FLOOD RISK AND DRAINAGE IMPACT ASSESSMENT FOR NEW DEVELOPMENTS TECHNICAL GUIDANCE

Contents

1 INTRODUCTION

Flooding is an act of nature, which cannot be completely eradicated but can be managed to reduce the potentially devastating effect on people, property, business and cultural heritage. Within Moray, there are a number of areas at risk of flooding from all sources, including rivers, the sea, surface water and ground water.

The Flood Risk Management (Scotland) Act 2009 (the Act) places a duty on Local Authorities to exercise their functions with a view to managing and reducing overall flood risk.

In line with the requirements of the Act, the Council wants to steer new development away from areas at risk of flooding by requiring developers to consider, at an early stage in the planning process, the susceptibility of their development to flooding and the impact it would have on flood risk elsewhere.

Role and Purpose of Document

Scottish Planning Policy (SPP) requires planning authorities to take account of flood risk when considering new development. **This document provides advice to developers on the information required to support planning applications.** Flood risk and drainage should be assessed at an early stage in the development process by a competent and experienced professional. The location, layout and design of new developments are critical factors when determining the probability and impact of flooding and designing drainage systems.

Detailed information on the concept of 'flood risk' i.e. the probability that a particular magnitude of flood will occur sometime in the future is available from publications such as CIRIA C624 and SEPA's Technical Flood Risk Guidance for Stakeholders.

2 HOW TO USE THIS DOCUMENT

The aim of this document is to improve the design and implementation of developments with regard to flood risk and drainage. This guidance is aimed primarily at developers but its themes may be of interest to the wider public. It explains the Council's position regarding flood management and the responsibilities of other parties (refer to Appendix 4) with an interest, including developers, landowners, Scottish Government, Scottish Water, Scottish Environment Protection Agency (SEPA)and individual householders.

This guidance provides information on the issues that should be considered with regard to flood risk and drainage when planning a new development and the documentation developers are required to submit in support of a planning application. The level of detail required is proportionate to the size and location of the proposed development. Small scale developments will require fairly basic information while larger developments will require more detailed analysis of flood risk and drainage requirements.

It is expected the information submitted will demonstrate that the proposed development is not at risk of flooding and will not increase flood risk elsewhere. The application must also include robust and sustainable drainage proposals. This information should be completed by an appropriate professional, as set out in this document. If the proposed development does not comply with this guidance the application may be refused.

3 PLANNING AND REGULATORY FRAMEWORK

Scottish Planning Policy (SPP) requires planning authorities to take into consideration the probability of flooding from all sources and the risks involved when preparing development plans and determining planning applications Planning Advice Note 69 provides advice on good practice and other relevant information.

Moray Council's general approach to flood risk is to encourage developers to avoid development on flood risk areas; specify the requirements for assessing flood risk where appropriate and to embrace a sustainable approach to flood management.

This document sets out guidelines for developers on what should be considered before planning a development and information regarding flood risk that may be required to support a planning application. Main Issues Report 2017 draft policies regarding drainage and flood risk management are provided below:

Extract from DP1 – Development Principles

Water environment, pollution, contamination

a) Acceptable water and drainage provision must be made, including the use of sustainable urban drainage systems (SUDS) for dealing with surface water including temporary/ construction phase SUDS (see Policy EP6;
b) Proposals must avoid areas at risk of flooding and where necessary carry out flood management measures (see Policy EP6);
c) Proposals must avoid major hazard sites and address any potential risk of pollution including ground water contamination in accordance with recognised pollution prevention and control measures;
d) Proposals must protect and wherever practicable enhance water features through for example naturalisation of watercourses by introducing a more natural planform and removing redundant or unnecessary structures;
e) Proposals must address and sufficiently mitigate any contaminated land issues;
f) Make acceptable arrangements for waste collection and management and encourage recycling;
g) Avoid sterilising significant workable reserves of minerals, prime agricultural land or productive forestry;
h) New development should not be located in areas at flood risk or if they are likely to increase flooding elsewhere. Exceptions to this would only be considered in specific circumstances, e.g. extension to an existing building or change of use. Where this exception is applied the

proposed development must include resilience measures such as raised floor levels and electrical sockets. The developer must also demonstrate that the proposed development will not increase flood risk elsewhere;

i) Proposals must avoid areas at risk of coastal erosion.

Development impact assessments

The Council will require applicants to provide impact assessments in to determine the impact of a proposal. Assessments may be asked to determine the impacts upon the environment, transport network, town centres, noise, air quality, landscape, trees, flood risk, protected habitats and species, contaminated land, built heritage and archaeology.

