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ENGINEERS IRELAND

Domestic, Commercial, Industrial & Leisure Premises (wastewater loading rates)

EPA manual for Small Communities, Business, Leisure Centres and Hotels. 1999 Table 3. page 8.

Situation	Source	Litres/day person	BOD_5 g/d person	PE Organic loading equiv.	Number of Persons	Population (organic)	Hydraulic loading Lit.	Organic loading gr.	Population (hydraulic)
Domestic	Normal residential	150	60	1.00	24	24.00	3600.00	1440.00	20.00
Industrial	Office and/or factory without canteen	30	20	0.33		0.00	0.00	0.00	0.00
(Urinals must	Office and/or factory with canteen	60	30	0.50		0.00	0.00	0.00	0.00
be economy type)	Open industrial site, e.g. quarry - canteen	40	25	0.42		0.00	0.00	0.00	0.00
Schools	Non-residential with cooking on-site. Students	60	30	0.50		0.00	0.00	0.00	0.00
(6Hr. shock load)	Non-residential with no canteen. Students	20	15	0.25		0.00	0.00	0.00	0.00
(Urinals must	Boarding school residents	180	60	1.00		0.00	0.00	0.00	0.00
be economy type)	School day staff	60	30	0.50		0.00	0.00	0.00	0.00
Hotels	Guests (including meals)	250	75	1.25		0.00	0.00	0.00	0.00
(Urinals must	Guests (no meals)	180	45	0.75		0.00	0.00	0.00	0.00
be economy type)	Resident staff	180	60	1.00		0.00	0.00	0.00	0.00
	Day staff	60	30	0.50		0.00	0.00	0.00	0.00
	Conference	40	20	0.33		0.00	0.00	0.00	0.00
Restaurants	luxury catering (Meals)	25	25	0.42		0.00	0.00	0.00	0.00
(Urinals must	prepared catering (Meals)	15	15	0.25		0.00	0.00	0.00	0.00
be economy type)	snack bar (Meals)	10	10	0.17		0.00	0.00	0.00	0.00
	Function rooms inc buffets	10	10	0.17		0.00	0.00	0.00	0.00
	fast food (Meals)	10	10	0.17		0.00	0.00	0.00	0.00
Pubs and clubs	Residents	200	60	1.00		0.00	0.00	0.00	0.00
(Urinals must	Day staff	60	30	0.50		0.00	0.00	0.00	0.00
be economy type)	Bar drinkers	10	10	0.17		0.00	0.00	0.00	0.00
	Bar meals	10	10	0.17		0.00	0.00	0.00	0.00
Football Clubs	Players inc showers	30	20	0.33		0.00	0.00	0.00	0.00
(Urinals eco only)	Spectators - Toilet blocks (per use)	8	10	0.17		0.00	0.00	0.00	0.00
Amenity sites	Restaurants	15	15	0.25		0.00	0.00	0.00	0.00
	Function rooms	10	10	0.17		0.00	0.00	0.00	0.00
(Urinals must	Toilet blocks (per use)	8	10	0.17		0.00	0.00	0.00	0.00
be economy type)	Toilet blocks (long stay car park)	10	15	0.25		0.00	0.00	0.00	0.00
	Golf clubs (Players inc. showers)	25	15	0.25		0.00	0.00	0.00	0.00
	Squash, with club house	25	15	0.25		0.00	0.00	0.00	0.00
	Swimming	10	10	0.17		0.00	0.00	0.00	0.00
Caravan sites	Touring	50	35	0.58		0.00	0.00	0.00	0.00
(Urinals must	Static not serviced	75	35	0.58		0.00	0.00	0.00	0.00
be economy type)	Static fully serviced	150	55	0.92		0.00	0.00	0.00	0.00
	Tent sites	50	35	0.58		0.00	0.00	0.00	0.00
Hospitals	Residential elderly people	250	60	1.00		0.00	0.00	0.00	0.00
	Residential elderly people plus nursing	300	65	1.08		0.00	0.00	0.00	0.00
	Nursing homes (convalescent)	350	75	1.25		0.00	0.00	0.00	0.00

Planned commercial peak usage calculation for -

Site - Newcastle

Pavment Investments Ltd

Total organic loading per day in gr.	**1440.00**
Total Hydraulic load, litres per day	**3600.00**
Total PE at normal organic load BOD_5 (60mg/l/day/PE)	**24.00**
Total PE at normal hydraulic output (150 lit./day/PE)	**24.00**

Water Demand:

24 persons @ 150 litres per person per day.