



SURFACE WATER MANAGEMENT (including SUDS): planning guidance for developers

- SUDS (Sustainable Urban Drainage Systems) are a legal requirement under the Water Environment (Controlled Activities) (Scotland) Regulations 2011 when discharging surface water to the water environment (except from a single dwelling house or discharge to coastal waters).
- Scottish Planning Policy (SPP) also states “Where flooding is an issue, SUDS should be designed to mitigate the adverse effects of a storm inflow into the watercourse or sewer”.
- Well designed simple and integrated SUDS will usually prove the most cost effective drainage option for the developer.
- SUDS should be considered at the outset of project design in order that the benefits to flood risk management, water quality, amenity, biodiversity, climate change adaptation and economic gain are maximised.
- SUDS are to be considered as an integral part of the drainage assessment. The developer is encouraged to use a multi-disciplinary design team involving engineers and landscape architects to ensure the built facility is well integrated into its environment.

Developers:

- Careful consideration should be given to locating SUDS within a flood plain. Early consultation is recommended as additional flood risk management measures may be required by the Council to protect the effectiveness of the flood plain. Further details are available from http://www.sepa.org.uk/flooding/flood_map/view_the_map.aspx
- The scheme shall demonstrate that proposals shall not result in a significant increase in run-off and must be designed to meet the requirements of the Scottish Environment Protection Agency (SEPA), Scottish Water, British Aviaton Authority (in relation to birds using ponds) and the local council. Water quality shall be improved through a series of treatment mechanisms in preference to end of pipe control.
- The scheme shall positively contribute to the enhancement of biodiversity preferably by using native plants and investigate the potential for integrated habitat networks.
- The SUDs shall be designed as an integral part of the open space network and landscape design, shall be carefully sited, overlooked where possible and designed to minimise risk to public safety. A risk analysis should be undertaken by the developer.
- The developer shall provide details of the design to allow consideration of the visual impact and amenity by the local planning authority. Innovative and creative features and landforms as part of the SUDs design are to be encouraged. Quality hard landscape details are required appropriate to the location. Purely engineered solutions will not be acceptable, especially in respect of angle and finish of embankments. The use of fencing to deter access shall be sensitively designed into the landscape and used only where alternative safety measures cannot be employed such as planting in combination with shallow gradients.
- The developer should discuss the individual authorities requirements for storm events greater than agreed design criteria for “exceedance”, in relation to “*Scottish Government: Delivering Sustainable Flood Risk Management (2011)*”.
- The developer shall provide details of which body will be responsible for vesting and maintenance for individual aspects of the drainage proposals that are required to be agreed in advance with the local authority and/or Scottish Water. A GIS drawing indicating ownership boundaries, size, grid reference and indicating each authorities responsibility is also required.

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Undertake these following steps

Consider SEPA requirements:

- Water Environment (Controlled Activities) (Scotland) Regulations 2011
- River Basin Planning measures relating to relevant water bodies

Measures set against individual waterbodies through the river basin planning system are available through an interactive map (search by waterbody name)

<http://gis.sepa.org.uk/rbmp/>

SEPA advice to planning authority considering:

- Levels of treatment provided
- Appropriate landtake available at:

www.sepa.org.uk/planning

or if you need more advice contact local office.

For Edinburgh and Lothians:

SEPA

**Clearwater House,
Heriot Watt Research Park,
Avenue North,
Riccarton,
Edinburgh, EH14 4AP
Tel: 0131 449 7296
Fax: 0131 449 7277**

SITE ANALYSIS

- A** Examine current / historic drainage patterns eg:
- any local development plan allocation requirements
 - land drainage systems
 - culverted watercourses
 - water table / aquifers
 - European protected species

- B** Approach Scottish Water for confirmation of sewer network capacity to accommodate:
- waste water drainage for development site
 - statutory and non-statutory surface water drainage (ie; capacity to take from road)
 - or sewerage systems constraints statements

- C** Undertake pre and post-development run-off surface water drainage calculations that address:
- surface water drainage requirements
 - treatment
 - storage solutions

DESIGN MATTERS

- D** Consider linkages for green networks and multiple benefits in preparing SUDS layout eg:
- amenity
 - biodiversity
 - SEPA's river basin planning objectives
 - flood risk management

- E** Indicate types and the number of **levels** of SUDS proposed in relation to SEPA treatment requirements.

- F** Engage early with local authority and Scottish Water to determine acceptability of proposals.

