


Interim Surface Water (SuDS) Guidelines for New Development

Highways & Flood Risk Management
Gateshead Council



		CIVIC CENTRE REGENT STREET GATESHEAD NE8 1HH Tel: 0191 433 3000 Fax: 0191 433 2651	
		COMMUNITIES & ENVIRONMENT HIGHWAYS & FLOOD RISK MANAGEMENT	
Version	Date	Amendments	
Version 1	13/01/16		
Version 2	11/03/16	Updated climate change and infiltration testing information. Additional section on 'good' design.	
Version 3	26/04/23	Updated climate change information. References to North East Regional SuDS Guidance and Gateshead MSGP.	

Cover image courtesy of CIRIA 2016

Introduction

Following the December 2014 ministerial statement from the Department of Communities and Local Government, the use of SuDS is a material consideration for major development unless it can be demonstrated to be inappropriate. To support this the National Planning Policy Framework (NPPF) and Planning Practice Guidance (NPPG) has been updated and the DEFRA Non Statutory Technical Standards for Sustainable Drainage¹ have been produced.

From 15th April 2015 the Lead Local Flood Authority (LLFA) are a statutory consultee of the planning process through Section 4 of the Development Management Procedure Order for major development.

In addition to this, the Newcastle Gateshead Core Strategy has also been adopted at a local level, which also considers surface water and flood risk through the planning and development processes through policy CS17 (see box below).

Policy CS17 Flood Risk and Water Management

Development will avoid and manage flood risk from all sources, taking into account the impact of climate change over its lifetime. Development will:

1. Avoid and manage flood risk to people and property by:
 - i. Locating new development in areas with the lowest risk where appropriate by applying the Sequential Test.
 - ii. Managing flood risk from development to ensure that the risk is not increased on site and/ or elsewhere, where appropriate by applying the Exception Test.
 - iii. Ensuring opportunities for development to contribute to the mitigation of flooding elsewhere are taken.
 - iv. Prioritise the use of Sustainable Drainage Systems (SuDS), given the multifunctional benefits to water quality, green space and habitat enhancement.
 - v. Ensuring development is in accordance with the Council's Strategic Flood Risk Assessment, and
 - vi. Requiring a Flood Risk Assessment for sites over 0.5Ha in Critical Drainage Areas as identified in the Council's Strategic Flood Risk Assessment.
2. Ensure water supply and foul and surface water infrastructure are provided with adequate capacity.
3. Not adversely affect water quality and where possible seek to improve water quality.
4. Separate, minimize and control surface water runoff, discharging in order of priority to:
 - i. Infiltration based Sustainable Drainage Systems,
 - ii A watercourse,
 - iii A surface water sewer, and
 - iv A combined sewer.

The interim guidance informs developers submitting planning applications which match the scale of development criteria set out on page 4.

¹ The Local Authority SuDS Officer Organisation (LASOO) now known as the Association of Suds Authorities (ASA) has produced a very useful Best Practice Guidance on the DEFRA Standards: <https://www.suds-authority.org.uk/wp-content/uploads/2018/12/non-statutory-technical-standards-guidance.pdf>

Relevant development

At present the consideration of SuDS is required for all residential development of either 10 dwellings or more or on a site of 0.5Ha or greater; or equivalent non-residential or mixed development - (1,000 m² or more, or where development is carried out on a site having an area of 1Ha or more) - (as set out in Article 2(1) of the Town and Country Planning (Development Management Procedure) (England) Order 2010). This is in addition to requirements that SuDS should be given priority in new developments in flood risk areas. SuDS are applicable for both greenfield and brownfield developments.

Design considerations

Whilst design standards are set to be outlined in the SPD, the present expectation is that any SuDS components will be designed in accordance with the current CIRIA design guidance (C753 The SuDS Manual, Nov 2015).