EP6 MANAGING THE WATER ENVIRONMENT

Flooding

New development will not be supported if it would be at significant risk of flooding from any source or would materially increase the possibility of flooding elsewhere.

Proposals for development in areas considered to be at risk from flooding will only be permitted where a flood risk assessment to comply with the recommendations of Scottish Planning Policy and to the satisfaction of Scottish Environment Protection Agency and the Council is provided by the applicant.

There are different levels of flood risk assessment, dependent on the nature of the development. The level of should be discussed with the Council prior to submitting a planning application.

Level 1 – is a flood statement with basic information with regard to flood risk.

Level 2 – full flood risk assessment providing details of flood risk from all sources, results of hydrological and hydraulic studies and proposed mitigation. Assessments must demonstrate that the development is not at risk of flooding. All flood risk assessments must be signed off by a competent professional.

The Flood Risk Assessment and Drainage Impact Assessment for New Development Technical Guidance provides further detail on the information required.

Due to continuing changes in climatic patterns, the precautionary principle will apply when reviewing any application for an area at risk from inundation by

floodwater. Proposed development in coastal areas must consider the impact of tidal events and wave action when assessing potential flood risk.

The following limitations on development will also be applied to take account of the degree of flooding as defined in Scottish Planning Policy;

a) In areas of little to no risk (less than 0.1%), there will be no general constraint to development.
b) Areas of low to medium risk (0.1% to 0.5%) will be considered suitable for most development. A flood risk assessment may be required at the upper end of the probability range i.e. (close to 0.5%) and for essential civil infrastructure and the most vulnerable uses. Water resistant materials and construction may be required. Areas within this risk category will generally not be suitable for civil infrastructure. Where civil infrastructure must be located in these areas or is being substantially extended, it should be designed to be capable of remaining operational and accessible during flooding events.
c) Areas of medium to high risk (0.5% or above) may be suitable for:

- Residential, institutional, commercial and industrial development within built up areas provided that flood protection measures to the appropriate standard already exist and are maintained, are under construction, or are a planned measure in a current flood management plan;
- Essential infrastructure within built up areas, designed and constructed to remain operational during floods and not impede water flow;
- Some recreational, sport, amenity and nature conservation uses, provided appropriate evacuation procedures are in place, and
- Employment related accommodation e.g. caretakers or operational staff.

Areas within these risk categories will generally not be suitable for;

- Civil infrastructure and most vulnerable uses;
- Additional development in undeveloped and sparsely developed areas, unless a location is essential for operational reasons e.g. for navigation and water based recreation, agriculture, transport or utilities infrastructure (which should be designed to be operational during floods and not impede water flows), and
- An alternative, lower risk location is not available and
- New caravan and camping sites

Where development is permitted, measures to protect against or manage flood risk will be required and any loss of flood storage capacity mitigated to achieve a neutral or better outcome**.** Water resistant materials and

construction should be used where appropriate. Elevated buildings on structures such as stilts are unlikely to be acceptable.

Surface Water Drainage: Sustainable Urban Drainage Systems (SUDS)

Surface water from development should be dealt with in a sustainable manner that has a neutral effect on flooding or which reduces the risk of flooding. The method of dealing with surface water should also avoid pollution and promote habitat enhancement and amenity. All sites must (except single houses) be drained by a sustainable drainage system (SuDS) designed in line with CIRIA guidance). Drainage systems should contribute to enhancing existing “blue” and “green” networks while contributing to place-making, biodiversity, recreational, flood risk and climate change objectives.

Specific arrangements should be made to avoid the issue of permanent SUD features becoming silted-up with construction phase run-off. Care must be taken to avoid the spreading and/or introduction of invasive non-native species during the construction of all SUD features.

Applicants must agree provisions for long term maintenance of the SUDS scheme to the satisfaction of the Council in consultation with Scottish Water as appropriate.

All developments of less than 10 houses or non- householder proposals under 500 square metres will need to provide a drainage statement. A Drainage Assessment will be required for developments of 10 house or more, industrial uses, and non-residential proposals of 500 square metres and above and must be signed off by a competent professional.

The Flood Risk Assessment and Drainage Impact Assessment for New Development Technical Guidance provides further detail on the information required.

