewpoint Locations drawing;
- Baseline viewpoint photography; and
- Photomontage from Viewpoint 10 (Core path 128 south of site, by Cuplahills recreational facility / woodland walks) to show final restoration of existing and extended site.

5.4 Noise

Extant planning permission (reference 05/00832/EEIA) contains noise limits at conditions 3, 4, 5 and 7. It is anticipated that these limits would apply to the extended operations.

A baseline sound survey will be undertaken at the nearest noise-sensitive receptors to the existing quarry and the proposed extension area. It is envisaged that the sound level meters will be installed at the following locations:

- Location 1 – a location representative of the residential property located to the north of the proposed extension area;
- Location 2 – a location representative of the residential property to the north-east of the proposed extension area; and
- Location 3 – a location representative of the residential property located to the east of the proposed extension area.



Baseline noise level surveys would be conducted over 2-hour periods during a typical daytime period. The surveys would be undertaken during a quarry shut-down period if any noise associated with the quarry is audible at the survey locations. Noise levels would be logged continuously at 15-minute intervals. This will only be able to be undertaken during appropriate weather conditions (dry with wind speeds below 5 m/s).

The assessment of noise impacts will be undertaken in accordance with that presented in PAN 50, Annex A. To determine the noise level of the proposed operations at each sensitive receptor, a noise model of operations at the existing site and the proposed extension area will be developed using the noise modelling software package Cadna/A. The software would be configured to use the calculation methodology outlined within BS 5228-1:2009+A1:2014 '*Code of practice for noise and vibration control on construction and open sites. Part 1:Noise*'.

Noise levels will be predicted for worst-case scenarios at each of identified noise-sensitive receptors during each phase of the development and assessed against the measured baseline levels in conjunction with the PAN50 guidance.

A cumulative assessment will also be carried out, including predictions of the noise being generated by any existing extraction/processing operations which may be undertaken simultaneously with the extension operations.

Where it is deemed necessary, mitigation measures will be recommended to reduce any identified impacts.

The noise assessment will be reported in an EIA Report Chapter.

5.5 Vibration

The blast vibration assessment will outline the potential impacts on local vibration-sensitive receptors and will advise on the mitigation as necessary.

The blast vibration assessment will be undertaken in accordance with the guidance contained in Annex D of PAN50 and the results assessed in accordance with the limits outlined within the planning permission for the existing site (condition 10).

A typical production blast would be monitored with several instruments so that the rate at which vibration decays with distance away from the blast site can be determined. The results of the blast monitoring, and any available historic blast vibration records, would be used to allow an assessment to be undertaken to predict the maximum charge weights permissible to meet blast-induced vibration limits described in the current guidance at the nearest vibration-sensitive properties.

Where necessary and feasible, mitigation measures will be outlined, and any residual impacts identified which would include advice on maximum instantaneous charge weights to meet the vibration limits for the site.

The vibration assessment will be reported in an EIA Report Chapter.

5.6 Water Environment

Review of published information sources suggests that the existing site and proposed extension is not in an area regarded at flood risk (river, surface water, groundwater or coastal) and the host geology is unlikely to contain significant quantities of groundwater. It is also understood that the existing quarry does not require groundwater management measures. The existing quarry is therefore scoped out of further consideration.

There is potential for shallow groundwater to support small and localised water abstractions, and a number of wells are recorded on Ordnance Survey mapping near to the site. There



are no water dependent designated sites within 2km of the existing site or the proposed extension.

In order to prepare the water environment EIA Report chapter, it is proposed that the following works will be undertaken:

- a desk-based review of the site setting will be completed;
- any existing site investigation or material characterisation reports held will be reviewed;
- data requests for environmental information will be made to SEPA and Fife Council (including data regarding private and licensed water supplies);
- a site visit will be undertaken to confirm the baseline assessment; and
- an impact assessment will be completed for the proposed extension, any appropriate mitigation measures required will be identified and residual effects will be assessed.

