

AGENDA ITEM 6

APPENDIX 3

2018/0151/DET

SUPPORTING STATEMENT AND EIA REPORT



PLANNING APPLICATION FOR THE RECOMMENCEMENT
OF MINERAL EXTRACTION AND FOR AN EXTENSION

AT

DALWHINNIE QUARRY, DALWHINNIE



**VOLUME 2: PLANNING FORMS & CERTIFICATES,
SUPPORTING STATEMENT AND ENVIRONMENTAL
IMPACT ASSESSMENT REPORT**

March 2018

**PLANNING APPLICATION UNDER THE TOWN AND COUNTRY
PLANNING (SCOTLAND) ACT 1997 FOR THE RECOMMENCEMENT
AND AN EXTENSION**

AT

DALWHINNIE QUARRY, DALWHINNIE

**VOLUME 2 – PLANNING FORMS,
SUPPORTING STATEMENT AND
ENVIRONMENTAL IMPACT ASSESSMENT REPORT**

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**PRE APPLICATION
CONSULTATION REPORT**

Chapter 1.0
Introduction

1.0 INTRODUCTION

Dalwhinnie Quarry is located approximately 1km to the north of Dalwhinnie as illustrated on Drawing **RG547/PA/F/01**. A quarry in some form has been at this location for nearly 150 years, as illustrated on the First Edition Ordnance Survey map of 1873. More recently the quarry has been operational intermittently since 1999 under various planning permissions, the latest being planning permission reference 07/309/CP, which expired on the 4 August 2016.

The relative success of the quarry over this period during which aggregates were supplied into several local contracts including the construction of the Beauly-Denny line has encouraged Letihs (Scotland) Ltd (the Applicant) to acquire a legal interest in the site.

The Applicant proposes to recommence extractive operations at Dalwhinnie Quarry in addition to applying to the Council for an extension to the area previously permitted under planning permission reference 07/309/CP. The proposed application area (referred to hereafter as 'the Site') is identified on Drawing **RG547/PA/F/02**.

1.1 Land Ownership

The Site is under the ownership of [REDACTED]. The Applicant has entered into a mineral lease with Mr. Findlay for the extraction of mineral within the Site.

1.2 Planning Background

Planning permission for a quarry development at this location was first granted in 1999 since which time several future permissions have been granted, the most recent expiring in August 2016.

Over this period the aggregates produced at the quarry have been used in numerous construction projects both within and out with the National Park boundary. In total it is estimated that up to August 2014 approximately 300,000 tonnes have been extracted from the Site.

The provision of a quarry at this location will provide significant environmental advantages through providing a source of high quality construction materials into local construction projects, significantly reducing haulage distances and associated vehicle emissions in comparison to sourcing materials from existing facilities.

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Chapter 2.0
Development Proposals

2.0 DEVELOPMENT PROPOSALS

The proposals entail developing the existing quarry in a northerly and easterly direction. Extraction will be undertaken on a phased basis with overburden and soils stored around the perimeter of the quarry void. In order to mitigate any potential visual impact the existing overburden storage will be re-profiled to a shallower angle and all future storage will be no higher than 5 metres and the outward facing slopes will be formed at a grade of 1:3 and soiled.

The phasing has been designed to ensure that the bund towards Dalwhinnie is formed first so that the vegetation on the bund has maximum time to develop. It is proposed to transplant the existing heather vegetation from areas being stripped onto the current and future formed bunds. This will ensure that the vegetation covering the bunds replicates the existing ground cover in order to help assimilate the storage bunds into the local landscape.

This will help reduce visual impact and will ensure all future work takes place behind this bund, ensuring no close distance views are afforded of crushing, processing, stockpiling and loading of HGVs being carried out within the quarry void.

A suite of Drawings **RG547/PA/F/03** to **05** inclusive including cross sections Drawing **RG547/PA/F/07** have been provided to give an indication of the progressive development of the Site. The anticipated average annual output from the Site will be 70,000 tonnes per annum (tpa). Reserves within the quarry are estimated at approximately 2.5 million tonnes.

To ensure a precautionary ('worst-case') assessment is provided, the accompanying Environmental Impact Assessment report (EIAr) has been based on an extractive rate of 70,000 tpa.

2.1 Phase 1

Initially an office, weighbridge and ancillary facilities will be located within the current quarry void area. Rainwater has collected within the quarry void and will therefore have to be pumped out before mineral extraction can recommence.

The existing screening bund around the current quarry void is not in keeping with the landscape and as a consequence the Applicant will reduce the height of the highest parts of the bunds and re-profile the slopes to an angle no greater than 1:3. Once the bunds have been re-profiled turf containing heather stripped from the proposed extraction area will be transplanted on to the bunds. This will ensure that the bunding will reflect the local landcover and when viewed from the south, mirror the shallow slopes of Cathar Mor to the north of the glen and Dalwhinnie village.

Quarrying operations will continue where the previous operator ceased and the quarry will be extended to the east and north, as illustrated in Drawing **RG547/PA/F/03**. The soils stripped will be placed in a peripheral screening bund and capped with stripped turfs from the Site.

It is anticipated that Phase 1 will yield approximately 925,000 tonnes of mineral, taking an estimated 13 years to complete.

2.2 Phase 2

Operations will continue with the quarry face progressing in a northerly direction. The soils storage bunds formed during phase 1 will be extended utilising soils stripped during phase 2. The practise of capping the bunds with locally stripped heather turfs will continue.

The proposed landform at the end of Phase 2 is illustrated in Drawing **RG547/PA/F/04**.

It is anticipated that Phase 2 will yield approximately 800,000 tonnes of mineral, taking an estimated 11 years to complete this phase of extraction.

2.3 Phase 3

Final extraction (Phase 3) will entail the quarry faces extended in a northerly direction. As with the previous 2 phases of extraction the soils bund around the periphery of the Site will be extended around the periphery of the extraction area and formed at a gradient not greater than 1:3, finally capped with the locally stripped heather turfs.

The proposed landform at the end of Phase 3 is illustrated in Drawing **RG547/PA/F/05**.

