HALL infrastructure DESIGN Ltd Silverdale, 116 Humberston Avenue Humberston North East Lincs DN36 4SU

Tel: 01472 814137

Email: hall.design@btinternet.com

Foul Water Storage Calculation

3.812

Site:	Boston West Golf Centre		
Contract No.: C0230			
No. of Plots: 423		(FL4 value / PDC)	
Lowest private manhole (LPM)IL:		1.750	
Pump Station diameter (m):		2.100	

Boston West Holiday Park Ltd	
11.03.21	
Alarm level (HLA):	-0.593
on Inlet level:	-0.393
on Base level (PSB):	-1.593
	Boston West Holiday Park Ltd 11.03.21 Alarm level (HLA): on Inlet level: on Base level (PSB):

367.19

25890

25.890

8.115

11.579

26.634

Pump Design Criteria (PDC) (2.35 persons per property x 125 l/p/d + 25% infiltration) (litres/property/day)

Peak Inflow to Pump Station (2.12 x DWF) I/s

Emergency Storage Required (litres) (4 hours @ 1DWF)

Storage Required (cu m)

Storage available in pump station wet well between HLA and LPM Storage available in pump station wet well between PSB and LPM Storage available in onsite 150mm dia network without surcharge of 100mm dia network.

Manhole	Diameter	Invert Level	Storage Depth *	Storage Volume	Manhole	Diameter	Invert Level	Storage Depth *	Storage Volume
F200	1.200	1.240	0.360	0.407					
F201	1.200	0.780	0.820	0.927					
F141	1.200	1.263	0.337	0.381					
F142	1.200	1.050	0.550	0.622					
F143	1.200	0.762	0.838	0.948					
F144	1.200	0.551	1.049	1.186					
F145	1.200	0.439	1.161	1.313					
F146	1.200	0.079	1.521	1.720					
F147	1.200	-0.282	1.882	2.128					
F148	1.200	-0.378	1.978	2.237					
					_				
					_				
					_				
			volume	11.871				volume	0.000
			-				Total v	olume in manholes	11.871
Pipes	1	Dia	l l	Length	7	Storage	i		

150mm	0.150	364.2	6.436	volume	6.436
100mm	0.100	27.000	0.212	volume	0.212

* Storage depth taken as difference between lowest head of 100mm sewer level and main sewer invert level plus 150mm.

* NB: where the spreadsheet calculates this as a negative figure substitute with a zero.

	Ē	1DWF (I/s)	1.798	min Pump Rate (4DWF)	7.192	Storage Available
--	---	------------	-------	----------------------	-------	-------------------

British Water Flows & Loads 4

Activity	No	Load	Total	
hotel guests bedroom only	84	80	6720	
static caravan fully serviced	1200	150	180000	
golf club users	150	20	3000	
clubhouse restauarant	300	30	9000	
clubhouse bar drinkers	300	12	3600	
health club plus pool	50	60	3000	
staff (all activities)	20	90	1800	
	Total	(litres per day)	207120	
	Balancing co	prrection value	0.75	
	Total (b	alanced) litres	155340	

3.6

BRITISH WATER

Table of Loadings for Sewage Treatment Systems

Per person / activity / day (unless otherwise specified)
DOMESTIC DWELLINGS (Grams)
Standard residential
Mobile home type caravans with full services
INDUSTRIAL
Office / Factory without canteen
Office / Factory with canteen
Open industrial site, e.g. construction, quarry, without canteen
*Full-time Day Staff
*Part-time Staff (4 hr shift)
SCHOOLS
Non-residential with canteen cooking on site
Non-residential without a canteen
Boarding school (i) residents
(ii) day staff (inc. mid-day meal)
HOTELS, PUBS & CLUBS
Hotel Guests (Prestige hotels)
Hotel Guests (3 ^H & 4 ^H hotels)
Guests (Bedroom only - no meals)
Residential Training/Conference Guest (inclusive all meals)
Non residential Conference Guest
Drinkers
Holiday camp chalet resident
Resident Staff
Restaurants - Full Meals - luxury catering - pre-prepared catering
- Snack Bars & bar meals
- Function Rooms including buffets
- Fast Food i.e. (roadside restaurants)
- Fast Food Meal (burger chain and similar)
Students (Accommodation only)
AMENITY SITES
Toilet Blocks (per use)
Toilet (WC) (per use)
Toilet (Urinal) (per use)
Toilet Blocks in long stay car parks/lorry parks (per use)
Shower (per use)
Golf Club
Local community sports club, e.g. squash, rugby & football
Swimming (where a separate pool exists without an associated sp
Health Club/Sports Centre
Tent sites
Caravan Sites - (i) Touring not serviced
(ii) Static not serviced
(iii) Static fully serviced
HOSPITALS & RESIDENTIAL CARE HOMES
Residential old people / nursing
Small hospitals
Large hospitals
*Staff figures also apply to other applications
3

Notes 42 bed rooms, 2 persons per room 300 caravans, 4 persons per caravan 150 daily users 300 covers, full meals 300 daily users 50 daily users 20 full time staff

to allow for crossover between activities

Daily (24 hours) L/S (assumed over a 12 hour activity period)

	FLOW	BOD	Ammonia as N
	(Litres)	(Grams)	
	150	60	8
	150	60	8
	50	25	5
	100	38	5
	60	25	5
	90	38	5
	45	25	3
	90	38	5
	50	25	5
	175	60	8
	90	38	5
	300	105	12
	250	94	10
	80	50	6
	350	150	15
	60	25	2.5
	12	15	5
	227	94	10
	180	75	10
	30	38	4
	25	30	2.5
	15	19	2.5
	15	19	2.5
	12	12	2.5
	12	15	4
	100	60	8
	10	12	2.5
	10	12	2.5
	5	12	2.5
	10	19	4
	40	19	2
	20	19	5
	40	25	6
centre)	10	12	2.5
	50	19	4
	75	44	8
	100	44	8
	100	44	8
	150	60	8
	350	110	13
	450	140	Assess
	450	Assess individua	