

## **FLOOD PREVENTION AND LAND DRAINAGE (SCOTLAND) ACT 1997**

### **BIENNIAL REPORT No. 7 NOVEMBER 2009**



**Culloden Burn West**

This document was revised as follows:-

Revision Status Indicator

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## Introduction

### **Flood Prevention and Land Drainage (Scotland) Act 1997**

In March 1997 the introduction of the Flood Prevention and Land Drainage (Scotland) Act 1997 instigated changes to the responsibilities and duties of Local Authorities in Scotland.

This Act amended the Flood Prevention (Scotland) Act 1961 and repealed sections of the Land Drainage (Scotland) Act 1930 and the Land Drainage (Scotland) Act 1941.

In respect of this Act the flooding referred to is the flooding of land, not being agricultural land. Flooding of agricultural land falls outwith the requirements of the Act.

The implications on The Highland Council of this Act impose the following additional requirements:-

- a **Assessment of Watercourses**, from time to time for the purpose of ascertaining whether any such watercourse is in a condition likely to flood.
- b **A Duty to Maintain Watercourses**, which are in a condition likely to cause flooding, or where works would substantially reduce the likelihood of such flooding.
- c **Notification of Local Authorities outwith the Area**. Where it appears to The Highland Council that any watercourse in the area is in a condition which is likely to cause flooding, outwith the area, the Council shall notify the local authority for the area in which that land is situated.
- d **Reports** shall be published, at two year intervals.

In recognition of these requirements The Highland Council prepared and implemented a Flood Prevention Policy, a copy of which is included in Appendix A of this report.

This report is published in accordance with reporting requirements of the Act identified in paragraph 1.d above.

Previous reports were published in November 1997, November 2000, November 2001, November 2003, November 2005 and November 2007.

### **Flood Risk Management (Scotland) Act 2009**

In 2009 the Scottish Government approved the Flood Risk Management (Scotland) Act 2009. The Act has received royal assent and is being commenced in sections. Upon receiving royal assent, only sections 3 to 6, 55, 71, 94, 95 and 97 of the Act

have been commenced. These are mainly interpretative provisions. The Government is now in the process of setting in place a workable timetable for commencing different Parts and Sections of the Act. Of key concern is creating a seamless transition from the 1961 Act to the new duties and processes set out in the Flood Risk Management (Scotland) Act 2009.

The Scottish Governments intention is to prepare two commencement orders. The first will cover Parts 1-3, 5, 8 and some of Part 6. The second order will deal with Part 4 and outstanding sections of Part 6 (LA functions). Both commencement orders will have implications for local authorities, and some of the provisions will be accompanied by transitional arrangements. Part 7 (Reservoirs) will be commenced at a later stage so as to meet the target date for transferring reservoir enforcement responsibilities to SEPA in 2011.

The first commencement order will come into force in time to ensure that we transpose the Floods Directive by the deadline of 26th November 2009. The second commencement order, which will be accompanied by transitional arrangements dealing with the transfer from the 1961 Act to the new statutory process, is likely to come into force in second half of 2010.

Local Authorities, SEPA and Scottish Water, along with other responsible bodies, will be responsible for implementing the Act. The most important responsibilities and duties for the Highland Council are:-

- Local flood Risk Management Plans
- Maintenance programmes and schedules
- Flood Prevention Orders which will include deemed planning approval

The Biennial Report following this 2009 report will be replaced by reports prepared as part of the Local Flood Risk Management Plan.

## **Flood Alleviation in the Highlands**

The Council have published a leaflet 'Flood Alleviation in the Highlands' a copy of which is included as Appendix F.

This leaflet seeks to give advice to the public on their responsibilities, coupled with details of the responsibilities of the Council, Scottish Water and the Scottish Environment Protection Agency (SEPA) in respect of flooding issues. It recommends that the public prepare for flooding and contains sensible precautions. The leaflet goes on to contain details of what to do if flooding occurs.

## Contacts

Should you need any information on any issues relating to flooding or for assistance during flooding events then please contact the following:-

### Normal Working Hours

Caithness	01955 607761
Sutherland/Easter Ross	01408 623434

Ross & Cromarty	01349 868440
Lochaber	01397 709000
Skye & Lochalsh	01478 612727

Inverness	01463 703111
Nairn	01667 703633
Badenoch & Strathspey	01540 664910

You can also contact your local Service Point who can put you in touch with the relevant office.