It is anticipated that Phase 3 will yield approximately 775,000 tonnes of mineral, taking an estimated 11 years to complete this phase of extraction.

All crushing, processing, stockpiling and loading of HGVs will take place on the quarry floor within the quarry void.

2.4 Plant and Machinery

The rock will be extracted by drilling and blasting to create a blast pile. Rock from the blast pile will be loaded directly into a primary jaw crusher by tracked excavator. Further processing will utilise a tertiary cone crusher and mobile screening plant. The configuration of the crushing and screening plant will be determined by the aggregates to be produced. Aggregates will be stockpiled within the quarry void prior to sampling, testing and despatch. All mobile crushing and screening plant will be sourced from the Applicant's mobile plant fleet.

2.5 Operating Hours

It is proposed that the quarry continues to be worked in accordance with the hours stated in the previous planning permission, those being:

	Open	Close
Monday to Friday	7.00am	6.00pm
Saturday	7.00am	2.00pm
Sunday	No Quarrying Activities Permitted	

No quarrying will be permitted out with these hours without prior written approval of the Council.

Maintenance would be carried out, only if required, on Saturday afternoons and Sunday mornings.

Chapter 3.0
Conceptual Restoration Plan

3.0 CONCEPTUAL RESTORATION DESIGN

Restoration will be undertaken in accordance with a detailed scheme to be agreed in consultation with The Highland Council, the National Park and SNH. The objective will be to restore the Site to an end use beneficial to ecology.

The restoration landform aims to soften the regular quarry extraction faces as far as possible and to help assimilate the Site within the local landscape, as illustrated in Drawing **RG547/PA/F/06**.

This will be achieved by re-grading the quarry floor and by the use of available quarry derived restoration fill materials (utilising the material stored around the periphery of the quarry) which will be placed against the worked out quarry faces in order to provide shallower slopes into the water body and therefore providing a variety of habitats within the Site. One vertical face will be left along the northern side of the Quarry to provide habitat that may be suitable for cliff nesting bird species such as raptors.

The quarry bund will be reinstated to the original ground level and sown with a species-rich acid grassland seed mix, however, where possible the turf from the outer face of the bund will be used in preference to planting.

As the Quarry has been shown to fill naturally with rainwater and run-off it is proposed to allow the remaining quarry void to fill with water seasonally as nature dictates following the re-grading of its sides to provide the desired shallower slopes into the water. This may benefit species such as Common Gull, Common Sandpiper, Oystercatcher, and other bird species associated with water as well as a range of invertebrate species. With the potential for use by such species it is not proposed to seed much of the shoreline of the seasonal water body but to allow it to colonise naturally, the remaining shoreline may be sown with a short-growing species-rich seed mix that reflects this type of habitat in the wider area, or may be left to colonise naturally.

The original restoration proposal for the Site included for the creation of a peninsula, however, following the advice of the ecologist it is now proposed to replace the peninsula with a moderately large island with shallow margins into the water and a sheltered bay. This would provide species such as Common Gull and other ground nesting birds associated with water the opportunity to nest safely beyond the reach of casual predators such as Fox, although it will not deter predators such as Otter.

The island will be sown with a species-rich acid grassland seed mix or similar as appropriate for the final soil chemistry and pH.

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Chapter 4.0
Management of Extractive Waste

4.0 MANAGEMENT OF EXTRACTIVE WASTE

The European Union Directive 2006/21/EC on the management of waste from the extractive industries (the Mine Waste Directive "MWD") sets out requirements for the management of material such as overburden, rock, and process wastes, arising from the prospecting, extraction, treatment and storage of mineral resources and the working of mines and quarries.

The Scottish Government has transposed the MWD through the Planning System in The Management of Waste from Extractive Industries (Scotland) Regulations 2010 "The MWD Regulations". The requirements imposed by the MWD Regulations are dependent on the characteristics of the waste material at individual sites and also the manner and length of time for which it is to be stored.

The development has been carefully planned to ensure the appropriate utilisation of soils and overburden in accordance with the aims of the MWD Regulations. This also limits the materials and activities subject to the regulations. The management of soils and overburden for compliance with the MWD Regulations is detailed in the tables and plans contained in Appendix 1.

Accordingly, the Applicant seeks agreement with the local authority to waive any further requirements of The Management of Extractive Waste (Scotland) Regulations 2010 in respect of soils and overburden at the Site.

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Chapter 5.0
Environmental Impact Assessment Report
Legislative Background & Scope of Works

5.0 ENVIRONMENTAL IMPACT ASSESSMENT REPORT – LEGISLATIVE BACKGROUND & SCOPE OF WORKS

An Environmental Impact Assessment (EIA) is a means of drawing together, systematically, an assessment of a project's likely significant environmental effects. This helps to ensure that the predicted effects, and the scope for reducing them are properly understood by the public and the relevant competent authority before it makes its decision.

In carrying out EIA reference is made to the following documents:

- i) The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017.**
- ii) Planning Circular 1 2017 - The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017.**
- iii) Planning Advice Note 1/2013 – Environmental Impact Assessment.**

5.1 The Need for EIA

The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 (the Regulations) specify the developments for which an EIA is or may be required. That is:-

- i) Development that falls within a relevant description in Schedule 1 of the Regulations always requires an EIA. Referred to as Schedule 1 development.**

With respect to quarries this is appropriate where the surface of the site exceeds 25 hectares.

- ii) Developments of a type listed in Schedule 2 of the Regulations. Referred to as Schedule 2 development, where the provision of an EIA is discretionary.**

If a quarry development is less than 25 hectares in size it is at the discretion of the Planning Authority whether by virtue of the size, scale and duration of the working and the likely consequential impacts of matters such as traffic, noise and vibration and that an EIA is required.

The Site area is 15.1 hectares and as a consequence is a Schedule 2 development. A request was therefore made to The Highland Council to adopt a formal Screening Opinion was made on the 25 July 2017. On the 30 August 2017 The Highland Council confirmed that the planning application would require to be supported by an Environmental Impact Assessment.

