PercolationTests.ie
Planning Assessments & Land Surveys

Tel: 087 6636 757 Email: percolationtests@gmail.com Web: www.percolationtests.ie

BRE Digest 365 Report.

Prepared on behalf of:

Stephen Proudfoot

At:

64 Oakfield Avenue,
Clondalkin,
Dublin 22.

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Scope of Report.

The findings of this report are the result of an on-site infiltration test. Interpretations and conclusions included in the report are based on knowledge of the ground conditions following detailed investigations, as well as the regional soils, subsoils and bedrock geology, and the experience of the author. David Ryan has prepared this report in line with the best current practice and with all reasonable skill, care and diligence in consideration of the limits imposed by the survey techniques used and resources devoted to it by agreement with the client.

David Ryan accepts no responsibility for any matters arising if any recommendations contained in this document are not carried out, or are partially carried out, without further advice being obtained from David Ryan.

Cillron Limited Newtownmoyaghy, Kilcock, Co. Kildare. www.percolationtests.ie Tel: 087 6636757	**BRE Digest 365 Test**	Revision	1.00
	Job No: **Soakpit 1**	Page:	C/01
Section: **64 Oatfield Avenue, Clondalkin, Dublin 22**	Prepared By: **DR**	Date:	11/07/2022

ALTERNATIVE SOAKAWAY SIZES			
	trench soakaways		
width of trench *[mm]* :	450	600	900
required trench length *[m]* :	4.35	3.59	2.63
	ring soakaways		
diameter of ring *[mm]* :	1500	2100	2400
required pit diameter *[m]* :	0.29	0.07	0.09

** Based on effective depth and number of pits as in Soakaway Data table*

SUMMARY OF CALCULATIONS		
critical design rainfall duration 't_{crit}' =	15	*min*
required storage volume 'V_{req}' =	0.52	m^3
provided storage volume 'V_{prov}' =	0.54	m^3
utilisation factor =	**0.96**	***.OK***
required time to discharge 50% 't_{50}' =	0.23	*hours*
utilisation factor =	**0.01**	***.OK***

GENERAL DATA	
site location: [redacted] Ireland	
soakaway type:	infilled pit or trench
impermeable area drained to soakaway 'A' $[m^2]$ =	50
60 min rainfall depth of 5 year return period 'R' *[mm]* =	16
M5-60 to M5-2d rainfall ratio 'r' =	0.28
allowance for climate change:	20%

SOAKAWAY DATA	
soakaway width 'W' [m] =	1.60
soakaway length 'L' [m] =	1.60
total depth from ground level 'D_b' *[m]* =	1.20
depth to drain invert level 'D_d' *[m]* =	0.50
soakaway effective depth 'D_{eff}' *[m]* =	0.70
free volume in infill aggregate *[%]* =	30

SOIL INFILTRATION DATA	
allowance for infiltration through soakaway base:	20%
available on-site infiltration test results:	(●) Yes ( ) No
use soakage trial pit table below	
internal surface area of trial pit 'a_{p50}' $[m^2]$ =	2.30
storage volume between 75-25% 'V_p' $[m^3]$ =	0.30
time for water to fall from 75-25% 't_p' [min] =	18.33
soil infiltration rate 'f' [m/s] =	1.19E-04

SOAKAGE TRIAL PIT DATA	
soakage trial pit width 'W_t' *[m]* =	1.20
soakage trial pit length 'L_t' *[m]* =	1.00
total depth from ground level 'D_{tb}' *[m]* =	1.20
depth to pipe invert level 'D_{tp}' *[m]* =	0.70
soakage trial pit effective depth 'D_{teff}' *[m]* =	0.50
free volume in infill aggregate *[%]* =	100
NOTE: faces of excavation assumed to be vertical	

Infiltration Rate = Very Good No watertable noted above 1.2m below ground level.