### Out of Hours Emergency Numbers

Housing Services	0845 700 2005
TEC Services/Social Work Services	0845 769 7284

## Reporting Requirements of the Flood Prevention and Land Drainage (Scotland) Act 1997

The Act states that each Local Authority in Scotland shall prepare and publish a report specifying:-

- a The measures which they consider that they require to take to prevent or mitigate the flooding of land in their area.
- b The measures which they have taken since the date of publication of their previous report to prevent or mitigate the flooding of such land.
- c All occurrences of flooding of such land since the publication of their previous report.

This report has been prepared to meet the reporting requirements of the Act, and has been subdivided into the three reporting headings specified above.

# Measures Required to Prevent or Mitigate the Flooding of Non Agricultural Land

## Introduction

In recognition of the impact of flooding on commercial and residential properties coupled with the new responsibilities placed on to the Highland Council as a result of the Flood Prevention and Land Drainage (Scotland) Act 1997, measures to prevent or mitigate flooding are being addressed on a number of fronts.

One issue being addressed is the control of the location and nature of future developments. Careful consideration of flooding issues and flood risk areas is made in assessing all planning applications and in the identification of land for development in local plans.

SPP (Scottish Planning Policy) 7 includes a flood risk framework which requires planners to respond to development proposals in known flood risk areas as follows:

Little or no risk area (less than 0.1% (1:1000)) - no general constraints.

Low to medium risk area (0.1% to 0.5% (1:1000 - 1:200)) - suitable for most development but not essential civil infrastructure.

Medium to high risk area (0.5% (1:200) ) or greater – in built up areas with flood prevention measures most brownfield development should be acceptable except for essential civil infrastructure; undeveloped and sparsely developed areas are generally not suited for most development.

Aside from policy implementation there are the reactive measures needed to address flooding events at locations which are known problem/at risk areas.

Known at risk areas vary significantly in size and impact, and as such differing solutions are identified. These vary from schemes where significant investment and capital build is necessary and Flood Prevention Orders are required to permit construction, down to minor maintenance works to alleviate localised flooding issues.

These strategies are further considered thus:

## **Implementation of The Highland Council Structure Plan**

The Highland Council's Structure Plan constitutes the Council's strategic land use planning framework.

When considering sustainable development it is fundamental that the risk from natural hazards is evaluated. To reduce the potential of flooding of future developments and to limit development in flood risk areas the Structure Plan addresses Natural Hazards and more specifically Flooding.

The section relating to Natural Hazards of the Structure Plan, see Appendix B, includes the following proposals:-

### **Proposal NH1 Flood Consultation Areas**

Local Plans will identify areas with a perceptible risk of flooding with assessment of development proposals within these areas for compatibility with flood risk.

### **Proposal NH2 Flood Appraisal Group**

The Council will establish a Flood Appraisal Group to provide a coordinated approach to flood management.

### **Proposal NH3 Integrated Catchment Management Plans**

The Council will support integrated catchment management plans.

The finalised Spey Catchment Management Plan was launched in June 2003. This provides an integrated management plan for the sustainable use of the water resource in the Spey catchment.

## **Local Plans**

The Council will require development proposals, in all but exceptional circumstances, to comply with the latest CIRIA document on the subject of Sustainable Drainage Systems guidance contained in the Sustainable Drainage Systems, namely "The SUDS Manual" 2007. Development proposals will be assessed for any requirement to provide related attenuation measures and where necessary, remedial works associated with existing drainage systems. There will be a strict presumption against development not associated with the open space functions of the "green" corridors adjoining rivers and burns as identified in the Local Plan, to avoid jeopardising their potential for disposal or attenuation of surface water.

## **Flood Risk**

Development proposals within areas known to be at risk from flooding will be assessed for their sensitivity according to the following hierarchy:

- HIGH (e.g. sheltered housing, hospitals, emergency services, major public venues)
- MEDIUM (e.g. housing development)
- LOW (e.g. golf course, car parks)

There will be a presumption against high sensitivity developments unless an exceptional need can be demonstrated. Proposals will be considered high risk if they pose an unacceptable threat to public safety, may cause pollution if flooded or may give rise to inordinate public expenditure on flood prevention works. The costs of providing necessary flood prevention works as a result of proposals will be met by developers whether on or off site and regardless of the level of sensitivity.