5.2 Carrying out an EIA

The main aim of the EIA Directive is to ensure that the authority granting consent (the 'competent authority') for a particular project makes its decision in full knowledge of any likely significant effects on the environment. The Directive therefore sets out a procedure that must be followed for certain types of project before they can be given 'development consent'. This procedure - known as Environmental Impact Assessment or 'EIA' - is a means of drawing together, in a systematic way, an assessment of a project's likely significant environmental effects. This helps to ensure that the importance of the predicted effects, and the scope for reducing any adverse effects, are properly understood by the public and the competent authority before it makes its decision.

EIA is a process, as defined in Regulation 4 of The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017. Where EIA is required, the following broad stages apply:

- a) The developer must compile detailed information about the likely significant environmental effects. The information compiled by the developer is known as an EIA report.
- b) The EIA report (and the application to which it relates) must be publicised. The consultation bodies and the public must be given an opportunity to give their views about the development and the EIA report.
- c) The competent authority must examine all the environmental information, including the EIA Report and any comments and representations received, and must reach their reasoned conclusion on the significant effects of the development on the environment.
- d) The environmental information, and the conclusions reached, must be taken into account by the competent authority in determining the application. The authority must also consider whether any monitoring measures are appropriate.
- e) The competent authority must inform the public and the consultation bodies of the decision and must publish a 'decision notice' which incorporates the authority's reasoned conclusion on the significant effects of the development on the environment.

5.3 Determining the Scope of the EIA

There is no statutory provision as to the form of an EIA report but it must constitute a 'single and accessible compilation'. The EIA Report must therefore 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. 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.

The EIA Report is the main output from the environmental impact assessment process. That process must identify and assess, in an appropriate manner, in light of the circumstances relating to the proposed development, the direct and indirect significant effects of the proposed development on a number of factors and the interaction between these factors (Regulation 4(2) and (3)). The factors are:

- a) Population and human health;
- b) Biodiversity, and in particular species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC;
- c) Land, soil, water, air and climate;
- d) Material assets, cultural heritage and the landscape. The effects to be identified, described and assessed must include the expected effects deriving from the vulnerability of the development to risks, so far as relevant to the development, of major accidents and disasters (Regulation 4(4)).

The description of likely significant effects should, in addition to the direct effects of a development, also cover the indirect, secondary, cumulative, transboundary, short-term, medium-term, long-term, permanent and temporary, positive and negative effects. These are comprehensive lists, and a particular project may of course give rise to significant effects, and require full and detailed assessment, in only one or two respects.

The content of this EIAr is guided by the Scoping Response received from The Highland Council on the 20 November 2017, a copy of the Scoping Response is included as Appendix 2.

Those issues identified as being unlikely to be significantly affected by the proposed development will not be afforded the same degree of importance, focus and analysis within the EIA process as those considered as key. This approach is intended to produce a concise and focused EIA Report.

5.4 Consideration of Alternatives

Alternative approaches to the development have been considered in accordance with the requirements of the Regulations. The Applicant has identified a dormant mineral site which is ideally located in close proximity to the A9 to provide a local source of aggregate to its clients.

The Site will provide long term employment and will make a substantial contribution to the local economy by virtue of staff salary payments, the purchase of local goods and services required to run the Site and the payment of local authority rates.

All the potential impacts of the proposed development have been assessed and it is considered that any negative impacts can be satisfactorily mitigated and that the Site is capable of being developed in accordance with the criteria detailed within PAN 50.

The proposals outlined in this application comprise of the reopening of an existing quarry and an extension to it. The quarry and extension area is known to contain a proven mineral resource with the Site already disturbed by earlier phases of quarrying operations. The Site also benefits from being relatively secluded with natural topography providing a screen of the extractive operations.

Restoration proposals will have the potential to create a site which will complement and enhance the local biodiversity, where currently the existing quarry void has been abandoned with the previous operator undertaking no restoration works.

The design of the development has considered and incorporated recommendations following the EIA. The development is designed to maximise the mineral resource while ensuring the rock is extracted in a manner that is consistent with the Quarries Regulations 1999 and minimises the impact on the environment.

5.5 Assessment of Need

For ease of reference Policy 10 'Resources' is contained within Chapter 11 of the Cairngorms National Park Local Development Plan 2015 and for ease of reference it reads as follows;

Chapter 11

Resources

What the policy aims to do

11.1 Reducing our consumption and protecting our limited resources is integral to conserving what is important about the Park, and helping our communities adapt to a lower carbon way of living. This stretches from the need to protect the resources that exist, to facilitating development in a way that minimises any negative impacts and promotes positive improvement to the environment, and also ensures protection of public health in so far as it is impacted by the development process.

Wherever possible the proximity principle should apply meaning that transporting aggregates incurs significant environmental, social and economic costs so as a general rule, they should be produced as near to the point of use as possible.

As can be seen from drawing reference RG547/PA/F/08 the nearest competing quarries are at road haulage distances of 30-50km from the Site and as it is the case that aggregates are generally transported no further than 30km the further development of the Site represents an opportunity to continue to meet the needs of the construction industry with reduced road haulage and CO₂ emissions that would otherwise be required if aggregates were to be sourced from the existing quarries.

11.2 The resources that exist are, in many cases, a result of millions of years of geological activity and their protection is important not only because of their finite nature, but also the role they play in helping to create the landscapes we value today. Some resource Management is the result of more recent activity, most notably waste and contaminated land.

No comment required

11.3 The policy aims to reduce the overall resource use and footprint of the National Park, protect resources where appropriate and ensure we use and manage natural resources in an effective way. It will protect what is important about our resources, while facilitating the appropriate development in ways which create a net positive outcome. It complements legislative obligations beyond the planning act, and allows sufficient flexibility to adapt to changes and developments in technology and research associated with the protection and exploitation of resources.

This application seeks permission to continue to develop a quarry at this location which has over many years successfully supplied construction projects and in so doing demonstrated an ability to meet the needs of the market both in terms of quality and price whilst delivering environmental benefits in terms of reduced road haulage.

Policy 10: Resources, clause 5 details the criteria which future mineral development is required to meet.

