# Surface Water to Combined Sewer Application Guide

Relevant Application Types: Waste Water Connection, Waste Water Facilitation

## Purpose of this guide:

This document is intended as a guide to be used in assessing applications to connect surface water for new developments on brownfield sites* to the existing combined sewer network.

It outlines the minimum submission requirements to aid the assessment of the combined sewer connection application and suitable justifications/relevant evidence to rule out the four preferred options of reuse, infiltration, outfall to a watercourse or outfall to a surface water sewer.

The Scottish Water Surface Water Policy sets out our business objectives of “no new in, what’s in out”.

**A combined sewer connection will only be accepted when all other viable technical solutions for alternative surface water disposal have been exhausted, in addition to zero-net detriment or betterment being demonstrated.**

Betterment is defined as a decrease in the overall volume of surface water discharging to the Scottish Water network and treatment works.

In addition to the above, surface water treatment, **attenuation and discharge to the greenfield equivalent rate**, based on the draining area only, will be required as a minimum for any connection.

*Brownfield site: A site at which surface water discharge to the combined sewer can be proven to have existed within five years of application to Scottish Water.

**PLEASE NOTE: The outcome detailed on the PDE capacity response letter must be checked prior to review at technical audit.**

## Minimum Acceptance Criteria:

1. Zero-net volumetric detriment.
2. Technical alternatives justified as per below guidance.
3. Best practice SUDS strategy/mitigation proposal.

## Zero-net detriment submission requirements

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| Confirmation of previous site use relevant dates (e.g., last occupancy, date of demolition) | |
| Proof of existing discharge – see guidance document for examples of appropriate evidence | |
| Quantification of existing discharge – include **proven** discharge into combined network only | |
| Pre- development and post development site plans | |
| Proposed discharge – total proposed volume to network including proposed mitigation*<br>*(pre-attenuated flow comparison will be acceptable to demonstrate this)* | |

*If the total volume discharging to the combined network, post development, does not meet our zero net detriment criteria, the application will not be considered.

## Technical Alternatives

### Option 1 – Reuse Submission Requirements

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| Consideration of external reuse including green roofs and planting/bio areas. | |
| Consideration of internal reuse (use of grey water for non-potable water activities). | |
| Discuss how reuse aspect will incorporate into overall SUDS. | |

| Justification Provided | Required Evidence to Accept |
|---|---|
| There is no significant demand for non-potable water on the site throughout its design life. | Site is multiple curtilage or a non-domestic development. |
| The re-use of rainwater is not a viable/ cost-effective part of the solution for managing surface water on the site, taking account of the potential water supply benefits of such a system. | Development is to provide affordable/low cost housing. |

*Multiple curtilage: a development where the on-site drainage will be eligible for vesting. This is defined in Sewers for Scotland v4 APPENDIX X - GLOSSARY OF TERMS AND ABBREVIATIONS.

### Option 2 - Infiltration Submission Requirements

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| Confirmation of onsite soil characteristics - SI report required including borehole logs and porosity testing. | |
| Consideration of onsite constraints and potential mitigation – drawings where relevant. | |
| Demonstration on SUDS strategy of how maximisation of infiltration potential is to be encouraged. | |

| Justification Provided | Required Evidence to Accept |
|---|---|
| The use of infiltration drainage is not practicable due to the lack of permeability of the soil for disposal of surface water. | Soil Investigation report inclusive of on-site porosity testing in line with BRE Digest 365. |
| The use of infiltration drainage would result in a risk of instability through ground movement or subsidence; | Structural Engineer or Geotechnical Engineer report. |
| The use of infiltration drainage would pose an unacceptable risk of pollution of groundwater or watercourses; | Written confirmation from SEPA |
| The use of infiltration drainage would result in an unacceptable risk of flooding from groundwater to nearby properties; | Flow Path Analysis |
| The use of infiltration may cause surface water to indirectly enter a combined sewer which might result in an increased risk of | Flow Path Analysis |

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| flooding or pollution on the site or downstream. | |

## Options 3 and 4: Discharge to Watercourse or Surface Water Sewer Submission Requirements

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| Identify the most feasible options. | |
| Consideration of alternative routes (if appropriate). | |
| Consideration of onsite redesign to allow gravity connection (if appropriate). | |
| Confirmation of 3rd party land constraints (if necessary). | |
| Topographical surveys/long sections/flooding risks (if appropriate). | |

**Please Note:**

1. As per our hierarchy of options outlined in the Surface Water Policy, discharging to a watercourse is preferred over a connection to a surface water sewer; and
2. Connection to a public surface water sewer >50m in length, that connects into a combined sewer, is preferable to a connection directly into the combined network. Zero-net volumetric detriment and appropriate attenuation are required for a connection to any surface water sewer, that subsequently discharges to the combined sewer.

*HUE = Housing Unit Equivalent of the proposed development

| Justification Provided | HUE | Required Evidence to Accept |
|---|---|---|
| It is not reasonably practicable to construct an outfall to a surface water sewer, watercourse, canal, loch or SUDS.<br><br>(Note: additional funding may be available where the offsite sewer and/or SUDS can be designed to provide additional capacity for future development, identified within the current Local Development Plan). | <10 | Distance is over 50m.<br><br>**Where outfall is not practical due to service clashes/obstructions*, evidenced section drawings to demonstrate this must be provided.** |
| | 10-25 | Distance is over 50m.<br><br>Evidence will be required to support justification and whether the connection is reasonably practical is at the discretion of the SW case owner.<br><br>**Where outfall is not practical due to significant infrastructure clashes*, evidenced section drawings to demonstrate this must be provided.** |
| | 26-50 | Distance is over 100m.<br><br>Evidence will be required to support justification and whether the connection is reasonably practical is at the discretion of the SW case owner. |

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| | | **Where outfall is not practical due to significant infrastructure clashes*, evidenced section drawings to demonstrate this must be provided.** |
| | >50 | No distance rule. Evidence will be required to support justification and whether the connection is reasonably practical is at the discretion of the case owner and relevant Team Leader.<br><br>**Where outfall is not practical due to significant infrastructure clashes*, evidenced section drawings to demonstrate this must be provided.** |
| **Pumping would be required to drain surface water to a watercourse, canal, loch or SUDS** | All | Topography, site investigation and section drawings to be provided. Note that gradients should be based on minimum velocity as per Sewers for Scotland, and on-site drainage depth should be reduced as far as possible utilising concrete protection, private sewers and/or above ground SUDS to accommodate a connection to watercourse if applicable. |
| **The discharge would result in an increase in the risk of flooding.** | All | DIA required |

## SUDS strategy/mitigation proposal Submission Requirements

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| Outline of SUDS proposal | |
| Confirmation of maximised volume mitigation | |
| Proposed flow rate and confirmation flow rate must meet Sewers for Scotland requirements i.e., such that discharge will mimic 1:2 year greenfield equivalent flow rate and quality | |