To characterise the existing site, the desk-based review will include consultation with the following sources of information :

- the initial development proposals;
- surface and groundwater information, including local water quality and any relevant groundwater level data, and flood data, which will be obtained from SEPA;
- ground conditions data, using published geology maps and liaison with the technical lead for geology and land quality. Site specific geological information will be obtained from the British Geological Survey (BGS);
- hydrogeological information will be obtained from the BGS;
- surface water flow information will be obtained from the Centre of Ecology and Hydrology as well as use of the Flood Estimation Handbook (FEH) methods;
- meteorological data for the area;
- information relating to private water supplies and flooding obtained from Fife Council; and
- public water supply information and infrastructure obtained from Scottish Water.

Potential impacts on the water environment, including environmental receptors dependent upon these resources will be identified, and mitigation measures to safeguard these will be proposed. It is assumed that potential impacts to groundwater can be readily addressed by appropriate site design negating any potential pathway from the site.

To address cumulative effects it is likely that mitigation measures will be proposed that would have a neutral effect or provide betterment compared to baseline conditions. It is assumed it would not be necessary to assess any in-combination effects associated with other nearby projects.

Mitigation measures, where required, will be identified and be based on industry best practice techniques appropriate to site conditions.

In accordance with National Planning Framework 4 (NPF4) a flood risk assessment of the proposed extension will be prepared. It is proposed that this would be presented as a section within the EIA Report chapter, as the site is not considered a flood risk.

In consultation with the project ecologists, consideration would be given to potential effects on areas of possible Groundwater Dependent Terrestrial Ecosystems (GWDTE) for the proposed extension. It is assumed, given the hydrogeological site setting and existing land use, a detailed assessment of GWDTE would not be required.



The results of the assessment will be reported in a Water Environment EIA Report chapter.

6.0 Other Environmental Topics

6.1 Accidents and Disasters

The EIA Regulations 2017 require EIA to assess the risks resulting from accidents and disasters. The extension would operate under the existing quarry management plan. It is not anticipated that a new health and safety plan, or any consultation with the Health and Safety Executive is likely to be necessary.

It is not intended to address these topics by means of a separate chapter in the EIA Report, but to consider them as integral to the assessment in each relevant chapter.

6.2 Archaeology and Cultural Heritage

Significant effects on archaeological and/or heritage assets are not anticipated. It is therefore anticipated that archaeology and cultural heritage can be scoped out of full consideration within the EIA.

The extant quarry is recorded as a Canmore record (reference 118939) which references findspots for prehistoric pottery; this may attest to a potential for archaeology in the vicinity of the quarry.

Within 2km of the proposed development site, there is Southfield Scheduled Monument c.1.4km to the east, Cruivie Castle Scheduled Monument c.1.2km to the north, and various North Straiton Scheduled Monuments c1.7km, c1.8km and c1.9km to the north.

These baseline assets will be examined, along with the potential for archaeology in the vicinity of the quarry, in the production of a Historic Environment Desk Based Assessment (HEBDA).

The archaeology aspect of the desk-based assessment would identify known and potential archaeological remains within the extension area and would assess the significance of those remains in accordance with national and local policy and all relevant industry guidance. Principal baseline data would be obtained from Historic Environment Scotland and the Historic Environment Record. This data would be supplemented by a site inspection and a review of the following:

- relevant archival material, e.g. historic documentation;
- fieldwork reports relating to previous proximate investigations;
- other relevant publications and grey literature reports;
- historic mapping;
- aerial photography / satellite imagery;
- available DTM and DSM LiDAR data;
- geological, pedological, hydrological and topographic data; and
- any other datasets relevant to determining archaeological potential and significance.