Development to exploit mineral reserves will only be considered favourably where:

- a) The developer can demonstrate the market within the Cairngorms National Park where the mineral will be used to provide other social or economic benefit.*

As is noted within the application, extraction from this site has taken place over many years and probably with greater consistency following the first grant of planning permission in 1999. Since this time several further permissions have been granted, the most recent of which expired in August 2016.

Since 1999 the aggregates produced at the Site have been used in numerous construction projects both within and out with the Park boundary. In total it is estimated that circa 300,000 tonnes have been extracted from the Site over this period.

Transport costs represent a very significant factor in determining the economic viability of a quarry with the majority of aggregates generally being sold within a 30km radius of the source quarry. In this case the nearest competing quarries are at a distance in excess of this and therefore continuing to develop the Site will ensure robust competition and competitive pricing whilst simultaneously delivering environmental benefits in terms of reduced road haulage and CO₂ emissions.

A quarry development at this location will provide direct and indirect employment, and through purchase of services and goods locally will support the local economy.

b) there are no environmental impacts; and

A detailed environmental impact assessment report has been prepared and all environmental impacts identified within the scoping opinion produced by the Highland Council have been addressed and it is considered that all impacts can be satisfactorily mitigated.

c) The material furthers conservation or restoration of the distinctive landscape character and built environment of the park; and

The quarry will produce aggregates for a wide variety of uses in the construction industry. In addition to which stone will be available for use as walling stone or further shaping/dressing for vernacular building repair.

However, the site is well established, is not within any designated area and with appropriate mitigation, control mechanisms and monitoring there will be no significant adverse effects on any heritage interest.

In addition, the restoration of the site at the cessation of quarrying may offer opportunity for enhancing the natural heritage of the area. Furthermore, the programme of archaeological works proposed to record detailed surveys of the WWII ROC observation post and the Cold War ROC observation post and subsequent report production will add to the body of local knowledge of these features and their role played in the historic environment. It should also be noted that the ROC observation post close to the quarry entrance will be protected and preserved.

d) Full restoration details are incorporated as part of the proposal; and

A conceptual restoration scheme has been submitted as part of the application and it is anticipated that a condition would be imposed upon any grant of consent requiring further details to be submitted for approval by the planning authority nearer to the date of cessation of the works.

e) No suitable and reasonable alternatives to the material are available

As has already been stated, since the first grant of planning permission at the Site circa 300,000 tonnes of aggregates have been extracted. This level of output has been possible because the Site is;

- Able to produce good quality aggregates which meet the relevant specifications for a range of purpose within the construction industry.
- Strategically well located adjacent to the A889 and close to the A9 affording opportunity to service the market to the north, south and west.

Drawing no. RG547/PA/F/08 has been prepared to illustrate the location of the Site and its proximity to the nearest operational quarries. These quarries are identified within the Highland Council Minerals Audit 2015/16 although it should be noted that Gleann Laogh is in fact a forest borrow pit used for forestry purposes only.

This application seeks permission to continue to develop a quarry at this location which has over many years successfully supplied construction projects and in so doing demonstrated an ability to meet the needs of the market both in terms of quality and price whilst delivering environmental benefits in terms of reduced road haulage and CO₂ emissions.

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Chapter 6.0
Environmental Impact Assessment Report

6.0 ENVIRONMENTAL IMPACT ASSESSMENT REPORT

6.1 Project Team

In order to carry out the EIA Johnson Poole & Bloomer has augmented its expertise where necessary and formed a project team. This project team therefore comprises:-

Johnson, Poole & Bloomer Ltd.	Minerals Planning Quarrying Air Quality Assessment Traffic Statement Landscape and Visual Impact
MNV Consulting Ltd.	Hydrology and Hydrogeology Peat Assessment
Vibroch Ltd.	Blasting and Vibration Assessment Noise Assessment
Acorna Ecology Ltd.	Ecological Impact Assessment
Rathmell Archaeology Ltd.	Historic Environment

6.2 Environmental Impact Assessment Report Summary

The following provides a summary of the EIA findings;

6.2.1 Air Quality Assessment (Chapter 7.0)

An assessment into the potential impacts of quarrying upon the local air quality has been undertaken.

The assessment reviewed the prevailing meteorological conditions at the Site, the risk of dust emissions, and the proximity of sensitive receptors to determine the potential impact of dust on local amenity. Mitigating measures have then been recommended to minimise the potential dust impacts from the Site in accordance with guidance provided by *Planning Advice Note 50, Annex B. 'The Control of Dust from Surface Mineral Workings'*.

The assessment concluded that due to receptor distance/sensitivity, local topography, and the meteorological conditions in the area, these factors minimise the potential for dust impacts to result from the proposed development. This together with the employment of best practice methodology will ensure impacts are minimised as far as practicable.

With regards to plant and vehicle emissions the policy on air quality is set out in the Air Quality Strategy (AQS) for England, Scotland, Wales and Northern Ireland July 2007. The AQS sets out a framework for reducing hazards to health from air pollution and ensuring that international commitments are met in the UK. Several of the objectives in the AQS are made statutory in Scotland by the Air Quality Standards (Scotland) Regulations 2010.

The Air Quality (Scotland) Amendment Regulations 2002 defined the air quality objectives with an annual mean concentration for PM10 is not to exceed 18 µg/m³ and a 24hour mean not to exceed 50 µg/m³ more than 7 times a year.

The background PM10 data from 2015 for the site area has an average PM10 concentration of 5.273µg/m³. The maximum background concentration for PM10 is 5.348µg/m³.

The background PM10 data from 2015 for the Dalwhinnie area has an average PM10 concentration of 5.471µg/m³. The maximum background concentration for PM10 is 5.701µg/m³.

To ensure worst case scenario, following reopening of Dalwhinnie quarry a process contribution of 5µg/m³ for PM10 has been applied based on the guidance given in Local Air Quality Management Technical Guidance LAQM.TG(03), DEFRA 2003.

This results in a maximum Predicted Environmental Concentration of 10.348 µg/m³ in the area where the quarry is located and a maximum Predicted Environmental Concentration of 10.701 µg/m³ in Dalwhinnie Village.

