

No 1 THE OAKS

**CIMLA
NEATH**

PROPOSED NEW DWELLING

STORM DRAINAGE

DESIGN CALCULATIONS

AUGUST 2020

***ateb*Consult**

42 Gurnos Road

Ystalyfera

Swansea

SA9 2HY

☎ 01639 849279

ateb Consult

Job No: 20/066

Contract: No 1 The Oaks.

Stam Drain Design.

Sheet No: 001

Date: 22/8/20

Designer:

Checked:

No 1 "The Oaks" Cinema

Stam Drain Design for Property

Design Calculations - Index

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011

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Job No: No. 1. The Oaks

Contract: Cimlar

Storm Drainage Design

Sheet No: 002

Date: 22/8/20

Designer:

Checked:

Brief

Design of Storm Water Drainage
for proposed new dwellings at Plot 1
"The Oaks", Cimlar North, with
a Hatched Siphon going to public
Storm Drainage in Road.

References

Site Plan & Aerial Photo
Site Survey / map
Municipal By Law

Philosophy of Design

Storm Drainage for a 100 Year Storm - Siphon
+ 30% global Warming provision taken
to Drain siphon & Catch type attenuator
Tanks, then via hydrobed to Sewer
in road - as below:-

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Job No: No 1 The Oaks

Sheet No: 003

Contract: Cumbria

Date: 20/6/21

Stan Dye. Dye

Designer:

Checked:

Design Factors

Stan Event Q100 Stan

Global Warming provision 30%

Impulse area - 0.025 ha - as before

Flame height - $\rightarrow$ 211s/sec from
site to fence

Attenuation depth - Contes (Warm - sun)

Hydrobrakes - Type M06 - sun.

- -

Impermeable Area Calculations

Area 1 Calcs

$$1.5 \times 2.9 = 4.35 \text{ m}^2$$

$$5.2 \times 8.7 = 45.24 \text{ m}^2$$

$$\text{Area 1} = 49.59 \text{ m}^2$$

$$4.35 + 45.24 = 49.59$$

Area 2 Calcs

$$13 \times 9.8 = 127.4 \text{ m}^2$$

$$\text{Area 2} = 127.4 \text{ m}^2$$

Area 3 Calcs

$$16 \times 1.5 (\times 2) = 48 \text{ m}^2$$

$$9.8 \times 1.5 (\times 2) = 29.4 \text{ m}^2$$

$$\text{Area 3} = 77.4 \text{ m}^2$$

$$48 + 29.4 = 77.4 \text{ m}^2$$

Area 1 consists of the 3 parking bays at the top of the property. This is shown on drawing 101 (Ateb dgs). This area is hatched orange to assist with identification.

Area 2 consists of the main house on the property, as shown in drawing 101 (Ateb dgs). This area is hatched green on the drawing to assist with identification.

Area 3 consists of the hard standing/paving around the house/grounds. This must be considered as it's likely the development will contain external paving. This area is shown on drawing 101 (Ateb dgs) and is hatched yellow to assist with identification.