It must be demonstrated that surface water is managed within the site to ensure no flooding within any building in a 1 in 100 storm event plus 45% climate change allowance and no flooding on site for a 1:30 storm event plus 40% climate change allowance. In addition, a 10% uplift must be applied to the impermeable area within the property curtilage to allow for the effects of urban creep. (Non-residential sites do not require the inclusion of 10% for urban creep). Further performance requirements are set out in the DEFRA Standards.

It is a requirement that all proposed development considers the management of surface water as closely to the existing natural drainage pattern as possible.

By managing surface water through multiple treatment stages, discharge from the site should not exceed that of greenfield runoff for impermeable areas and considerations must be made to national and local policy framework with regard to design, social and environmental benefits.

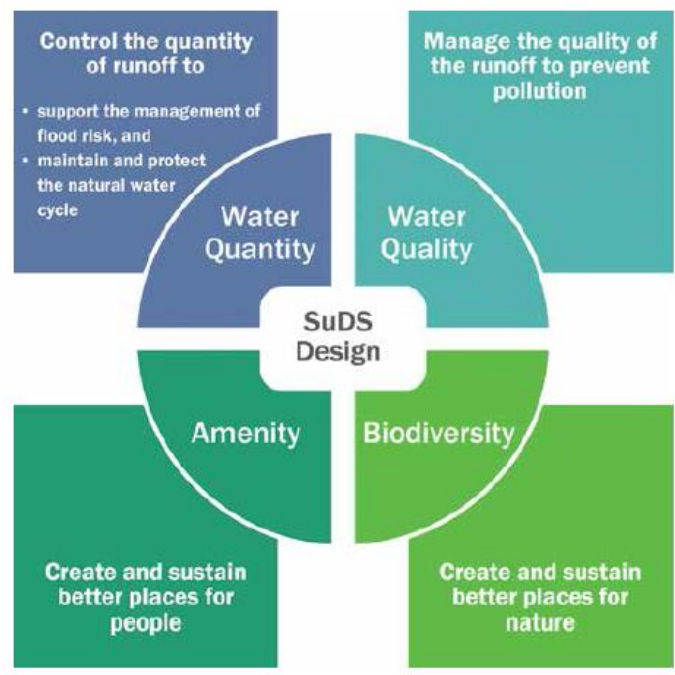
SuDS statement by the LLFA

As well as ensuring all schemes comply with the national standards and local policies on flood mitigation, the Council will seek to secure SuDS schemes which demonstrate best practice and maximize amenity, biodiversity and other benefits to the local area in response to non-drainage related policies. Fundamental to this approach are the four components of SuDS design as set out in the CIRIA SuDS Manual (C753):

- water quality
- water quantity
- amenity
- biodiversity

The above components shall all be considered with equal weight and should be considered in a holistic way to achieve 'best value' from the design.

The four pillars of SuDS design (Diagram courtesy of CIRIA (2016)).



The Council will seek to deliver SuDS in line with the above philosophy through a coordinated approach in its role as both the LLFA and Local Planning Authority. The aim is to maximize coordination with planning policy whilst still ensuring SuDS are affordable and practical.

In order to achieve multiple benefits from a SuDS scheme, Gateshead generally requires that any drainage system should follow SuDS management train principles and incorporate one or more SuDS components as necessary.²

² Further details of the management train approach are presented in the SuDS Manual.

Adoption and post construction management of SuDS

There are a number of potential management and adoption models that can be used, dependent upon the characteristics and requirements of each site and its end users. However, the preference will be for the ‘Gateshead Model’ (described below) except where the developer can demonstrate that this would not be feasible, in which case the Council may consider alternative management and adoption agreements.

Adoption will be considered on a site-specific basis and the LPA will place some safeguards to ensure the long term success of the SuDS Design. The LPA will need to be satisfied that the proposed minimum standards of operation are appropriate and that there are clear arrangements in place for ongoing maintenance over the lifetime of the development, through the use of planning conditions and obligations.

All SuDS components will be recorded on the flood infrastructure register and may be inspected with a view to enforcement action through Section 21 of the Flood and Water Management Act (2010) for a failure to maintain them according to specification.