REQUIRED STORAGE CAPACITY PER RAINFALL DURATION

rainfall duration *[min]*	rainfall factor Z1	M5-D rainfalls *[mm]*	M30-D Z2	M30-D rainfalls *[mm]*	M30-D inflow $[m^3]$	ignore Z2	ignore rainfalls *[mm]*	ignore inflow $[m^3]$	ignore Z2	ignore rainfalls *[mm]*	ignore inflow $[m^3]$	outflow from soakaway $[m^3]$	required storage $[m^3]$
5	0.33	5.21	1.44	9.02	0.45							0.10	0.35
10	0.48	7.57	1.47	13.31	0.67							0.20	0.47
15	0.58	9.14	1.48	16.24	0.81							0.29	**0.52**
30	0.76	11.96	1.49	21.41	1.07							0.59	0.48
60	1.00	15.70	1.49	28.08	1.40							1.17	0.23
120	1.27	19.88	1.47	35.15	1.76							2.35	0.00
240	1.63	25.53	1.46	44.67	2.23							4.70	0.00
360	1.86	29.20	1.45	50.67	2.53							7.05	0.00
600	2.22	34.79	1.43	59.66	2.98							11.75	0.00
1440	3.05	47.85	1.38	79.36	3.97							28.19	0.00

** Z2 is a growth factor from M5 rainfalls*

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

water level measurement N°:		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Soakage Trial 1	time *[min]* =	0	15																	
	depth to water *[m]* =	0.80	1.10																	
Soakage Trial 2	time *[min]* =	0	18																	
	depth to water *[m]* =	0.80	1.10																	
Soakage Trial 3	time *[min]* =	0	22																	
	depth to water *[m]* =	0.80	1.10																	

USE FIGURED DIMENSIONS IN PREFERENCE TO SCALING FROM DRAWINGS
ALL MEASUREMENTS, HEIGHTS, AREAS, LEVELS AND CONSTRUCTIONAL DETAILS TO BE CHECKED AND VERIFIED BY THE BUILDING CONTRACTOR, SUB-CONTRACTOR OR DIRECT LABOUR CONTRACTOR PRIOR TO THE COMMENCEMENT OF ANY WORKS OR AGREEMENTS.

CLIENT: Stephen Proudfoot

PROJECT: 64 Oatfield Avenue, Clondalkin, Dublin 22.

Cillron Limited
Site Suitability Assessments & Land Surveys
Newtownmoyaghy
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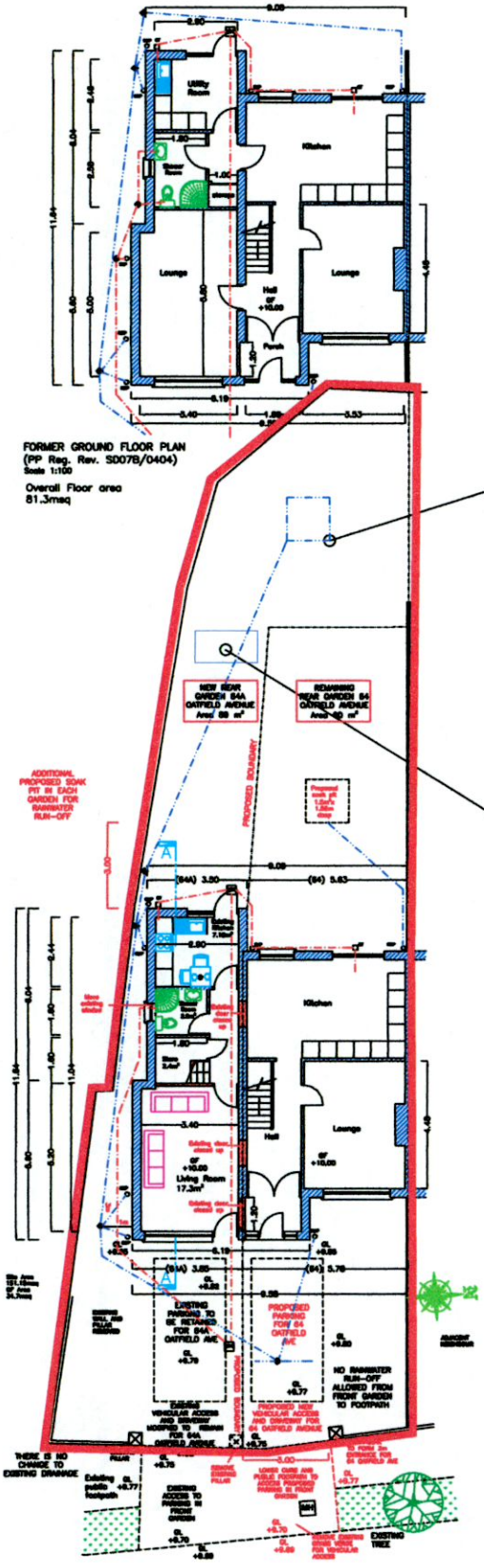
DRAWN BY:
SCALE: 1:250
ORIGIN DATE: 11/07/2022
DRAWING NUMBER:

FOR PLANNING PURPOSES ONLY

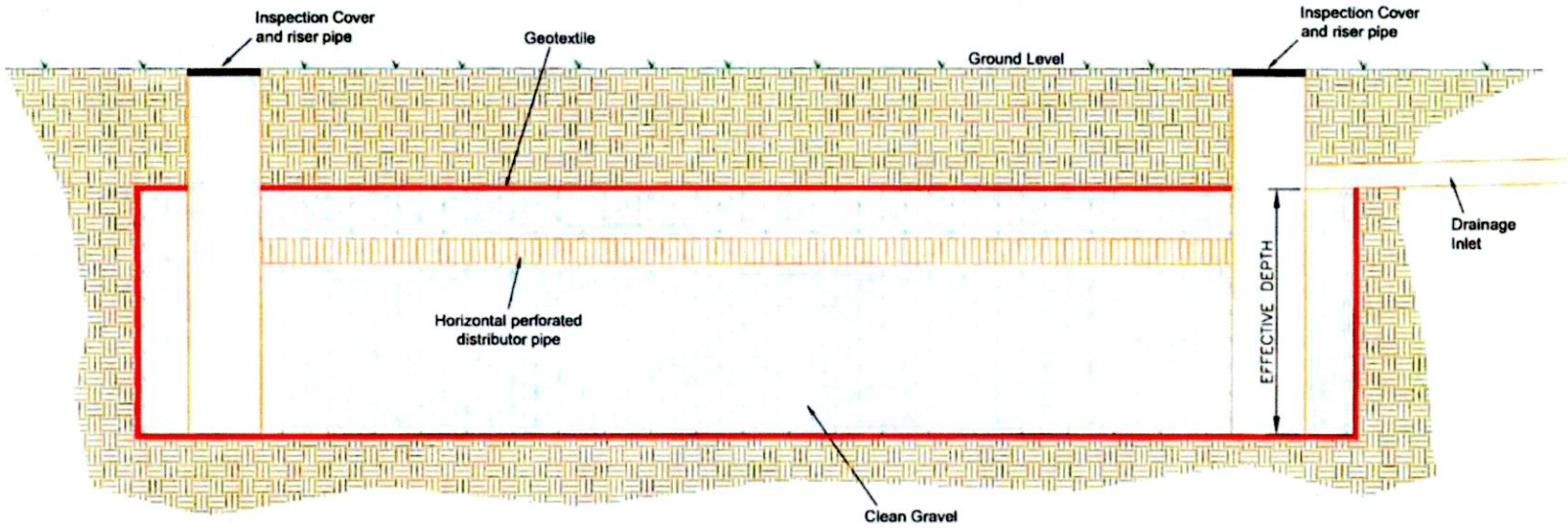


Min 0.52m³ storage required.
1.6m x 1.6m with an effective depth of 0.7m (see attached calc page).
Soakpit to be located min 5m from any dwelling & 3m from any boundary.
The soakpit shall include an overflow to the existing SW drainage.
Water butts shall be included at the based of all proposed downpipe in compliance with SuDS.

BRE digest 365 test hole.

