

SECTION 6

NOISE

6.1 Introduction

6.1.1 This section of the report describes the scope and methodology to be used in the prediction and assessment of noise and vibration effects arising from the proposed development.

6.1.2 The effects will be assessed in accordance with recognised U.K guidance and international protocols. It will include a number of stages; consultation with The Highland Council, baseline noise monitoring, modelling and prediction of noise effects, reporting of findings and recommendations, and the development of a series of mitigation measures, if required.

6.2 Assessment Methodology

6.2.1 The prediction of construction noise and vibration will be based on the methodology outlined in BS 5228. This Standard offers a series of recommendations for basic noise control in relation to construction and other open sites, and provides guidance on noise measurement and prediction methods. The Standard also provides information on how best to minimise the level of noise intrusion experienced by the occupiers of nearby properties. Reference will also be made to the recommendations of the Department of the Environment Advisory Leaflet (AL) 72 'Noise control on building sites' (Department of the Environment Advisory Leaflet (AL) 72 'Noise control on building sites', 1976.)

6.2.2 The predictions will be worst case, assuming high sound power levels and an absence of sound mitigation measures. Additionally predictions will assume that all construction activities will occur at the edge of the site at the closest location to the receptor. The actual noise impact associated with construction plant items or processes can vary significantly depending on their usage, and this will be taken into account where necessary.

6.2.3 Construction traffic and changes to traffic patterns on local roads during the construction phase are amongst the key elements of the proposed development with the potential to result in noise effects. Noise will be assessed in the ES following the methodology outlined in the DMRB and CRTN.

6.2.4 Operational effects will be ascertained as per the Institute of Acoustics / Institute of Environmental Management and Assessment draft guidance on noise impact assessment. In addition to this guidance the recommendations of the World Health Organisation's guidelines (World Health Organisation. 'Guidelines for Community Noise, 1999) will also be followed.

6.3 Legislative and Regulatory Context

6.3.1 The Scottish Government offer guidance and strategy in relation to the potential noise effect from new developments. This guidance is detailed in the documents specified below:

- Circular 10/1999: Planning and Noise (*The Scottish Office. (1999). Circular 10/1999: Planning and Noise*);
- Planning Advice Note 56 (PAN 56): Planning and Noise (*The Scottish Office. (1999). Planning Advice Note 56: Planning and Noise*);
- Planning Advice Note 58 (PAN 58): Environmental Impact Assessment (*Scottish Executive. (1999). Planning Advice Note 58: Environmental Impact Assessment*);
- Planning Advice Note 50 (PAN 50): Controlling the Environmental Effects of Surface Mineral Workings Scottish Executive. (1996);
- (*Planning Advice Note 50: Controlling the Environmental Effects of Surface Mineral Workings*); and
- Planning Advice Note 50 (PAN 50) Annex A: The Control of Noise at Surface Mineral Workings The Scottish Executive. (1996). (*Planning Advice Note 50 Annex A: The Control of Noise at Surface Mineral Workings*).

6.3.2 In addition to Scottish Government guidance, specific direction in relation to construction noise and vibration is also given in:

- Control of Pollution Act, 1974 (CoPA) (*Control of Pollution Act, Part III. HMSO, 1974*),
- Environmental Protection Act, 1990 (EPA) (*Environmental Protection Act, Part III. HMSO, 1990*); and, and
- British Standard 5228 (BS 5228): Noise and Vibration Control on Construction and Open Sites British Standards Institute. (1997). (*British Standard 5228, Parts 1-4: Noise and Vibration Control on construction and open sites. Code of Practice for Basic Information and Procedures for Noise and Vibration Control*).

6.3.3 The effects of increased public road network activity may be assessed using the methodologies outlined in the following documents:

- Calculation of Road Traffic Noise (CRTN) (*Calculation of Road Traffic Noise. HMSO, 1988*);
- Design Manual for Roads and Bridges (DMRB) (*Design Manual for Roads and Bridges. Volume 11, July 1993*); and,
- Guidance on the Methodology for Multi-Modal Studies (GOMMMS) (*Guidance on the Methodology for Multi-Modal Studies. DETR, 2000*).

6.3.4 CRTN is an internationally accepted method of calculating future noise levels as a result of changes to road traffic flows or design. The methodology uses measured or predicted movements, road type, average speed data and traffic flow composition (percentage of HGV's) to determine noise levels at each noise sensitive receptor (NSR) as a result of project and no-project scenarios.

6.4 Consultation Proposal

6.4.1 Consultation will be undertaken with the Environmental Health Department of The Highland Council prior to assessment in order to identify any particular issues of note. The consultation process will help identify present and future noise sensitive receptors which could potentially be disturbed by emissions at each stage of the project. These may be a mixture of residential, commercial or public buildings or areas.

6.5 Baseline Conditions

6.5.1 Potential noise sensitive receptors located in the local area will be the subject of a baseline survey. Noise from the construction phase and subsequent operation of the proposed development is likely to vary in nature and duration. Baseline conditions against which to judge the predicted impacts will be established at appropriate times over an adequate measurement duration.