Medium and low sensitivity developments will be assessed against the following criteria:

Developers must demonstrate that any new building can be adequately protected from flooding and, where appropriate, remedial measures to alleviate the flood risk have been taken.

Evidence is provided that there is no adverse impact on the natural characteristics of the watercourse;  
Any such protective/alleviation measures will not involve The Council in inordinate public expenditure.

Developers must employ the use of best management practices in the disposal of surface water runoff.

Layout and building design must take account of the need to ensure proper evacuation procedures.

The Council supports preparation of Integrated Catchment Management Plans for the main rivers in the Plan area. This will enable flood appraisal and management in the context of wider development and land use activities. The establishment of a Flood Liaison and Appraisal Group involving partner agencies and other interests, facilitates a coordinated approach to projects and programmes, and advises on river-related works which do not require planning permission, consistent with Scottish Planning Policy 7.



## Highland Flood Liaison and Appraisal Group

Highland Flood Liaison and Advisory Group (FLAG) was set up in November 2002 and is an informal and advisory group tasked with promoting sustainable flood management for the whole of the Highland Council administrative area.

Highland FLAG is convened by the Council and meets on an occasional basis. A variety of people, from several different organisations, attend the group. These include planners, emergency planners and engineers from Highland Council, representatives from SEPA, SNH and Scottish Water and also an insurance representative.

The FLAG has been set up in order to obtain information on flood risk areas to be used in such things as formulating planning policies and advising on planning applications and land allocations. The group will also contribute to a range of other work including Catchment Management Planning, Sustainable Drainage Systems and other Building Control Matters

The Remit for the Flood Liaison and Appraisal; Group is:-

- To assist and promote sustainable flood management over the whole of The Highland Council administrative area.
- To obtain information on flood risk areas and to prepare maps for inclusion in both Emergency and Local Plans.
- To assist with the formulation of planning policy in relation to flooding issues with a view to preparation of a Guidance Note.
- To advise on significant planning applications, development briefs and proposed land allocations within or affecting areas of flood risk.
- To advise on proposals for flood prevention and alleviation works to make recommendations with regard to the desirability of such works.
- To seek ways of enhancing flood warning systems for example, by promotion of the use of Automatic Voice Messaging Systems.
- To identify, support or commission research into flood related matters.
- To provide a forum for reaching an integrated view on flood risk and its consequences, including coastal erosion and inundation.
- To contribute to the biennial preparation of the report under the Flood Prevention and Land Drainage (Scotland) Act 1997.
- To contribute to any other relevant work, including Catchment Management Planning, Sustainable Drainage Systems and any relevant Building Control matters.
- To set an annual work programme for actions.

For further information on Highland FLAG, please contact:

Tim Stott,  
Telephone: (01463) 702 265  
Email: [tim.stott@highland.gov.uk](mailto:tim.stott@highland.gov.uk)

## **Major Flood Prevention Schemes**

In response to known flood risk areas The Highland Council is currently appraising a number of flood prevention/alleviation schemes, for progression of statutory consents and future implementation, subject to the availability of finance. Schemes currently being evaluated are detailed below.

In September 2007 the Council's Transport, Environmental and Community Services Committee approved the progress of Flood Prevention Orders for areas where there is a history of major flooding.

### **Inverness, Nairn, Badenoch & Strathspey**

#### **River Ness**

Properties adjacent to the River Ness have been affected by flooding for a number of years and Mott Macdonald, specialist civil engineering consultants, were appointed to carry out a feasibility study and develop proposals to reduce the risk of flooding. This feasibility study is now complete, the Flood Prevention Order which permits construction has been approved and planning approval is being sought.

#### **River Lochy and Caol**

Caol and Lochside near Fort William has been the subject of increased and more frequent flooding in recent years. The flooding arises from both flood water in the River Lochy and tidal surge in Loch Linnhe combined to give an increased level of flooding in the adjacent residential areas. Scott Wilson, Scotland Ltd were appointed to carry out a feasibility study and develop proposals to reduce the risk of flooding. The feasibility study is complete, and the next stage in the process is to publish a Draft Flood Prevention Order which, if confirmed, will permit construction works to be undertaken. Consultants are studying tidal surges and an investigation is being undertaken to see if it is possible to give tide surge warnings.

