THE TOWN AND COUNTRY PLANNING (SCOTLAND) ACT 1997

THE TOWN AND COUNTRY PLANNING (NOTIFICATION OF APPLICATIONS) (SCOTLAND) DIRECTION 2007

OUTLINE PLANNING PERMISSION FOR GOLF COURSE AND RESORT DEVELOPMENT AT LAND AT MENIE HOUSE, BALMEDIE, ABERDEEN

PUBLIC LOCAL INQUIRY

DIRECTORATE FOR PLANNING AND ENVIRONMENTAL APPEALS REF: CIN/ABS/001

Technical Response

TO WRITTEN STATEMENT BY

SCOTTISH ENVIRONMENT PROTECTION AGENCY

Introduction:

1. This note responds to the technical issues relating to groundwater and wetlands raised by SEPA in their Written Statement.

2. Two key points should be borne in mind:

    a. The application before the Scottish Ministers is in outline only;

    b. The matters identified by SEPA as potentially leading to impacts on groundwater and wetland are still under consideration and/or will be dealt with most appropriately at the detailed stage. In particular, no decision has been taken by the applicants at this outline stage to abstract water to irrigate the proposed golf course.

Sufficiency of Environmental Information:

3. SEPA state that "insufficient information has been provided of the potential threat to the status of groundwater and wetlands on the development site"[1] and that further information is required to address these concerns. The applicants wish to respond to the issues raised by SEPA as follows.

4. SEPA state that information still required includes[2]:

    a. A revised layout to reduce impact on wetlands and groundwater to an acceptable level (drawn up having regard to the following);

    b. Detailed information on impacts on species and habitats associated with or dependent on groundwater

5. With regard to 4a and 4b above, the applicants recently submitted a revised golf course routeing plan[3] which 'illustrates the iterative design process which has progressed since the lodging of the outline application, the detailed application[4] and the accompanying Environmental Statement. The revised layout is the current indicative layout of the proposed golf course, and represents the applicants preferred method of mitigation.' This revised layout was accompanied by a hole by hole analysis[5] and habitat impact assessment[6]. The course revision includes the addition of semi-rough and transition rough around fairways and tees, plus paths. Holes in the far north and south have been changed in position, with Hole 15 now positioned in a young dune slack.

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[1] WS paragraph 1.2

[2] WS paragraph 1.3

[3] T2

[4] Detailed application now withdrawn

[5] T4

[6] T50

6. The overall effect of the revised course layout, compared to the initial submission, is reduced impact on key dune habitats in total. Wetland losses are made up of the following: SD13 young dune slack (1.7 ha), SD16 dune slack (1.23 ha), Tall willow scrub (0.7 ha), plus MG10 wet grassland, M23 flush and rush swamp (0.8 ha). As part of these direct habitat losses there is a marked increase (0.7 ha) of young dune slack mapped as NVC SD13 habitat. This NVC dune slack type is acknowledged as very rare in England and Wales, as well as probably being highly sensitive to groundwater impacts (see English Nature Report Number 696 and guidance on identifying groundwater-dependent terrestrial ecosystems, all submitted by SEPA).

7. Mitigation for dune slack losses is proposed via habitat translocation. In the case of young dune slack this will probably involve transferring blocks of slack vegetation and soil short distances to nearby areas of bare damp sand, recently exposed by wind deflation. Older dune slack habitat will also be moved but over longer distances, for installation in receptor areas excavated in MG10 wet grassland. The intention is to fully balance all losses with habitat transfer. SEPA, in a Supplementary Written Statement received 30th May (para. 2.4), "does not agree with the anticipated success rate of the proposed translocation technique for wet habitats". The Applicants will rebut this view in verbal evidence.

8. At present there is no intention to offset losses for MG10 wet grassland, M23 flush and rush swamp. The MG10 would probably not be present naturally in an acidic dune system and this ground marks either former cultivation or an area affected by nutrient enrichment from adjacent agriculture, or both. In the case of nutrient enrichment, this indicates that the site is already affected by agricultural pollution. The M23 flush, rush and other swamp - aquatic habitats have been created artificially by pond creation, ditching on slopes (creating M23 habitat), plus scraping and excavating damp sand exposed by deflation (creating rush swamp habitat on lower ground). The latter habitat creation work appears to have been done in Foveran Links SSSI without the permission of SNH or its predecessor bodies.