The settings assessment would identify those cultural heritage assets e.g. Scheduled Monuments and Listed buildings, within the wider site environs with the potential to be affected by the proposals as a result of changes to setting. It would establish the significance of those assets, their setting, the degree to which their setting contributes to their significance, and if/how any changes to setting under the proposals could result in harm to their significance. In respect of Scheduled Monuments, it would also consider whether the



proposals would result in any significant adverse impacts on the integrity of their setting, as per paragraph h(ii) of Policy 7 of National Planning Framework 4 (2023).

Initial desk-based analysis would utilise mapped and aerial photographic resources alongside an understanding of the asset type to determine the potential for sensitivity to impact. Following this, potentially susceptible assets and their settings would be subject to field inspection.

The results of the assessments would be presented within a single HEBDA report, prepared in accordance with all relevant industry standards and guidance, and illustrated as required. The HEBDA would be appended to the EIA Report.

All works would be undertaken in accordance with the applicable industry guidance documentation, including the following:

- 'Managing Change in the Historic Environment: Setting' (HES 2020);
- 'Designation, Policy and Selection Guidance' (HES 2019);
- 'Environmental Impact Assessment Handbook' (SNH (Naturescot) and HES 2018);
- 'Standard and Guidance for Historic Environment Desk Based Assessment' (CifA 2014a), which gives best practice for the execution of desk-based assessments; and
- 'Code of Conduct' (CifA 2022).

6.3 Climate Change

The EIA Regulations 2017 require EIA to consider the impact of the project on the climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change. The National Planning Framework 4 gives "significant weight" to the Climate Emergency when considering development proposals.

It is not intended to address this by means of a separate chapter in the EIA Report, but to consider it as integral to the assessment in each relevant chapter, e.g. water environment.

6.4 Ecology

6.4.1 Desk Study

Desk study data has been obtained from NatureScot Site Link web-based application, Fife Nature Records Centre (FNRC), and relevant information for other nearby developments where readily publicly available via online planning records.

The extension area is partially located within the Lucklaw Hill Local Wildlife Site (LWS) which extends to 15.98ha and is designated predominantly for its dry dwarf acid shrub heathland habitat.

There are 14 statutory designated sites within 10km of the quarry including one National Nature Reserve (NNR), two SPAs, one Ramsar site, one SAC, and nine SSSIs. A further two SPAs and two Ramsar sites designated for their ornithological interest are within 20km of the quarry.

6.4.2 Field survey

Between June and September 2023, the following ecological surveys of the extension area were carried out:

- UK Habitat (UKHab) survey;
- habitat condition assessment;



- habitat suitability assessment for protected and notable species;
- NVC survey;
- preliminary bat roost assessment (PRA);
- badger survey;
- camera trap survey;
- red squirrel survey;
- pine marten survey;
- breeding bird walkover;
- reptile survey; and
- butterfly survey.

6.4.3 Initial Findings

The results of the desk study and field surveys are being used to inform the extension design proposals and to guide the development of the restoration scheme.

A small proportion of the Lucklaw Hill LWS would be lost as a result of the proposed extension. Appropriate mitigation and compensation measures will be developed as part of the extension design and restoration proposals.

Ancient woodland has been identified c.150m to the north of the proposed extension area. Mitigation measures including maintenance of a 50m buffer between working areas and the inventoried site, careful use of lighting and appropriate dust controls would be implemented.

Areas of lowland dry heathland, which is an Annex 1 habitat, have been identified within the survey area. Where this habitat is to be lost, appropriate mitigation and compensation measures will be developed as part of the extension design and restoration proposals.

The bat PRA survey did not identify trees with roost potential within the proposed extension area.

No further bat survey is proposed.

The results of the badger survey will be reported in a confidential report which will make appropriate recommendations such as pre-works surveys.

Likely evidence of pine marten was identified in the survey area, however no denning sites were identified. Appropriate mitigation measures in accordance with NatureScot's standing advice on pine marten, such as buffers from working areas and pre-works surveys, would be implemented.



