Cairngorms National Park
Supplementary Planning Guidance

WATER RESOURCES
Consultation May 2010

Planning in the Cairngorms National Park

The Cairngorms National Park is the largest National Park in the UK, encompassing areas of Highland, Aberdeenshire, Moray and Angus. A Scottish Government consultation is taking place for extending the boundary into Perthshire, towards the end of 2010.

Planning in the Cairngorms National Park is unique. It involves the Cairngorms National Park Authority (CNPA) working alongside the Local Authorities, who continue to deal with many of the planning applications within their respective areas. All planning applications submitted must comply with all the policies in the Cairngorms National Park Local Plan (once adopted) and any relevant Supplementary Guidance.

Any planning application should be submitted to the relevant Local Authority in the normal manner. The Local Authority checks to ensure all the necessary information is supplied and registers receipt of the application. The CNPA is informed by the Local Authority and then has 21 days to decide whether to call-in the application. Only applications which are of general significance to the aims of the Park are called-in. Thereafter the CNPA determines the application. In instances when planning applications are not called-in, the Local Authority continues to act as the planning authority.

This supplementary guidance sets out detailed advice to help you meet the requirements of the policies in the Cairngorms National Park Local Plan. It is recommended that it is read in conjunction with other relevant guidance, such as the Sustainable Design Guide.

1.0 Introduction

1.1 This guidance supplements Policy 12 Water Resources, of the Cairngorms National Park Local Plan. The policy aims to secure the integrity of the water environment of the Cairngorms National Park when considering any new development proposals or engineering works requiring planning permission. Many of the policies in the Local Plan are designed to protect and improve the quality of the National Park's environment, including its water environment, so that few harmful effects could be caused by development. The aim of this Supplementary Planning Guidance (SPG) is to make development as sustainable as possible. In so doing it helps to deliver the aims of the Cairngorms National Park and relevant objectives of the Cairngorms National Park Plan.

The purpose of this guidance

1.2 This guidance sets out how the water resources of the Cairngorms National Park will be taken into account when considering all development proposals. It seeks to ensure any new development will minimise the use of water, and also ensure it does not have a significant adverse effect on water resources, or increase the risk of flooding, or degrades water quantity and quality, details are also provided on sewerage systems. General advice has been provided in this document on the information which may need to be provided with any planning application. Reference is made to legislation and guidance, while the various organisations' roles and responsibilities are also set out. It will:

- Highlight the type of developments which will be permitted, providing guidance for the protection of water resources. Information on natural heritage, water supplies and other regulatory requirements is also detailed;
- Highlight how the importance of considering the effects on any aspect of the water environment, for any proposed development site, should be assessed;
- Promote the sustainable use of water resources;
- Promote sustainable flood risk management by providing guidance which aims to prevent new development if it is at significant risk from flooding or exacerbates flooding elsewhere. It also provides information to applicants for the preparation of Flood Risk Assessment and drainage arrangements;
- Provide expected development requirements for wastewater treatment in order to improve and maintain a good quality water environment;
- Set out what evidence should be gathered and what information should accompany any planning application.

1.3 The overall aim of the guidance is to provide detailed advice and assistance to developers needing to carry out works which may affect the water resources of the Cairngorms National Park. Development proposals will not only need to take account of this guidance, which forms a 'material consideration' when assessing planning applications, but any other guidance which is relevant. Applications should demonstrate how the guidance has been followed, addressing the requirements of Policy 12 Water Resources.

1.4 This guidance is split into four sections; Water Resources – Context; Use of Water Resources; Flooding; and Connection to Sewerage.

Types of Development that fall within the guidance
(Please note that this list is indicative and not exhaustive)

- Development located within, upstream or adjoining land indicated as at risk of flooding;
- Electricity generation schemes (all sizes);
- Wastewater and water supplies and other developments that require abstraction and/or treatment;
- Bridges, other watercourse crossings, dams, reservoirs, weirs;
- Other water environment engineering works, such as channel and bankside works, embankment stabilisation or realignment works or dredging or deepening or other intervention of watercourses or flow regulation;
- Any other development where there is water amenity, quantity and quality or hydromorphological impacts due to abstraction, pumping, diversions, culverting or other engineering works including operations in the bed or banks of a river, burn or loch, or the creation of a new water body;
- Activities that would discharge surface water run-off, effluent or sewage or any development that has potential to impact on water quality;
- All other developments which may potentially have an impact on the water environment.

Background

1.5 The water environment is a key part of the Cairngorms National Park; its lochs, burns and rivers contribute to its special qualities including sense of wildness, amenity and distinctive places. It provides valuable habitat while being important for its water supply, its industries such as distilleries, salmon fishing and a host of other activities. In all instances groundwater should be taken into consideration.

1.6 The State of the Park Report identifies that the freshwaters of the Cairngorms National Park are, largely, in a good, natural condition. Most of the Park's water is considered to be excellent quality; however a number of key issues are highlighted as posing significant risks to our water environment including diffuse pollution, river modification, catchment processes and flood management and the availability of water for consumption, along with the impacts of recreation and water abstraction. See the State of the Park Report at www.cairngorms.co.uk/nationalparkplan/stateofthepark

Cairngorms National Park - Key facts

- 3,362km of running water habitat
- 81% of streams classified as excellent (A1) or good (A2) (Ref: SEPA 2003)
- 20 sq km standing waters
- Catchments of six major rivers
- 39% of Park area designated for natural heritage
- 19 Special Areas of Conservation (SAC)
- 12 Special Protection Areas (SPA)
- 46 Sites of Special Scientific Interest (SSSI's – some of which are of geological importance)

What are water resources?

1.7 Water resources are sources of water that are useful or potentially useful to humans, and are usually freshwater derived from surface water and groundwater. Water is one of Scotland's most abundant natural resources. It is recognised that it is a precious and important natural resource. The Scottish Government is working to enhance the quality of the water environment and to improve water quality.