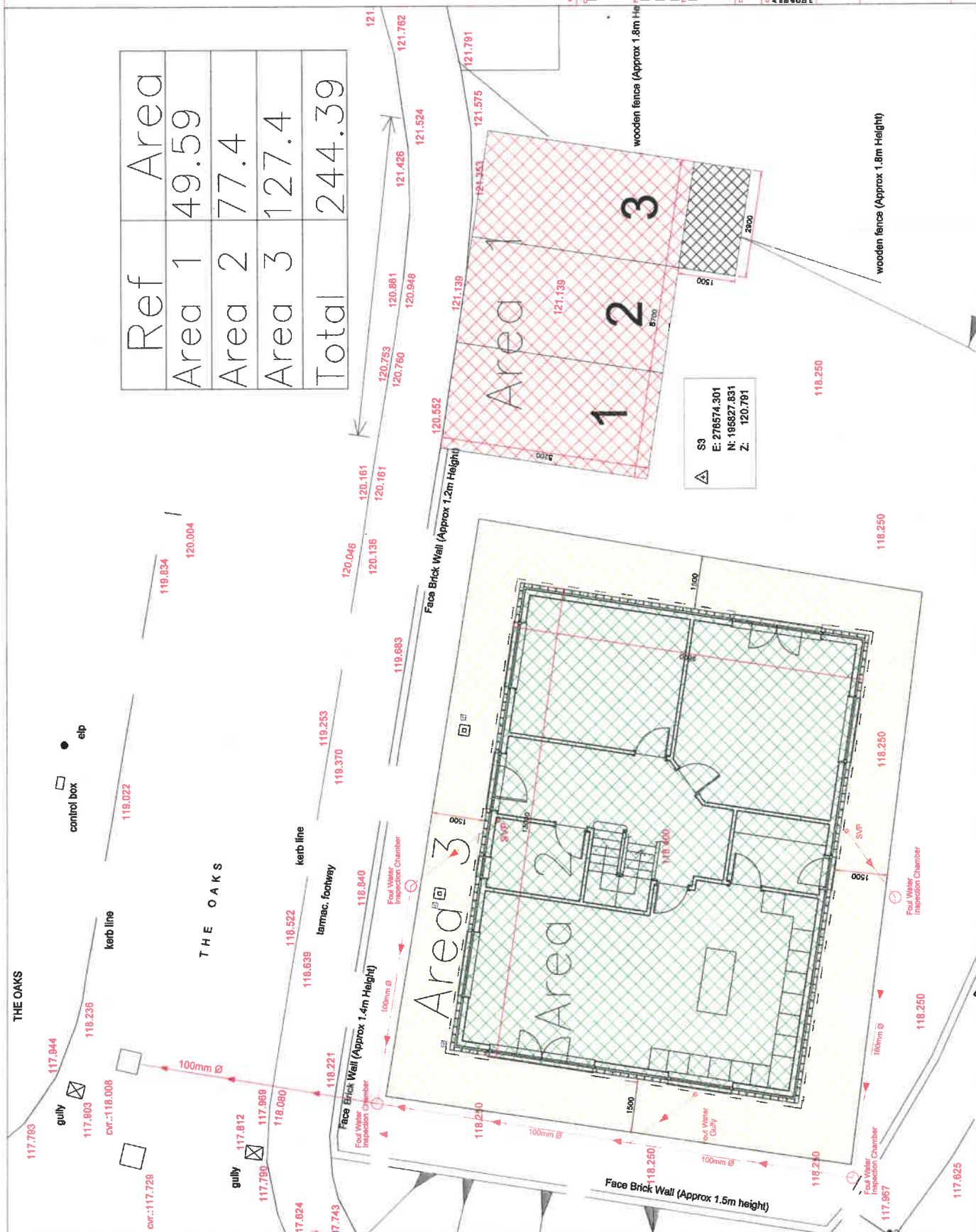
The total area used for calculating the microdrainage and soakways was as shown below:

Area 1 + Area 2 + Area 3

$$49.59 + 127.4 + 77.4 = 244.39 \text{ m}^2$$

$$\text{Total Area} = 244.39 \text{ m}^2$$

Ref	Area
Area 1	49.59
Area 2	77.4
Area 3	127.4
Total	244.39



Mr & Mrs Rees

PROJECT
Proposed Detached
House
Plot 1, Cimla, Neath
TL2
Impermeable Area Plan

PLANNING

GENERAL NOTES

- The scale shown on this drawing only applies to the printed paper size.
- Do not scale from this drawing table figured dimensions only.
- Any discrepancies to be reported to sub consultant.
- Drawings in PDF format are not to scale and are for reference only.