The potential management and adoption models, and when these would be practicable are summarised below:

Inclusion of SuDS in privately owned space

Where SuDS features are situated within private property, the property owner or the SuDS management company have a legal responsibility for the feature, and these responsibilities would be outlined clearly during the sale or transfer of ownership of the property. Gateshead Council will not accept responsibility for the maintenance, operation and upkeep of SuDS components within private land.

Inclusion of SuDS in new, adoptable highway

Features taking surface water solely from the adopted highway should be presented as highway drainage and included for adoption within the Section 38 agreement. Within the Section 38 process, an appropriate commuted sum, and a management plan agreed between the highway authority and developer will be required.

Inclusion of SuDS in public open space

At present the preferred management model of SuDS components in public open space is that the Council would take the freehold ownership of the land subject to SuDS, open space and play areas. The Council would grant the lease of this land together with the maintenance responsibilities to a service management company, funded by property owners paying an annual rent charge. Should the management company default under the terms of the lease (i.e. if the company was insolvent or did not maintain the open space/ SuDS as per the agreed management plans), the maintenance responsibility and estate rent charge would default back to the Council. The approach involves a S106 planning agreement which will usually include a tri-party SuDS Agreement between the developer, Council and Water Authority and an Open Space Management Plan (including the SuDS Management Plan).

Possible future changes to the SuDS approval and adoption process

In January 2023, the Government announced that SuDS would become mandatory for all new development (except permitted development and single buildings under 100sqm) through new national standards and a new SuDS Approval Body (SAB) coming into effect from 2024 (refer to [The review for implementation of Schedule 3 to The Flood and Water Management Act 2010 \(publishing.service.gov.uk\)](https://publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1154222/schedule-3-to-the-flood-and-water-management-act-2010-review.pdf)). The review recommends that Schedule 3 to The Flood and Water Management Act 2010 will commence in England, subject to a full regulatory impact assessment; and that the SAB will sit within the unitary authority.

Information required through the planning process

The following section outlines what information is required by the LPA and LLFA at each stage of the development process. It is strongly recommended that drainage design is considered from the earliest opportunity when planning the development. A successful SuDS design should be integral to the development of green infrastructure for a site which in turn should inform the built development layout of a site. It is recommended that a developer utilises the skills of both Landscape Architects and SuDS Engineers for development of the SuDS design, with input from Ecologists, Urban Designers, and Transport Engineers to ensure a multi-disciplinary and layered approach to site design

