

Attachment-7-3-3 Sewer Discharge Consent

Details of the foul water discharge and consultation with Irish Water are included in the North City Operations Depot Engineering Services Report submitted with the planning application to Fingal County Council. The Engineering Services Report is included at Section 4.8 Reports of this Waste Licence Application.

A pre-connection enquiry was issued to Irish Water on 31/07/17. Discharge figures and associated hydraulic and organic loadings from the staff and visitors of the proposed development are in accordance with the EPA Wastewater Treatment Manual “*Treatment Systems for Small Communities, Business, Leisure Centres and Hotels*”. A wastewater flow rate for full time staff of 60 litres/person/day and 30 BOD₅ grams/person/day is assumed from Table 3 of the above manual. A wastewater flow rate for fleet staff/visitors of 20 litres/person/day and 15 BOD₅ grams/person/day is also assumed.

Based on a desktop study, preliminary figures for effluent from the road sweepers and gully trucks were calculated. These figures were then issued to Irish Water as part of the pre-connection enquiry. A copy of these calculations is included in Appendix A. Irish Water concluded that “*based upon the details you have provided with your pre-connection enquiry and on the capacity currently available as assessed by Irish Water, we wish to advise you that, subject to a valid connection agreement being put in place, your proposed connection to the Irish Water network can be facilitated*”. A copy of this letter from Irish Water is included Appendix B.

Since the initial consultation with Irish Water, data became available through testing of the effluent from similar sites which has resulted in more accurate flows and hydraulic and organic loadings from the trucks. Based on these new figures, the loading to the public system has been reduced when compared to the original figures. A copy of these calculations is also included in Appendix A.

Appendix A – Foul Water Discharge

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CALCULATION SHEET

PROJECT: Ballymun Depot		Ref No:	10243
		Sheet No:	1
ELEMENT: Foul Water Discharge Loading		Designer:	CS
		Date:	31.07.2017

File location: \\FSERVER4-DUB\Tobin\Projects\10243 - Ballymun Depot, DCC North Operation\05-Design\01-
This Element: Foul Water Discharge Loading

Sanitary Wastewater

**Applying BS EN 752:
Design Population**

Site	Max. No. Fleet Staff + Visitors	Max. No. Full time Staff
Office + Workshop	510.0 persons	181.0 persons

Site	Max. No. Large Road Sweepers per day x2 (discharge twice a day)	Max. No. Small Road Sweepers per day x2 (discharge twice a day)
Sweepers	16.0 large sweepers	12.0 small sweepers

Average DWF

Full time Staff	60.0 l/person/day
Fleet Staff + Visitors	20.0 l/person/day
Large Road Sweeper Waste Material	1800.000 l/day
Small Road Sweeper Waste Material	600.000 l/day

Peak Design Flow

DWF	0.424 l/sec	or	36.620 m³/d
6*DWF	2.543 l/sec	or	219.720 m³/d

Colebrook-White Formula

Q =	2.543 l/sec	Pipe Dia. Ø =	225.00 mm
ks =	1.50 mm	Gradient =	1 in 225.0
Kinematic viscosity	1.141x10 ⁻⁶ m²/sec	Q =	30.342 l/sec OK
Self Cleansing Vel.	0.750 m/sec	v =	0.763 m/sec OK

BOD₅

Full time Staff BOD ₅	30.0 g/person/day
Fleet Staff Vissitors BOD ₅	15.0 g/person/day
Large RS BOD ₅	900.0 g/sweeper/day
Small RS BOD ₅	300.0 g/sweeper/day
Total BOD₅	22.08 kg/day

PE

PE	368
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Summary

Use 225mmØ min. pipe size if using gravity sewers

This is a copy of the original foul calculations sent as part of the per-connection enquiry to Irish Water. These have now been superseded by the calculations overleaf. Please see Section 4 for further details



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CALCULATION SHEET

PROJECT: Ballymun Depot ELEMENT: Foul Water Discharge Loading		Ref No:	10243
		Sheet No:	1
		Designer:	CS
		Date:	19.09.2017

File location: \\FSERVER4-DUB\Tobin\Projects\10243 - Ballymun Depot, DCC North Operation\05-Design\01-
This Element: Foul Water Discharge Loading

Sanitary Wastewater

Applying BS EN 752:
Design Population

Site	Max. No. Fleet Staff + Visitors	Max. No. Full time Staff
Offices + Workshops	510.0 persons	181.0 persons

Site	Max. No. Large Trucks (decanted once a week)	Max. No. Small Trucks (decanted once a week)
Road Sweepers	8.0 large sweepers	6.0 small sweepers