9. The Applicants' environmental team wishes to register a cautionary note on using the SEPA document English Nature Report Number 696. This is drawn together from information based on dune slack information drawn largely from sites in England, Wales, the Dutch mainland and Wadden Sea islands. It reflects a major bias in the published NVC descriptions and floristic tables covering dune slacks (with very few samples from Scotland and no reference to dune NVC mapping in Wales or Scotland). The only Scottish example included is the Winter Loch system of St. Fergus which represents only one part of the Scottish range of conditions. It is possible that the eco-hydrological slack types put forward do not fully cover the range of slack habitat in Scottish dunes and machair which, in terms of extent, is much larger than that in England and Wales. Some slack systems (e.g. Morrich More, Culbin) are developed as emergent strandplains and probably represent an eco-hydrological type which is not present in England, Wales or the Netherlands. Machair fens (commoner than slacks) might also deserve separate recognition. Technically, for eco-hydrological work contributing to the Water Framework Directive, such studies need a focus on the relevant, full domain (e.g. the Atlantic Biogeographical Region as defined in the Habitats Directive). For example, the English Nature work contains nothing on the plant communities of Scottish or French dune slacks. Some Scottish vegetation fills important gaps noted by the authors, but who fail to acknowledge fully their

bias to experience applying only to the Netherlands, England and Wales. The work should be regarded as preliminary and incomplete.

10. In any event this revised course layout will undergo a number of further detailed iterations before the submission of an application for approval of reserved matters:

    i. A skilled topographic surveyor will have to set out the course on the site on the basis of the course architect's plans and in liaison with the applicants' ecologists and geomorphologist. This detailed design stage will take into account the results of the decision taken on groundwater and irrigation strategy and any accompanying groundwater assessment (see paragraphs 12-17 below).

    ii. A detailed walkover of the course will allow for further small scale adjustments to ensure environmental and golf best-fit - again a process undertaken by the course architect in liaison with the applicants' hydrologist, ecologist and geomorphologist.

    iii. An application for approval of reserved matters will be submitted to the planning authority. This application will be supported by an Environmental Statement which will provide a detailed account of the impacts and proposed mitigation.

    iv. Adherence to planning conditions would be monitored by an Environmental Clerk of Works reporting directly to the applicants and MEMAG and Aberdeenshire Council.

11. Another issue raised by SEPA is the need for an assessment of the impacts on groundwater including details of proposed abstractions taking into account climate change and maximisation of water efficiency.[7]

12. The applicants note SEPA's concern about demand for groundwater in coastal areas and climate change. Proposed water supply was first discussed in the Environmental Statement[8] where it was stated that:

    'The feasibility of water abstraction from artesian wells for irrigation of the golf greens is currently under discussion with SEPA. Of relevance to this coastal scheme is a report by C. R. Bates and R. J. A. Robinson (2000) Geophysics and Groundwater Modelling of Coastal Golf Courses. Golf Research News, Vol. 1, No. 3, pp 2-10 which determines the vulnerability of the groundwater to saltwater intrusion'

    The ES goes on to state that[9]*:*

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[7] WS paragraph 1.3

[8] CD -G3, Chapter 11, Section 11.5.1

[9] CD -G3, Chapter 11, Section 11.8.2

The impact from the construction and operation of artesian wells for the supply of water for irrigation has been assessed in general terms due to a lack of specific hydrogeological data for the site. This option may or may not be included in the detailed design and is currently under discussion with SEPA due to the requirements of CAR.

The ES concludes[10] that:

If artesian wells are to be included in the proposals, a detailed hydrogeological study will be conducted to determine the potential impacts of water abstraction. Water abstraction necessitates registration under CARS. Decisions over the irrigation water supply will take into account the possibility of impacts to the hydrology of the area and the potential for intrusion of saline water.

13. The applicants commissioned a Site Investigation[11] for the site. The report aimed to 'assess the potential for groundwater resource to facilitate the irrigation of the golf course'. The findings of this report are as follows:

    - *The superficial aquifer is highly permeable and has considerable pressures at shallow depths*
    - *There is good potential for groundwater to be utilised as a resource to irrigate the golf course*
    - *The groundwater is considered to be fresh*
    - *The yield is expected to be very good*

    In order to use the groundwater as a water supply for irrigation:

    - *Deeper and larger diameter boreholes for potential production wells are required*
    - *A step-drawdown pumping test to be conducted*
    - *Necessary licensing needs to be considered prior to testing*
    - *Experienced and well equipped drillers would be required to facilitate the difficult conditions*
    - *Modelling of the saline intrusion*

14. Based on these findings, the applicants stated in the 'Updated Drainage Impact Assessment'[12] that it may be possible to use groundwater abstraction to provide water for the irrigation and management of the golf course but that further detailed investigation and design would be required. However, this is only one possible solution for further consideration at the detailed stage. Other potential solutions to be considered include:

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[10] CD -G3, Chapter 11, Section 11.5.1

[11] T64

[12] T63, Page 7

- a SUDS pond supply i.e. SUDS ponds also used as irrigation ponds[13], and/or
- Rainwater harvesting and storage i.e. storage of winter rainfall for use in summer irrigation[14], and/or
- The use of the mains supply of water from Scottish Water.