1.8 Any works on or near the water environment can impact on water quantity, quality and hydromorphology, changing the natural behaviour of a water body and the habitat it can provide. A watercourse will typically have a complex pattern of behaviour. It is important that the nature and scale of any impacts which may arise from proposed development are considered and assessed. Watercourses and their catchments are dynamic systems and in a state of constant change – flow and rate may change and course or features may alter. Rivers often need room to migrate within their natural floodplain. Any development needs to ensure that it does not cause the degradation of the river, or exacerbate bank erosion or deposition (see Glossary, p00). Groundwater and wetlands are also important and impacts on these should be fully considered, including the impact if development on water levels and temperature gradients of standing waters.

1.9 There are a number of other statutory and regulatory controls in addition to planning permission, such as the Water Environment (Controlled Activities) (Scotland) Regulations 2005 (CAR). This deals with pollution, water flow, quality and quantity and the ecological status of watercourses. The applicant is required to ensure that these are adhered to, and that any licences required are in place. A grant of planning permission is only relevant to planning. It carries no weight so far as environmental protection regimes are concerned. The granting of planning consent does not therefore remove the need to go through the proper channels to ensure other licences, permissions or authorisations are achieved, and these have to be determined according to their own requirements.

The role of the planning authority

1.10 When determining planning applications, planning authorities should take into account the direct and cumulative effects of the proposed development on the water environment. Opportunities for enhancement and restoration, or other remedial works, should be encouraged wherever possible. All Planning applications must be accompanied by sufficient information on the development site, including type and scale of proposals, construction and operation methods, an assessment of the impacts on the water environment and details of any mitigation proposed.

Pre-application discussions

1.11 For larger or more complex developments, developers should discuss their proposal with the planning and environmental protection bodies in advance of any applications being submitted.

Statutory undertakers

1.12 In relation to the work of statutory undertakers (see Glossary, p00), a variety of permitted development rights exist allowing certain works to occur without planning permission. These fall within Class 38 (Water Undertakings) of the General Permitted Development Order 1999 as amended.

Other regulatory requirements

1.13 All types of works in, under, over and adjacent to waterbodies need to be properly assessed and receive any necessary statutory consent(s). Any uncontrolled works may lead to effects such as an increased risk of flooding, increased erosion, increased danger to the public, restricted access for maintenance purposes and damage to the water environment.

A number of 'responsible authorities' will seek to regulate water environment activities, such as SEPA and SNH amongst other appropriate bodies – they are required to safeguard, or improve the existing water environment. Discharges, disposal to land, abstractions, impoundments and engineering works are all regulated by SEPA through the Water Environment (Controlled Activities) (Scotland) Regulations 2005, more commonly known as the Controlled Activity Regulations (CAR).See:
www.sepa.org.uk/water/water_regulation/car_application_forms.aspx

Please note: Applicants are encourage to submit their applications for planning permission and CAR licensing at the same time.

2.0 Water resources - context

2.1 This section provides a brief outline of the main legislation for water resources, and details the Cairngorms National Park's strategic objectives and planning policy. There is also a brief overview of River Basin Management Plans and other guidance and the various roles and responsibilities are set out.

Water Framework Directive

2.2 The need to protect and enhance the water environment has been reinforced by the EC Water Framework Directive 2000 (WFD). This established a legal framework for the protection, improvement and sustainable use of all water bodies across Europe and thee Local Plan is key to the delivery of this.

2.3 The overall objective of the WFD is the achievement of good status for all waters (inland surface, transitional, coastal and groundwater), by 2015 at the latest. The WFD aims to prevent pollution at source and sets out a control mechanism to ensure that all pollution sources are managed in a sustainable way. It protects groundwater and sets ambitious objectives for its quality and quantity.

2.4 Wetlands that depend on groundwater bodies, which form part of a surface water body or are Protected Areas, benefit from WFD obligations to protect and restore the status of water.

Water Environment and Water Services Act (WEWS)

2.5 The Water Environment and Water Services (Scotland) Act 2003 implemented the WFD in Scotland. The Act also designated the Cairngorms National Park Authority as a 'responsible authority', introducing legal duties to ensure compliance with the WFD aims and objectives, as well as a requirement to promote sustainable use of water resources and sustainable flood management. The Directive introduces a number of new measures to ensure a higher standard of care for the water environment, including the production of River Basin Management Plans (RBMPs). The Cairngorms National Park lies within the North East Scotland and Tay areas for river basin planning. More information on the Water Framework Directive can be found at www.euwfd.com/index.html

The Water Environment (Controlled Activities) (Scotland) Regulations 2005 (CAR)

2.6 Implementing the WFD has involved new regulatory duties for the CNPA and for SEPA principally, in particular through the introduction of the Water Environment (Controlled Activities) (Scotland) Regulations 2005 (CAR). CAR activities, including abstractions, impoundments, engineering activities, point discharges and diffuse pollution, now require licences. Further information regarding licences and other controlled works is available from SEPA www.sepa.org.uk/water/water_regulation/car_application_forms.aspx

Cairngorms National Park Plan

2.7 The need for all development to make the most sustainable use of resources, including water resources is a key objective of the Cairngorms National Park Plan (see table below).

2.8 The management of floodplains is one of the key issues in the Park, as parts of many rivers have been cut off from their river systems by flood walls. This results in flow being channelled in a much more intensive way than is natural, leading to erosion of river beds and loss of finer sediments. It also leads to the

loss of wetland habitats that help to support the diversity and viability of the river systems. Flood waters that cannot spread out in the upper catchments can cause severe flooding downstream.

Cairngorms National Park Plan Strategic Objectives
• All management and development in the Park should seek to make the most sustainable use of natural resources, including water and energy; • Maintain or where necessary enhance the existing high water quality and physical condition of waterbodies in the Park; • Encourage more sustainable patterns of domestic, industrial, agricultural and recreational water use; • Adopt a catchment-scale approach to water management that integrates land-use, nature conservation and flood management; • Promote sustainable flood management consistent with natural fluvial processes.