- G** Provide evidence and/or undertake tests for suitable sub-soil porosity and suitability for SUDS. If developer proposes infiltration devices, then indicate:
- ground water levels
 - water table levels influence on SUDS for infiltration (NB: consider underlying aquifers)

- H** Consider the need for a fluvial flood risk assessment

- I** Estimate necessary land take for SUDS due to:
- initial surface water calculations
 - necessary storage solutions

- J** Provide an outline surface water management plan that ties together all drainage issues outlined above and relating to other master planning documents eg. for open space

- Developer to apply to Scottish Water using **Pre-development enquiry form**
- Developer to apply to Scottish Water using **Application for a new housing development form**. Refer to **Sewers for Scotland 2nd edition** for drainage guidance.

Scottish Water customer helpline: **0845 601 885**, ask for: **Customer Connections**

Email enquiries should be sent to: **connections@scottishwater.co.uk**

For more information on supplementary planning guidance: *West Lothian flood and drainage* (April 2008) which can be found online at: http://www.westlothian.gov.uk/media/2471/SPG-West-Lothian-flood-risk-and-drainage/pdf/WL_flood_risk_and_drainage.pdf

West Lothian Council: initial contact details on SUDS issues:

Development Management duty phone **01506-280000** email: planning@westlothian.gov.uk

Operational Services Graeme Hedger, Senior Professional Officer - Flood Risk **01506-776554** email: graeme.hedger@westlothian.gov.uk

Detailed planning permission requirements for drainage (Approved of Matters specified in conditions stage)

- A** Indicate clearly criteria adopted related to development concept and site:
- water quantity
 - water quality
 - water velocity
 - landscape, biodiversity and amenity

NB: Developer to apply to Scottish Water using **Pre-development enquiry** form, if not already submitted. Otherwise apply using **Application for a new public sewer for a new housing development** form

- B** Consider effects on related sites (**NB:** do not focus solely on piped network. Consider: overland flow; extreme rainfall events and existing surface water routes).
- upstream
 - down stream
 - on waste water network
 - surface flows/sub catchment

- C** **MOST IMPORTANT STAGE**
Provide detailed drainage strategy report and plan covering:
- waste drainage
 - sustainable surface water drainage
 - land take requirements
 - final discharge points
 - risk assesment
 - method statement on temporary abatement of contaminated run-off from construction site
 - and a survey of existing habitat and species: with proposals for integrating SUDS with
 - habitat creation and enhancement
 - landscape
 - amenity

- D** Pre and post-development run-off surface water drainage calculations that address:
- surface water drainage requirements
 - treatment
 - storage solutions

- E** Confirm SUDS measures are suitable to the Roads Authority relating to roads drainage design

- F** Consider the need for fluvial flood risk assessment

- G** Confirm maintenance arrangements for SUDS scheme. Provide a coloured plan of each authorities responsibilities as agreed between the local authority and Scottish Water and agreed by Scottish Water as part of the developers approval for their application for a new public sewer for a new housing development.

NB: Consider design of safety measures for SUDS with health and safety risk assessment for open water structures.

SUDS practical design guides are available on the web:

Scottish Water (2007) Sewers for Scotland, 2nd edition, WRC, Swindon; provides requirements for SUDS features that are to be adopted by Scottish Water with detailed design guidance. Order from: WRC plc via <http://sfs.wrcplc.co.uk>

The SUDS Manual (2007)(Ciria Report C697) provides detailed design guidance for non-adoptable SUDS features including plant species. (NB: need to register for service that provides a free download)

SUDS for Roads (SUDS Working Party 2009) available: <http://scots.sharepoint.apptix.net/suds/General%20Publications/Forms/AllItems.aspx>

SEPA has also created guides with advice on design, these are available on http://sepa.org.uk/water/water_publications/suds.aspx

- SEPA: SUDS Advice Note - Brown Field Sites (July 2003)
- SEPA: A do's and don't guide for planning and designing Sustainable Urban Drainage Systems SUDS
- SUDS Working Party Drainage Assessment: a guide for Scotland (2005)
- SEPA land use planning guidance notes available from <http://www.sepa.org.uk/planning.aspx>
- SEPA Guidance note 2: Planning advice on sustainable urban drainage systems
- SEPA Guidance note 8: Standing advice for planning authorities on small scale local development management consultations.
- Scottish Government: *Green Infrastructure - Design and Placemaking*
- Scottish Government: *Delivering Sustainable Flood Risk Management*

Further information and examples are on website : SUDSnet – Sustainable Urban Drainage Network