6.5.2 The background noise conditions at each of the identified noise sensitive receptors will be established using a continuous monitoring regime at specified locations over a previously agreed timeframe, arranged through consultations with The Highland Council. Measurements will be necessary during both daytime and night-time periods as the development will be operational 24-hours per day / seven days a week.

6.5.3 The baseline survey will be undertaken in accordance with the principles of BS 7445 'Description and measurement of environmental noise' (British Standard 7445 (2003): 'Description and measurement of environmental noise'). The survey will consist entirely of free-field measurements, establishing the noise parameters of L_{Amax} , L_{Amin} , L_{A10} , L_{Aeq} , and L_{A90} and will be obtained using precision integrating sound level meters conforming to Type 1 specification and related standards. Further information including existing road traffic data for route sections and roads which will be subject to change as a result of the proposed development will also be used in the assessment.

6.6 Potential Effects

6.6.1 The potential for noise and vibration effects will be investigated as part of the EIA process. Any effects that are deemed to be significant will be addressed in this section. A preliminary review of the project has ascertained that potential effects associated with construction and road traffic will warrant assessment. Impacts will arise through either noise and / or vibration changes or through exceedence of noise levels / limits.

6.6.2 Potential noise and vibration effects during construction may arise from:

- activities carried out at surface worksites;
- secondary ground-borne and structure-borne noise and vibration from underground works;
- road construction;
- assembly of buildings; and
- noise associated with site traffic.

6.6.3 Potential noise and vibration effects during operation may include:

- noise from changes in public road traffic flow.

6.6.4 The effects identified will be the likely effects based on current assumptions concerning construction methods and noise emissions from vehicles.

6.5 Scope for Mitigation

6.5.1 Mitigation in the form of selection of quiet plant, control of hours of working and implementation of the advice given in BS 5228 will be assumed for the construction stage. Additional mitigation will be considered according to the circumstances of each case where a significant effect is likely.

6.5.2 Mitigation will be reviewed for the operational stage where a significant effect is predicted.

6.6 Initial Contact and Additional material to Consultation

6.6.1 Telephone discussions were held with the Environmental Health department of The Highland Council regarding the noise and vibration assessment methodology and the need for a baseline survey.

From: MacKay, Derek
Sent: Wed 17/09/2008 11:03
To: Bob Murdoch [<mailto:Bob.Murdoch2@highland.gov.uk>]
Subject: An Camas Mòr - Proposed Noise Impact Assessment

Bob,

Thanks for returning my call this morning.

As discussed, I will be undertaking the noise impact assessment for the An Camas Mòr Environmental Impact Assessment, proposed for land on the Rothiemurchus Estate to the east of Aviemore. The purpose of my call yesterday was to reach agreement on what will be assessed and how I will do so, by discussing the proposed assessment methodology, including baseline measurement techniques, monitoring duration, selection of sensitive receptors and assessment methods.

The project is not officially in the public domain at the moment, however, there is an indicative land use plan that indicates the projected extent/envelope of the development, the type of buildings proposed, and the location of roads, cycleways and walkways. I have attached the indicative land use plan and marked up the positions which I believe may be the most sensitive to noise. The potential noise sensitive receptors detailed on the map are as follows:

- R1 (Dalfaber Lodges - north of site) - I have included this as they are the closest receptors to the proposed development.
- R2 (Guislich Farm - east of site) - I have included this as it is the closest receptor to the east of the site.
- R3 (Dell Farm - south of site) - I have included this as it is the closest receptor to the south of the site and nearest to a new distributor road.
- R4 (Near train station - west of site) - Included this as it is the closest receptor to the west of the site.

With respect to the position near the train station, I have included this a possible receptor as I can't quite make out from the map if there is anything of note at this position, although from memory there may be a hotel. I would appreciate your thoughts on the use of these potential receptors.

I propose to measure the noise levels continuously at each receptor, in 10 minute or 1 hour increments, for a period of 7 days (so as to incorporate weekday and weekend noise patterns). I hope to get the baseline survey started this week or early next week.

I plan to assess the construction, operational and decommissioning noise impact of the development, and this will include road transport effects. The construction/decommissioning noise assessment will be carried out in accordance with BS 5228 and traffic effects will be calculated in accordance with CRTN 1988. The operational noise assessment will be carried out in accordance with IoA/IEMA draft guidelines for environmental noise impact and operational traffic effects will be calculated in accordance with CRTN 1988.

Please feel free to give me a call once you have had a chance to consider the information detailed above.

Best Regards,
Derek Mackay

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Glasgow
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6.7 Notes and Responses to Scoping Consultation

- 6.7.1** It was agreed that the use of best practice guidance, as detailed in Section 6.2 and Section 6.3 would offer a sufficient level of protection to receptors in the immediate vicinity of the Proposed Development. Furthermore, baseline monitoring was deemed to be necessary due to the relative sensitivity of the local environment.