Guidance note on design of wastewater connections for schools

In April 2019, the Irish Water Connections Charging Policy (CCP) was introduced and is applicable to all connection applications received on/after April 1st 2019. Under the CCP, Irish Water will provide a full connection service to a customer's boundary, where all components of the connection works are delivered by Irish Water.

Standard charges are applicable for Connection Service Pipe Infrastructure of up to 10 metres in length. Infrastructure in excess of this will incur additional quotable charges. The charges are based on the service pipe size and assume a gravity pipe connection; for non gravity pipe connections additional charges may apply. Further information is available at www.water.ie/connections

The purpose of this note is to provide guidance on the design of wastewater connections for schools and clarify how the design relates to the standard connection charge.

Design guidance

Irish Water's Code of Practice for Wastewater Infrastructure provides design criteria to be applied in relation to proposed wastewater infrastructure, including service connections. This includes information such as minimum pipe gradients and estimated wastewater flow rates.

Using these criteria, **Table 1** provides design guidance on the capacity of service connections on certain sizes in terms of flow rates and number of students within the school to be serviced.

Table 1 – Guidance on wastewater service connection capacity

Service connection size (mm)	Minimum gradient	Capacity at minimum gradient (l/s)	Max. number of students – school with no canteen[1]	Max. number of students – school with canteen[2]
150	1:150	13.3	1600	880
225	1:200	30	3500	2000

[1] This calculation assumes a flow rate of 50 litres/student/day over a 10 hour day, with a peaking factor of 6 applied.
[2] This calculation assumes a flow rate of 90 litres/student/day over a 10 hour day, with a peaking factor of 6 applied.

A sample calculation is provided in Appendix A for reference.

Additional Information

Irish Water's Codes of Practice and Standard Details for both water and wastewater infrastructure are available at www.water.ie/connections. In addition, pre-connection enquiry forms and connection application forms for **any new or extended schools** can be downloaded from this location.

We encourage engagement with Irish Water via the pre-connection enquiry process at an early stage in your project, in order to confirm the feasibility of new or upgraded connections.

This note is provided for guidance only. Ultimate responsibility for the detailed design, construction and provision of pipes and related infrastructure for the connection rests entirely with the Developer, his/her Designer(s), Contractor(s), or other related parties. Irish Water's guidance herein does not relieve the Developer, Designers, Contractors and related Parties of the ultimate responsibility for your design.

Appendix A - Sample calculation for wastewater discharge rate

Measurement	Calculations	Total
Number of students in proposed school		700
Estimated flow rate		50 litres/student/day Over a 10 hour day (e.g. 8.00am –6.00pm allowing for after-school activities). There is no canteen in the school.
Total wastewater discharge per day	700 students x 50 litres/student/day	35,000 litres/day
Average flow rate over the 10 hour period	35,000 litres/day ÷ 10 hours ÷ 60 minutes ÷ 60 seconds	0.97 litres/second
Peak flow rate	6 x 0.97 litres/second	5.83 litres/second