Cairngorms National Park Local Plan

2.9 The Cairngorms National Park Local Plan will be used by the CNPA (and the constituent local authorities' if the application is not called in) to determine planning applications which may affect the integrity of the water environment. Other relevant policies may also be considered.

Policy 12 Water Resources

a) Use of Resources

There will be a presumption against development which does not meet all of the following criteria in the use of resources;

1) minimise the use of treated and abstracted water;
2) not result in the deterioration of the current or potential ecological status or prejudice the ability to restore water bodies to good ecological status;
3) treat surface water and foul water discharge separately and in accordance with SUDS Manual Ciria C697;
4) have no significant adverse impact on existing or private water supplies or wastewater treatment services.

b) Flooding

There will be a presumption against development which does not meet all of the following criteria relating to flooding. Development should:

1) be free from significant risk of flooding;
2) not increase the risk of flooding elsewhere;
3) not add to the area of land that requires flood prevention measures;
4) not affect the ability of the functional floodplain to store or move flood waters.

Note: Development in areas susceptible to flooding will require a developer-funded flood risk assessment carried out by a suitably qualified professional.

c) Connection to sewerage

There will be a presumption against development which is not connected to the public sewerage network unless:

1) it is in a small settlement (population equivalent less than 2000) where there is no, or a limited collection system, in which case a private system may be permitted where it does not pose or add to a risk of detrimental effect, including cumulative, to the natural and built environment, surrounding uses or the amenity of the area; or
2) it is in a larger settlement (population equivalent over 2000) where connection is currently constrained but is within the Scottish Water investment programme. In such cases:

• Systems must be designed and built to a standard to allow adoption by Scottish Water
• Systems must be designed so that in the future, they can be easily connected to the public sewer.

Where a private system is acceptable (within small settlements or small-scale development in the countryside) a discharge to land (either full soakaway or raised mound soakaway) compatible with the Scottish Building Standards Agency Technical Handbooks should be explored prior to considering a discharge to surface waters.

Other guidance

River Basin/Catchment Management Plans

2.10 River Basin Management Plans (RBMPs) ensure that public sector bodies, businesses and individuals work together to protect the water environment and address significant impacts by coordinating all aspects of water management. The WFD requires all member states to produce River Basin Management Plans which outline how the objective of reaching good ecological status for all waterbodies will be reached by 2015 (or later if longer timescales can be justified). Less stringent objectives may also be set with robust justification. The first River Basin Management Plan for the Scotland River Basin District 2009 – 2015 is available from SEPA www.sepa.org.uk/water/river_basin_planning.aspx.

2.11 The draft River Basin Management Plan and the North East Area Management Plan is available from SEPA www.sepa.org.uk/water/river_basin_planning/area_advisory_groups/north_east_scotland.aspx

2.12 The Rivers Spey, Esk and Dee Catchment Management Plans set out the aspirations for the management of the river's catchments:

- The River Dee catchment Management Plan www.theriverdee.org/why-have-a-plan.asp
- The River Spey Catchment Management Plan www.snh.org.uk/pubs/detail.asp?id=95
- The River South Esk Catchment Management Plan www.angusahead.com/southesk/

2.13 Additional information about other sources of guidance on planning and the water environment can be found at the end of this document.

Roles and responsibilities

2.14 Information on key roles and responsibilities of the various organisations mentioned in this guidance is set out in Appendix 2 (see p00).

3.0 Use of resources

3.1 This guidance supports more sustainable water resource use; seeking positive impacts on the environment in relation to water quality and quantity.

Sustainable water resource management - context

3.2 Policy 12 Water Resources promotes sustainable water resource management. The CNPA, will seek to minimise water resource use and prevent deterioration in the status of the water resources in the Cairngorms National Park- protecting, enhancing and where possible restoring its water environment. There is an need to manage our demand for a continuing supply of good quality water,whilst balancing the needs of wildlife and the environment reliant on sufficient river flows. The CNPA will not normally permit development which would result in the deterioration of a waterbody below the status required by the EC Water Framework Directive.

Water treatment/abstraction

3.3 The CNPA will seek to minimise the treatment and abstraction of water (see Glossary, see p00), ensuring that new development or engineering works requiring planning permission will not have significant adverse effects on the water environment. All proposals need to demonstrate that the proposed works, for instance water abstraction, will not have an adverse effect on the integrity of the river such as the natural flow regime of the watercourse, including low flow and drought conditions and impact on any habitats. All proposals should also demonstrate how demand management has been accounted for.

Engineering activities in the water environment

In order to meet the objectives of the WFD, developments should be designed wherever possible to avoid engineering activities in the water environment. SEPA prefer the water environment to be left in its natural state with engineering activities such as culverts, bridges, watercourse diversions, bank modifications or dams avoided wherever possible.

Where watercourse crossings are required, bridging solutions or bottomless or arched culverts which do not affect the bed and banks of the watercourse should be used. If the proposed engineering works are likely to exacerbate flood risk then a flood risk assessment should be submitted in support of the planning application.

Surface water drainage from construction sites must comply with General Binding Rules (GBR) 10 and 11:

- GBR 10: All construction sites operated after April 2007 must drain to an appropriate SUD system or equivalent.
- GBR 11: At a construction site the area of exposed soil that drains into a SUD system must be minimised.

(For more information, please refer to SEPA Guidance Note 8)

Renewable schemes

3.4 Renewable energy generation development schemes and their associated infrastructure must ensure the protection of the water environment. Please refer to the Cairngorms National Park Energy Generation Supplementary Planning Guidance and SEPA's Guidance for Developers of Run-of River Hydropower Schemes (www.sepa.org.uk).

Water quality

Ecological status

3.5 New development should not result in the deterioration of the current or potential ecological status or prejudice the ability to restore waterbodies to good ecological status. Development should prevent or limit the input of pollutants, including sediment, in to watercourses and groundwater.

