



I. Foul Flow Estimate

Appendices

The Former Stag Brewery, Mortlake

Project Number: WIE18671

Document Reference: WIE18671-104-R-11-2-2-DS



Project Title: **Stag Brewery**
 Calculations Title: **Existing Foul Flow Estimate**

Sheet No: 1 of 2 Project No: WIE15582
 By: M Stuart Date: 18/02/2022
 Checked: B McCarthy Date: 18/02/2022

	Dry Weather Flow Rate (per day)	Source	Number of	Factor	Profile (hours)	Peak Flow Rate (litres/second)
Residential				2.12	24	
Existing property = 160 litres/person/day	368.0 litres per unit	Thames Water Guidelines (2016)	0 existing units			0.0
New property = 125 litres/person/day	287.5 litres per unit	Thames Water Guidelines (2016)	0 proposed units			0.0
Occupancy = 2.3 persons						
Hotel	500.0 litres per room	British Water (2013)	15 rooms	3	24	0.3
Student Accommodation	200.0 litres per bed	Thames Water Guidelines (2016)	0 beds	3	24	0.0
Offices	750.0 litres per 100m ²	Jones (1992)	2318 m ²	3	10	1.4
Retail	400.0 litres per 100m ²	Jones (1992)	0 m ²	3	12	0.0
Cinema	10.0 litres per seat	Jones (1992)	0 seats*	3	8	0.0
Health Club/Sports Centre	50.0 litres per customer	British Water (2013)	168 customers**	3	16	0.4
Day School	90.0 litres per pupil	British Water (2013)	0 pupils	3	10	0.0
Boarding School	175.0 litres per pupil	British Water (2013)	0 pupils	3	24	0.0
Hospital	625.0 litres per bed	Jones (1992)	0 beds	3	24	0.0
Nursing Home	350.0 litres per bed	British Water (2013)	0 beds	3	24	0.0
Restaurant	30.0 litres per cover	British Water (2013)	0 covers	3	8	0.0
Pub/Club	15.0 litres per customer	Butler and Davies (2004)	0 customers***	3	12	0.0
Warehouse	150.0 litres per 100m ²	Jones (1992)	0 m ²	3	12	0.0
Manufacturing	550.0 litres per 100m ²	Jones (1992)	28671 m ²	3	12	11.0
Commercial	300.0 litres per 100m ²	Jones (1992)	0 m ²	3	12	0.0
SUB TOTAL						13.1
Infiltration percentage 10%						1.3
TOTAL						14.4

* Foul flow rate needs to be calculated based on number of seats. An allowance of 4m² has been made for each seat.

Floor area = 0 m² 4 m² per person

** Foul flow rate needs to be calculated based on number of customers. An allowance of 4m² has been made for each customer.

Floor area = 672 m² 4 m² per person

*** Foul flow rate needs to be calculated based on number of customers. An allowance of 4m² has been made for each customer.

Floor area = 0 m² 4 m² per person



Project Title: **Stag Brewery**
 Calculations Title: **Proposed Foul Flow Estimate**

Sheet No: 2 of 2 Project No: WIE15582
 By: M Stuart Date: 03/03/2022
 Checked: B McCarthy Date: 03/03/2022

	Dry Weather Flow Rate (per day)	Source	Number of	Factor	Profile (hours)	Peak Flow Rate (litres/second)
Residential				2.12	24	
Existing property = 160 litres/person/day	400.0 litres per unit	Thames Water Guidelines (2016)	0 existing units			0.0
New property = 125 litres/person/day	312.5 litres per unit	Thames Water Guidelines (2016)	1085 proposed units			8.3
Occupancy = 2.5 persons						
Hotel	500.0 litres per room	British Water (2013)	15 rooms	3	24	0.3
Student Accommodation	200.0 litres per bed	Thames Water Guidelines (2016)	0 beds	3	24	0.0
Offices	750.0 litres per 100m ²	Jones (1992)	6747 m ²	3	10	4.2
Retail	400.0 litres per 100m ²	Jones (1992)	2200 m ²	3	12	0.6
Cinema	10.0 litres per seat	Jones (1992)	334 seats*	3	8	0.3
Health Club/Sports Centre	50.0 litres per customer	British Water (2013)	0 customers**	3	16	0.0
Day School	90.0 litres per pupil	British Water (2013)	1200 pupils	3	10	9.0
Boarding School	175.0 litres per pupil	British Water (2013)	0 pupils	3	24	0.0
Hospital	625.0 litres per bed	Jones (1992)	0 beds	3	24	0.0
Nursing Home	350.0 litres per bed	British Water (2013)	0 beds	3	24	0.0
Restaurant	30.0 litres per cover	British Water (2013)	0 covers	3	8	0.0
Pub/Club	15.0 litres per customer	Butler and Davies (2004)	0 customers***	3	12	0.0
Warehouse	150.0 litres per 100m ²	Jones (1992)	0 m ²	3	12	0.0
Manufacturing	550.0 litres per 100m ²	Jones (1992)	0 m ²	3	12	0.0
Commercial	300.0 litres per 100m ²	Jones (1992)	465 m ²	3	12	0.1
SUB TOTAL						22.9
Infiltration percentage 10%						2.3
TOTAL						25.1

* Foul flow rate needs to be calculated based on number of seats. An allowance of 4m² has been made for each seat.

