

PROPOSED HOLIDAY COTTAGES
PLAS FARM
RHOS
PONTARDAWE

PROPOSED PRIVATE
FOUL DRAINAGE SYSTEM

DESIGN CALCULATIONS

AUGUST 2024

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Job No: 23/0912

Contract: Mrs Pam Rles

Kelly Kellys Paul Rlyp

Sheet No: 001

Date: 8/1/24

Designer:

Checked:

Design of Fault (Provide) Systems to Collingwood

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23/092 - Foul Dyx Dym
Man Farm Holiday Cottages

Designer: gy

Checked:

Brief

Design of Private Foul System to serve 2 No
Holiday Cottages/let at Man Farm plus take
early Dwellly. as client brief Nov 23

References

Scheme Planning Drawings / layout Details (Rev added)
after Site Insps / date May 24
Imfadyx Padym 2025 Design Site
BS Code of practice.

Methodology

Gravelly Foul System to serve
Dwellly to discharge to. Septic
Tank & Drain Field located
on Farm Grounds
[No adopted DCWW Sewer in Area]



001p

Table of Loadings for Sewage Treatment Systems

004

Per person / activity / day (unless otherwise specified)	FLOW (Litres)	BOD (Grams)	Ammonia as N
DOMESTIC DWELLINGS (Grams)			
Standard residential	150	60	8
Mobile home type caravans with full services	150	60	8
INDUSTRIAL			
Office / Factory without canteen	50	25	5
Office / Factory with canteen	100	38	5
Open industrial site, e.g. construction, quarry, without canteen	60	25	5
*Full-time Day Staff	90	38	5
*Part-time Staff (4 hr shift)	45	25	3
SCHOOLS			
Non-residential with canteen cooking on site	90	38	5
Non-residential without a canteen	50	25	5
Boarding school (i) residents	175	60	8
(ii) day staff (inc. mid-day meal)	90	38	5
HOTELS, PUBS & CLUBS			
Hotel Guests (Prestige hotels)	300	105	12
Hotel Guests (3 rd & 4 th hotels)	250	94	10
Guests (Bedroom only – no meals)	80	50	6
Residential Training/Conference Guest (inclusive all meals)	350	150	15
Non residential Conference Guest	60	25	2.5
Drinkers	12	15	5
Holiday camp chalet resident	150	94	10
Resident Staff	180	75	10
Restaurants - Full Meals - luxury catering	30	38	4
- pre-prepared catering	25	30	2.5
- Snack Bars & bar meals	15	19	2.5
- Function Rooms including buffets	15	19	2.5
- Fast Food i.e. (roadside restaurants)	12	12	2.5
- Fast Food Meal (burger chain and similar)	12	15	4
Students (Accommodation only)	100	60	8
AMENITY SITES			
Toilet Blocks (per use)	10	12	2.5
Toilet (WC) (per use)	10	12	2.5
Toilet (Urinal) (per use)	5	12	2.5
Toilet Blocks in long stay car parks/morry parks (per use)	10	19	4
Shower (per use)	40	19	2
Golf Club	20	19	5
Local community sports club, e.g. squash, rugby & football	40	25	6
Swimming (where a separate pool exists without an associated sports centre)	10	12	2.5
Health Club/Sports Centre	50	19	4
Tent sites	75	44	8
Caravan Sites - (i) Touring not serviced	100	44	8
(ii) Static not serviced	100	44	8
(iii) Static fully serviced	150	60	8
HOSPITALS & RESIDENTIAL CARE HOMES			
Residential old people / nursing	350	110	13
Small hospitals	450	140	Assess
Large hospitals	Assess individually		

*Staff figures also apply to other applications

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Contract: Paul by Pym

Pls Form - Collyers

Sheet No: 005

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Contributory Buildings

Part H Bulky
[+Bulky gale.]

A) Converted Gate Barn + Fails

	Load/lt/dy	People eqvt
1 No 2 Bed (2 Pax) Flat	300	2
Jacuzzi }	10 }	1.
Pool }	10 }	
Communal Laundry	300	2

B) Dutch Barn.