Water Environment

Proposals, including associated construction works, must be designed to avoid adverse impacts upon the water environment and should seek opportunities for restoration or enhancement, if appropriate. The Council will only approve proposals impacting on water features where the applicant provides a satisfactory report that demonstrates that any impact (including cumulative) on water quality, water quantity, physical form (morphology), river hydrology, sediment transport and erosion, nature conservation (including protected species),fisheries, recreational, landscape, amenity, and economic and social impact can be adequately mitigated.

The report should consider existing and potential impacts up and downstream of the development particularly in respect of potential flooding. The Council

operates a presumption against the culverting of watercourses and any unnecessary engineering works in the water environment.

A buffer strip of at least 6 metres between any new development and all water features is required and should be proportional to the bank width (see table below). These should be designed to link with blue and green networks and can contribute to open space requirements. Developers may be required to make improvements to the water environment as part of the development. Where a Water Framework Directive water body specific objective is within the development boundary, developers will need to address this within the planning submission.

Width of watercourse (top of bank)	Width of buffer strip (either side)
Less than 1m	6m
1-5m	6-12m
5-15m	12-20m
15m+	20m+

4 CONSIDERATIONS FOR NEW DEVELOPMENTS

Before a planning application is lodged for a new development the following flood risk and surface water management matters should be considered:

1. Is the development site at risk of flooding from any source?

2. Will the development lead to increased flood risk elsewhere?

3. Is it possible to provide safe access and egress during flood events?

4. How will surface and ground water from the site be managed pre-and post-construction?

5. Can surface and ground water be managed in a sustainable way, in line with SEPA's SuDS requirement during and after construction and who will be responsible for the ongoing management of the SuDS?

5 FLOOD RISK ASSESSMENT (FRA)

Where Development Management, in consultation with the Flood Risk Management Team, considers there might be a risk of flooding to a proposed development or that the development may increase flood risk elsewhere, it will require a FRA be submitted in support of the application. If the application does not have the required supporting information then it may be refused.

It is advisable that anyone wishing to apply for planning permission first check if the proposed development site is considered to be at risk of flooding. Information on flood risk can be found at http://www.sepa.org.uk/flooding.aspx.

Listed below are the basic requirements for a FRA. This is not exhaustive as proposed developments will be assessed on the particular characteristics and scale of the site. If the FRA indicates the proposed development site is at risk of flooding, development will not be permitted.

5.1 Flood Risk Management Guidelines for Developments

- The FRA should demonstrate the development is not at risk of flooding during a 1 in 200 year flood event (including an allowance for climate change). A key requirement of the FRA is it must consider all sources of flooding (with the specific exclusion of internal sewer flooding as defined in the Act) and demonstrate how mitigation methods will be managed. With regard to coastal flood risk this should allow for surge and wave action as well as the astronomical tide level. The FRA will be required to certify that any flood risk associated with the development can be managed now and for the lifetime of the development, taking into account the potential effects of climate change. It should also demonstrate that the development will not increase the risk of flooding elsewhere.

- As set out in SPP “Land raising should only be considered in exceptional circumstances, where it is shown to have a neutral or better impact on flood risk outside the raised area. Compensatory storage may be required.”

- The adoption of flood mitigation measures may be acceptable in some circumstances (such as a Brownfield site) but avoidance would be the Council’s initial objective.

- In circumstances where mitigation is considered acceptable, the developer must demonstrate the measures will not increase flood risk

elsewhere. Mitigation measures should include an allowance for freeboard and climate change.

5.2 Levels of Flood Risk Assessment

There are different levels of FRA, dependent on the nature of the development.

- Level 1 is a statement providing basic information about the development site with regard to flood risk and applies to developments of less than 10 dwellings or non-residential developments of less than 500 square metres.

- Level 2 is a full Flood Risk Assessment providing details of: the proposed development; flood risk from all sources; results of hydrological and hydraulic studies; and proposed mitigation.

It is recommended that an appropriate level of FRA be carried out as soon as the site is considered for development. The level of FRA required should be discussed with the Council prior to submitting a planning application. The FRA should be completed by a professional with relevant experience in flood risk and drainage design. Guidance on appropriate levels of FRA required can be found in CIRIA Report 624 Development and flood risk – guidance for the construction industry, which can be purchased at CIRIA online bookshop.

6 DRAINAGE IMPACT ASSESSMENT (DIA)

Drainage is a material consideration at the planning stage of a development and due consideration must be given to the impact of the proposed development, both during and after construction.

A DIA is a report prepared by the developer, demonstrating the site specific drainage issues relevant to a proposal and the suitable means of accommodating these drainage needs. The DIA should cover surface water and foul drainage. Early discussions with the Council, SEPA and Scottish Water are encouraged for applications of a significant scale.

