



SIDEBOTTOM
RICHARDSON
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CONSULTING STRUCTURAL AND CIVIL ENGINEERS

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Sheet No.

42016/SA01

Rev

-

Status

FOR INFORMATION

Date

July, '17

Drawn

SRC

Checked

MP

Scale

1:20

Design

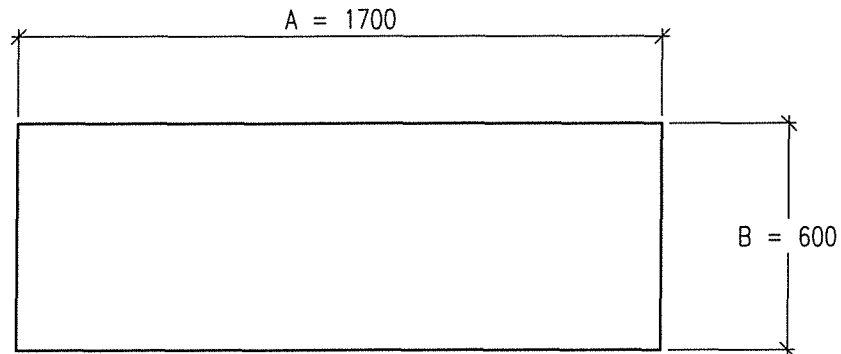
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File Name

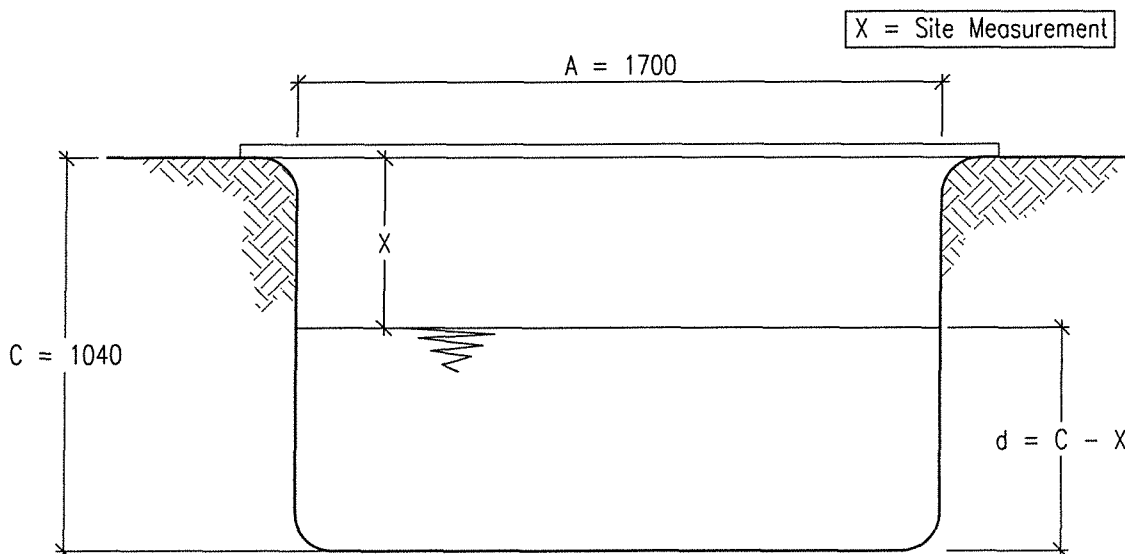
42016-SA01

Project Proposed Residential Development
Horseshoe Road, Spalding, Lincs. PE11 3JA
For G R Merchant

