

## PLANNING CONSULTATION

**Authority:** Cairngorms National Park Authority, Albert Memorial Hall, Station Square, Ballater AB35 5QB

**Case Officer:** Mary Grier      **Planning Ref:** 07/144/CP & 07/145/CP  
(07/00093/OUTBS & 07/00094/OUTBS)

**Proposed Development:** Outline application for development of 20 houses on land north west and south of former steadings, Dalfaber Farm, Dalfaber, Aviemore and  
Outline application for development of 104 houses on land north west and south of former steadings, Dalfaber Farm, Dalfaber, Aviemore

**SEPA Ref:** P7/07/144/CP and      **Date:** 4 December 2008  
P7/07/145/CP

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**TOWN & COUNTRY PLANNING (SCOTLAND) ACT 1997  
TOWN & COUNTRY PLANNING (GENERAL DEVELOPMENT PROCEDURE)  
(SCOTLAND) ORDER 1992  
ENVIRONMENT ACT 1995, SECTION 25(2)**

SEPA has received the following additional information regarding the above applications for its consideration:

- Letter from Paul Mankey of Waterman Civils Ltd dated 15<sup>th</sup> of October 2008, in reply to SEPA's letter of 18<sup>th</sup> September 2008.
- Additional information requested and received on the 20<sup>th</sup> November 2008: Drawing no: 003 'Site survey showing LIDAR level differences' and Drawing no: A3583/L(-)21Rev.D 'Site Layout'.

SEPA comments as follows. Please note that all these comments apply to both applications. These comments are without prejudice to SEPA's consideration of any elements controlled through environmental regulation administered by SEPA.

### ADVICE FOR THE PLANNING AUTHORITY

#### 1.0 Flood Risk

##### Summary

- 1.1 Following the precautionary approach SEPA continues to **object to development on this site** on the grounds of lack of information relative to flood risk.
- 1.2 In the event that the planning authority proposes to grant planning permission contrary to this advice on flood risk the application must be notified to the Scottish Ministers as per the Notification of Applications Direction 2007.

Technical Report

- 1.3 A letter has been received from Waterman Civils in response to SEPA's consultation of 18<sup>th</sup> September. At the time of this previous consultation clarification was requested on:
- a) Details of a comparison of the topographic survey (of the site) and LiDAR ground levels.
  - b) The channel is surveyed appropriately or clarification provided that the cross sections used are representative of the present channel and floodplain morphology.
  - c) That both the tabulated steady and unsteady results are provided.
  - d) This is a gauged catchment and therefore SEPA would expect this analysis to be based on hydrograph synthesis from gauged data and analysis documented.
  - e) Consideration of historical flood data.
- 1.4 **Response to Point A:** A figure showing the details of a comparison of the topographic survey (of the site) and LiDAR ground levels has been provided (Drawing No. 003).
- 1.5 From Drawing No: 003 it can be seen that the LiDAR data varies between +8.150 m and -2.194 m compared to site topographic survey. Clearly this variation is greatest within the north of the site and this is likely to be due to the presence of vegetation in this area. It is the northern portion of the site which lies within the SEPA flood map. Based on data provided, it does not appear that the two data sets are well correlated.
- 1.6 SEPA therefore remains of the opinion that for a study of this nature detailed topographic survey should be used and questions the reliance solely on a grid of this accuracy to determine flood risk to a residential development.
- 1.7 **Response to Point B:** The 5 m LiDAR grid provided appears comparable to NextMap in terms of accuracy compared to the topographic survey and the grid resolution. SEPA deems NextMap only to be suitable for strategic level mapping such as the SEPA Flood Map. As in previous communication, SEPA request that the channel is surveyed appropriately or clarification provided that the cross sections used are representative of the present channel and floodplain morphology. This information has not been provided.
- 1.8 **Response to Point C:** SEPA Flood Risk Hydrology previously wrote that *'the steady state 200 year plus climate change flood extent shown in Figure 10.5-A is significantly smaller than that of the unsteady state 200 year plus climate change flood extent shown in Figure 10.5-B'*. The consultant has confirmed that the Figure 10.5-A is not the steady state 1:200 plus 20% climate change event as stated in the report but is a flow of 36 m<sup>3</sup>/s, that of the start of the hydrograph used in order to determine initial conditions for the unsteady model.
- 1.9 As requested by SEPA tabulated steady and unsteady results have been supplied by the consultant. Once satisfied with the hydraulic modelling, SEPA will accept the highest modelled water levels.
- 1.10 The consultant writes that *"the unsteady run is needed to find the time when the peak stage level was reached for each event, i.e. 11 hours for the case of the 200+20% RP event. An unsteady model gives the best representation of an actual peak flood flow from a storm, rather than an unrealistic expectation of a sustained*

*flow with no peak". The timing of the peak is not relevant to flood risk at this site, 'Steady' state is an assessment of the peak flow at a particular location at a single point in time, whereas 'unsteady' state modelling allows flow to vary with time and thus the full flood wave is modelled as it moves along the channel, accounting for storage within the system. 'Steady' state modelling does not take floodplain storage into account and is therefore inherently more conservative.*

- 1.11 **Response to Point D:** Hydrograph synthesis from gauged data has not been provided. As the unsteady modelling gives the highest levels and hence has been adopted by the consultant, then this analysis is important in calculating the hydrograph shape.
- 1.12 **Response to Point E:** The consultant is unable to re-create the anecdotal flood records. SEPA accepts that anecdotal data isn't sufficient enough to calibrate a hydraulic model; however as per the concerns raised in points 1 to 0 above SEPA Flood Risk Hydrology are not satisfied with the hydraulic model as it stands. As paragraph 37 of SPP7 states *'the calculated probability of a flood occurring should be regarded as a best estimate and not a precise forecast. Developers and planning authorities should therefore err on the side of caution in taking decisions when flood risk is an issue'*.
- 1.13 An internet search and information already provided by SEPA suggests that there is a history of flooding in the Dalfaber area. For example, *"The potential of water levels in the Spey, in particular, to rise spectacularly is probably not appreciated widely enough but it was brought home to me in the 1980's by the old farmer at Dalfaber. This farm is now lost to the development of the timeshare at Aviemore. The farmer showed me where the water level had reached in a flood he remembered – on his back door step!"* (<http://www.fettes.com/Cairngorms/floods.htm>).
- 1.14 With reference to the second paragraph of the consultant's letter in terms of the comparison of the Golf Clubhouse application and this residential development. SEPA considers each proposal on its own merits in the context of SPP7 and other guidance. The site in question has a risk of flooding and it follows that to allow development to proceed may place property or persons at serious risk contrary to national planning policy and guidance, with particular regard to SPP7: Planning and Flooding.
- 1.15 Please note that the Flood Risk Section is reliant on the accuracy and completeness of the information provided to the Flood Risk Section in undertaking its review, and can take no responsibility for incorrect data or interpretation made by the author(s).

#### Summary of Technical Points

- 1.16 In summary SEPA wish to receive clarification on the following points before it would consider removing its objection to the proposed development:
- Channel surveyed appropriately or clarification provided that the cross sections used are representative of the present channel and floodplain morphology.
  - Hydrograph synthesis from gauged data.

- Additional Information for Applicant & Caveats
- 1.17 The advice contained in this letter is supplied to you by SEPA in terms of Section 25 (2) of the Environment Act 1995 on the basis of information held by SEPA as at the date hereof. It is intended as advice solely to Cairngorm National Park as Planning Authority in terms of the said Section 25 (2).

PLANNING UNIT (NORTH REGION)