Surface water should be drained according to the principles of Sustainable urban Drainage Systems (SuDS). The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR) make SuDS a requirement for all new development constructed after April 2007. The only exception to this is a single dwelling and its curtilage, or if the development discharge is to coastal waters.

The requirements for the DIA should be proportionate to the scale of the proposed development. The Council will request a Drainage Statement for small developments and a full DIA for larger developments. The Drainage Statement and the DIA should be submitted with the planning application. If the required drainage information is not submitted with the application then it may be refused.

6.1 Drainage Statement

All developments of less than 10 new dwellings or a non-householder extension under 500 square metres, will need to provide a drainage statement. This statement should describe the proposed drainage arrangements for the development, e.g. a private drainage system such as a soakaway or connection to Scottish Waters drainage network. Plans submitted with the application should include the proposed layout of the drainage proposals. If the proposed drainage system involves infiltration, information on ground conditions should also be provided.

6.2 Drainage Impact Assessment

A full DIA will be required for all proposed developments other than those identified above. The DIA should meet the basic requirements listed below. Advice regarding specific requirements for major applications will be provided at pre-application consultation stage.

- The DIA should demonstrate that the surface water drainage system adopts Sustainable urban Drainage System (SuDS) principles and specifications in accordance with current legislation and guidelines, such as CIRIA C697 – The SuDS Manual, Sewers for Scotland 22nd Edition – A design and construction guide for developers in Scotland, and Water Assessment and Drainage Assessment Guide.

- The SuDs principles must conform to General Binding Rules 10, 11 and 21 under the Controlled Activities Regulations (CAR) and developments of more than one thousand properties will require a CAR licence.

- Any discharge to a watercourse must have the appropriate permission from the Council and Scottish Environment Protection Agency (SEPA), in terms of compliance with the relevant CAR General Binding Rule. Discharge to a sewer must be agreed with Scottish Water and the letter of agreement should be included in the DIA.

- The DIA should demonstrate, that the post-development runoff rate does not exceed the pre-development runoff rate or increase flood risk through discharge to a receiving watercourse.

- Details of any flow limiting device(s) should be included in the DIA. If discharging to a body of water, the proposed rate of discharge, point of discharge and outfall structure should be included.

- Subsoil porosity test for proposed infiltration devices should be undertaken in line with the requirements in Building Research Establishment (BRE) Digest 365, which can be purchased at BREbookshop.com, or similar recognised methodology (developer to make clear which methodology has been used). These tests must be representative, i.e. they must be taken on or near the proposed area for infiltration.

- The requirements for drainage should be taken into account when determining the overall layout of the development. For large developments with separate zones that will be constructed at different stages or by different developers, a drainage master plan covering the whole development will be required.

- The capacity of the drainage system including attenuation measures such as SuDS features should be designed to withstand a 1 in 30 year event, without surcharging.

- Exceedance events up to and including the 1 in 200 year event should be contained and managed on site, such that they do not increase flood risk. Details of the method used to manage this flow should be provided in the DIA. This method should also be shown on the general arrangement drawing.

- If attenuation systems take longer than 24 hours to drain completely, long duration events should be assessed to ensure that storage is not overwhelmed.

- To aid review and understanding, all calculations should be annotated to provide descriptive text of the logic, reasoning and methodology used.

- A schedule detailing inspection and maintenance arrangements for the entire drainage system should be submitted at the same time as the design. This document should include how the various elements are accessed for maintenance operations – as per Construction Design Management (CDM) 2015.

- The body responsible for management of the SuDs system should be identified in the DIA and a letter of agreement with the responsible body should be included. If the overall management of the system is to be undertaken by a property manager employed jointly by the property owners, this arrangement should be made clear in the title deeds.

- The Council will not assess or comment on options for dealing with foul water. However, they should be included in the DIA for submission to Scottish Water and / or SEPA for approval, depending on the preferred option.

7 DRAINAGE OF THE ROAD

If the road is to be adopted by the Council the developer should consult the Council's Transport Development Section before submitting the planning application.

When producing a DIA, drainage of the road network must be considered. Roads are drained either by off-the-edge diffuse drainage to grass filter strips and swales or stone filled filter trenches; or by point collection in gullies and other off-lets for discharge to sewers, trenches, swales, etc. While gullies have been commonly used in the past they should now be considered as a last resort. A more sustainable approach will be favoured by both Scottish Water and the Council as roads authority.