Title Infiltration Soak Away Sketch

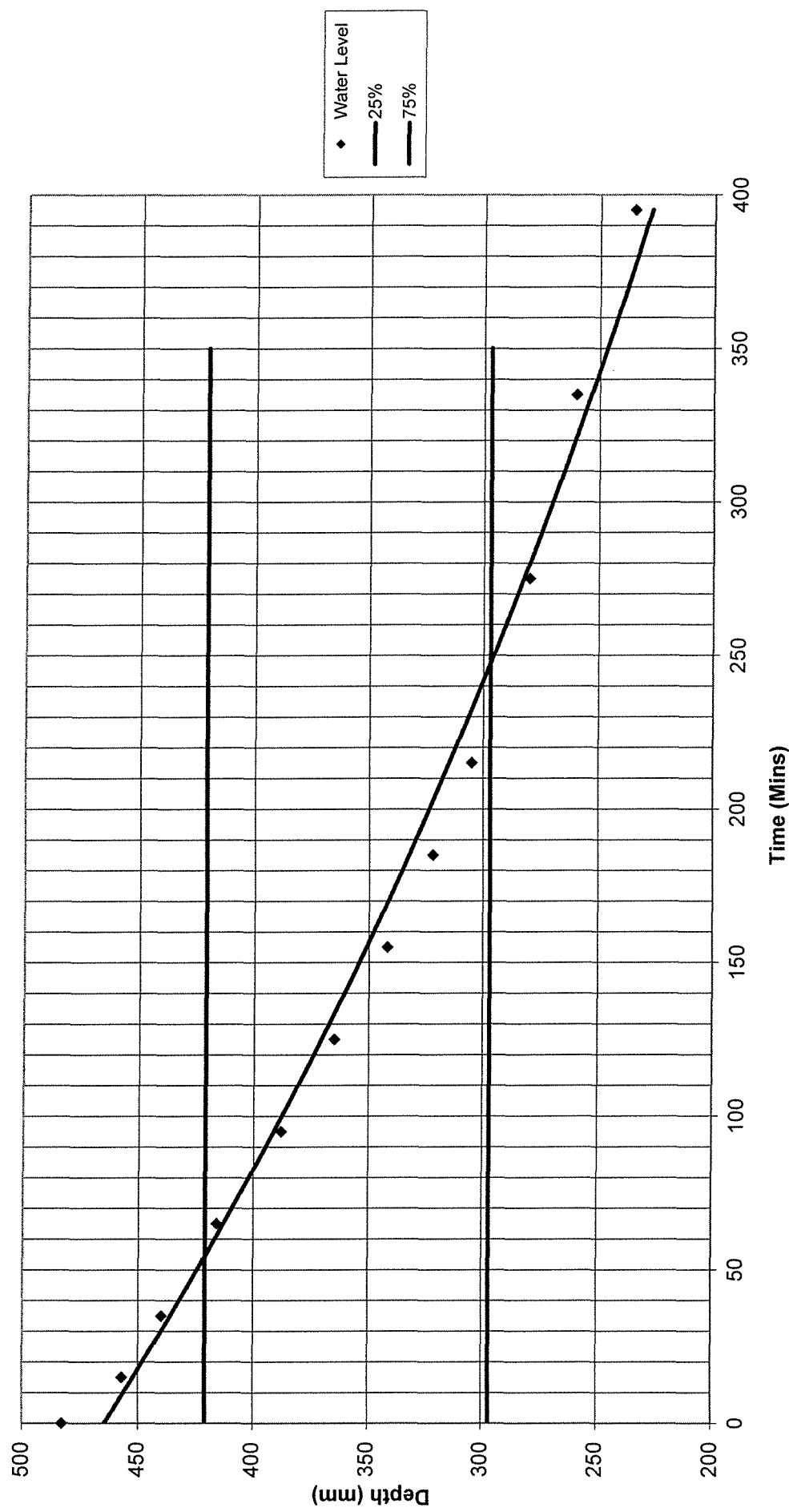


Plan On SA01



Section Through SA01

Proposed Residential Development Horseshoe Road, Spalding, Lincs.
Job No. 42016 27.06/2017
Plot showing water level against time for SA01





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CONSULTING STRUCTURAL & CIVIL ENGINEERS

Soak-Away Test SA 01

Job Reference Proposed Residential Development
Horseshoe Road, Spalding, Lincs.

SA01	
TIME (Mins)	DEPTH mm (d)
0	483
15	457
35	440
65	416
95	388
125	365
155	342
185	322
215	305
275	280
335	260
395	235

Job No. 42016

Date 27/06/2017

Trial Dimensions

A = 1.7 m
B = 0.6 m
C = 1.04 m

C.S.Area of
SA01 = 1.02 m²

Total Volume = 0.253 m³
75% Volume = 0.190 m³
25% Volume = 0.063 m³

Time Taken From 75% Volume to 25% Volume

191 Mins

Effective Depth From 75% Volume to 25% Volume

0.124 m

50% Effective Internal Surface Area Including Base area

1.5904 m²

Soil Infiltration rate, f

6.93954E-06 m/s

6.94 x 10⁻³ mm/s

Job Details

42016 - Proposed Residential Development off
Horseshoe Road, Spalding, Lincs. PE11 3JA
Title Soakaway Size Calculations - Plot 1

Calculated Infiltration Rate (m/s)

6.93954E-06

Design Rainfall - R	
M5-60	Z1
0.02	1
M10-D	Z2
0.02	1.24

R = 0.0248 m

Inflow To Soakaway

Area (m ²)	x	R
182		0.0248

Inflow = 5.7136 m³

Outflow From Soakaway

Internal SA (50%)	Infiltration Rate	Storm Duration (s)	
11.3532	6.93954E-06	60	60
			3600