6.4.4 Reporting

Significant effects on designated nature conservation sites, habitats and protected species are not anticipated and as such ecology is scoped out of full consideration within the EIA. A Preliminary Ecological Appraisal and Protected Species Survey Report would be produced and would include methodology, results of the desk study and results from the field surveys. The report would be accompanied by drawings illustrating the findings as appropriate and a confidential appendix reporting on the findings of the badger survey.

6.5 Socio-Economics and Human Health

The proposed development is unlikely to generate an increase in employment, however it would offer employment security for the 6 jobs currently generated directly from the existing quarry and continue making a contribution to the local supply chain and economy. Anticipated employment numbers will be addressed in the Planning Statement. Overall, the local economic effects are unlikely to be significant, in EIA terms, in the long-term. The potential for impacts on e.g. recreation and tourism is considered to be negligible.

The EIA Regulations 2017 require EIA to consider the risks to population and human health. It is not intended to address these or other socio-economic effects by means of a separate chapter in the EIA Report, but to consider them as integral to the assessment in each relevant chapter, e.g. noise, air quality.

6.6 Traffic and Transportation

Output from the quarry would not change as a result of the proposed extension therefore it is proposed to scope traffic and transportation out of full consideration within the EIA. However, it is acknowledged that the baseline position could have altered since the previous planning consent was granted, therefore a Transport Statement will be prepared.

A detailed site investigation has been undertaken in order to understand the site location in the context of the local and trunk road network and any changes since the quarry extension planning consent in 2008. An understanding of the local highway network will be established, from which any potential road safety issues may be identified.

Current and historic planning consents for the site will be reviewed pertinent to highways and transportation (such as HGV routeing agreements). The most recent five years of Personal Injury and Accident Data records will be obtained from Crashmap to inform the assessment. This information will highlight any existing safety issues relating to the existing highway network. The data will be collated and reviewed as part of the investigation into the existing highway conditions.

The Transport Statement will consider the transport implications of the proposals and comprise the following elements:

- Background:
 - Provide a summary of the current consented site operation and the proposals;
 - Detail current planning consents and any restrictions/HGV routeing agreements; and
 - Summarise and pre-application discussions.
- Existing Conditions:
 - An audit of the site location and existing local highway conditions;
 - A review and summary of baseline traffic data; and



- A detailed review of the latest personal injury accident data would be undertaken in order to determine any existing highway issues.
- Existing Site:
 - Quantify the level of existing and historic traffic generated by the current operation;
 - Clarify existing typical traffic patterns; and
 - Set out the current access arrangements.
- Proposed Development Operation:
 - Forecast the proposed level of site generated daily HGV traffic and how vehicle movements would be spread across the working day;
 - Clarify likely traffic distribution patterns;
 - Consideration of proposed internal layout, parking provision and access arrangements; and
 - Confirmation of any proposed mitigation/management measures and good practice operations.
- Consideration of Impacts:
 - Consider the implications of the proposals in terms of traffic impact; and
 - Consider the impacts of the proposals in terms of highway safety.

The Transport Statement will be appended to the EIA Report.

7.0 Planning Policy and Guidance

The Town and Country Planning (Scotland) Act 1997, as amended, requires that in determining applications for planning permission a Planning Authority must act in accordance with the development plan, unless material considerations indicate otherwise. Within the EIA Report, a planning policy chapter will briefly set out the policy context.

A Planning Statement will also accompany the planning application and will provide an assessment of the extent to which the proposed development accords with the development plan policies and other material considerations.

7.1 The Development Plan

The Development Plan for the proposed development comprises:

- National Planning Framework 4 (NPF4) (2023);
- Fife Local Development Plan (FIFEPlan) as adopted on 21 September 2017; and
- supplementary guidance adopted in connection with the FIFEPlan.

A number of Supplementary Guidance documents on a variety of topics have been adopted, however, only one: 'Minerals' is considered relevant to the proposed development.