Road drainage is designed for the annual or 1 in 2 year return period storm, but systems should be able to accommodate up to a 1 in 30 year storm without flooding. Storms greater than 1 in 30 years will cause water to flow/pond on the road surface. These flows should be managed for up to and including 1 in 200 year event plus climate change, to reduce the risk of flooding to property.

Guidance on roads drainage is available in SuDs for Roads

8 FINAL DRAINAGE DESIGN

A final drainage design should be submitted and approved by the planning authority (in consultation with SEPA for larger scale developments) before the commencement of any development.

The Council must be given the opportunity to inspect drainage systems during and after construction. As built drawings of the drainage systems must be submitted to the Council's Flood Risk Management Team on completion of the development.

9 CERTIFICATION, CHECKLIST AND ACCURACY OF INFORMATION.

Level 1 Flood Risk Statement and Drainage Statement may be completed and submitted by the applicant, architect or agent acting for the client.

Level 2 Flood Risk Assessments and Level 2 Drainage Impact Assessments must be undertaken and signed-off by a competent professional who is a Chartered member of a relevant professional institution, with experience of flood risk/drainage assessment management.

The Council requires FRAs and DIAs to be submitted with a signed compliance certificate (refer Appendix 2 and 3) to certify the assessments have been carried out in accordance with this Guidance, relevant documents and legislation. An individual certificate is required for each assessment.

Evidence that the signatory holds Professional Indemnity Insurance, up to and including the value of £1,000,000, for each and every claim, must be submitted with each certificate. Evidence will take the form of a copy of the insurance policy, and a valid certificate of insurance.

It is the responsibility of the author(s) to ensure that the detailed calculations and computations are technically accurate.

A checklist providing a summary of key information in line with the Council's requirements (refer Appendix 1) should be attached to the front cover of the FRA and DIA.

10 ADOPTION OF SUDS

The Scottish Government has charged Scottish Water and Local Authorities (as Roads Authorities) to make the most cost effective arrangements for draining new development sites. This will involve adopting the drainage scheme on completion of a development where the road is to be adopted. The ongoing maintenance of this system would then be agreed by Scottish Water and the Local Authority under Section 7 of the Sewerage (Scotland) Act 1968.

Details of the framework for these agreements are currently under discussion. Once agreed the technical standards required to allow Scottish Water and the Local Authority to adopt new drainage systems will form part of this guidance document.

Until such time as this framework is agreed, developers shall provide details of the party responsible for the long term maintenance of the drainage system in each new development. If the overall management of the system is to be undertaken by a factor employed collectively by the property owners, this arrangement should be made clear in the title deeds. This information should be provided at detailed planning stage.

11 RIPARIAN BUFFER STRIP AND OWNERSHIP

The Council will seek an appropriate buffer strip between the top of the bank of any body of water within an application site and the proposed new development as per draft policy EP6 Managing the Water Environment.

The required buffer strips are set out in the table below and are proportionate to the width of the watercourse.

Width to watercourse (top of bank	Width of buffer strip (either side)
Less than 1m	6m
1-5m	6-12m
5-15m	12-20m
15m+	20m+

This strip should be kept free from any development in order to allow access to the waterbody for the purpose of assessment and maintenance, to ensure bank stability and aid water and ecological quality. Riparian buffer strips may be secured by a planning condition.

A wider strip may be requested to allow for watercourse migration, in areas with erodible soils or steeply sloped river banks. The additional width required will be assessed on a case-by-case basis and will be proportionate to the nature of the watercourse at the development site and the associated risk. This request would be made in consultation with the Flood Risk Management Team.

Where a buffer strip is required there should be no encroachment of this strip during any stage of the development. Title to this area should not be sold to individual householders and should not form part of the garden ground, i.e. boundary fences and walls should be erected outside the buffer strip. Ownership and maintenance responsibility should stay with the developer or its factor.

12 DISCLAIMER

This document is for information purposes only and is a statement of Moray Council's requirements in relation to Flood Risk Assessment and Sustainable urban Drainage Systems. Applicants will be required to satisfy themselves as to the current statutory and/or legal requirements in relation to Flood Risk Assessment and Sustainable urban Drainage Systems.

APPENDIX 1 – CHECKLIST

Flood Risk

Level 1 Flood Risk Statement - Small scale developments where flood risk is not expected/ known			
Essential	**Document Reference**	**Source**	**Signatory (e.g.** Architect/ Applicant/ Agent)
Brief statement/ screening. General description of the development, its size, location and surrounding topography. Description of existing drainage arrangements on site and any sewers. Flood Risk from all sources considered/ commented on (based on authors' knowledge/ observations/ experience). Reference to SEPA flood maps where applicable			.