Outflow = 0.283629548 m³

Storage Required

Inflow -	Outflow	
5.7136	0.28363	5.429970452

Storage Volume With 30% Free (Required)

7.058961588

Actual Storage Volume

7.07616

Soakaway Dimensions

Hoofmark Tank	Number	Total Lengths	Half Effective
Width	0.81	2	1.62
Length	0.84	13	10.92
Depth	0.4	1	0.4
			0.2

Internal Surface Area Not Including Base (50% depth)

22.7064 m²

Storage Volume

7.07616 m³

Soakaway Has Been Designed For A
10 Year Storm Of 60 Minute Duration

NB. Actual Storage Volume Needs To Be
Greater Than Storage Volume + 30%

Job Details

42016 - Proposed Residential Development off
Horseshoe Road, Spalding, Lincs. PE11 3JA

Title

Soakaway Size Calculations - Plot 2

Calculated Infiltration Rate (m/s)

6.93954E-06

Design Rainfall - R	
M5-60	Z1
0.02	1
M10-D	Z2
0.02	1.24

R = 0.0248 m

Inflow To Soakaway

Area (m ²)	x	R
138		0.0248

Inflow = 4.6224 m³

Outflow From Soakaway

Internal SA (50%)	Infiltration Rate	Storm Duration (s)	
9.6564	6.93954E-06	60	3600

Outflow = 0.241239507 m³

Storage Required

Inflow -	Outflow	
4.6224	0.24124	4.381160493

Storage Volume With 30% Free (Required)

5.695508641

Actual Storage Volume

5.98752

Soakaway Dimensions

Hoofmark Tank	Number	Total Lengths	Half Effective
Width	0.81	2	1.62
Length	0.84	11	9.24
Depth	0.4	1	0.4

Internal Surface Area Not Including Base (50% depth)

19.3128 m²

Storage Volume

5.98752 m³

Soakaway Has Been Designed For A
10 Year Storm Of 60 Minute Duration

NB. Actual Storage Volume Needs To Be
Greater Than Storage Volume + 30%

Job Details

42016 - Proposed Residential Development off
Horseshoe Road, Spalding, Lincs. PE11 3JA

Title

Soakaway Size Calculations - Plot 3 & 4

Calculated Infiltration Rate (m/s)

6.93954E-06

Design Rainfall - R	
M5-60	Z1
0.02	1
M10-D	Z2
0.02	1.24

R = 0.0248 m

Inflow To Soakaway

Area (m ²)	x	R
147		0.0248

Inflow = 4.8456 m³

Outflow From Soakaway

Internal SA (50%)	Infiltration Rate	Storm Duration (s)		
9.6564	6.93954E-06	60	60	3600

Outflow = 0.241239507 m³

Storage Required

Inflow -	Outflow	
4.8456	0.24124	4.604360493

Storage Volume With 30% Free (Required)

5.985668641

Actual Storage Volume

5.98752

Soakaway Dimensions

Hoofmark Tank	Number	Total Lengths	Half Effective
Width	0.81	2	1.62
Length	0.84	11	9.24
Depth	0.4	1	0.4

Internal Surface Area Not Including Base (50% depth)