With the low background concentrations of PM10 in the Dalwhinnie area, the operations proposed at the quarry and the rock type being extracted, there is very little potential for site operations to cause a breach of either the 24-hour or annual objectives for PM10.

The vehicles and plant used within Dalwhinnie quarry will be diesel powered. Improved fuel quality standards and European vehicle emission limits have helped reduce the emissions from diesel engines as fitted to HGV's and quarry plant. Quarry plant is increasingly being fitted with diesel particulate filters and fuel additive systems to aid the reduction in emissions. All plant is maintained to a high standard in accordance with the manufacturers' recommendations.

As a result overall impacts upon air quality has been assessed as minor, therefore all residual effects are considered to be not significant in the context of EIA guidance.

6.2.2 Hydrology, Hydrogeology and Peat Assessment (Chapter 8.0)

MNV Consulting undertook a hydrological and hydro-geological assessment and a peat depth survey and assessment.

The hydrological survey showed that the dome structure which the quarry will be located on has a natural drainage system where the precipitation drains slowly through the upper soil horizon and into the fractured rock horizon, emerging at the base of the dome to form small watercourses which flow into the surrounding rivers. This natural system appears to be robust with no signs of channelling over the surface and no signs of erosion of the upper soils.

The existing quarry is not operational and without pumping, water accumulates to reach a level slightly below the level of the downhill surface beyond the surrounding bund. This level indicates that the water is draining out of the quarry through the fractured rock horizons. The water in the quarry will rise and fall in response to precipitation but the inflow appears to be balanced by the outflow. When the quarry was operational the water was pumped out to lower the water level. The bund has a low point on the eastern side where the pipes were laid and the water discharged into a trench cut across the slope. There was no sign of overland flow, soil erosion or silt accumulations suggesting that the method for managing water was successful with the vegetation and fractured rock horizon buffering and filtering the discharged water. This therefore appears to be a good method for managing the water in this situation and minimising potential impacts on surrounding environments.

The rivers which exist to the west and east of the development site would be vulnerable if water with high silt content flowed directly into these watercourses. As there are no surface water drainage features over the site, or between the site and the rivers, the water flowing from the development site will be buffered and filtered by the vegetation and soils. The proposed development will therefore have no impact on the water quality or quantity in the rivers surrounding the site.

The potential impacts on surface and sub-surface water features are considered to be negligible when the quarry becomes operational. The proposed method for managing the water in the quarry, i.e. using a float operated pump with water discharged into a soakaway, is considered to be suitable for this situation. This however depends on there being no artificial drainage channels on the dome structure downhill from the quarry so there should be no drainage of the surrounding land. In addition the soakaway should be regularly monitored to ensure the infiltration rate is sufficient to avoid spill and the creation of overland flow. If overland flow is observed then a line of straw bales should be constructed below the soakaway to capture this water.

When the quarry is not operational for periods in excess of 3 months it is planned not to pump water out of the quarry and allow it to fill to its natural level. From observations of the existing quarry, this level will be below the level of the downhill ground adjacent to the site with the water seeping out of the quarry through the fractured rock horizons. It is therefore important to maintain these fractured rock horizons and not create an impermeable barrier on the east and south sides of the quarry.

The risk of flooding caused by the development of the quarry is considered to be negligible as there will be no change to the runoff characteristics of the site. The area of the quarry will increase however there will be no direct runoff from the quarry into any of the surface watercourse in the area. There will be no artificial drainage of the surrounding area and so the natural runoff from this land and into the surface watercourses in the area, will not be affected.

In extreme rainfall conditions the water in the quarry will rise as the water accumulates in the pond area but the pump will be activated in these conditions which will control the water level. To estimate the potential rise of the water in the quarry without any pumping, the area of the new quarry, including the quarry floor and the side slopes, was estimated to be 300,000m² with the area of the quarry floor estimated to be 170,000m². Therefore if 150mm of rain fell in a 24 hour period and all of the water from the total quarry area accumulated on the quarry floor, this would represent a rise in water level of only 26mm. Therefore even in prolonged, heavy rainfall the water in the quarry will not spill out of the quarry and there will be no risk of flooding of the surrounding area and no impact on the neighbouring watercourses.

With these systems in place for managing the water it is considered that there will be no impact on the rivers around the site, including during times of intense rainfall. In addition, there will be no impact on water quantity or quality of the water intakes for the Dalwhinnie Distillery or the SSE hydro scheme.

The potential impacts on any peat deposits are considered to be negligible. The majority of the soils in the development site are shallow with a fibrous structure and little or no decomposition. There are some shallow hollows over the site where water has accumulated and some plant decomposition has occurred, the soils in these hollows could therefore be called peat but the total volume of this material which will be affected by the development is negligible. Therefore due to the lack of peat over the development site, the potential impact on peat is considered to be negligible.

6.2.3 Blast Vibration (Chapter 9.0)

Vibroch Limited undertook an assessment regarding the implications of the proposals with respect to blast induced vibration.

Ground Vibration – Residential Properties

The assessment recommend a criterion for restricting vibration levels from production blasting from the proposed development in order to address the need to minimise annoyance to nearby residents. Accordingly, Vibroch recommends a vibration criterion, for residential dwellings of 6 mms⁻¹ for 95% of events, as detailed in PAN 50 Annex D, as a satisfactory magnitude for vibration from blasting at the Site.

Ground Vibration – Engineered Structures

These receptors are less sensitive to vibration than residential locations and as such it is recommended that the following vibration limits, based on Vibrock's experience is set accordingly:

Rail Bridge	12 mms ⁻¹ at a 95% confidence level
Pylon Bases	30 mms ⁻¹ at a 95% confidence level
Dam	50 mms ⁻¹ at a 95% confidence level

Air Overpressure

Vibrock's considerable past experience of air overpressure measurement and control leads them to the firm conclusion that it is totally impracticable to set a maximum air overpressure limit, with or without an appropriate percentile of exceedances being allowed, simply because of the significant and unpredictable effect of variable weather conditions.

