

## INTRODUCTION

This advice note has been prepared to give additional practical guidance to applicant's when lodging planning applications. This is to ensure that the Surface Water Management requirements in the Cork County Development Plan 2022 are met and a request for further information relating to surface water is avoided as far as practicable.

Chapter 11 of the Cork County Development Plan contains the policies on Water Management, including flooding and surface water management. Therefore, this advice note is not a substitute for the more expansive policies set out in Chapter 11 which should be considered in full. In addition, surface water management will often require the consideration of impacts on biodiversity, ecology, green infrastructure and recreation so other relevant policies in the Cork County Development Plan 2022 also need to be met.

The DMURS Advice Note on Water Sensitive Streets (when available) should also be implemented for any road drainage proposals in urban areas.

## REQUIREMENTS

Every application for development must submit a Drainage Impact Assessment (DIA) demonstrating how the development successfully uses Sustainable Urban Drainage Systems (SuDS) and nature based solutions to manage surface water within and adjacent to the site. The suggested contents of a Drainage Impact Assessment for development of differing scales are provided in Tables 1 and 2 below. See also Objective WM11-10 and paragraph 11.10.4 in the Cork County Development Plan 2022.

Cork County Council requires a softer engineered or 'nature-based approach' to be used to manage rainfall runoff on the site i.e., to manage and treat surface water above-ground rather than sending rainfall below-ground into drains, pipes, attenuation tanks and other 'hard engineering' solutions. The aim is to maximise the retention and/or infiltration of storm water runoff on-site, minimise discharges to the public drainage system and to limit the discharge rates from the site to greenfield runoff rate or less.

To help with selecting and using nature based solutions, please see Tables 3 or 4 (as applicable) which should be completed and attached to a Drainage Impact Assessment and submitted as part of any land-use planning application. It should be noted that Objective WM11-10 and paragraph 11.10.4 in the Cork County Development Plan 2022 does not apply to development that would not have surface water implications e.g. building elevation modifications or change of use applications.

### Policy Approach

All new developments must submit a Drainage Impact Assessment and use nature based drainage solutions. Efforts should be taken to limit the extent of hard surfacing.

### Note:

1. Storm Water Drains are managed and maintained by CCC, and Combined Sewers are managed and maintained by Irish Water. Both CCC and IW may need to be consulted.
2. There should be no direct discharge to a stream or watercourse. Any discharge should be appropriately attenuated using nature based solutions, and any pollutants appropriately treated and intercepted as required.
3. All Nature based solutions and SuDS drainage should be located within the red line boundary of the site.

## Table 1 Nature Based Solutions and Small-Scale Development

A Drainage Impact Assessment for development of **less than 10 residential units and/or less than 500 square meters of new or additional non-residential floorspace** should include, but is not limited to, the following:

- Full drainage details, drawings, and calculations.
- A SuDS statement incorporating [Cork County Council SuDS Selection Hierarchy Sheet for Small Scale Development](#), showing how design of SuDS have been integrated successfully into the surface water management plan for the site.
- All new developments must allow for Climate Change as set out in Table 11.4 of Chapter 11. (For additional technical advice refer to the Cork County Council Strategic Flood Risk Assessment (SFRA) and the Greater Dublin Strategic Drainage Strategy Technical Documents, Volume 5, Climate Change).
- Show how the 4 pillars of SuDS (Water Quantity, Water Quality, Amenity and Biodiversity) are achieved.

## Table 2 SuDS and Large-Scale Development and Agricultural Development

A Drainage Impact Assessment for development of **10 residential units and/or 500 square meters or more of new or additional non-residential floorspace** should include but is not limited to the following:

- Full drainage details, drawings, and calculations. \*
- A SuDS statement incorporating [Cork County Council SuDS Selection Hierarchy Sheet](#), showing how SuDS have been integrated successfully into the surface water management plan for the site and how they have maximised the retention of storm water runoff on site and limited the discharge rates from the site to greenfield runoff rate or less. \*
- Demonstrate that the design of the SuDS scheme reflects the topography, geology, and drainage characteristics of the site. \*
- Integrating SuDS into green spaces and demonstrating how the 4 pillars of SuDS (Water Quantity, Water Quality, Amenity and Biodiversity) are achieved. Integrate with Green Infrastructure Statement where relevant. \*
- Identification of appropriate SuDS features to meet the key criteria of the Greater Dublin Strategic Drainage Strategy and reference in Section 16.3 of the Greater Dublin Regional Code of Practice for Drainage Works - source control and interception storage provided, and volumes defined – no run-off from site for events up to 5mm. See also paragraph 11.10.4 of the Development Plan for a full list of guidance documents which are also listed below in the Quick Links section.
- Identify how the design takes account of the type of maintenance that will be required, such as access for maintenance equipment, gradients within the planted areas and the need for continuing access to and use of the surrounding urban areas. Include a draft long term maintenance plan for the proposed scheme. Planning conditions may be used to ensure a final maintenance plan is secured and implemented.
- All new developments must allow for Climate Change as set out in Table 11.4 of Chapter 11. (For additional technical advice refer to the Strategic Flood Risk Assessment (SFRA) and the Greater Dublin Strategic Drainage Strategy Technical Documents, Volume 5, Climate Change).