3.6 Pollution leading to the deterioration of water quality can be from one of two sources: point source and diffuse source.

- **Point source pollution** is associated with discharges from pipe systems such as industrial discharges and sewage works.
- **Diffuse sources of pollution** includes run-off from roads, houses and commercial areas, run-off from farmland, and seepage into groundwater from developed landscapes of all kinds. Diffuse sources are often individually minor, but collectively significant. Diffuse pollution from both rural and urban sources is one of the major causes of poor water quality in Scotland today.

3.7 Advice on pollution prevention can also be found on SEPA's website and Pollution Prevention Guidelines are available at www.environment-agency.gov.uk/netregs/links/63875.aspx

Hydromorphology

3.8 New development should not have impact on the hydromorphology of a water body - the physical characteristics of the shape, the boundaries and its content.

3.9 The ecological classification system required under the WFD describes hydromorphological elements as 'supporting the biological elements'. This means SEPA monitors and assesses pressures/impacts on:

- hydrological regime (quantity and dynamics of flow, connection to groundwater);
- continuity (ability of sediment and migratory species to pass freely up/down rivers and laterally with the floodplain);
- morphology (ie physical habitat – compositions of substrate, width/depth variation, structure of bed, banks and riparian zone).

Natural Heritage – Key considerations

3.10 It is key to the success of Policy 12 Water Resources that it is recognised that almost all the Park lies within the catchments of four major rivers – the Don, Dee, South Esk and Spey. The Don, South Esk and Spey are designated as Special Area's of Conservation (SACs) and Sites of Special Scientific Interest (SSSI's), under the EC Habitats Directive, for their internationally important populations of protected species. In addition, a host of other designations, including Special Protection Areas (SPA's) and Ramsar sites, are in place.

3.11 This special protection means that there are additional requirements which developers may need to consider when planning any activity in or near the water. All development proposals must recognise the importance of biodiversity and crucially the conservation and enhancement of biodiversity.

3.12 All proposals that involve works to an SAC site, such as water abstraction and wastewater treatment, must comply with the requirements of the Conservation (Natural Habitats etc) Regulations 1994 as amended. In some instances this

will require an Appropriate Assessment, identifying and assessing any impacts on any European Protected Species (Atlantic salmon, sea lamprey, otter and freshwater pearl mussel) and other natural heritage interests as affected.

Riparian corridors

3.13 River and other watercourse corridors, with their associated bankside borders and vegetation can provide valuable habitats for a wide range of flora and fauna. The sustainable management of these areas as riparian zones to conserve or enhance water quality, habitat and species diversity is encouraged. Sustainable riparian vegetation management may be a suitable alternative to an engineering solution (eg bank reinforcement).

3.14 For more information, see the SEPA Engineering in the Water Environment Good Practice Guide Riparian Vegetation Management www.sepa.org.uk/water/water_regulation/guidance/idoc.ashx?...1

Construction and operation - method statements

3.15 Method Statements should be submitted as part of any planning application within or nearby to a watercourse. This should refer to how SEPA's pollution prevention guidelines (PPG's 05-06) would be adhered to during construction and operation of the site, the management of surface water runoff from construction and any discharge points for pumping tests www.sepa.org.uk/planning/construction_and_pollution.aspx

Provision of services - surface water and foul water

3.16 Developers need to make appropriate provision for the collection, treatment, decontamination and disposal of all surface and foul water arising from development sites. This should meet the standards required by SEPA, the Local Authorities and Scottish Water.

3.17 The CNPA may require new development to connect to public water supplies and wastewater treatment networks. However;

- Where this is either not possible or is unreasonable due to a lack of capacity or other constraints within the public systems, alternative and or interim measures may be permitted if they comply with best practice and relevant standards.
- Wherever possible, new or upgraded water supplies, water treatment facilities and wastewater treatment facilities ,should use the lowest impact solutions in terms of chemical and energy use and effects on the environment.

3.18 Sustainable drainage systems (SUDS) (see glossary p00) are a sequence of management practices and control structures designed to drain surface water in a sustainable way. SUDS slow down the speed of rainwater run-off, by ensuring that surface water is disposed of as close to the source as possible. This can prevent or reduce pollution. SUDS will be required to achieve sustainable disposal and/or reuse/recycling of surface water. The developer needs to demonstrate how measures will be maintained in perpetuity.

Safeguarding water supplies and wastewater treatment

3.19 Development will have no significant adverse impact on public or private water supplies or wastewater treatment services.

3.20 The Drinking Water Directive (DWD), Council Directive 98/83/EC, sets the standards for drinking water quality at the tap (including microbiological, chemical and organoleptic parameters). Private water can be supplied from surface water (rivers, burns and lochs) and this would normally need some form of treatment before being suitable for consumption, or from groundwater (springs, boreholes or wells) which can provide very clean sources of water.

3.21 Proposals for a new supply should be indicated as part of a planning application. The applicant will need to do a risk assessment of the likely private water source to identify any real or potential contamination risks, ie micro-organisms and chemicals, and identify steps or measures to remove or reduce the dangers. The relevant local authority Environmental Health Office will provide further advice.

3.22 The Planning Authority, in consultation with Scottish Water shall safeguard wastewater treatment works and services from development likely to pose a risk to the water environment.

Water resources - conservation and recycling

3.23 It is important to minimise the need for water abstraction, to help reduce its effects on the environment. Improving water efficiency involves the conservation, re-use and reclamation of water. Water use efficiency is a key component in good water management practice.

3.24 Development should encourage reduced water demand through the collection and recycling of water, the use of water efficient appliances, promoting rainwater harvesting and SUDS (installing water butts, using rainwater from roofs and using non toilet wastewater for toilet flushing). For further information, see the Cairngorms National Park Sustainable Design Guide and www.water-efficient-buildings.org.uk/

3.25 The Climate Change (Scotland) Act 2009 places a duty on Scottish Water to promote water conservation and water-use efficiency. Under the CAR regulations (see also para 2.6) there is also a duty for all abstractors to take all reasonable steps to secure the efficient and sustainable use of water. SEPA can impose conditions regarding this as part of the CAR licence.