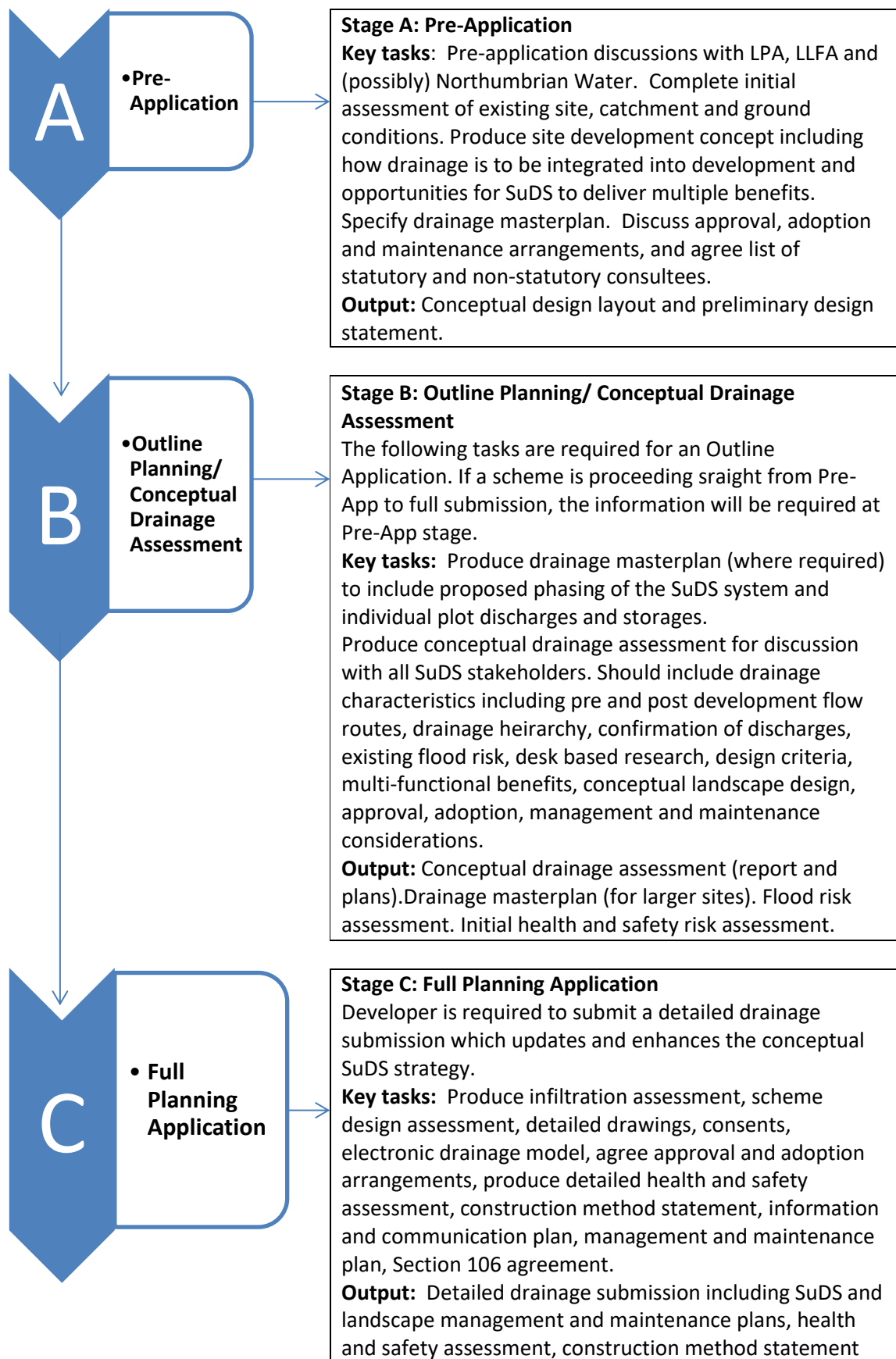
It is recommended that a tiered approach should be taken to preparing the drainage design, building up through the stages of concept, outline and detailed drainage assessments which in turn will iteratively inform the drainage design and development layout. Gateshead Council will also expect to work closely with the developer from early in the pre-application process. Effective pre-application discussions and masterplanning should ensure a robust, viable and cost-effective scheme from the outset, where the development objectives are informed by the surface water management strategy, and vice versa. .

At any stage of the development process it is expected that developers have a general understanding of the [NPPF \(para 167c,169\)](#), [National Planning Practice Guidance 'Flood risk and coastal change'](#) (ID 7 especially para 2¹, para 55 – 61) and [DEFRA Non Statutory Technical Guidelines](#) and the [Gateshead Core Strategy](#) (Policy CS17) and [Making Spaces for Growing Places](#) (MSGP 29 & MSGP 30) and [The North-East Lead Local Flood Authorities Sustainable Drainage Local Standards](#), and have adopted an approach to meet these. Familiarity with the [CIRIA SuDS Manual \(C753\)](#) is also strongly recommended. Regard should also be given to Government's guidance [Flood risk assessments: climate change allowances - GOV.UK \(www.gov.uk\)](#); and Coal Authority and Environment Agency's guidance ['Mining and Groundwater Constraints for Sustainable Development and Drainage Systems \(North East England only\)](#). In addition, consideration should be given to [Water UK SuDS Sewerage Sector Guidance](#) and [Design and Construction Guidance implemented under the sewerage sector guidance](#).

While the following information is expected to be received as indicated, there are some circumstances where not all information is available and may need to be resolved as reserved matters or conditioned. Should this be the case it is the expectation that the LLFA and LPA are informed of this prior to the submission and information is included within the submission to support this.