#### **Dell Burn**

The Dell Burn in Inverness has a history of flooding; impacting on local residential properties. The frequency of this flooding appears to have increased in recent years Mouchel Parkman Consultants were appointed to carry out a feasibility study into potential flood mitigation measures in the area of Dell Burn. The feasibility study is now complete. It is proposed to publish a Draft Flood Prevention Order which, if confirmed, will permit construction works to be undertaken.

## **Millburn**

The Millburn has been the subject of increased flooding in recent years which has impacted on adjacent residential housing, commercial property and Millburn Academy. The Millburn is a small steep catchment which has seen high intensity rainfall with increased frequency in recent years, a common feature of global warming and climate change throughout the UK. Mouchel Parkman were appointed to carry out a feasibility study and develop proposals to reduce the risk of flooding. The feasibility study is now complete, and the next stage in the process is to publish a Draft Flood Prevention Order which, if confirmed, will permit construction works to be undertaken.

## **Inverness South West Flood Relief Channel**

There has been a history of flooding which has affected properties in the Lochardil area of Inverness. The flood risk will be reduced by the construction of a relief channel which will intercept and divert excess water in the burns during flood conditions. A Flood Prevention Scheme was published in July 2006. The Flood Prevention Order is approved and has been confirmed along with the relevant planning approval. It is anticipated that construction works will be undertaken in 2010.

## **Ross, Skye & Lochaber**

### **Acharacle Flood Prevention**

Recommendations were approved for the development of an alternative solution to the flooding at Moss Road, Acharacle. The current proposal to reduce the risk of flooding at Acharacle, which involves lowering the level of Loch Shiel during times of flooding and increasing the flow in the River Shiel, is no longer pursued due to the difficulties in resolving environmental issues. As an alternative to the original proposal, the development of a scheme to raise the level of Moss Road to ensure access is maintained during periods of flooding

## **Caithness, Sutherland & Easter Ross**

### **Wick Harbour River Piers**

The Council are currently reassessing the economic study undertaken for the previous improvements of the river piers so that the Scottish Government will be enabled to approve the construction of the final phase of the improvements to the piers to ensure their long term viability.

## Minor Flood Prevention Measures

### Ross, Skye & Lochaber

#### 1. Precautionary Measures Undertaken

Storm drain checks, are carried out on a fortnightly basis and during periods of heavy rain at the following locations:

#### **NORTH & TOWN AREA**

- A82 Caledonian Hotel, Achintore Road
- A830 Duncan MacDougals, Corpach (2 No.)
- A830 Treasurers of the Earth, Corpach (2 No.)
- A830 Opposite Hillview Drive, Corpach
- A830 Opposite Banavie School
- A830 Craignish, Corpach
- A830 Drumbuie, Corpach
- "Loch Leven" House
- B8004 - Opposite the Rugby Club, Banavie
- Ben Nevis Industrial Estate
- Swimming Pool (2 No.at rear of swimming pool)
- Police Station
- Lochview Estate
- Upper Achintore School
- Angus Crescent
- Pinegrove
- 2 Seafield Gardens, Fort William
- Corpach Kilmallie Cemetery
- Caol Service Road (adj to Canal)
- Caol BMX Track area
- Caol Foreshore Outfall pipes
- Invergarry – Garry Crescent
- Invergarry – School (Culvert)

#### **SOUTH – MONTHLY INSPECTIONS**

- Glencoe Village
- Oldtown, North Ballachulish

#### **BALLACHULISH**

- Argyll Cottages
- West Laroch Play Park
- St Brides School
- 36a West Laroch
- Tourist Information Office
- MacColl Terrace
- Between Lyn Leven guest house and Buckie Breer

## KINLOCHLEVEN

- Lovat Road
- Garbhein Crescent
- Brown Terrace
- Wades Road
- Foyers Road

## WEST

- Granite Square, Strontian
- Moss Road, Acharacle (monitor the loch level)
- Glencairn (monthly)
- Clanranald Terrace, behind houses (3 monthly inspection of manholes)
- Columba Road (new house) - monitor ditch ensuring free running