Commonly use + K.1 Den (10 pax/dy. 100%) (use)	600	4 eq (Full time)
---	-----	------------------

C) Existy Farm House.

4 Bed (3 pax)	450	3
	<u>1670 lb/dy</u>	<u>12 No eq</u>

Septic Tank Sizing

Part H Bulky

Min 2,700 lbs [4 users] + 150/user

$$= 2700 + (150 \times 5) = 3900 \text{ lbs}$$

Use 4600 lbs Septic Tank + 11 in Bell
(Total 6 lb Alpha Type on sub gnd)

Dry Field Design [To Part H]

Design to Part H Building Regulations 11.4.4

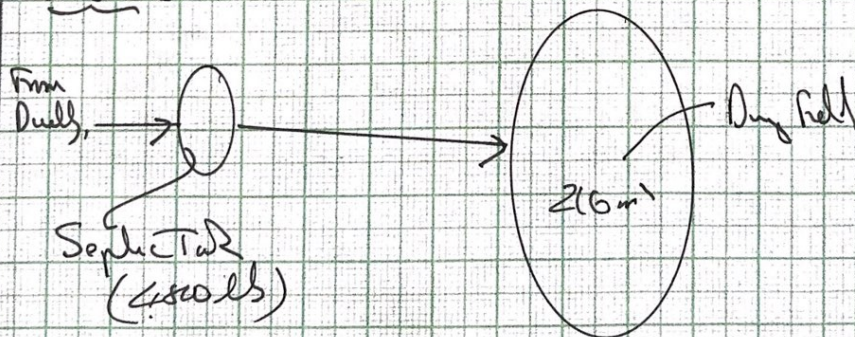
$$AF = p \times V_p \times 0.25$$

$$p = 12 \text{ par}$$

$$V_p = 72 \text{ [from Porosity test] - (below)}$$

$$AF_{\text{req}} = 72 \times 12 \times 0.25 = \underline{\underline{216 \text{ m}^2}}$$

Schematic :-



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CONTRACT:

Mls Fam

23/092

TRIAL PIT NO: ⁰⁰⁸ TPS/11

O.G.L:

149.7m

METHOD OF EXCAVATION JCB

Water Levels Recorded

Date: 12/7/24

Water Strikes

Depth of pit: 3.0m

Depth of water:

Time:

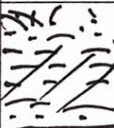
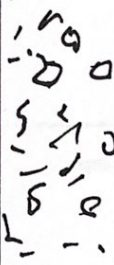
Support:

Dimensions:

Logged By:

REMARKS:

Powdly Test for Dring Field Bays
at Mls Fam :-

O.D. LEVEL	DESCRIPTION	SCALE		Unit Thickness	Sample Data		
		Depth	Legend		Type	No	Depth
1	7.5% 150m 2	Grass. Top soil. 1.00					1
2	25% 3.0m 3	Glacial Till/ sandy silty gravels/ with cobbles.					2
3							3
4							4
5							5
6							6

* See Sunny Bay/
log sheet.

009

PROPOSED HOLIDAY COTTAGES RHOS

23/092

FOUL DRAINAGE FIELD DESIGN

POUROSITY TESTS AND RESULTS

Date 12/07 /2024

site details

site location	PLAS FARM Rhos
post code	
altitude	

test location

date of test

pit details

length[m]

breadth[m]

depth[m]

depth to groundwater

pit volume [m3]

d75%_md25%_m

d75%-d25%

wetted area 75-25%

base area[m]

mean surface area

pourosity test results

TP/1	TP/2	TP/3
12/07/2024		
0.3		
0.3		
0.3		
n/a		
0.027		
0.225		
0.075		
0.15		
0.09		
min	depth water	min
0	0	
30	0.05	
60	0.075	
90	0.1	
120	0.15	
180	0.18	
240	0.23	
360		
480		

soil infiltration rate

Vp75-25 m3 [1]

mean surface area [2]

Tp75-25 [mins] [3]

Tp75-25 [secs] [4]

f m/sec [1]/[2]*[4]

part H clause1.44 formula

drainage field design

v25-v75 secs

Vp=T/150

240-60*60=10800		
10800/150=72		