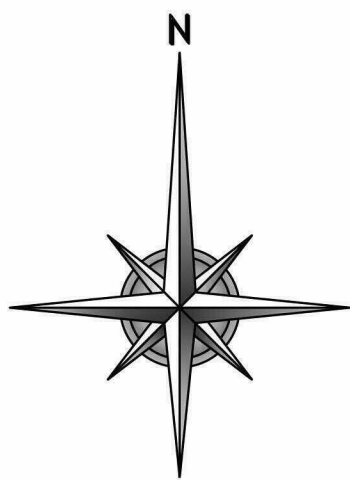
19.3128 m²

Storage Volume

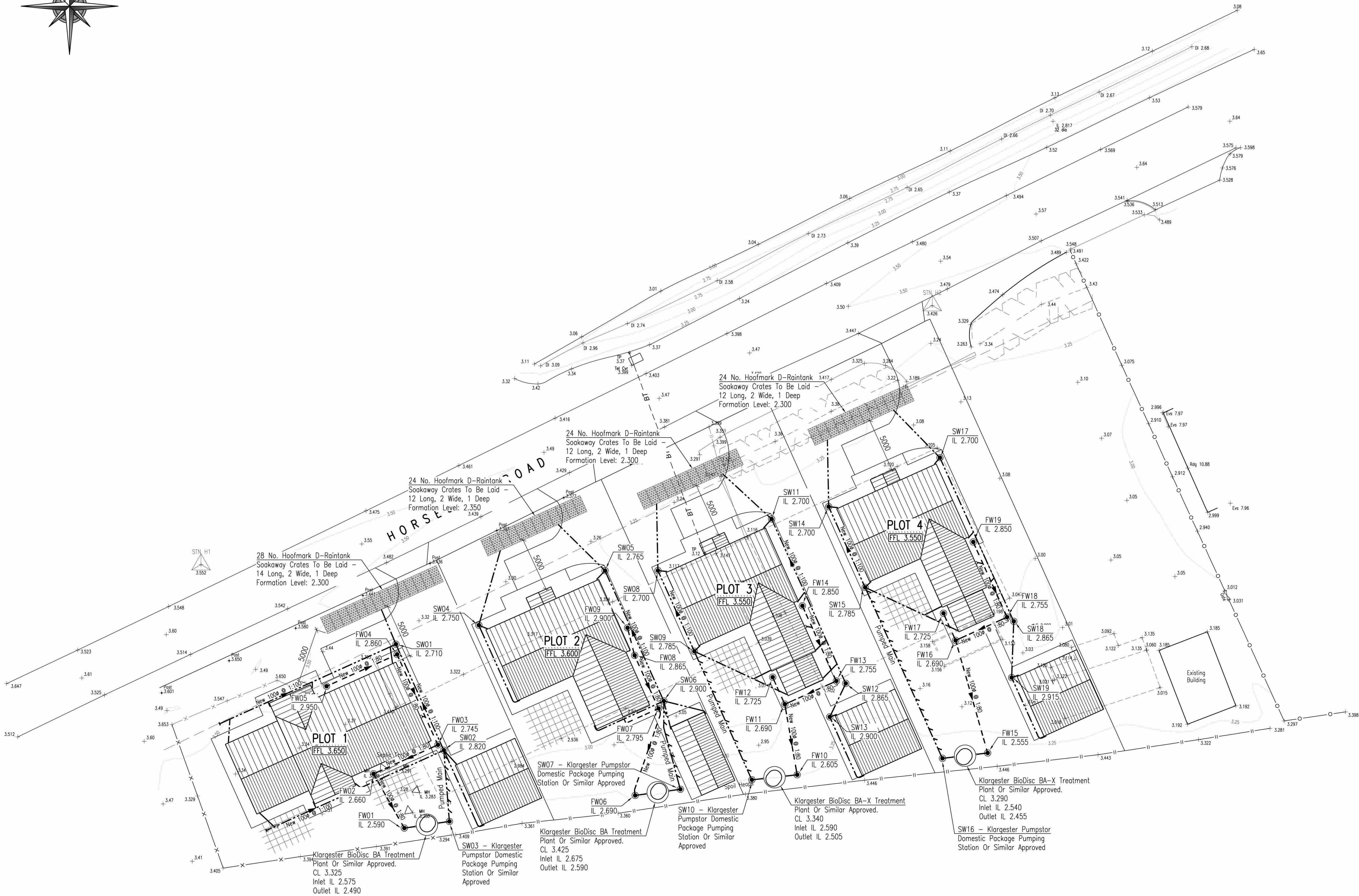
5.98752 m³

Soakaway Has Been Designed For A
10 Year Storm Of 60 Minute Duration

NB. Actual Storage Volume Needs To Be
Greater Than Storage Volume + 30%



Drainage Key:	
	Proposed Surface Water Drain
	Proposed Surface Water Manhole
	Proposed Surface Water Pumped Main
	Proposed Foul Water Drain
	Proposed Foul Water Manhole



Rev	Date	Remarks
B	02.08.17	Soakways Added & Drawing Updated To Suit.
A	15.02.17	Camber Positions Adjacent To Horseshoe Road Adjusted.

Status	FOR INFORMATION
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Project
**Residential Development
Horseshoe Road, Spalding,
Lincs. PE11 3JA
For G R Merchant**

Title
Proposed Drainage Layout

Date	Feb. '17	Scale	1:200	@A1
Drawn	SRC	Checked	SRC	
Design	SRC	File Name	42016-01	

DRG No. 42016/01	Rev B
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Porter, Karen

From: grmerchant.arch.cons@gmail.com on behalf of G R MERCHANT
<gr.merchant@btconnect.com>
Sent: 11 August 2017 10:45
To: _planningadvice; Meachen, Tracey
Subject: H16-0715-16
Attachments: 42016-01B.pdf; 42016 - Infiltration + Soakaway Report.pdf

This message originated from outside your organization

Dear Tracey

**RESIDENTIAL DEVELOPMENT
HORSESHOE ROAD, SPALDING
SOUTH Lincs PLANT HIRE**

With reference to the above application please see attached soil infiltration tests and soakaway design plan to be added to the application.

Regards
Hannah

G R Merchant Ltd
01406 490800