## PROBLEM AREAS

- **B8006 - Lochyside, Caol**  
There is a potential for more flooding when high tide combines with flood flows in River Lochy, resulting in flooding of adjacent roads and properties in a highly populated area.
- **Columba Road, Mallaig**  
New house at Columba Road from village road – will only cause problems if ditch is blocked.
- **Clanranald Terrace, Mallaig**  
Behind houses; 3 monthly inspection of manholes are carried out at this location
- **A82 Achintore Road**  
The Scottish Executive have issued an instruction to renew 2 new culverts where problems occur.
- **Glen Nevis** – High river levels.
- Garry Crescent, Invergarry – **Drains at the rear, system currently under investigation. Surface water problems.**
- Invergarry – **Primary School Culvert, system currently under investigation.**

## 2. Minor Flood Prevention Measures – Programmed for 2009/10

Precautionary measures as above

- The Birches, Achintore – Pipe size upgrade
- Bank Street, Fort William – Pipe system survey
- Invergarry Primary School – Pipe size upgrade
- Tomonie, Fort William – Contribution to drainage solution
- Garry Crescent, Invergarry – Relocate 1 gully and install 1-2 additional gullies and new pipe for discharging the surface water.

### **Inverness, Nairn, Badenoch & Strathspey**

Gynack Burn, Kingussie - Debris clearing works carried out to Gynack Burn from A86 High Street Bridge to Gynack Burn/River Spey confluence. These works were carried out during January/February 2008 following spate conditions in the Gynack Burn on Friday 25<sup>th</sup> January 2008. These works were carried out under the Water Environment (Controlled Activities) (Scotland) Regulations 2005 (CAR Reference Number: CAR/L/1018654).

### **Caithness, Sutherland & Easter Ross**

#### **Evelix**

Minor drainage improvements and flood relief drainage were implemented in the vicinity of Evelix and Camore in 2009.

#### **Evanton**

Drainage improvements and repairs are in progress in the vicinity of Swordale Road in Evanton.

#### **Watten Bridge Invert**

Following the Oct 2006 floods one of the inverts was completely washed away exposing and undermining the masonry pier. The 1.7m deep scour hole was flooded in concrete and a new apron formed. Additionally the overflow channel was cleared of silt and vegetation. The work was undertaken by John Gunn & Son Ltd for £35,000.

#### **Dunnet Drainage Improvements**

Improvements to the road drainage system were undertaken by the DLO to prevent flooding to two houses. This included excavating ditches, renewing existing pipes. Cost of works was approximately £40,000.

#### **Broubster Drainage Improvements**

Following the Sep 09 flooding the Brawlbin to Shurrery Road was flooded due to road water not discharging to the tailway. The DLO cleared the tailway at minimal costs.

#### **Camilla St Drainage, Halkirk**

Over the years, residential development outstripped Camilla Street's ability to deal with the increased run off. This resulted in one property being flooded on a regular basis. The DLO installed new gullies and carrier drains to allow the road surface water to outfall to an existing water course. Cost of works was £70,000

#### **B876 Bower Culvert**

The existing Bower culvert was responsible for flooding both the B876 and two adjacent houses. One house was under severe threat of repeated flooding. The existing masonry 450mm square B876 Bower Culvert was replaced with a 600 mm & 450 mm dia twin walled upvc pipes surrounded in C40 concrete. Downstream of the B876 the existing culvert which extended some distance was replaced with an open

watercourse to improve flow and aid inspection. The works were undertaken the DLO for £10,000.

## **Measures Taken to Prevent or Mitigate the Flooding of Non Agricultural Land Since November 2007**

### **Implementation of the Flood Prevention Policy**

Following the Roads and Transport Committee approval of the Flood Prevention Policy on the 11 June 1997, this policy has been implemented throughout The Highland Council Area. The policy is included as Appendix A of this report.

A thorough review of the requirements of the 'Act' was undertaken by The Highland Council, to ensure both compliance with the Act and also ensure a consistent approach to implementation by the Area Roads & Community Works Managers.

National guidance for the format of the biennial report is currently unavailable, so the review initially involved the appraisal of reporting procedures undertaken by the Local Authorities throughout Scotland, held by the Scottish Executive. Best practice from these reports was established and implementation guidance prepared and circulated.