7.1.1 National Planning Framework 4

NPF4 supports the sustainable management of resources and seeks to ensure sufficient resources are available to meet industry demands and support the Scottish economy, whilst minimising the impacts of extraction of minerals on communities and the environment.

The key minerals policy is Policy 33 which states at part (d) that "*development proposals for the sustainable extraction of minerals will only be supported where they*" meet a number of



criteria for the protection of the environment and amenity, and include a scheme for a high standard of restoration.

The quarry extension design and EIA will consider the Policy 33 (d) criteria, and discussion of the proposed development's compliance, or otherwise with those criteria will be given in the Planning Statement.

NPF4 is intended to be read as a whole, therefore consideration will also be given to the other relevant policies within the quarry extension design and the EIA.

7.1.2 FIFEPlan

The key FIFEPlan policy is: '*Policy 15: Minerals*' which seeks to manage the environmental and cumulative impacts of minerals extraction to achieve a balance between the safeguarding and responsible extraction of workable minerals and environmental protection. The policy outlines the relevant considerations as follows:

"Development proposals for the extraction of minerals, coal bed methane, shale gas, or coal bed gasification, including associated infrastructure, will only be supported where they:

- 1. do not result in an unacceptable impact on communities, the environment, or the economy;*
- 2. provide for restoration and aftercare to a high standard, including the provision of an appropriate guarantee, such as bonds or other financial guarantees; and*
- 3. in the case of aggregates, facilitate a minimum 10 year landbank of permitted reserves for construction aggregates at all times in all market areas." ...*

"Extensions to existing quarries will be preferred to establishing new quarries.

An appropriate buffer zone between site boundaries and settlements must be provided to safeguard the amenity of houses and occupied properties."

Other LDP policies which will be considered include:

- Policy 1: Development Principles;
- Policy 3: Infrastructure and Services;
- Policy 7: Development in the Countryside;
- Policy 10: Amenity;
- Policy 12: Flooding or the Water Environment;
- Policy 13: Natural Environment and Access; and
- Policy 14: Built and Historic Environment.

7.1.3 Material Considerations

Key material considerations will include the following Planning Advice Notes (PAN):

- PAN50 Controlling the Environmental Effects of Surface Mineral Workings;
- PAN 64: Reclamation of Surface Mineral Workings (2002); and
- PAN 1/2013: Environmental Impact Assessment (2013).

Other PANs will be referred to as relevant in the technical topic chapters of the EIA Report.

8.0 Planning Application

The planning application will comprise the following:



- Application forms and certificates;
- Application drawings, likely to include:
 - Site Location;
 - Application Site;
 - Site Context (aerial photograph);
 - Designations;
 - Existing Site;
 - Phases ;
 - Cross-sections;
 - Restoration Plan;
- Planning Statement;
- Pre-Application Consultation Report;
- Non-Technical Summary (NTS);
- EIA Report, comprising:
 - Chapter 1 – Introduction;
 - Chapter 2 - Site and Surroundings;
 - Chapter 3 – Proposed Development;
 - Chapter 4 – Approach to EIA;
 - Chapter 5 – Planning Policy and Guidance;
 - Chapter 6 – Need and Alternatives;
 - Chapter 7 – Air Quality;
 - Chapter 8 – Geology and Soils;
 - Chapter 9 – Landscape and Visual;
 - Chapter 10 – Noise;
 - Chapter 11 - Vibration;
 - Chapter 12 – Water Environment;
 - Chapter 13 – Other Issues.

The EIA Report Chapters will have supporting appendices and drawings as appropriate. The Other Issues Chapter will pull together summaries of the environmental topics where significant effects are not anticipated and therefore EIA is not warranted. This Chapter will be supported by:

- Heritage Environment Desk Based Assessment;
- Ecological Appraisal and Protected Species Survey Report; and
- Transport Statement.