3.26 The following information should be submitted with any planning application which relates to this part of the SPG – Use of resources;

- Information should include type and scale of proposals, construction and operation methods, details of any mitigation proposed and any measures to reduce the use of water resources;
- Appropriate supporting statements – justification of requirement of works, relevant technical documentation;
- Ecological/habitat surveys - if required;
- Risk Assessments for water supplies – if required;
- Construction and Operation method statements – best practice requirements;
- Applicants must check other regulatory requirements, to see what else is required, for example, CAR licence or services connections.

4.0 Flooding

4.1 This section outlines the approach taken by the CNPA to promote Sustainable Flood Risk Management.

4.2 Flooding is mainly a natural process which can occasionally be hazardous to people, property and infrastructure. All watercourses are susceptible and functional floodplains should be expected to flood periodically. Development pressures often arise on vulnerable, low lying areas, which are prone to flooding, or where development could exacerbate problems which exist elsewhere within the same water catchment area. Some locations are already at risk to intermittent flooding and climate change is expected to worsen that situation. In general, development should avoid flood risk in the first instance, in exceptional circumstances where the risk cannot be avoided, appropriate mitigation/alleviation measures are required.

Planning and flooding

4.3 Flooding is a material planning consideration. Planning authorities must take the probability of flooding from all sources – coastal, fluvial (watercourses) and pluvial (surface water) – and the risks, into account when preparing development plans and determining planning applications.
Policy 12 Water Resources requires that new development should:

- be free from significant risk of flooding;
- not increase the risk of flooding elsewhere;
- not add to the area of land which requires flood prevention measures;
- not affect the ability of the functional floodplain to store or move flood waters;
- not interfere detrimentally with the flow of water in the floodplain;
- not compromise major options for future river management.

4.4 The likelihood of a site being flooded is measured in terms of probabilities per annum, which range from very low (close to 0% probability) to very high (up to 100% probability). For planning purposes the functional floodplain will generally have a greater than 0.5% (1:200 year) probability of flooding in any year.

4.5 Development which would have a significant probability of being affected by flooding (within or adjoining 'medium to high' risk areas within 1:200 year event) or would increase the probability of flooding elsewhere should not be permitted. Any development which requires measures to address flood risk is only likely to be acceptable outside or adjoining these areas. Such measures may include land raising and underbuilding.

4.6 Scottish Planning Policy 2010 – Flooding and Drainage requires that:

- Developers and planning authorities should take a precautionary approach in taking decisions when flood risk is an issue;
- Piecemeal reduction of the floodplain should be avoided because of the cumulative effects of reducing storage capacity;
- The area of impermeable surface should be kept to a minimum in all new developments;
- Alterations and small scale extensions are generally outwith the scope of this policy, provided they are unlikely to have a significant effect on the storage capacity of the functional floodplain or affect local flooding problems

4.7 The Flood Risk Management (Scotland) Act 2009 sets in place a statutory framework for delivering a sustainable and risk-based approach to managing flooding. This includes the preparation of assessments of the likelihood and impacts of flooding, and catchment focused plans to address these impacts. By 2015 flood risk management plans will be in place across Scotland which should then be taken into account when development plans are prepared.

4.8 The Flood Risk Management (Scotland) Act 2009 places a duty on Scottish Ministers, SEPA, local authorities, Scottish Water and other responsible authorities including the CNPA to exercise their functions with a view to managing and reducing flood risk and to promote sustainable flood risk management. The main elements of flood risk management relevant to the planning system are assessing flood risks and undertaking structural and non-structural flood management measures.

4.9 Section 42 of the Flood Risk Management (Scotland) Act 2009 will, once commenced, amend the Town and Country Planning (Development Management Procedure) Regulations (Scotland) 2009 so that planning authorities will require applicants to provide an assessment of flood risk where a development is likely to result in a material increase in the number of buildings at risk of being damaged by flooding.

Flood mapping

4.10 An Indicative River and Coastal Flood Map has been produced by SEPA. This provides a Scotland-wide overview of the areas estimated to be at risk of flooding from rivers and other watercourses. However, the maps do not provide accurate information about the potential for flooding on individual sites. They are used to guide development to suitable sites and identify areas where more detailed information is required. Flood risk from other sources such as rising groundwater, surface water and drainage systems should also be considered. The Flood Map can be viewed at www.sepa.org.uk/flooding/mapping

4.11 Proposals for new development within identified or adjacent to potential flood risk areas will require consultation with SEPA and the local flood prevention authority – typically the local authority for the area (see Appendix 2, p00). If the planning authority is considering approving an application contrary to the advice of SEPA, or the local flood prevention authority, the application will be referred to Scottish Ministers.

Flood risk assessment

4.12 If any part of the proposed development site lies within or adjacent to the indicative map, a flood risk assessment (FRA) should be carried out by a qualified surveyor and submitted by the applicant. This should be done as early as possible in the process and adhere to the Technical Flood Risk Guidance for Stakeholders, available from SEPA www.sepa.org.uk/flooding/flood_risk.aspx

4.13 Preliminary or scoping studies may be undertaken prior to a fuller assessment. In exceptional circumstances, supporting information that demonstrates that the site is free from flood risk can be accepted. Discussions with the planning authority and SEPA prior to this, are recommended.

4.14 Pre-application discussions will help identify whether flooding is an issue. If it is, developers should commission a flood risk assessment and/or a drainage assessment. If the assessment shows that development is compatible with flooding policy it should also advise on prevention and alleviation measures such as flood defences.

Flood risk management measures

4.15 Flood protection measures are designed to protect against a specified height of flood water. The measures can reduce the probability of flooding but cannot eliminate it entirely. A development which requires additional flood protection measures will normally only be acceptable outside or adjoining the boundary of medium to high risk areas. Where flood protection measures are needed, a thorough justification, including an examination of alternative options should be provided. Elevated buildings on structures such as stilts are unlikely to be acceptable.