The completed document contains clarification of responsibilities, legal advice, standardisation of approach and reporting and funding application issues.

Guidance on the referencing/scheduling of watercourses, requirement for an initial desk top assessment and prioritisation of watercourses together with identification of the related assessment regimes are contained therein. Examples of the reference schedule and assessment check chart are included as Appendix C.

An example of a watercourse assessment is included as Appendix D.

In addition to the assessment of watercourses, there is also the requirement and standardisation of Flood Reporting. See Appendix E.

### **Emergency Planning**

The Highland Council have an Emergency Planning Unit whose responsibility it is to plan for emergency events and also co-ordinate resources in reaction to emergencies. Flooding is covered and co-ordination of response to flooding events occurs.

An emergency plan, in respect of flooding, has been developed from evaluation and appraisal of the effectiveness in responses to previous flood events.

The emergency plan is triggered on identification of the possibility of a flood using the Scottish Environment Protection Agency (SEPA) monitoring system, Met Office

Severe Weather Warnings and computer 'Flood Modelling'. Warnings would be issued by Emergency Planning directly to Transport, Environmental and Community Services duty staff and a flood support group would convene at The Highland Council, Emergency Operations Centre, Inverness.

This group is drawn from:

- a The Highland Council
- b SEPA
- c Police
- d Fire Service, and
- e HM Coastguard, if applicable.

The object of these parties in meeting is to alert relevant bodies to the flood risk, establish availability of resources and implement a coordinated response, with the aim of minimising and managing the impact of any flooding.

All relevant information would be available to this group. The bulk of the information would be obtained from river telemetry and weather-forecasting, however additional information will be obtained from actual rainfall, lying/melting snow, observers, tide tables, tidal surge data and historical information from previous events.

### **National Helpline**

A development that came into force on 1 November 2001 is that of a "Floodline", this is a telephone and internet Helpline, where members of the public can telephone or visit the SEPA website to obtain information on the state of flooding or the conditions of watercourses and rivers in their local area. It is based on a similar system, operated by the Environment Agency, which has been running in England and Wales for some time.

The warning element is based on one or more of the following conditions being announced during television and radio weather broadcasts and programmes, note Inverness and Nairn are used as an example:

A "Flood Watch (flooding possible)" has been issued for the Inverness and Nairn area.

A "Flood Warning (flooding expected)" has been issued for the Inverness and Nairn area.

A "Severe Flood Warning (severe flooding expected)" has been issued for the Inverness and Nairn area.

The "All Clear (there are no longer any Flood Watches or Flood Warnings)" has been issued for the Inverness and Nairn area.

The National "Floodline" number is 0845 988 1188

"Floodline" can also be accessed on-line at the SEPA website [www.sepa.org.uk](http://www.sepa.org.uk)



It should be recognised that the helpline information is based on the telemetry system (remote flow monitoring) operated by SEPA. There are a limited number of telemetry sites throughout the Highlands and these are restricted to major catchments only.

## **Flood Alleviation Maintenance Works**

The Highland Council is divided into 3 Areas, each administered by an Area Roads & Community Works Manager within TEC Services. Flooding events are managed by the relevant Area Roads & Community Works Manager.

It is the role of the Area Roads & Community Works Manager to initially assess the flooding event and take such emergency measures as deemed appropriate. Often flood events are localised and no residential or commercial properties are affected. Where the cause of the flooding is established and remedial measures are of minimal costs, then these are undertaken.

Works that fall into this category are gully emptying, offlet cutting, removal of vegetation, removal of debris and the like. These works are usually undertaken as an emergency response.

Where flooding events are known to re-occur, local procedures are in place to implement signing, sand bagging and the like at times of impending flood or during flood events.

Due to the minor nature of these floods the reporting of these events are not routinely logged.

## **Minor Reported Works Relating to Flooding**

### **Ross, Skye & Lochaber**

#### **Measures Taken For Flood Prevention since October 2007**

Work to the following locations was carried out in order to prevent flooding

- Glasdrum, Fort William – Flood prevention improvements
- B849 Tigh Beagh – Flood prevention improvements
- Hillside Estate, Fort William – Inlet improvements
- Glencoe Village(Police Station) – Installed additional culvert in addition to existing.