DATE	Aug '20	PRODUCED BY	R. Collier
SCALE	1:100	CHECKED	
PAPER SIZE	A3	APPROVED	

ateb Consult

42 Gumos Road

Swanson
/stalyfara

SAG 2HY
Tel: 01539 849279

Fax: 01639 849984

FOR NUMBERING	DATA SHEET NUMBER	REV.
E-mail: info@edocinsult.co.uk		

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atebConsult		Page 1					
42 Gurnos Rd	no1 the oaks						
Ystalyfera	cimla						
Swansea SA9 2HR	neath						
Date aug19	Designed by gmg						
File cimla design hydrbreak.SRCX	Checked by						
Micro Drainage		Source Control W.12.6					
Summary of Results for 100 year Return Period (+30%)							
Half Drain Time : 46 minutes.							
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	117.351	0.351	0.0	1.1	1.1	1.1	3.6 O K
30 min Summer	117.448	0.448	0.0	1.2	1.2	1.2	4.6 O K
60 min Summer	117.508	0.508	0.0	1.3	1.3	1.3	5.2 O K
120 min Summer	117.536	0.536	0.0	1.3	1.3	1.3	5.5 O K
180 min Summer	117.524	0.524	0.0	1.3	1.3	1.3	5.4 O K
240 min Summer	117.497	0.497	0.0	1.2	1.2	1.2	5.1 O K
360 min Summer	117.439	0.439	0.0	1.2	1.2	1.2	4.5 O K
480 min Summer	117.382	0.382	0.0	1.1	1.1	1.1	3.9 O K
600 min Summer	117.328	0.328	0.0	1.1	1.1	1.1	3.4 O K
720 min Summer	117.278	0.278	0.0	1.0	1.0	1.0	2.8 O K
Storm Event	Rain (mm/hr)	Rain Time-Peak (mins)					
15 min Summer	98.214	17					
30 min Summer	69.520	30					
60 min Summer	47.182	48					
120 min Summer	30.883	82					
180 min Summer	23.644	118					
240 min Summer	19.371	152					
360 min Summer	14.640	220					
480 min Summer	11.975	286					
600 min Summer	10.234	350					
720 min Summer	8.994	414					
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atebConsult		Page 3					
42 Gurnos Rd		nol the oaks					
Ystalyfera		cimla					
Swansea SA9 2HR		neath					
Date aug19		Designed by gmg					
File cimla design hydrbreak.SRCX		Checked by					
Micro Drainage		Source Control W.12.6					
Summary of Results for 100 year Return Period (+30%)							
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control Σ (l/s)	Max Outflow (l/s)	Max Volume (m³)	Status
60 min Winter	117.599	0.599	0.0	1.3	1.3	6.1	O K
120 min Winter	117.619	0.619	0.0	1.4	1.4	6.3	O K
180 min Winter	117.588	0.588	0.0	1.3	1.3	6.0	O K
240 min Winter	117.540	0.540	0.0	1.3	1.3	5.5	O K
360 min Winter	117.447	0.447	0.0	1.2	1.2	4.6	O K
480 min Winter	117.362	0.362	0.0	1.1	1.1	3.7	O K
600 min Winter	117.283	0.283	0.0	1.0	1.0	2.9	O K
720 min Winter	117.207	0.207	0.0	1.0	1.0	2.1	O K
960 min Winter	117.039	0.039	0.0	1.0	1.0	0.4	O K
1440 min Winter	117.000	0.000	0.0	0.8	0.8	0.0	O K
2160 min Winter	117.000	0.000	0.0	0.6	0.6	0.0	O K
Storm Event		Rain (mm/hr)		Time-Peak (mins)			
60 min Winter		47.182		50			
120 min Winter		30.883		90			
180 min Winter		23.644		126			
240 min Winter		19.371		164			
360 min Winter		14.640		234			
480 min Winter		11.975		302			
600 min Winter		10.234		370			
720 min Winter		8.994		438			
960 min Winter		7.325		532			
1440 min Winter		5.469		0			
2160 min Winter		4.068		0			
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42 Gurnos Rd		no1 the oaks					
Ystalyfera		cimla					
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Date aug19		Designed by gmg					
File cimla design hydrbreak.SRCX		Checked by					
Micro Drainage		Source Control W.12.6					
Summary of Results for 100 year Return Period (+30%)							
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Outflow (l/s)	Max Volume (m³)	Status
2880 min Winter	117.000	0.000	0.0	0.5	0.5	0.0	O K
4320 min Winter	117.000	0.000	0.0	0.4	0.4	0.0	O K
5760 min Winter	117.000	0.000	0.0	0.3	0.3	0.0	O K
7200 min Winter	117.000	0.000	0.0	0.2	0.2	0.0	O K
8640 min Winter	117.000	0.000	0.0	0.2	0.2	0.0	O K
10080 min Winter	117.000	0.000	0.0	0.2	0.2	0.0	O K
Storm Event	Rain (mm/hr)	Time-Peak (mins)					
2880 min Winter	3.291	0					
4320 min Winter	2.446	0					
5760 min Winter	1.983	0					
7200 min Winter	1.686	0					
8640 min Winter	1.478	0					
10080 min Winter	1.324	0					
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42 Gurnos Rd

Ystalyfera

Swansea SA9 2HR

Date aug19

File cimla design hydrbreak.SRCX

Micro Drainage

no1 the oaks

cimla

neath

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Source Control W.12.6

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Rainfall Details

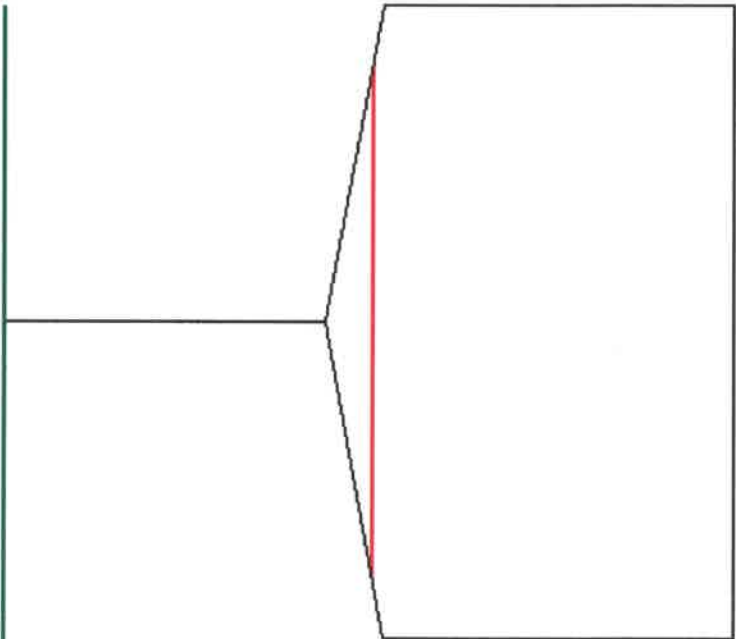
Rainfall Model	FSR	Ratio R	0.260	Cv (Winter)	0.840
Return Period (years)	100	Summer Storms	Yes	Shortest Storm (mins)	15
Region	England and Wales	Winter Storms	Yes	Longest Storm (mins)	10080
M5-60 (mm)	18.000	Cv (Summer)	0.750	Climate Change %	+30