4.16 Flood risk management measures should target the sources and pathways of flood waters and the impacts of flooding. Where possible, natural features and characteristics of catchments should be restored to slow, reduce or otherwise manage flood waters. Flood risk management measures should avoid or minimise detrimental effects on the ecological status of the water environment. In all cases opportunities for habitat restoration or enhancement should be sought. The CNPA will seek to restore natural features for all development affecting water resources.

4.17 Landraising, which involves permanently elevating a site above the functional floodplain, may have a role in some circumstances where other alternatives are not practical. Proposals for landraising should be linked to the provision and maintenance of compensatory flood water storage to replace the lost capacity of the functional floodplain and have a neutral or better effect on the probability of flooding elsewhere.

4.18 Major proposals for landraising should be promoted through the development plan. Once complete, the land created by landraising will no longer be part of the functional floodplain. Engineering operations for landraising are a controlled activity under the Water Environment and Water Services (Scotland) Act 2003 and approval is required from SEPA before works can commence.

Surface drainage and culverts

4.19 The CNPA advocates a natural approach to drainage using natural drainage flows where practical, ie natural topography, wetlands and vegetation (see bio-retention table below) rather than engineered solutions. In other instances SUDS will be required. The Water Environment (Controlled Activities) (Scotland) Regulations 2005 require all surface water from new development to be treated by SUDS before it is discharged into the water environment, except for single houses. The aim of SUDS is to mimic natural drainage, encourage infiltration and attenuate both hydraulic and pollutant impacts to minimal adverse impacts on people and the environment. Surface water drainage measures proposed as part of a planning application should have a neutral or better effect on the risk of flooding both on and off the site. Where flooding is an issue, SUDS should be designed to mitigate the adverse effects of a storm inflow into the watercourse or sewer. Drainage is a material planning consideration. Planning authorities have a duty to consult Scottish Water and SEPA on related planning applications.

4.20 The primary role of SUDS is to manage the flow of rain water run-off from a site by treating it on site and reducing the loading on conventional piped drainage systems. They do not prevent on-site flooding from watercourses, although some SUDS, such as detention ponds, can slow the rate of run-off by temporarily storing the water. For detailed guidance on design criteria for SUDS please refer to Sewers for Scotland 2nd Edition and SUDS Manual

C697 (Construction Industry Research and Information Association, 2007) www.ciria.org

The level of surface water treatment

4.21 The level of surface water treatment required is dependant on the nature of the proposed development, for example residential or non residential, the size of development, and the environmental risk posed by the development which is principally determined by the available dilution and sensitivity of the receiving waterbody. SEPA require the following levels of treatment:

- **Residential developments of less than 50 houses** normally require one level of treatment for all hardstanding areas including roads. Best practice encourages one level of treatment to be source control, such as the use of permeable paving.
- **Residential developments of 50 houses or more** require two levels of treatment for all hardstanding areas including roads. The exception is run-off from roofs which requires only one level of treatment. SEPA recommend the second level of treatment to be a basin or pond, designed in accordance with Sewers for Scotland 2nd Edition.
- **Non-residential development, including offices and commercial developments,** require two levels of treatment for all hardstanding areas including roads. The exception is run-off from roofs which only requires one level of treatment. SEPA recommend the second level of treatment to be a basin or pond designed in accordance with Sewers for Scotland 2nd Edition.
- **Industrial developments** require three levels of treatment and two levels of treatment for roads. Limited areas, subject to particularly high pollution risk, such as yard areas, service bays, fuelling areas, pressure washing areas, and oil or chemical storage, handling and delivery areas, should be directed to the public sewer. Where industrial developments cannot connect to the public sewer, SEPA can provide further site specific advice on the best environmental solution.

Bio-retention and other alternatives to conventional drainage

4.22 Alternative approaches to conventional drainage are encouraged, including innovative drainage solutions such as green roofs, bio-retention areas and porous surfaces**.** These systems combine suitable vegetation with permeable surfaces to augment natural drainage patterns. These filter water through landscaped 'rain gardens' to a drainage layer below the surface providing cleaning, storage for and reducing the rate of run-off. These can have multiple benefits; reducing the need for substantial land-take and site works whilst promoting environmental benefits.

4.23 Culverts are a frequent cause of local flooding, particularly if design or maintenance is inadequate and can have a range of harmful local and system-wide impacts on the environment. Watercourses should not be culverted as part of a new development unless there is no practical alternative. Existing culverts should be opened whenever possible. If culverts are unavoidable, they should be designed to maintain or improve existing flow conditions and aquatic life. A culvert may be acceptable as part of a scheme to manage flood risk or where it is used to carry a watercourse under a road or railway. For further information on SEPA's position on culverts, please refer to SEPA's *Position Statement: Culverting of Watercourses* contains more detail and can be found at: www.sepa.org.uk/planning/engineering-water_environments.aspx.

4.24 Appropriate maintenance arrangements also need to be in place prior to the commencement of development. Many of the measures associated with SUDS can also have benefits for wildlife and landscaping, through the establishment of ponds, wetlands and other flood water storage areas.

Drainage assessment

4.25 The submission of a Drainage Assessment will be needed, where appropriate in line with Drainage Assessment – a Guide for Scotland.

4.26 A drainage assessment is site-specific and intended to clearly outline the impact that the proposed development has in both surface water and foul drainage terms. It should also consider flood risk where appropriate. A satisfactory means of foul and surface water disposal must be demonstrated and show that:

a. the site can be adequately developed;
b. an allowance has been made for any land-take required for proposed drainage facilities; and
c. due consideration has been given to the impact of the proposed development on the drainage catchment area.