The LLFA will make an assessment of the information submitted to the LPA and can only determine an application if all relevant information is present, failure to submit this may result in a delay of decision or refusal. It should be noted that for smaller sites, many of the items may not be relevant, or may only require cursory examination.

¹ surface water flood design standard i.e. surface water flooding likely to occur with a 1% annual probability (a 1 in 100 chance each year), plus an [appropriate allowance for climate change](#)



SuDS Planning Stages

Pre Application

Developers should engage in pre-application discussions at the earliest opportunity. The developer should complete an initial site assessment prior to a drainage-specific pre-application meeting which should involve LPA, LLFA and possibly Northumbrian Water.

For larger phased sites, the specification for a drainage masterplan should be agreed at this stage. The masterplan should be designed to ensure effective communication between all developers and identified stakeholders in establishing the selection, implementation and phasing of source, site and regional SuDS components. It should also set out the responsibilities for delivery and maintenance of temporary site drainage measures required during the construction process.

Initial site assessment

This information outlines the existing site conditions and constraints that affect the conceptual design of the drainage network, these issues will be discussed in the first pre application meeting between the developer, the LPA and the LLFA. The developer should present the following information at the meeting.

- **Existing site**
Details of the site including topography, layout, vegetation, watercourses, flow routes, drainage infrastructure, and ecological information.
- **Catchment information**
Details of the wider catchment area and an indication of surface water flow routes onto the site from adjacent land and existing and potential discharge routes from the site, including any constraints on discharge.
- **Ground conditions**
Any information regarding the geology and hydrogeology of the site and potential for infiltration as part of the drainage solution
- **Development concept**
Information on the proposed development for the site. This should include a written description and any proposed conceptual layouts or master plan illustrations. It should also include information on how SuDS are expected to be integrated into the development, and how any planning or environmental objectives for the site should influence the SuDS design concept.

Evidence should be provided on how the initial design proposals have considered the integration and linkage of surface water management with street layouts, architectural and landscape proposals. The developer should also provide an assessment of strategic opportunities for the SuDS system to deliver multiple benefits for the site, including the strategic use of public open space for SuDS.

- **Approval, Adoption and Maintenance Arrangements**
The LPA and LLFA will set out the requirements of the SuDS approval and adoption process, and likely maintenance arrangements, and also a list of any statutory and non-statutory consultees.

Outline Planning

If an outline planning submission is to be submitted, the developer should include a conceptual SuDS design strategy. For some developments, this strategy may be part of the flood risk assessment for the site.

Where a drainage masterplan (or site surface water drainage strategy) is required or conditioned, at this stage (for larger sites) this should also include:

- Details of the proposed phasing of the SuDS system.
- Individual plot discharges and storages.
- Definition of responsibilities for construction, maintenance and adoption of each element of the scheme.

The following is a checklist of information required for an outline application. If a scheme is proceeding straight from pre-app to full submission, the information should be required at pre-app stage. This information should be provided in the form of a report, together with appropriate plans.

Conceptual Drainage Assessment

This information is required for any drainage related pre development meetings, it is expected that this information is submitted for all major developments. Such information will be discussed through a meeting involving the LLFA, LPA, Northumbrian Water, developers and any consultants. Should an initial drainage assessment have been submitted please use the information submitted and amend to consider any comments received and include any additional information.

- **Drainage Characteristics**

A contoured site plan that shows surface water flow routes across and around the site in its pre development condition, plus information on the flow routes upon the completion of the development, including any flows off site and exceedance routes.

- **Drainage Hierarchy/ Confirmation of discharges**

The developer should state how they intend to manage surface water in accordance with the drainage hierarchy as set out in the Core Strategy Policy CS17:4. This states that development should: separate, control and minimise surface water runoff, discharging in order of priority to:

- i. Infiltration based Sustainable Drainage Systems
- ii. A watercourse
- iii. A surface water sewer
- iv. A combined sewer.