Appendix A Drawings

Balmullo Quarry EIA Scoping Report

Proposed Lateral Extension and Periodic Review

Breedon Trading Limited

SLR Project No.: 428.013010.00001

17 April 2024

341250

341500

341750

342000

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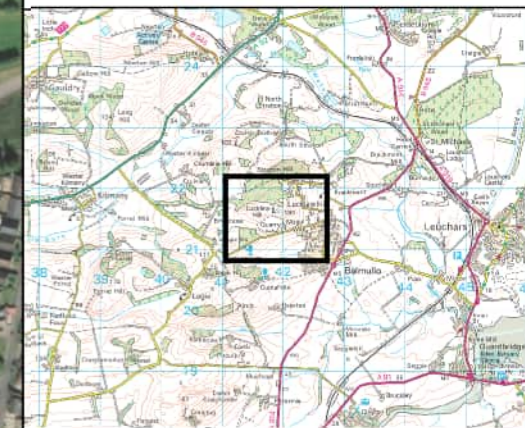
721250

428.013010.00001.0002.2 SCO-01 Site Context



LEGEND

- Site Boundary
- Land in Control of Applicant
- Existing Quarry
- Quarry Extension Area



BALMULLO QUARRY EXTENSION
 EIA SCOPING
 SITE CONTEXT
 SCO-01



Scale 1:5,000 @ A3 Date APRIL 2024

341500

341750

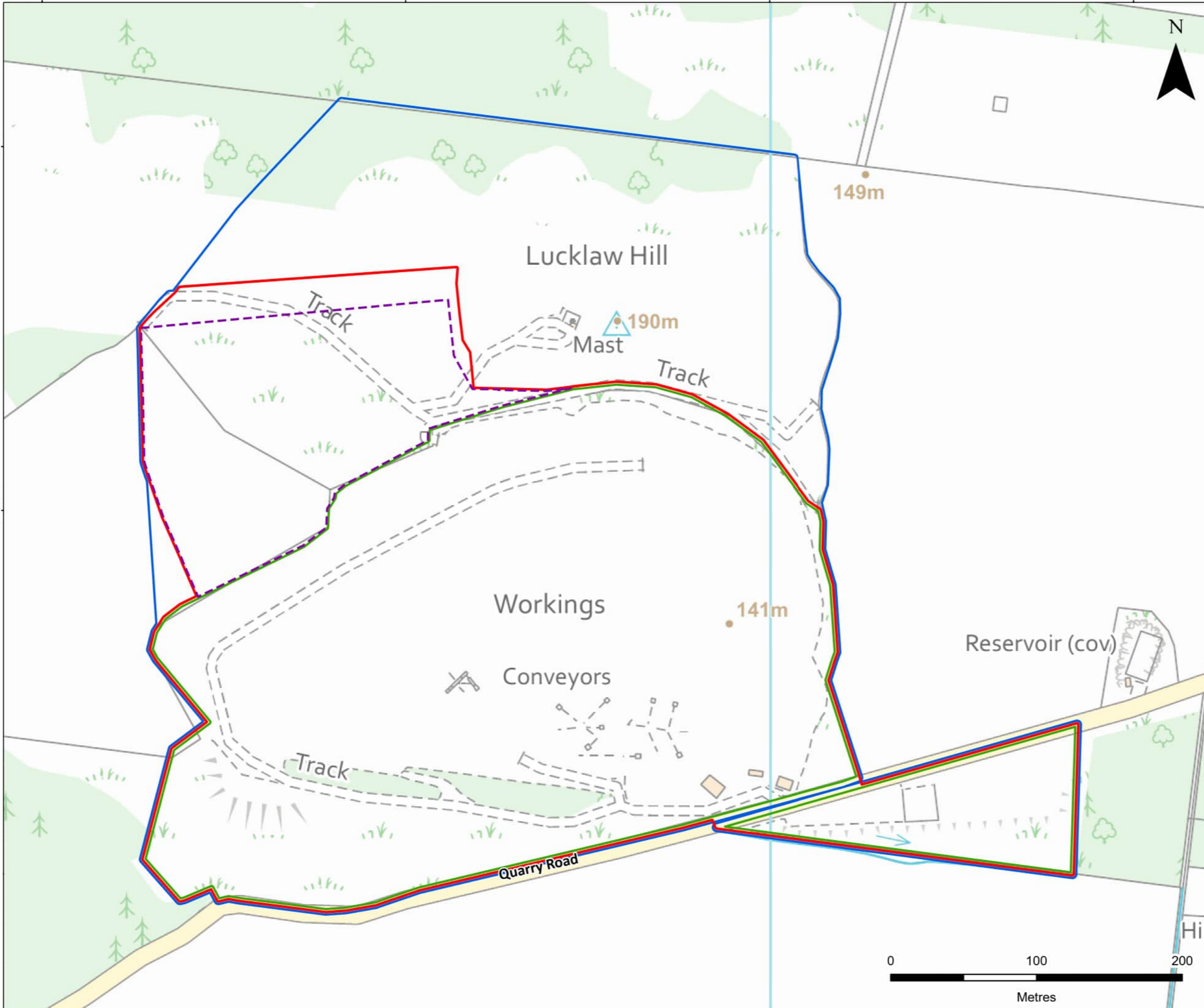
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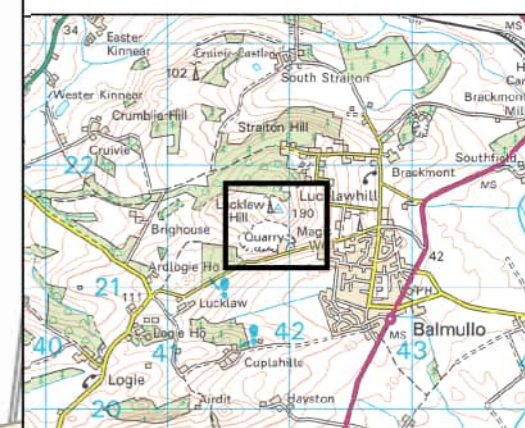
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428.013010.00001.0003.2 SCO-02 Site Location