TYPICAL SOAKAWAYCROSS SECTION

Dimensions to be based on results BRE Digest 365 test



NOTES A3

1 Figured Dimensions Only to be Taken from this Drawing. All Dimensions to be Checked on Site.

2 This drawing to be read in Conjunction with all other Architectural & Engineering drawings & all other relevant drawings & Specification

Rev	Date	By	Revision

Status
FOR INFORMATION ONLY

Client
N/A

Project
TYPICAL DETAILS

Drawing Title
SOAKAWAY CROSS SECTION

Met Eireann
Rainfall Depths for sliding Durations
Easting: 319075, Northing: 232626,

Years												
3,	4,	5,	10,	20,	30,	50,	75,	100,	150,	200,	250,	500,
5.1,	5.7,	6.2,	7.8,	9.6,	10.7,	12.4,	13.9,	15.1,	16.8,	18.2,	19.4,	N/A ,
7.2,	8.0,	8.7,	10.8,	13.3,	15.0,	17.3,	19.4,	21.0,	23.5,	25.4,	27.0,	N/A ,
8.4,	9.4,	10.2,	12.7,	15.7,	17.6,	20.3,	22.8,	24.7,	27.6,	29.9,	31.8,	N/A ,
10.8,	12.1,	13.0,	16.2,	19.7,	22.0,	25.3,	28.2,	30.5,	34.0,	36.7,	38.9,	N/A ,
14.0,	15.5,	16.7,	20.5,	24.8,	27.6,	31.5,	35.0,	37.7,	41.8,	45.0,	47.7,	N/A ,
18.0,	19.9,	21.3,	26.0,	31.2,	34.5,	39.3,	43.4,	46.6,	51.5,	55.3,	58.4,	N/A ,
20.8,	23.0,	24.6,	29.8,	35.6,	39.4,	44.6,	49.3,	52.8,	58.2,	62.3,	65.7,	N/A ,
23.2,	25.5,	27.2,	32.9,	39.2,	43.3,	48.9,	53.9,	57.6,	63.4,	67.9,	71.5,	N/A ,
26.8,	29.4,	31.4,	37.8,	44.8,	49.3,	55.6,	61.1,	65.3,	71.6,	76.5,	80.5,	N/A ,
31.1,	34.0,	36.3,	43.4,	51.2,	56.3,	63.2,	69.3,	73.9,	80.9,	86.2,	90.6,	N/A ,
34.6,	37.7,	40.2,	47.9,	56.4,	61.8,	69.3,	75.7,	80.7,	88.2,	93.9,	98.6,	N/A ,
40.1,	43.6,	46.4,	55.0,	64.5,	70.5,	78.7,	85.9,	91.3,	99.6,	105.9,	111.0,	N/A ,
44.5,	48.4,	51.4,	60.7,	70.9,	77.4,	86.2,	93.9,	99.8,	108.6,	115.3,	120.7,	139.4,
52.1,	56.3,	59.5,	69.5,	80.2,	87.0,	96.2,	104.2,	110.1,	119.1,	125.9,	131.5,	150.2,
58.3,	62.8,	66.2,	76.7,	88.0,	95.1,	104.7,	112.9,	119.1,	128.3,	135.3,	141.0,	160.2,
63.7,	68.4,	72.0,	83.1,	94.8,	102.2,	112.1,	120.6,	127.0,	136.5,	143.7,	149.5,	169.1,
73.0,	78.2,	82.1,	94.1,	106.7,	114.5,	125.1,	134.1,	140.8,	150.8,	158.4,	164.5,	184.9,
81.2,	86.8,	90.9,	103.7,	117.0,	125.3,	136.4,	145.8,	152.9,	163.4,	171.2,	177.5,	198.7,
88.7,	94.5,	98.9,	112.4,	126.4,	135.0,	146.7,	156.5,	163.8,	174.7,	182.8,	189.4,	211.2,
95.6,	101.7,	106.3,	120.4,	135.0,	144.0,	156.1,	166.3,	173.9,	185.1,	193.5,	200.3,	222.8,
08.3,	114.9,	119.9,	135.1,	150.8,	160.4,	173.3,	184.2,	192.2,	204.1,	213.0,	220.1,	243.8,
19.9,	127.0,	132.3,	148.5,	165.1,	175.3,	188.9,	200.3,	208.8,	221.3,	230.6,	238.1,	262.9,
33.3,	140.9,	146.6,	163.9,	181.6,	192.5,	206.9,	218.9,	227.9,	241.1,	250.8,	258.7,	284.6,

uration Frequency (DDF) Model

Point Rainfall Frequencies, Technical Note No. 61, Met Eireann, Dublin',
limate/dataproducts/Estimation-of-Point-Rainfall-Frequencies_TN61.pdf

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64 Oakfield Avenue

11/07/2022

SOUND INSURANCE

You're safe with *Sound*.