Confirmation of the discharge points is required. Include any correspondence with Northumbrian Water regarding discharge conditions and identify any environmentally sensitive receiving water bodies, plus any likely upgrades to the NWL network. In addition to this information on the existing public sewer

network is also required, including definition of state, performance and ownership of any existing surface water drainage infrastructure and demonstration that proposals consider, use or protect these systems (where appropriate). An existing utilities plan should be submitted.

- **Existing flood risk**

Outline any surface water, flood zone or historic flooding locations within 250m proximity of the development and demonstrate that known risks have been considered in the conceptual SuDS design. A full Flood Risk Assessment³ should be submitted to outline these issues and how they would be managed. CIRIA document C624 (Development and Flood Risk – guidance for the construction industry) should be used for guidance.

3. For guidance on FRAs, refer to the Checklist provided at paragraph [ID7:080 of NPPG](#) together with Environment Agency Standing Advice (<https://www.gov.uk/guidance/flood-risk-assessment-for-planning-applications>).

- **Desk based research**

Outline assessment of existing geology, ground conditions and permeability through desk-based research to determine the suitability of infiltration drainage for site runoff. Infiltration tests should be carried out at this stage wherever possible and in accordance with BRE Digest 365 Soakaway Design (2016) or BS EN ISO 22282-2 (2012).

- **Design Criteria**

Information on the volume and runoff of surface water of the site, including the size, permeability, and location of the development. This can be calculated using drainage design and simulation software. Include for climate change and urban creep allowances. Calculate the existing and proposed impermeable areas of the development site in addition to the greenfield runoff rates at Qbar.

- **Conceptual Design**

Conceptual SuDS design including interception, treatment, conveyance, peak flow and volume control, storage and exceedance routes and components (and demonstration that required storages and conveyance flows can be delivered on site). Demonstrate that SuDS components have been selected to deliver the required design criteria and will successfully link and integrate with the development and its landscape setting. Include information on how the potential layout has given consideration for enhancement to water quality and a multiple treatment approach. Include flow control points. Demonstrate that the site can be managed in a way that the proposed runoff meets the existing greenfield runoff rate. Provide information for the proposed impermeable area not the whole site area.

- **Multi-functional benefits**
Proposed multi-functional use of SuDS space to meet community and environmental requirements and the potential contribution of the surface water management system to the development design objectives for sustainability (including climate resilience). Demonstrate the benefits brought by the SuDS design to water quality and biodiversity.
- **Conceptual Landscape Design**
Present the outline landscape design, demonstrating how SuDS features coordinate with open space, walking and cycle routes, habitat areas and play spaces. Show structural and wetland planting areas, meadow and amenity grass areas.
- **Approval and Adoption**
Confirmation of approval and adoption arrangements for all SuDS components. Proposed split of SuDS between private and public (if any). Details of any required off site works and consents.
- **Management and Maintenance**
Appropriate consideration of the maintainability of the proposed SuDS, including maintenance responsibilities. Consideration of constructability including phasing, protection of components and temporary surface water management. Initial health and safety risk assessment.

Full Planning Applications

The developer will be required to submit a detailed drainage submission as part of the planning application. The final submission of the detailed design and layout of the surface water management system should update and enhance the conceptual SuDS strategy and any surface water management masterplan for the site and should be in line with any conditions set by the outline planning application. All relevant statutory and identified non-statutory stakeholder consultations should be undertaken and taken into account when putting together the final proposals. The list of required information set out below will be reviewed by the LLFA and comments will be returned through the LPA. The information to be submitted is listed below including the level of detail expected.

- **Infiltration Assessment**

Where infiltration is proposed, an acceptable infiltration assessment shall be submitted, including any geotechnical test results and evaluations. Trial pit records should be provided in accordance with BS EN ISO 14688-1 (2002) or BS EN ISO 14689-1 (2003).