Level 2 Flood Risk Assessment- Where there is known risk within SEPA's 200yr flood extents. Larger scale developments > 10 no. residential properties or non-residential properties > 500m^2 (offsite risk of flooding may increase)			
Essential	**Document Reference**	**Source**	**Signatory (e.g.** Civil Engineer/ Hydrologist or equivalent Chartered Member of professional institution e.g. ICE, CIWEM, ISTRUCTE)

As Flood Risk Statement providing a full report including drawings/ calculations/ figures. Flood risk from all sources considered. Desk study approach. Consultation with SEPA & Scottish Water. Details of proposed development design/ mitigation measures. Results of hydraulic / hydrological modelling or justification why this is not required. Details of proposed flood resilient materials. Topographic survey data used to assess flood routing / depths. Calculations for provision of compensatory storage.			.

Drainage

Level 1 Drainage Assessment- 1-10 (including) property developments Extensions less than 500 sq. m. Change of use (not involving substantial new hardstanding/ buildings). Where submission forms part of a larger development. Where a full DIA is provided.			
Essential	**Document Reference**	**Source**	**Signatory (e.g.** Architect/ Applicant/ Agent)

Brief statement. General description of the development, its size, location and surrounding topography and land uses. Description of existing drainage arrangements on site and any sewers. A concept drawing of the development and proposed/ likely means of providing foul and surface water drainage.			.

Level 2 Drainage Impact Assessment- Larger scale developments > 10 residential properties, and non-residential properties > 500 sq. m (offsite risk of flooding may increase)			
Essential	**Document Reference**	**Source**	**Signatory (e.g.** Civil Engineer/ Hydrologist or equivalent Chartered Member of professional institution e.g. ICE, CIWEM, ISTRUCTE)
Report including drawings/ calculations/ figures. Description of existing drainage rights/ arrangements on site. Assessment of pre/ post runoff rates, changes in impermeable areas. Evidence of proposed runoff rates and storage volumes for a variety of return periods. Outline Drainage Design showing use/ application of SuDS supported by calculations/ model results. Wastewater drainage			.

proposals including a letter of agreement from Scottish Water to accept foul flows (if applicable). Reporting of onsite subsoil porosity tests (where suitable). Proposals relating to discharge rate control methods, receiving water bodies, structures etc. Where pluvial flood risk is known/ off site flooding impermeable areas at risk. Larger scale developments > 5 no. properties (offsite risk of flooding may increase)			

APPENDIX 2 FRA COMPLIANCE CERTIFICATE

	Flood Risk Assessment Compliance Certificate

I certify that all reasonable skill, care and attention to be expected of a qualified and experienced professional in this field have been exercised in carrying out the attached Assessment. I also confirm that I maintain the required Professional Indemnity Insurance*. The report has been prepared in support of the below named development in accordance with the reporting requirements issued by Moray Council.

Assessment Ref No:

Assessment Date: Assessment Revision:

Name of Development: Planning Application No:

Name of Developer:

Supporting Information

Name and Address of Organisation preparing this Assessment:

Signed:

Name: Date:

Position Held:

Qualification **

* Please attach appropriate evidence of Professional Indemnity Insurance
** A chartered member of a relevant professional institution

APPENDIX 3: DIA COMPLIANCE CERTIFICATE

	Drainage Impact Assessment Compliance Certificate

I certify that all reasonable skill, care and attention to be expected of a qualified and experienced professional in this field have been exercised in carrying out the attached Assessment. I also confirm that I maintain the required Professional Indemnity Insurance*. The report has been prepared in support of the below named development in accordance with the reporting requirements issued by Moray Council.

Assessment Ref No:

Assessment Date: Assessment Revision:

Name of Development: Planning Application No:

Name of Developer:

Supporting Information

Name and Address of Organisation preparing this Assessment:

Signed:

Name: Date:

Position Held:

Qualification **

* Please attach appropriate evidence of Professional Indemnity Insurance
** A chartered member of a relevant professional institution

APPENDIX 4: ROLES AND DUTIES OF STAKEHOLDERS

ROLES AND DUTIES OF STAKEHOLDERS WITH REGARD TO FLOOD RISK

A number of organisations, including local planning authorities, SEPA and Scottish Water have a duty under the Flood Risk Management (Scotland) Act 2009 to work in partnership to reduce overall flood risk. One very important method employed by these organisations is to avoid increasing flood risk through promoting responsible development. Developers, landowners and householders also have responsibilities with regard to flood risk. A summary of the roles and responsibilities for each party is listed below.