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David Ryan
Cillron Limited
Newtownmoyaghy
Kilcock
Co Meath

Date: 22/03/2022
Reference: RYDA01001

INSURANCE CERTIFICATE

To Whom It May Concern

We confirm we act as Insurance Brokers to the above and set out below a summary of cover we have arranged:

Business Description: *Soil Engineer (Percolation Testing)*

PROFESSIONAL INDEMNITY

Policy No.	PID00024862
Insurer:	Accredited Insurance (Europe) Ltd
Period of Insurance:	04/03/2022 to 03/03/2023
Limit of Indemnity:	€1,000,000

Subject always to Insurers policy wording, warranties, conditions, restrictions & exclusions a copy of which is available on request.

We trust this is in order but if you have any queries, please do not hesitate to contact us.

Yours sincerely,

Gary Kinsella
Commercial Broker
P: (01) 524 1415
E: Gary@sound.ie

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ALL MEASUREMENTS, HEIGHTS, AREAS, LEVELS AND CONSTRUCTIONAL DETAILS TO BE CHECKED AND VERIFIED BY THE BUILDING CONTRACTOR, SUB-CONTRACTOR OR DIRECT LABOUR CONTRACTOR PRIOR TO THE COMMENCEMENT OF ANY WORKS OR AGREEMENTS.

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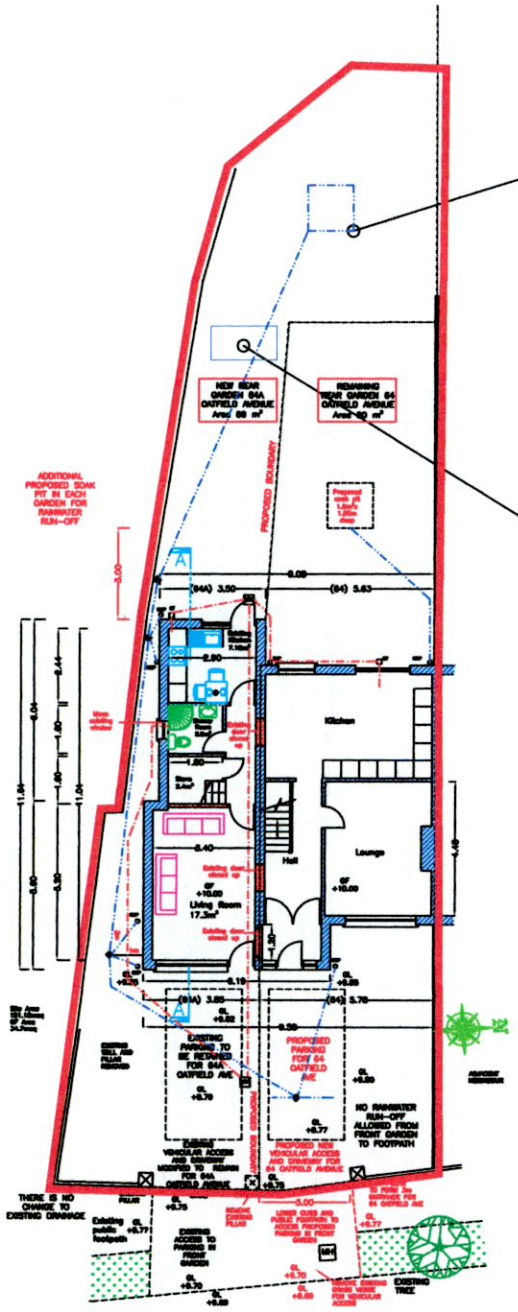

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BRE digest 365
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