- **Minewater/ Groundwater Risk Assessment**

Consideration of the Coal Authority/ Environment Agency minewater/ groundwater screening tool to identify risk of impact from minewater/ groundwater levels on SuDS proposals. See CA/ EA minewater toolkit for more information: [Mining and Groundwater Constraints for Development; Mining and groundwater constraints for sustainable development and drainage systems \(North East of England only\); Coal Authority's Interactive Map Viewer - NE mining and groundwater constraints](#)

- **Scheme Design Assessment**

A scheme design assessment with appropriate supporting calculations that demonstrate conformity with the DEFRA Non Statutory Technical Standards for SuDS, NPPF, NPPG, and Newcastle Gateshead Core Strategy (CS17 and site-specific) policies, and justification for any non-compliance.

- **Detailed Drawings**

Provide scale drawings showing the proposed layout of the drainage network. These must show clearly numbered pipes, falls, diameters and manhole invert and cover levels together with size and level of any other drainage devices that correspond with the drainage model submitted.

It is also expected that proposed contours, highway levels and finish floor levels are included. Areas that are intended to be adoptable SuDS should be clearly indicated. The following information must also be submitted:

- i. Drainage catchment and sub-catchment areas (including impermeable and permeable zones and any phasing details).
- ii. Existing and proposed site sections and levels. Long and cross sections of the proposed drainage system (including exceedance flow management routes) and final building finished floor levels. Details for connections to watercourses and sewers. Detailed drawings of all SuDS

features and connections. (show permanent water levels and levels at 1:1, 1:30 and 1:100, plus areas, volumes and gradients.) Compliance with best practice should be demonstrated.

- iii. Detailed landscape plans showing proposed planting, seeding, hardworks and play features in and around SuDS features. Planting schedules and maintenance proposals and schedules should be submitted.
- iv. Maintenance access and any storage and disposal arrangements for arisings. Operational characteristics of any mechanical features.

- **Consents**

All necessary consents required for off-site works.

- **Electronic drainage model**

As part of a planning submission it is expected that an electronic copy of the drainage model is submitted in Microdrainage format which corresponds with any drawings within the submission. Include any topographical site layouts or 3d surveys relevant to the drainage design. A paper summary should also be included demonstrating green field runoff calculations, simulations for 1 in 1; 1 in 30 and 1 in 100 plus climate change.

- **Approval and Adoption**

Commitments for approval and adoption arrangements for all elements of the system (including exceedance flow management components), commitments to any cost contributions, valuation and security of any required non-performance bond.

- **Detailed Health and Safety Assessment**

Appropriate consideration and management of any health and safety issues relating to SuDS implementation, particularly in relation to open water features.

Refer to Appendix B3 of the CIRIA SuDS Manual for best practice.

- **Drainage Construction Method Statement**

To include:

- i. Consideration of any construction phasing, demonstrating that adequate interim drainage and surface water pollution protection measures are in place.
- ii. Construction processes, methodologies or programming to protect the SuDS functionality (including the provision of any required temporary drainage systems). This is to ensure SuDS features do not erode, silt up or become over-compacted (preventing infiltration) during construction. This shall include methods for the protection of infiltration features and permeable surface areas, erosion prevention, and control of pollution from construction activities, and de-silting prior to operation of the facility.
- iii. Consideration of access for inspections by the approving or adopting organisation.

Refer to Appendix B6 of the CIRIA SuDS Manual for best practice.

- **SuDS Management and Maintenance Plan**

A management and maintenance document which should:

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- i. Clearly describe the drainage system and define the SuDS features, describing how each element is expected to work.
- ii. Present management objectives for the site. Confirm party responsible for the system maintenance in the short and long term.
- iii. Provide specification of maintenance tasks; and schedule of tasks and inspections for the lifetime of the development. This should include specification and schedule for replacement of any items with a design life shorter than the expected lifetime of the development.

Refer to Appendix B8 of the CIRIA SuDS Manual for best practice.

- **Information and Communication**

Information and communication plan may be requested from the LPA. This may include:

- i. communication with, and education of existing or new residents.
- ii. Site or SuDS component specific information boards.
- iii. Local community education strategies eg. through schools. Note this is only likely on larger sites and may be provided by the LLFA or the developer (to be agreed).