15. SEPA will be consulted on the results of any detailed groundwater assessment and modelling. Scottish Water has already been consulted regarding the supply of mains water to the site[15]. Groundwater abstraction may or may not be sourced in addition to the mains supply depending on the outcome of the detailed assessment and modelling.

16. However, as explained in the attached Rebuttal Statement, it is only at the stage of detailed design that the decision on sources for irrigation of the course will be taken and so only at that stage that detailed investigation would, if necessary, be undertaken. In addition, the applicants believe that such detailed work in advance of the decision to grant outline planning permission given the intrusive nature of the works required and significant cost of undertaking the survey work would not be prudent at this stage. As confirmed in paragraph 4 of the attached Rebuttal Statement, the applicants would commit to an appropriate planning condition to satisfy the information requirements requested by SEPA[16].

Climate Change

17. The applicants are aware of the potential impacts of climate change in relation to golf courses with particular issues resulting from changes in rainfall patterns and temperature affecting the quality and availability of groundwater resources for golf course irrigation. These impacts are not unique to this project and will affect all links golf courses in Scotland. It is in the interest of the development to plan adequately for various climate change scenarios to ensure the viability of the course both now and in the future.

18. If the decision is taken at the detailed design stage to seek to use groundwater abstraction for irrigation, a detailed site investigation focusing on groundwater and irrigation potential will be commissioned by the applicants. Whether or not a site investigation requires to cover groundwater, the applicant will provide information on the susceptibility of the site to climate change and the measures that would be required both now and in the future to deal with predicted changes. If groundwater abstraction is to take place, detailed groundwater modelling will be required to identify the location of any saline intrusion to ensure that an adequate balance between abstraction and recharge is maintained on the site.

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[13] T64, page 6

[14] CD - G10 Appendix 3

[15] CD -G3, Chapter 11, Section 11.5.1

[16] SEPA Written Statement paragraph 8.4.6-8.4.17

19. The applicants would commit to an appropriate planning condition to satisfy the information requirements requested by SEPA[17] as explained in paragraph 4 of the attached Rebuttal Statement.

20. The applicants agree to the production of a Site Water Management Plan[18] based on the findings of the detailed SI. This plan would to set out the monitoring framework required to allow the Golf Course Manager, in liaison with MEMAG, to identify and plan for any changes adequately. The monitoring framework would be included within the EMP.

21. Climate change and the importance of sustainability will be also be addressed through compliance proposed conditions:

    a. Condition 54: Detailed Sustainable Turf Management Plan;

    b. Condition 38: Index 21 Assessment, and

    c. Condition 49: Waste Management Plan.

Water Efficiency

22. Until the method of irrigation has been established through decision of the applicant at detailed design stage and a detailed SI and further consultation with SEPA as necessary, it not possible to define the methods required to minimise water consumption. The applicants would highlight that water efficiency will be taken into account as part of proposed Condition 8: Site Water Management Plan.

Other Issues:

23. SEPA also raised the following points[19]:

    a. quantitative assessment of the potential impacts on groundwater quality associated with fertiliser and pesticide usage

    b. The principles on which the Environmental Management Plan will be based, derived after the above impacts have been assessed

    c. Mitigation measures for impacts on groundwater and wetlands, derived after the above impacts have been assessed.

24. The applicants' response to these points is that until the detailed design and phasing of the golf course has been finalised and agreed, it would be premature to produce detailed assessment of the requirements for pesticide and fertiliser use. As stated previously, this information will be provided within the Detailed Sustainable Turf Management Plan[20] .

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[17] SEPA Written Statement paragraph 8.4.13

[18] See proposed condition 8 in Aberdeenshire Council's Statement of Case

[19] WS paragraph 1.3 points d, e and f

[20] Proposed planning condition 54

25. Without detailed information on the potential for groundwater abstraction, it is not possible to assess the principles of the EMP with respect to management of groundwater resources and/or application of fertiliser and pesticides.

26. The application for approval of reserved matters will be accompanied by an Environmental Statement (ES). This ES will provide a detailed account of the impacts and mitigation in relation to the detailed Turf Management Strategy[21].

2 June 2008

[21] Proposed planning condition 54