4.27 The following information should be submitted with any planning application which relates to this part of the SPG – Flooding;

- Sufficient information on the development site, including type and scale of proposals, any mitigation proposed**;**
- Appropriate supporting statements – justification of requirement of works, technical documentation as required;
- Flood Risk Assessments – as required.
- Drainage Assessment – as required.
- SUDS or Surface Water Drainage statement.
- Justification for flood protection measures, such as landraising

5.0 Connection to sewerage

5.1 This section outlines how the CNPA aims to protect the water environment and its status by limiting foul drainage impacts.

5.2 The provision of sustainable drainage infrastructure is integral to improving and maintaining a good quality water environment. (For further information see SEPA Position Statement 06-08 - Policy and supporting guidance on provision of wastewater drainage in settlements: www.sepa.org.uk/planning/waste_water_drainage.aspx)

Development requirements – wastewater

5.3 Where proposed development is in, or close to an area where there is a public sewerage system, foul drainage from the development should be directed to that system. If the system has insufficient capacity, then the developer should contact Scottish Water to see if works are planned which will address this problem, or what contributions Scottish Water may require from the developer to address the constraint. Scottish Water is responsible for the provision of sewerage infrastructure for domestic sewerage, trade effluent and surface water. Details of Scottish Water's Delivery and Investment Plan is available at: www.scottishwater.co.uk

Sewerage connections

5.4 There will be a presumption against development which is not connected to the public sewerage network unless:

1) it is in a small settlement (population equivalent less than 2000) where there is no, or a limited collection system. In this instance a private system may be permitted where it does not pose or add to a risk of detrimental effect, including cumulative, to the natural and built environment, surrounding uses or the amenity of the area; or

2) it is in a larger settlement (population equivalent over 2000) where connection is currently constrained but is within the Scottish Water investment programme. In such cases:

- Systems must be designed and built to a standard to allow adoption by Scottish Water
- Systems must be designed so that in the future, they can be easily connected to the public sewer.

Population Equivalent (pe)

'pe' is the unit of measure used to describe the size of a wastewater discharge. It is a measure of the organic biodegradable load of an effluent prior to treatment. One population equivalent (1pe) has a five-day bicohemical oxygen demand (BOD) of 60 grams of oxygen per day.

Full details on how to calculate pe, along with information on BOD loading, are in the Code of Practice document Flows and Loads 2 available on the British Water website www.britishwater.co.uk

5.5 Where a private system is acceptable (within small settlements or small-scale development in the countryside) a discharge to land will be allowed(either full soakaway or raised mound soakaway) where there is no risk to groundwater. This should be compatible with the Scottish Building Standards Agency Technical Handbooks and should be assessed prior to considering a discharge to surface waters.

5.6 Where large-scale development proposals in an area already constrained or otherwise problematic, a Drainage Assessment should include a comprehensive section on wastewater drainage. This should examine the availability, both in terms of location and capacity, of public sewers and their ability to carry wastewater from development.

5.7 Where a public sewer is not available the developer should discuss with Scottish Water the possibility of providing a public sewer to carry wastewater to an existing wastewater treatment plant. Otherwise the developer will need to consider the provision of infrastructure for adoption. If private drainage arrangements are proposed, the developer should consult SEPA in relation to authorisation of discharge(s) of sewage effluent to land or controlled waters (a watercourse or loch).

5.8 If development proposals require other wastewater disposal arrangements it is recommended that pre-application discussions take place with the CNPA, Scottish Water and SEPA. The CNPA will secure the design, installation and maintenance of foul drainage systems by way of planning condition.

Appropriate details will require to be submitted to ensure appropriate maintenance.

5.9 The following information should be submitted with any planning application which relates to this part of the SPG – connection to sewerage;

- Foul Drainage arrangements statement and plan
- Justification for proposals
- Maintenance arrangement and responsibilities for private drainage systems

6.0 Further information

6.1 It is recommended that the following other sources of advice are read in conjunction with this guidance note.

6.2 Scottish Government publications
www.scotland.gov.uk/Topics/Built-Environment/planning
The consolidated Scottish Planning Policy 2010 - Flooding Section
Planning Advice Note 51: Planning, Environmental Protection and Regulation
Planning Advice Note 61: Planning and SUDS
Planning Advice Note 79: Water and Drainage
Planning Advice Note 61:Sustaiable Urban Drainage

6.3 All SEPA publications mentioned in this document are available at www.sepa.org.uk

6.4 Cairngorms National Park Authority publications
www.cairngorms.co.uk
Cairngorms National Park Sustainable Design Guide
Cairngorms National Park Supplementary Planning Guidance Natural Heritage

APPENDIX 1 - GLOSSARY

Abstraction is the removal or diversion of water from the water environment (e.g. river. loch, estuary, borehole, spring, wetland or the sea). It can be carried out by a variety of means including a pump, pipes, an engineering structure or works in a watercourse, a borehole or a well– permanently or temporarily.

Bio-retention area A depressed landscaping area that is allowed to collect runoff so it percolates through the soil below the area into an underdrain, thereby promoting pollutant removal.

CAR Water Environment (Controlled Activities) Regulations 2005

Culvert a structure with integral sides, soffit and invert, including a pipe that contains a watercourse as it passes through or beneath a road, railway, building, embankment etc. or below ground.

Deposition the dropping of material which has been picked up by water, typically sediment

Directives (EU) Set out the aims to be achieved by domestic legislation while leaving the way in which this is done to be decided by individual Member States. Most EC environmental laws take the form of Directives.

Drainage assessment a statement of the drainage issues relevant to a proposal and the suitable means of providing drainage. The length and detail should be proportionate to the issues. As appropriate it may include existing drainage systems and problems, infiltration, groundwater, surface water flow, foul and storm water disposal, SUDS and drainage related flooding issues (may also be called a Drainage Impact Assessment). See also PAN 61 paragraphs 23 - 24.

Environment Consists of all, or any, of the following media, namely, the air, water and land. The Environmental Protection Act 1990.

Erosion The removal of part of the land surface by wind, water, gravity or ice. Erosion is a natural process, but it has been increased dramatically by human land use practices.