- **Section 106 agreement**

The following documents and drawings will be required as part of a Section 106 Agreement under Gateshead's preferred maintenance model:

- i. SuDS adoption drawing
- ii. Section 104 layout drawing
- iii. Section 185 (storm) drawing
- iv. SuDS construction detail drawing
- v. SuDS 5 year, and lifetime, management and maintenance plan (document) including maintenance schedule, construction management plan and SuDS health and safety plan.
- vi. Landscape 5 year, and lifetime, maintenance plan (document) including maintenance schedule. (Includes open space and play).
- vii. Landscape management drawing showing zones requiring each type of maintenance.
- viii. Detailed landscape planting and seeding drawings.
- ix. SuDS agreement – roles and responsibilities between Developer, NWL, and Council.
- x. Land transfer.

Good Design

A short summary of what constitutes 'good' design, and therefore what the Council is aiming to achieve within its SuDS schemes is given below:

'Good' Design:

- Is achieved by a **multi-disciplinary design team**. Landscape architects, Ecologists and Engineers should work together from the start of the design process to create SuDS features that integrate with the landscape and provide amenity and biodiversity benefits. SuDS features are amenity spaces, not just engineering structures.
- Is where the **consideration of SuDS takes place at the start of the site design process**. All sites have space for well-designed SuDS if it is considered from the beginning.
- **Mimics natural processes** and takes account of **flow routes**.
- Uses a **sub-catchment approach** to design with runoff at the exit from each sub-catchment constrained to greenfield runoff rates and volumes.
- Makes good use of a **management train** with a series of source, site and regional controls to provide necessary water quality targets and to provide a SuDS scheme that fully integrates into a series of public spaces.
- Uses a **risk management based approach to water quality management**. As set out in the SuDS Manual.
- **Keeps surface water on the surface**. The SuDS system must be designed at or near the surface to provide an easily maintained, visible and cost effective drainage solution.
- **Minimises pipes**. A good SuDS system should only use pipes as short connections between surface SuDS elements. Over use of pipes results in over-deep SuDS features that require more land take, have reduced amenity value.
- Uses **small pipe diameters**. Large pipes should not be required within a well-designed system.
- **Avoids deep ponds, basins and swales**. The maximum depth of attenuation above permanent water level shall be 0.5m.
- **Avoids large structures**. Inlet and outlet structures, forebays etc should be as small as possible in size and designed to integrate with the landscape eg. small chamfered outlets flush with the slope rather than outlets with wing walls. SuDS features within housing areas are for amenity, they are not motorway balancing ponds.
- Creates **exceedance flow routes** to avoid flooding of buildings or other essential infrastructure.

- Creates SuDS as **amenity space**. Detention basins, swales, filter strips should double up as amenity space where possible. Basins should be landscaped or can provide play space. Ensure basin bases are kept dry with filter drains to allow year round use.
- Creates SuDS features as **habitat** wherever possible. Gently sloping sides, appropriate ecological design, thoughtful placement of SuDS features, connections with non-SuDS habitat areas, adequate ecological buffer space around features.
- Plants **trees in SuDS features**. Planting appropriate trees in some swales, basins and bioretention features help to slow runoff and improve infiltration as well as performing an ecological and amenity function. (Some features may be left as more open habitats depending on ecological requirements).
- Uses **source control** where possible in accordance with SuDS best practice to achieve water quality objectives as well as attenuation.
- Enables **cost effective operation and maintenance**. Surface SuDS can be simply managed using existing landscape management techniques.
- Creates **affordable** SuDS. If SuDS systems are designed in accordance with the following criteria, then they should be no more expensive than a conventional drainage system.
 - Early consideration of SuDS at the site planning/ pre-application stage.
 - Source control being integrated into the design wherever possible.
 - SuDS being at or near the surface.

As a result of these requirements, SuDs techniques should be the normal means by which surface water drainage is designed for all developments. **Alternatives to SuDS will only be considered in exceptional circumstances.**