Full time Staff	60.0 l/person/day	
Fleet Staff + Visitors	20.0 l/person/day	
Large Road Sweeper Waste Material	340.000 l/day	per large sweeper
Small Road Sweeper Waste Material	170.000 l/day	per small sweeper

Average Flow Office and Workshop	DWF	0.244 l/sec	or	21.060 m³/d
Peak Design Flow Offices and Workshops	6°DWF	1.463 l/sec	or	126.360 m³/d
Average Flow Road Sweepers	DWF	0.043 l/sec	or	3.740 m³/d
Peak Design Flow Road Sweepers	6°DWF	0.260 l/sec	or	22.440 m³/d
Average Flow Site	DWF	0.287 l/sec	or	24.800 m³/d
Peak Design Flow for Site	6°DWF	1.722 l/sec	or	148.800 m³/d

Colebrook-White Formula

Q =	1.722 l/sec	Pipe Dia. Ø =	225.00 mm
ks =	1.50 mm	Gradient =	1 in 200.0
Kinematic viscosity	1.141x10 ⁻⁶ m²/sec	Q =	32.197 l/sec OK
Self Cleansing Vel.	0.750 m/sec	v =	0.810 m/sec OK

BOD₅

Full time Staff BOD ₅	30.0 g/person/day
Fleet Staff Vissitors	15.0 g/person/day
Large RS BOD ₅	93.5 g/sweeper/day
Small RS BOD ₅	46.8 g/sweeper/day
Total BOD₅	14.11 kg/day

PE	235
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These are the most current foul loading calculations that now supersede the ones sent to Irish Water. Please see Section 4 of report for further details

Summary

Use 225mmØ min. pipe size if using gravity sewers

Appendix B – Irish Water Correspondence

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Letter Ref: CDSCOF2 - CDSCOF5

Craig Scully
Tobin Engineers
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Dublin 15 D15X98N



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Éire

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www.water.ie

09 October 2017

Dear Sir/Madam,

**Re: 1147376321 pre-connection enquiry - Subject to contract | Contract denied
Connection for non-domestic premises at Saint Margaret's Road, Ballymun, Dublin 11**

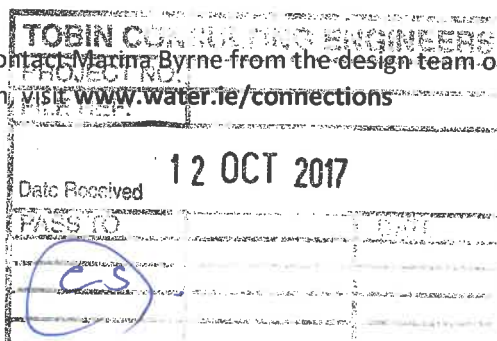
Irish Water has reviewed your pre-connection enquiry in relation to water and wastewater connections at Saint Margaret's Road, Ballymun, Dublin 11. Based upon the details you have provided with your pre-connection enquiry and on the capacity currently available as assessed by Irish Water, we wish to advise you that, subject to a valid connection agreement being put in place, your proposed connection to the Irish Water network can be facilitated.

There is an existing 800mm HL watermain along south edge of the site. New connections for water and wastewater to the existing network are feasible subject to required diversion of the watermain being assessed as feasible. Before completing the design of services infrastructure at the Premises (including diversion proposals), and prior to submitting any planning application, you are advised to contact Irish Water. The design has to be in accordance with published Irish Water Code of Practice and Standard Details (for water and wastewater)

You are advised that this correspondence does not constitute an offer in whole or in part to provide a connection to any Irish Water infrastructure and is provided subject to a connection agreement being signed at a later date.

A connection agreement can be applied for by completing the connection application form available at www.water.ie/connections. Irish Water's current charges for water and wastewater connections are set out in the Water Charges Plan as approved by the Commission for Energy Regulation.

If you have any further questions, please contact Marina Byrne from the design team on 01 8925991 or email mzbyrne@water.ie. For further information, visit www.water.ie/connections



Yours sincerely,

Maria O'Dwyer
Connections and Developer Services

Stiúrthóirí / Directors: Michael McNicholas (Chairman), Brendan Murphy, Michael O'Sullivan, Jerry Grant, Cathal Marley
Oifig Chláraithe / Registered Office: Teach Colvill, 24-26 Sráid Thaidéid, Baile Átha Cliath 1, D01 NP86 / Colvill House, 24-26 Talbot Street, Dublin 1, D01 NP86
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