Flood Liaison and Advice Group (FLAG) a non statutory advisory group of public and private sector representatives, convened by Councils to share concerns and knowledge and to provide advice on a wide range of planning and other flooding issues in an informal setting.

Floodplain The generally flat areas adjacent to a watercourse or the sea where water flows in time of flood or would flow but for the presence of flood prevention measures (also called the geographical floodplain). The limits of a floodplain are defined by the peak water level of an appropriate return period event. See also Functional Floodplain.

Flood prevention measures works including walls, new channels, embankments and flood water storage areas. Usually components of a flood prevention scheme (see below).

Flood risk assessment an assessment carried out to predict and assess the probability of flooding for a particular site or area and recommend mitigation measures including maintenance.

Functional floodplain the areas of land where water flows in times of flood which should be safeguarded from further development because of their function as flood water storage areas.

Good ecological status rivers, lochs, estuaries and coastal waters and must achieve the same health and diversity of plants and animals as would be expected in a state that is only slightly altered from their natural state. 'Ecological status' is a combined measure of the plants and animals present, the quantity of water available to sustain species, the physical structure of the water body which provides habitat for animals and plants and the chemical water quality. The emphasis is on the health and diversity of plants and animals that the water environment supports.

Groundwater Water held in water-bearing rocks, in pores and fissures underground.

Permitted Development Rights A form of general planning permission, granted under the General Permitted Development Order, enabling certain types of generally minor development to be undertaken without the need for a specific planning consent.

RBMP River Basin Management Plan- water resource management plan for 6-year period, defined in WFD.

Regulations (EU) Set exactly the same law throughout the entire Union and apply directly in all Member States: they do not have to be implemented by means of national legislation. Regulations are used where it is essential that identical measures apply in all Member States, for example, where products circulate throughout the Community.

Statutory undertakers Various agencies with legal rights to carry out certain development and highways works often exempt from planning permission for small works through the General Permitted Development Order. Generally speaking they are utilities companies.

SEPA Scottish Environment Protection Agency

SNH Scottish Natural Heritage

Soakaway full soakaway or raised mound soakaway

SUDS or 'Sustainable Urban Drainage Systems' are a sequence of water management practices and facilities designed to drain surface water in a manner that will provide a more sustainable approach than what has been the conventional practice of routing run-off through a pipe to a watercourse.

Water body a management unit of a river, burn, loch, estuary, coastal water or groundwater (groundwater is the water that lies underneath the ground surface in aquifers and rocks). Every type of water must be managed in the river basin planning process, but sometimes they are too large for effective management. Dividing the water environment into smaller units enables us to manage and report more effectively. A water body may be a single burn or loch, or it could be a stretch of river or an area of groundwater. All water bodies reported here are above a certain size (rivers have a catchment area of more than 10km2 and lochs have a surface area bigger than 0.5km2).

Watercourse -all means of conveying water except a water main or sewer (see Flood Prevention (Scotland) Act 1961.

Water environment is widely defined to encompass water quality and quantity, hydrology, hydromorphology and aquatic ecology of water bodies, river systems, wetlands and groundwater.

Water Framework Directive 'WFD' came into force on 22 December 2000 and establishes a new legal framework for the protection, improvement and sustainable use of all water bodies in the environment. That is, all rivers, canals, lochs, estuaries, wetlands and coastal waters as well as water under the ground.

Water treatment describes those processes used to make water more acceptable for a desired end-use. These can include use as drinking water, industrial processes and many other uses.

WEWS The Water Environment and Water Services (Scotland) Act 2003

WFD The Water Framework Directive (2000/60/ EC).

Wholesomeness Defined for public water supplies in the Water Supply (Water Quality) (Scotland) Regulations 1990. Defined for private water supplies in the Private Water Supplies (Scotland) Regulations 1992.

APPENDIX 2 – ROLES AND RESPONSIBILITIES

Scottish Government

- National Policy and Guidance on Flooding, freshwater quality, sewage treatment, conservation and use of water resources and provision of adequate water and sewerage services
- The Town and Country Planning System, national planning policy and legislation.
- Drinking Water Inspector sets standards and monitors quality

For more info see: http://www.scotland.gov.uk/Topics/Environment/Water

Scottish Environment Protection Agency (SEPA)

- Discretionary powers for the provision of Flood Warning for Scotland.
- Advice to Local Authorities on flood risk for planning purposes.
- Provision of information in response to public queries on flood risk areas and properties.
- Statutory consultee for planning applications that fall within the scope of the Schedule 5 (1) of the Town and Country Planning (Development Management Procedure (Scotland) Regulations and the Environmental Impact Assessment (Scotland) Regulations 1999 (as amended).
- Consultee at the discretion of individual planning authorities with regard to other types of planning applications. SEPA's representations on planning applications and appeals are a material consideration, although not necessarily an overriding one. (SEPA policy 19).
- Controlling discharges to water (surface, tidal and groundwater); authorising the abstraction and impoundment of water and authorising river engineering works in or near watercourses;
- Advice on general environmental matters

For further information see: http://www.sepa.org.uk/planning.aspx

Local Authorities (Planning authority)

- Establishment of Flood Liaison Appraisal Groups to provide practical guidance and information on flood risk and its implications for development to the Local Authority.
- Responsible for planning control.

National Park (Planning authority)

- Responsible for planning control
- Managing the water environment through the Park Plan

Scottish Natural Heritage

- Government body responsible for advising on the care, understanding, enjoyment and sustainable use of all of Scotland's natural heritage.
- Planning Authorities refer cases to SNH under the General Development Procedure Order (GDPO) (for SSSIs, NSAs, and the Habitats Regulations, NSAs or Environmental Impact Assessment).

For further information see: http://www.snh.org.uk/pdfs/polstat/tcps.pdf

Scottish Water

- Management of the discharge of surface water that enters their drainage systems.
- Provision of, maintenance of water supply and drainage infrastructure.