## Contd.

- Provide a clear explanation of the SuDS proposals proposed for each hard standing area including defined control structures and sizes of same.
- Overall surface water drainage layout indicating:
  - Existing public surface water infrastructure
  - Proposed connection points to existing public drains
  - Spine drains (if any)
  - Detail of any surface water drain extension, diversions, surface water drain upgrades etc. to be clearly indicated
- Report detailing existing site conditions including: \*
  - Topography
  - Ground conditions
  - Land drain features
  - Overland flow paths
  - Floodplains
  - Utilities
- Submit appropriate computer modelling simulations to be conducted using MicroDrainage (WinDes) or approved equivalent, for a range of storm events of different return periods. If requested the simulation could include receiving public storm drainage simulations to confirm that the receiving drain has the capacity to take the proposed additional flow.
- Submit appropriate modelling of high-water outfall scenarios in the context of discharge to rivers and the sea.
- Longitudinal section details of proposed surface water pipe runs if required indicating route, levels, pipe size, gradient etc. A well-designed SuDS scheme will reduce or even eliminate the need for significant piped drainage. \*
- Identify proposed location to discharge to stream or public drainage system and identify any drainage issues which may arise from a development, and also identify suitable means of onsite retention, onsite storage, and discharge of storm runoff from the development without increasing the flood risk within the development or elsewhere. \*
- Discharge rate applied. \*
- Demonstrate that gravity solutions avoiding storm water pumping stations where possible have been integrated.
- If Attenuation storage is provided (as a last resort), define volumes – storage for 1% and 3.3% annual probability with factor in accordance with the SFRA for climate change should be applied. A figure of 20% will be applicable in most cases
- Exceedance and overland flow routes. \*
- Phased development – where development under a planning application/permission is phased, coordination of the overall surface water management strategy should be implemented at the first phase in order to ensure the overall integrated design is implemented. This would allow different parts of a site to be developed at different times, while ensuring that the final developed site should meet the overall design criteria as set out in this Guidance Note.
- Details of any proposed wayleaves or land transfers in relation to surface water drainage.
- An undertaking that SuDS will be completed to taking in charge standards.






A DIA for **agricultural development** should include, but not be limited to, the criteria listed with an Asterix \* above.

## Quick Links

- [County Development Plan 2022](#)
- [SFRA](#)
- [Greater Dublin Strategic Drainage Study – Volume 2](#)
- [The SuDS Manual, CIRIA Report C753](#)
- [Sustainable Drainage Design and Evaluation Guide 2021, Dublin City Council](#)
- [Sustainable Drainage Explanatory Design and Evaluation Guide 2022, South Dublin County Council](#)
- [Nature-based Solutions to the Management of Rainwater and Surface Water Runoff in Urban Areas – Water Sensitive Urban Design Best Practice Interim Guidance Document, Department of Housing, Local Government and Heritage, November 2021](#)
- [Blue Green Infrastructure and Nature-based Solutions Framework, Southern Regional Assembly, August 2022](#)



**TABLE 3  
CORK COUNTY COUNCIL SUDS SELECTION HIERARCHY SHEET FOR SMALL-SCALE  
DEVELOPMENT**

SuDS Measures		Measures to be used on site	Rational for selecting / not selecting measure including discharge rate applied with supporting calculations
Water butt – 150L capacity or more (based water use demand) with means of overflow			
Permeable paving – consider for all hard paved areas without heavy traffic			
Bio-retention planter – disconnect downpipe connection into drains and allow roof runoff into planter with means of overflow			
Green / Blue Roof – requires a minimum substrate depth (growth medium) of at least 80 mm excluding the vegetative map			
Rain garden - disconnect downpipe/RWP into the planted flower bed			
Other			

**TABLE 4**  
**CORK COUNTY COUNCIL SUDS SELECTION HIERARCHY SHEET FOR LARGE-SCALE DEVELOPMENT AND AGRICULTURAL DEVELOPMENT**

SuDS Measures	Measures to be used on site	Rational for selecting / not selecting measure	Area of feature (m <sup>2</sup> )	Attenuation volume of feature (m <sup>3</sup> ) (see No. 8)
<b>Source Control</b>				
Providing storage at source				
Swales				
Integrated constructed tree pits				
Rainwater Butts				
Downpipe Planters				
Rainwater Harvesting				
Soakaways				
Infiltration trenches				
Permeable pavement (Grasscrete, Block Paving, Porous Asphalt etc)				
Green Roofs				
Green wall				
Filter strips				
Bio-retention systems/Raingardens				
Blue Roofs				
Filter Drain				
<b>Site Control</b>				
Detention Basins				
Retention basins				
<b>Regional Control</b>				
Ponds				
Wetlands				
<b>Other</b>				
Petrol/Oil interceptor/Grit Trap				
Attenuation tank – only as a last resort where other measures are not feasible				
Oversized pipes– only as a last resort where other measures are not feasible				
Other				

**Notes:**

Cork County Council is seeking above-ground solutions rather than tanks or oversized pipes. Above ground flows through swales, basins etc. are encouraged.

1. Demonstrate SuDS system will have sufficient Pollutant removal efficiency in accordance with CIRIA Suds Manual C753.
2. Basins and swale sides should be no steeper than 1:4 and no deeper than 1.2m in the 1%AEP.
3. Culverting should be avoided.
4. De-culverting is encouraged.
5. Please submit evidence of infiltration rates.
6. To account for climate change in the design of the drainage system rainfall intensities should be factored up by 20%.
7. The applicant must provide SuDS checklists in accordance with the Appendix B of the CIRIA Suds manual C753.
8. The applicant must provide discharge rate applied with supporting calculations.