This point is clearly recognised by the Government guidelines issued by the Department of the Environment in MPG 9 and MPG 14, which recommend that the operator should submit methods to minimise air overpressure to the Mineral Planning Authority. They do not recommend an air overpressure limit.

With a sensible ground vibration limitation the economics of safe and efficient blasting will automatically ensure that air overpressures are kept to reasonable levels.

It is therefore recommended that in line with the current best accepted modern practice in the extraction industries that safe and practical measures are adopted that ensure the minimisation of air overpressure generated by blasting at source, considering such factors as initiation technique.

Monitoring and Control

The Applicant should design blasting operations, taking into account the findings of the report.

A programme of blast monitoring should be introduced as part of the control of blasting operations. The results of such monitoring will indicate whether or not there is compliance with the vibration criterion, and they can also be used to continually update the regression analysis and thus provide valuable input to the design of future blasts.

With the above control recommendations implemented and the exercise of reasonable engineering control over quarry blasting operations, it is envisaged that the quarry will work within the vibration criteria and without undue annoyance to local residents.

6.2.4 Ecological Impacts (Chapter 10.0)

Acorna Ecology Ltd. was commissioned in 2013 by JPB Ltd. to complete a suite of protected species surveys and extended Phase I habitat survey for a proposed extension to quarrying at Dalwhinnie Quarry. This extension proposal was then superseded by the current proposal (17/04845/SCOP) for mineral extraction and extension to Dalwhinnie Quarry.

The Ecological Impact Assessment report (EcIA) has been produced based on the findings of the 2013 ecological survey suite carried out by Acorna Associates Ltd. and the 2017 Preliminary Ecological Appraisal suite carried out by EnviroCentre Limited (August 2017) and makes an assessment of the potential ecological impacts that quarrying may result in.

Based on the ecological data collected to date it is considered that the key impacts are likely to be on habitat and breeding birds but no residual impact is considered significant at more than the local level for the permanent localised loss of degraded heath and acid grassland, and the loss of habitat for individual pairs of breeding birds that may be displaced, for which breeding success is not likely to be adversely impacted.

Additionally, the Applicant will ensure that Site Restoration will be undertaken in accordance with a detailed scheme to be agreed in consultation with SNH and the planning authority. The objective will be to restore the Site to an end use beneficial to ecology.

Habitats

Habitats 2013

The survey undertaken in 2013 was only for the extension area proposed at that time as the quarry itself was still operational. The extension area was entirely composed of the Phase I habitat type D6 Wet heath/acid grassland mosaic (Acorna Associates Ltd.).

Had the quarry also been surveyed at that time then the following habitats would also have been recorded (there was no standing water as the Quarry was dry):

- I2.1 Quarry;
- J1.3 Ephemeral/short perennial on the bunded soils around the Quarry
- J2.4 Fence;
- J3.6 Building; and
- J4 Bare ground.

Habitats 2017

A total of seven Phase 1 habitat types, including boundary features, were present within the Site (EnviroCentre):

- D5 Dry heath/acid grassland mosaic;
- G1 Standing water;
- I2.1 Quarry;
- J1.3 Ephemeral/short perennial;
- J2.4 Fence;
- J3.6 Building; and
- J4 Bare ground.

Protected Species

Otter: no evidence of the species was found either in the Site or within 100m of it in 2013 or within 50m of it in 2017.

Badger: no evidence of the species was found either in the Site or within 100m of it in 2013 or within 50m of it in 2017.

Water Vole: no evidence of the species was found either in the Site or within 100m of it in 2013 or within 50m of it in 2017.

Limitations

The findings of both surveys are constrained by the survey buffer zone extents of 100m in 2013 for protected species and 50m in 2017 for protected species. Timing of survey was also a constraint as both surveys were based on only single visits in each year, and the survey in 2017 was too late to gather comprehensive data on breeding birds.

Additional Survey Effort Required Habitats

A Phase II or National Vegetation Classification Survey will be undertaken for the heath/acid grassland habitat in the proposed extension area including a 100m buffer around this. This will be completed between April and July 2018. Additionally, a Ground Water Dependent Terrestrial Ecosystems (GWDTE) survey will also be completed in the spring of 2018.

Protected Species

It is recommended that a Site walkover is undertaken to check for evidence of Otter at the Site, given the current flooded status of the quarry.

Breeding Birds

With the lack of current relevant data a series of monthly breeding bird surveys will be undertaken between late April and June 2018. This will provide essential information on potential territory losses and impacts on home ranges of breeding birds that can be input into the planning process. It is also proposed to update the breeding bird survey prior to the start of each new phase of quarrying.

Conclusions

When the recommended Compensation and Enhancements are taken into consideration the overall impact of the proposed quarrying on the key ecological constraints is reduced to an acceptable level for breeding birds, and key species of plants. The assessment therefore concludes that any potentially significant ecological impacts can be met and reduced to acceptable levels.

6.2.5 Traffic and Transport (Chapter 11.0)

A Traffic Statement has been prepared and informed from Highland Council Transport Planning Team's pre application scoping comments and pre application discussions with Transport Scotland in December 2017.

The statement identifies that the majority of the mineral extracted will be transported by HGV's with a load carrying capacity of 20 tonnes. Based on an average output of 70,000 tonnes per annum this equates to a worst-case scenario of 2 HGV movements (i.e. 1 HGV arriving and departing the quarry) per hour. In order to assess the preferred route for HGV traffic a route assessment was undertaken.

Route Assessment

As part of the initial route assessment, accident data has been acquired over a 5 year period from 1 January 2012 to 31 December 2016. During which time the quarry was operational under a different operator, until the end of 2013.

No HGVs were involved in accidents along the route over the period that data was available, between the 1 January 2012 and 31 December 2016.

As part of the pre application discussions with Transport Scotland, Transport Scotland commented that:

'Transport Scotland would not object to a renewal of the existing quarry under similar conditions limiting the annual tonnage extracted to 25,000 tonnes. However, to increase this annual tonnage to 70,000 tonnes further work would be required to demonstrate that a vehicle waiting to turn right could be seen at the appropriate stopping distance of 215 metres. It is likely that this would require a long section to be prepared.'