Time / Area Diagram

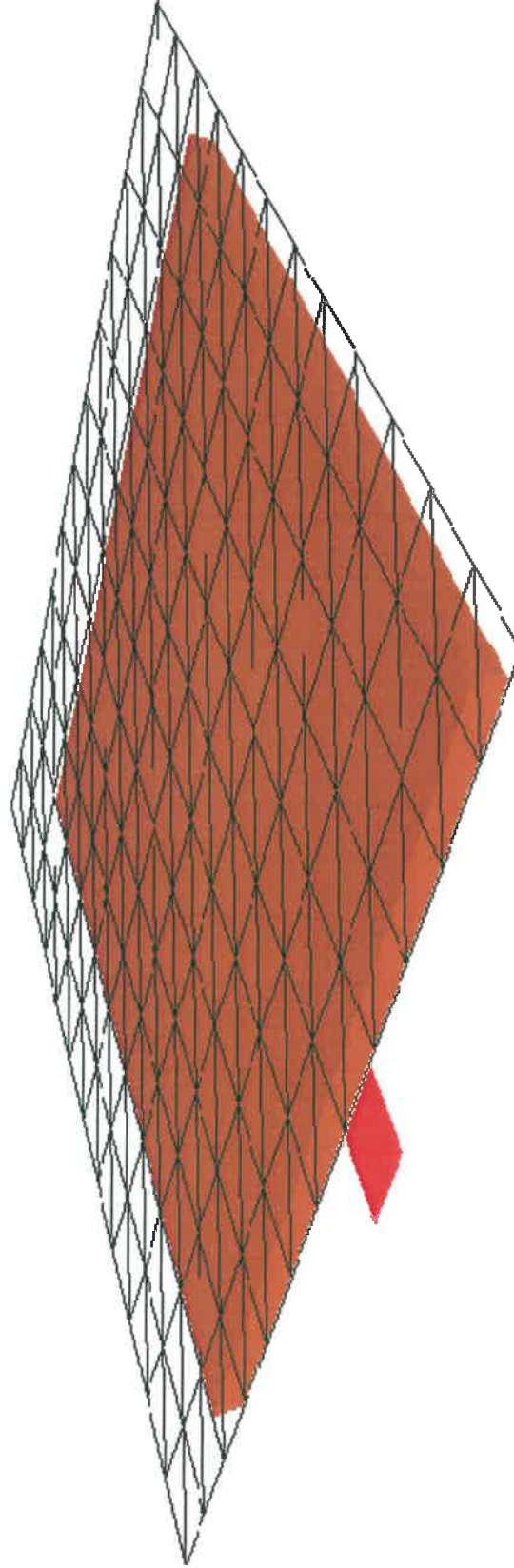
Total Area (ha) 0.025

Time Area
(mins) (ha)

0-4 0.025

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42 Gurnos Rd			
Ystalyfera			
Swansea SA9 2HR			
Date 26/08/2020 10:09	Designed by Gareth		
File cimla design hydrbreak.SRCX	Checked by		
Source Control W.12.6			
Micro Drainage 			
CL  Invert Level of Structure (m): 117.000  116.900			
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42 Gurnos Rd			
Ystalyfera			
Swansea SA9 2HR			
Date 26/08/2020 10:12	Designed by Gareth	Source Control W.12.6	
File cimla design hydrbreak.SRCX	Checked by		
Micro Drainage			



NOTES

- Key
- Attenuation Tank
 - Proposed Storm Drainage
 - Foul Drainage

Mr & Mrs Rees

Proposed Detached House
Plot 1, Cimla, Neath
Proposed Storm Drainage Plan

PLANNING

DATE: Aug '20
SCALE: 1:100
DRAWN BY: R. Collier
CHECKED BY: A3
APPROVED BY: A3

ateb Consult
42 Gurnos Road
Swansea
SA1 1JH
Tel: 01639 849279
Fax: 01639 849984
E-mail: info@atebconsult.co.uk

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