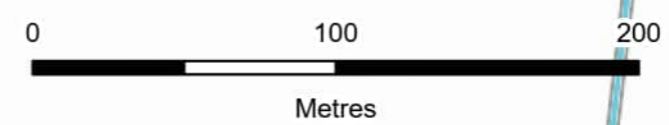


LEGEND

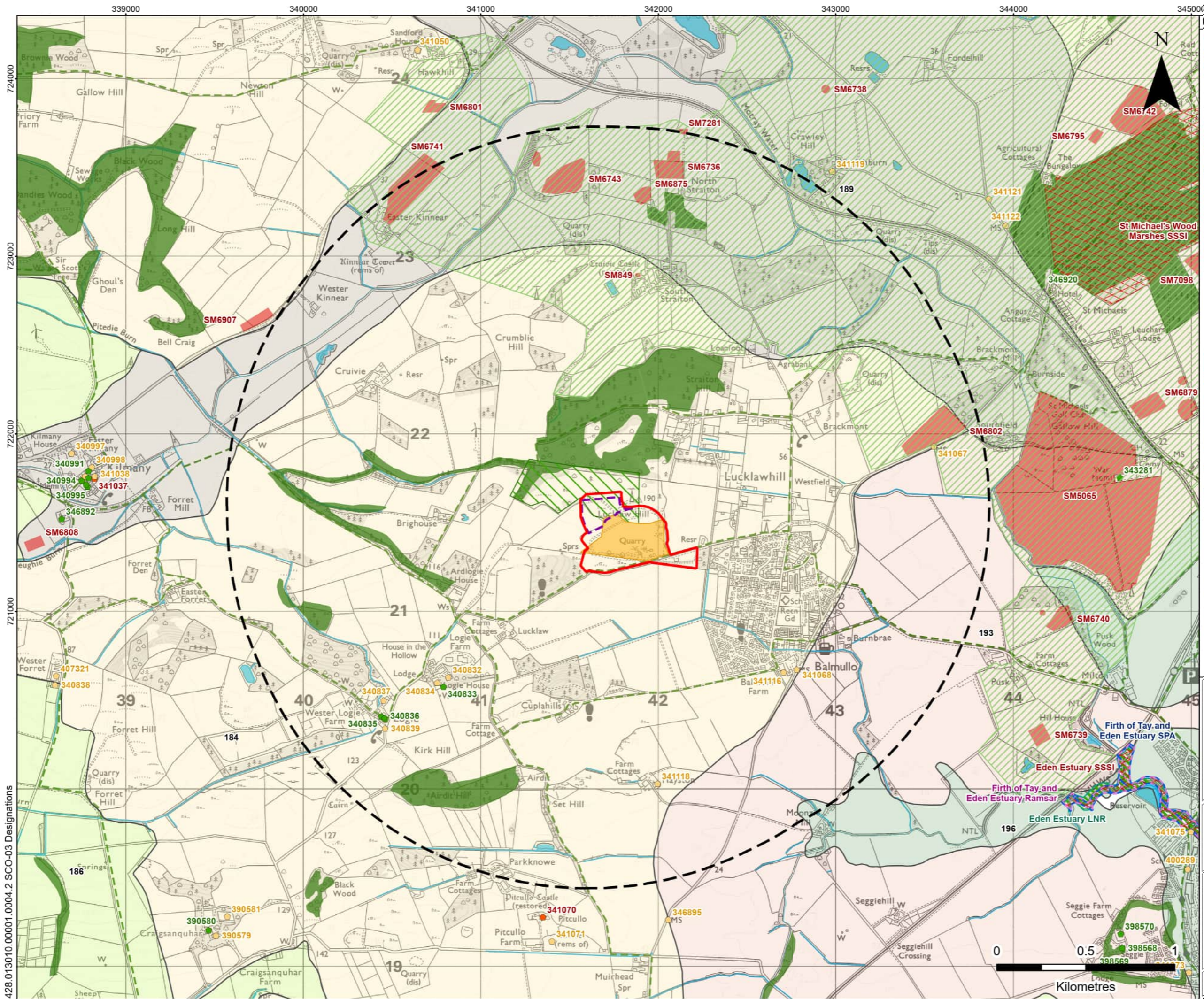
- Site Boundary
- Land in Control of Applicant
- Existing Quarry
- Quarry Extension Area



BALMULLO QUARRY EXTENSION
 EIA SCOPING
 SITE LOCATION
SCO-02



Scale 1:2,500 @ A3 Date APRIL 2024



- LEGEND**
- Site Boundary
 - Quarry Extension Area
 - Quarry Extension Area 2 km Buffer
 - Ecology Designations**
 - Ramsar
 - Special Protection Area (SPA)
 - Site of Special Scientific Interest (SSSI)
 - Local Nature Reserve (LNR)
 - Ancient Woodland
 - Wildlife Site (Within 2 km)
 - Cultural Heritage Designations**
 - Listed Building Category A
 - Listed Building Category B
 - Listed Building Category C
 - Scheduled Monument
 - Regionally Important Geological Site (Within 2 km)
 - Area of Archaeological Regional Importance (Within 2 km)
 - Waterbody
 - Watercourse
 - Corepath
 - Landscape Character Assessment**
 - 184: Foothills - Fife
 - 186: Lowland Hills and Valleys
 - 189: Lowland Valley - Fife
 - 193: Coastal Terraces - Fife
 - 196: Coastal Flats - Fife





BALMULLO QUARRY EXTENSION

EIA SCOPING

DESIGNATIONS

SCO-03

Scale 1:20,000 @ A3
Date APRIL 2024

428.013010.00001.0004.2 SCO-03 Designations