A long section was prepared illustrating the stopping sight distances for both an HGV and car waiting to turn right into the Site.

With regards to an HGV sat waiting to turn right into the Site an HGV, travelling northwards from Dalwhinnie towards the Site, would be able to comfortably see the waiting HGV at a distance of 215m. An HGV waiting to turn into the Site would be visible to a car driver travelling north, at a distance of 201m from the rear of the waiting HGV.

For a car sat waiting to turn right in to the Site the long section identified that an HGV travelling northwards from Dalwhinnie towards the Site would be able to see the waiting car at a distance of 215m. A car waiting to turn into the Site would be visible to another car travelling north at a distance of 182m from the rear of the waiting car. Whilst the applicant proposes an increase in tonnage from the Site, from that previously consented, the number of cars visiting the Site will be in line with the number of cars that would have previously travelled to and from the quarry.

Whilst Transport Scotland state a stopping sight distance of 215m, this is based on the national speed limit (60mph) or a design speed of 100kph assigned to the A889(T). Table 3 of the DMRB TD9/93 stipulates a 'Desirable Minimum' of 215m, with a 'One Step below Desirable Minimum' stopping sight distance of 160m.

For all of the scenarios discussed above all of the stopping sight distances are comfortably greater than the 'One Step below Desirable Minimum' stopping sight distance of 160m.

Potential Traffic Impacts on Existing Road Infrastructure

Using statistical road count data from the Department for Transport it has been concluded that the existing road infrastructure is running within capacity and an additional average of 24 HGVs a day (increasing current daily HGV levels from 72 to 96) as a result of the proposed development, will have an insignificant effect in the context of EIA guidance.

Currently the A889(T) through Dalwhinnie village has a 40mph speed limit. Reopening the quarry would add 2.6% to the overall traffic flow (increasing the average daily HGV traffic level from 72 to 96) if all HGV traffic travels through the village. While this is a small increase in overall traffic numbers Leiths would support the reduction in speed limit to 30mph through the village.

6.2.6 Noise (Chapter 12.0)

Vibrocock Limited undertook an assessment of noise impacts emanating from the proposed operation of the quarry.

A visual survey of the Site was made. Measurements were made in terms of L_{Aeq} , L_{A90} , L_{A10} and L_{Amax} thus enabling the existing noise climate to be characterised.

A series of noise predictions, based upon BS 5228: 2009 and including the assumptions embodied in Section 5 of the report, have been made to two of the closest residential locations around the proposed quarry, plus to a point on the National Cycle Route 7 and to points on the core footpath.

In respect of the residential properties the predicted levels have been assessed against the existing noise level and the criteria given in PAN 50 Annex A. The predicted levels on the National Cycle Route and at the core footpath have been assessed against the public open space criterion in PAN 50 Annex A.

It should be noted that all the predicted noise levels in the report refer to worst-case scenarios, when operations are undertaken at their closest distance / highest topographic position to sensitive receptors and therefore have the greatest influence on the noise levels at these locations. These worst-case noise scenarios may only last for a few weeks or even days throughout the envisaged working life of the proposed extension area.

Allt an t'Sluic Lodge

Existing Ambient Noise Levels

During the survey period the noise sources that contributed to the measured levels were very distant traffic, thought to be originating from the A9 to the south, water flow noise from the Allt an t'Sluic burn that was some 60 m to the south and noise from free roaming turkeys. In addition, when the occasional vehicle arrived at the property the dogs in the kennels barked for a few minutes.

The average weekday daytime background noise level, L_{A90} , was 41 dB, with measurements in the range 40.5 to 41.7 dB(A). The corresponding average weekday daytime $L_{Aeq,2h}$ was 52 dB comprising 15-minute measurements in the range 42.4 to 58.0 dB(A).

Predicted Operational Noise Levels

The level predicted from the initial soil and overburden strip, with associated perimeter mound construction, is 33 dB $L_{Aeq,1h}$, a level significantly below the PAN 50 temporary operation criterion; 70 dB $L_{Aeq,1h}$.

The range of predicted levels from routine operations is 37 to 38 dB $L_{Aeq,1h}$, increasing by 3 or 4 dB(A) during the brief periods when drilling is taking place. All of the predicted levels easily satisfy the 51 dB $L_{Aeq,1h}$ criterion that is derived from the existing background level plus 10 dB, as detailed in PAN 50.

Distillery House, Dalwhinnie

Existing Ambient Noise Levels

Noise audible during the survey period included traffic on the nearby roads, trains, bird song and the maintenance at the distillery. This was particularly noticeable during the final three 15-minute periods.

The average weekday daytime background noise level, L_{A90} , at this receptor was 40 dB, with individual 15-minute measurements in the range 37.6 to 42.5 dB(A). The corresponding average weekday daytime $L_{Aeq,2h}$ was 50 dB with individual measurements in the range 43.3 to 52.6 dB(A).

Predicted Operational Noise Levels

The initial soil and overburden handling work that includes the construction of the perimeter screening mound is predicted to result in a received level of 37 dB $L_{Aeq,1h}$. This easily meets the 70 dB $L_{Aeq,1h}$ limit suggested as being appropriate for such temporary operations in the latest guidance.

Routine operations, which exclude drilling, are predicted to give rise to noise levels of 34 to 35 dB $L_{Aeq,1h}$, which are all below the measured background level. On the limited occasions when drilling is underway, typically 3 to 4 days before each blast, the levels increase to a maximum of 42 dB $L_{Aeq,1h}$, which although slightly higher than the measured average background level is well below the PAN 50 derived criterion of 50 dB $L_{Aeq,1h}$.

National Cycle Route 7

Existing Ambient Noise Levels

A nominal point on the National Cycle Route 7, some 1 km north east of the Dalwhinnie distillery was chosen as a representative location.

The noise sources that contributed to the recorded levels were traffic passing the monitoring location on the minor road, distant traffic on the A9 and occasional train passes.

The average weekday daytime background noise level, L_{A90} , was 42 dB, with measurements in the range 40.3 to 43.5 dB(A). The corresponding average weekday daytime $L_{Aeq,1h}$ was 58 dB comprising 15-minute measurements in the range 50.5 to 60.7 dB(A).