THE DEVELOPER.

1. Provide sufficient information to demonstrate their development proposals will not increase flood risk to the site and elsewhere, as per SPP 196 to 211.

2. Provide sufficient information to demonstrate their proposals will safeguard water quality

3. Provide details of the maintenance arrangements for sustainable features such as SuDS; and the party responsible for these arrangements.

THE HOUSEHOLDER

1. Protect their property from flooding.

2. Acquire home contents and building insurance.

3. Take action to prepare for flooding.

4. Maintain private drainage, including gullies and drains on shared private access roads/courtyards.

LANDOWNERS

1. Maintain watercourses and other water bodies within their property boundary.

2. Maintain private flood defences and private drainage systems.

3. Should not increase flood risk to other areas.

MORAY COUNCIL

1. Prepare maps of water bodies and SuDS.

2. Assess water bodies for conditions likely to create a flood risk.

3. Undertake maintenance works in water bodies, including clearance of watercourses where the works will significantly reduce flood risk.

4. Maintain existing flood risk management assets.

5. Maintain drainage including gullies.

6. Assess proposed development.

7. Work with the emergency services in response to flooding.

8. Coordinate reception centres for people evacuated from their homes and arrange temporary accommodation if appropriate.

9. Coordinate the clear up operation after a flood.

10. Deal with road closures (except on trunk roads).

11. Prepare Flood Risk Management Plans.

12. Promotion of new flood risk management schemes, where these can be justified and funding is available. Local authority powers to protect properties from flooding under the Act are permissive; there is no obligation to do so unless the action is included in a Local Flood Risk Management Plan.

13. Update and implement the Council's emergency plan, which sets out action that will be taken during a flood event, including the provision of sandbags and emergency evacuation.

14. Provide advice to property owners in flood prone locations on how to protect their own property.

15. Prepare Surface Water Management Plans.

SEPA

1. Provide a flood warning service for Scotland and operate flood line.

2. Provide advice to local authorities on flood risk and planning.

3. SEPA also has a role to coordinate flood risk management policy and activities across Scotland and this includes;

    a. Development and publication of the National flood risk assessment.
    b. Development of flood risk management strategies.
    c. Assessment of flood risk across Scotland including publication of flood risk and hazard maps.
    d. Establishment of national and local flood risk advisory groups.
    e. Preparation of maps of artificial structures and natural features.
    f. Publishing of National flood risk management plans.

SCOTTISH WATER

1. Maintain water supply and drainage infrastructure.

2. Manage the discharge of surface water that enters the public drainage system.

3. Work in partnership with the local authority and emergency services.

4. Deal with flood damaged mains and any flooding caused by burst and choked pipes.

5. Liaise with SEPA, local authorities and the emergency services during flood events to alleviate any flooding from public sewers.

6. Scottish Water is responsible for assessing the risk of flooding from surface water and combined (surface and foul) sewers. Once risks are identified, Scottish Water, working with local authorities and SEPA, will look for opportunities to reduce those risks through its capital investment programme. This will be coordinated with other work to address surface water flooding.

MET OFFICE

1. Production of weather forecasts.

2. Warning of extreme weather events.

3. Provide a dedicated weather forecast service to SEPA’s flood warning team.

SCOTTISH FLOOD FORUM

1. The Scottish Flood Forum is a charitable organisation, currently funded by Scottish Government, which offers support and advice on flood protection, insurance, recovery, establishment of community flood groups and business continuity planning.

2. The forum also represents the interests of people affected by, or at risk of flooding.

TRANSPORT SCOTLAND

1. Maintenance of gullies, gutter and drain covers for trunk roads.

2. Closure of trunk roads.

SCOTTISH GOVERNMENT

1. Setting National policy on flood risk management and flood warning.

2. Setting Scottish Planning policy.

3. Approve Flood Risk Management Strategies and Plans.

POLICE

1. Coordinate the actions of all agencies involved during the course of a major flood incident.

2. Will control the scene at its outer limits by setting up cordon points and setting up a traffic management system in conjunction with the local authority.

3. Responsible for public safety, coordinating evacuation and public information.

FIRE AND RESCUE

1. The Fire and Rescue Service has a duty to save lives, in the event of serious flooding that can cause or is likely to cause death, serious injury or serious illness. This includes rescuing people trapped or likely to be trapped by water and protecting them from serious harm.