Floor area = 1606 m² 4 m² per person

** Foul flow rate needs to be calculated based on number of customers. An allowance of 4m² has been made for each customer.

Floor area = 0 m² 4 m² per person

*** Foul flow rate needs to be calculated based on number of customers. An allowance of 4m² has been made for each customer.

Floor area = 0 m² 4 m² per person



J. LBRuT SuDS Proforma

Appendices

The Former Stag Brewery, Mortlake

Project Number: WIE18671

Document Reference: WIE18671-104-R-11-2-2-DS

1. Project & Site Details	Project / Site Name (including sub-catchment / stage / phase where appropriate)	The Former Stag Brewery
	Address & post code	The Former Stag Brewery, Mortlake
	OS Grid ref. (Easting, Northing)	E 520470
		N 176018
	LPA reference (if applicable)	
	Brief description of proposed work	Section 1
	Total site Area	9941 m ²
	Total existing impervious area	5890 m ²
	Total proposed impervious area	5890 m ²
	Is the site in a surface water flood risk catchment (ref. local Surface Water Management Plan)?	See FRA
	Existing drainage connection type and location	Section 3
	Designer Name	Brendan McCarthy
	Designer Position	Technical Director
Designer Company	Waterman	

2. Proposed Discharge Arrangements	2a. Infiltration Feasibility		
	Superficial geology classification	Section 4	
	Bedrock geology classification	Section 4	
	Site infiltration rate	m/s	
	Depth to groundwater level	m below ground level	
	Is infiltration feasible?	Yes	
	2b. Drainage Hierarchy		
		<i>Feasible (Y/N)</i>	<i>Proposed (Y/N)</i>
	1 store rainwater for later use	Y	Y
	2 use infiltration techniques, such as porous surfaces in non-clay areas	N	
	3 attenuate rainwater in ponds or open water features for gradual release	N	
	4 attenuate rainwater by storing in tanks or sealed water features for gradual release	Y	Y
	5 discharge rainwater direct to a watercourse	Y	Y
	6 discharge rainwater to a surface water sewer/drain	Y	Y
	7 discharge rainwater to the combined sewer.	N	
	2c. Proposed Discharge Details		
	Proposed discharge location	Section 4	
Has the owner/regulator of the discharge location been consulted?	Section 4 and 5		

3a. Discharge Rates & Required Storage				
	Greenfield (GF) runoff rate (l/s)	Existing discharge rate (l/s)	Required storage for GF rate (m ³)	Proposed discharge rate (l/s)
Qbar	See Section 4			
1 in 1				
1 in 30				
1 in 100				
1 in 100 + CC				
Climate change allowance used		40%		
3b. Principal Method of Flow Control				
3c. Proposed SuDS Measures				
	Catchment area (m ²)	Plan area (m ²)	Storage vol. (m ³)	
Rainwater harvesting	See Section 4			
Infiltration systems				
Green roofs				
Blue roofs				
Filter strips				
Filter drains				
Bioretention / tree pits				
Pervious pavements				
Swales				
Basins/ponds				
Attenuation tanks				
Total	0	0	0	0

4a. Discharge & Drainage Strategy	Page/section of drainage report
Infiltration feasibility (2a) – geotechnical factual and interpretive reports, including infiltration results	Section 4
Drainage hierarchy (2b)	Section 4
Proposed discharge details (2c) – utility plans, correspondence / approval from owner/regulator of discharge location	Section 4
Discharge rates & storage (3a) – detailed hydrologic and hydraulic calculations	Section 4
Proposed SuDS measures & specifications (3b)	Section 4
4b. Other Supporting Details	Page/section of drainage report
Detailed Development Layout	Appendix E
Detailed drainage design drawings, including exceedance flow routes	Appendix E
Detailed landscaping plans	Appendix A
Maintenance strategy	Section 4
Demonstration of how the proposed SuDS measures improve:	Section 4
a) water quality of the runoff?	Section 4
b) biodiversity?	Section 4
c) amenity?	Section 4

UK and Ireland Office Locations