Predicted Operational Noise Levels

This receptor location is assessed against the public open space criterion suggested in PAN 50; 65 dB $L_{Aeq,1h}$. The highest predicted level is 38 dB $L_{Aeq,1h}$ significantly below this recommended value.

The acoustic model has been interrogated to get an understanding of where the 65 dB $L_{Aeq,1h}$ would be achieved. The worst case would occur when drilling was taking place, as the noise source is in an elevated position. However, even in these limited cases the public open space noise criterion, because of the perimeter screening, does not extend any significant distance outside the site. For example, with drilling taking place in the south east corner of Phase 1 the 65 dB $L_{Aeq,1h}$ criterion would be satisfied 60 m from the boundary.

Core Path

On the opposite side of the A889 to the quarry entrance is part of the Dalwhinnie to Feagour Core footpath. The route, initially, heads west from the public highway. No background or ambient noise survey was undertaken at this receptor location, as the PAN 50 guidance does not relate the allowable noise level to the pre-existing background level.

Predicted Operational Noise Levels

During the initial soil and overburden strip with associated construction of the western perimeter mound immediately north of the quarry access point the predicted level at the closest point on the footpath is 55 dB $L_{Aeq,1h}$, falling to 49 dB $L_{Aeq,1h}$ at a point 100 m from the A889. Both of these levels are comfortably below the temporary operation criterion given in PAN 50 Annex A; 70 dB $L_{Aeq,1h}$.

At the footpath adjacent to the A889 the range of predicted levels from routine operations is 50 to 51 dB $L_{Aeq,1h}$, increasing by no more than 2 dB when the intermittent drilling takes place. Levels 5 or 6 dB lower will be received at a notional point on the route some 100 m west of the A889 when compared to those experienced at footpath beside the A889. All of the predicted levels are well below the guidance criterion for public open spaces, 65 dB $L_{Aeq,1h}$.

From the results discussed above it is apparent that calculated worst-case noise levels from quarrying operations will not exceed the noise criteria given in PAN 50 Annex A for the control of noise at surface mineral workings.

6.2.7 Historic Environment (Chapter 13.0)

An assessment was undertaken to consider the Historic Environment as an element of the Environmental Impact Assessment in response to the proposed expansion of Dalwhinnie Quarry, Highland.

The baseline of historic environment was established, this identified five historic environment sites that fall within, or in proximity to, the proposed development. Three of these sites were sequential Royal Observer Corps posts; the first two being above ground aircraft observation posts from WWII and the Cold War while the third was an underground monitoring bunker also from the Cold War. A 19th to 20th century quarry was also identified within the development area. Adjacent to the development area is the line of the 18th century Military Road, overlain by the modern A889.

The expansion of the quarry will not affect the Military Road. Further, the quarry has been designed to protect and enhance the underground monitoring bunker. The above ground aircraft observation posts will be removed as a consequence of the extraction. The loss of the WWII Royal Observer Corps observation post is a significant adverse impact on the Historic Environment. A programme of mitigation works, based around archaeological recording and excavation, have been specified to offset this physical loss. The knowledge recovered from these works will enhance our understanding of the many other observation posts in the Highlands.

There were no designated sites within or adjacent to the development area. The closest such site are the listed buildings at Dalwhinnie Distillery, approximately 700m to the south. The assessment identified no significant change from the development on the setting of this building.

Overall the assessment considered that the development proposal was compliant with the Local Development Plan.

6.2.8 Landscape and Visual Impact Assessment (Volume 3)

The report assesses the potential impact upon the landscape fabric and visual receptors within the vicinity of the proposed development at Dalwhinnie Quarry. For the purpose of the assessment the potential effects on the landscape and visual resource were grouped into four categories:

- Physical effects
- Effects on landscape character
- Effects on views
- Cumulative effects

Physical effects are restricted to the Site boundary and relate to the proposals for the Site and assess the direct effects upon the existing fabric of the Site. It is estimated that the moor in which the Site is situated covers an area of approximately 475Ha, the effect of the project upon the moorland will result in the loss of approximately 3.2% of it. The effect upon the existing quarry and heath/acid grassland within the Site is considered to be negligible adverse and therefore not significant.

The landscape assessment confirms that the proposed development would not significantly adversely affect the key attractive and distinctive land use elements or the wider baseline pattern of the local landscape areas or prejudice the nature or integrity of the existing landscape pattern and the landscape character setting of the Site.

It should be noted that a quarry, in one form or another, has been present in the landscape for 150 years. The current quarry however has not been sympathetic to the surrounding landscape and the screening bunds have become colonised with grass and weed species which make the bunds visible in comparison to the darker, muted heather colours of Cathar Mor.

Short distance views to the north, west and immediate south of the Site range from moderate/slight adverse to moderate neutral as the proposals will result in a perceptible change to the baseline, however with the proposed mitigation of turf transplanting and shallow graded bunds the proposals are not considered to be uncharacteristic for the area and will not in general affect the visual amenity. Short distance views are therefore considered not significant.

The visual assessment confirms that although there is potential for views to be afforded of the Site, these are primarily limited along the line of the glen. Views afforded to the south of the Site, covering Viewpoints 4 to 11 are limited to the southern screening bund. As illustrated in the photomontages, medium views will view the southern bund as a continuation of the hillside rising up from the glen floor to Cathar Mor. Medium distance views are therefore considered not significant.

An elevated distant view has been afforded from the hill path to Carn na Caim at a level of 205m above the level of the Site. Whilst a portion of the upper quarry face is visible over the top of the screening bund, the proposals form an apparent small element of a much larger view afforded from this location. Long distance views are therefore considered not significant.

Vibroch Ltd have assessed the effects of noise impacts on users of NCN 7, the highest predicted noise level is 38 dB LAeq,1h which is significantly below this recommended open space criterion suggested in PAN 50 of 65 dB LAeq,1h. Effects of the proposals on recreational users cycling along NCN 7 is not significant.

None of the locations at which cumulative effects arise have been assessed as significant, therefore cumulative impacts are not significant.

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