APPENDIX 5: FRA REFERENCE DOCUMENTS

Scottish Planning Policy, Scottish Government, Feb 2010

Planning Advice Note 51: Planning, Environmental Protection and Regulation;

Planning Advice Note 69: Planning and Building Standards Advice on Flooding;

Planning Advice Note 79: Water and Drainage;

Scottish Environment Protection Agency – Technical Flood Risk Guidance for Stakeholders;

Scottish Environment Protection Agency – Flood Risk Assessment checklist;

Scottish Environment Protection Agency Policy No 22: Flood Risk Assessment Strategy;

Scottish Environment Protection Agency Position Statement on Culverting of Watercourses.;

Scottish Environment Protection Agency Policy No 41: Development at Risk of Flooding: Advice and Consultation;

Water Environment (Controlled Activities)(Scotland) Regulations 2010 ("the Controlled Activities Regulations, or CAR");

CIRIA C697: The SuDS Manual;

CIRIA C698: Site Handbook for the Construction of SuDS;

CIRIA C624: Development and Flood Risk Guidance for the Construction Industry;

CIRIA R168: Culvert Design Manual;

Flood Estimation Handbook, Centre for Ecology and Hydrology, Wallingford

Flood Studies Report, NERC, London

APPENDIX 6: DIA REFERENCE DOCUMENTS

The SuDS Manual (C697), CIRIA Publication, Feb 2007

Scottish Planning Policy, The Scottish Government, Feb 2010

Planning and Sustainable Urban Drainage Systems Planning Advice Note PAN61, The Scottish Executive, 2001

Water Assessment and Drainage Assessment Guide, Sustainable Urban Drainage Scottish Working Party (SUDSWP).

Ponds, Pools and Lochans, SEPA, June 2000

Watercourses in the Community, SEPA, June 2000

Disposal of Sewage Where No Mains Drainage is Available: PPG4, SEPA

Safety at Inland Water Sites RoSPA, Birmingham

Control of Water Pollution From Construction Sites –Guidance For Constructors And Contractors CIRIA Report 532, London

Working at Construction and Demolition Sites: PPG6, SEPA

Sewers for Scotland – 2 Edition WRc ,Nov2007

The Wallingford Procedure UK Edition, Wallingford;

The Wallingford Procedure Europe Edition, Wallingford

Infiltration Drainage Manual of Good Practice CIRIA Report 156 ,London
BREDigest365, Building Research Establishment

Scope For Control of Urban Runoff CIRIA Report 123, London

Manual of River Restoration Techniques River Restoration Centre

Culverting, an agenda for action SEPA

SuDS for Roads and Scottish Environment Protection Agency - Policy and Supporting Guidance on Provision of Waste Water Drainage in Settlements (WAT-PS-06-08)

Returning Watercourses to the community ICE

APPENDIX 7: GLOSSARY

AEP	Annual Exceedance Probability. For example a flood with a 1% AEP has a statistical probability of being reached or exceeded in each year of 1%. This is often referred to as the "once in 100 year flood". It should be noted however, that the occurrence of a flood event does not change the statistical probability of another flood occurring.
CAR	Water Environment (Controlled Activities) Regulations 2011
CIRIA	Construction Industry Research and Information Association
FEH	The Flood Estimation Handbook is a Centre for Ecology and Hydrology publication, giving guidance on rainfall and river flood frequency estimation in the UK
SEPA	Scottish Environment Protection Agency
Sources of Flooding	Fluvial – flooding originating from a watercourse either natural or culverted. Coastal – flooding originating from the sea (open coast or estuary) where water levels exceed the normal tidal range and flood onto the low-lying areas that define the coast line. Pluvial – urban or rural flooding which results from rainfall-generated overland flow before the runoff enters any watercourse, drainage system or sewer. Groundwater - flooding due to a significant rise in the water table, normally as a result of prolonged and heavy rainfall over a sustained period of time. Drainage - flooding as a result of surcharging of man-made drainage systems including combined sewers where the capacity of the system to discharge runoff has been exceeded. Infrastructure Failure – flooding due to failure of manmade infrastructure including hydro-dams, water supply reservoirs, canals, flood defence structures, underground conduits, water treatment tanks etc.
SPP	Scottish Planning Policy
SuDS	Sustainable urban Drainage Systems
SW	Scottish Water
MC	Moray Council