

ADEPT

CIVIL AND STRUCTURAL CONSULTING ENGINEERS



DRAINAGE STATEMENT MAGNA COLOURS



Client: Magna Colours
Project Name: Magna Colours
Report Title: Drainage Statement
Report Author: Will Dorman
Document ref: 00.20259-ACE-00-ZZ-RP-C-0001
Date: 12/08/2022

Revision	Suitability	Date	Author	Checked	Approved	Description
P1	S2	12/08/22	OCB	WD	RP	Drainage Statement

Dear Sirs,

Please find attached our Drainage Statement and relevant documentation to support the planning application for the development - Magna Colours.

Proposed Development and Existing Site Details

The project involves the extension of an existing industrial unit, as detailed on the attached architectural plan and adjustments to the existing to the existing yard.

The proposed development area of the building is currently grassland.

Seven additional carparking bays are proposed, remote to the drainage works. A SuDS swale is proposed to skirt the new parking, taking runoff from the parking, attenuating and treating the runoff prior to release back to the existing drainage network serving the carpark. Exceedance would be allowed to sit in the carpark until drained.

Existing Systems

The existing building, service yard and carpark is served by existing drainage.

Drainage Strategy

This document sets out the drainage strategy for the above development and should be read in conjunction with the following documentation:

Drainage Strategy Plan 00.20259-ACE-00-ZZ-DR-C-01000

InfoDrainage Calculations

Surface Water

Surface water will be drained to an attenuation tank and ultimately released to the private surface water network at a controlled rate, as close to Greenfield as is possible, whilst considering orifice size and blockage risk. Calculations are appended.

Foul Water

A single foul water connection may be made to the existing foul water network.

Flood Risk Assessment

Flood zone 1, not discussed further.

Please do not hesitate to contact us if you have any queries.

Regards,
Will Dorman
Principal Civil Engineer
For and on behalf of Adept Consulting Engineers Ltd

Appendix A – Drainage Layout



Do Not Scale

DESIGN REVIEW

Design review by: ** Checked by: **

Residual hazards:

Health, Safety & Environmental Notes

NOTES

Drawing Ref:

Architectural Layout File

19093D-06-P02 Site plan as proposed.

Topographical Survey File

S9476 Detailed topographic survey

Drainage Key:

PCC Manhole XXm XXØ 1:XX MAT PPIC

PCC Manhole XXm XXØ 1:XX MAT PPIC

LD

Attenuation Tank

Gravel Swale

PCC Manhole XXm XXØ 1:XX MAT PPIC

Site Boundary

Proposed Surface Water Sewer

Existing Surface Water Sewer

Linear Drain

Existing Combined Water Sewer

12/08/22	Drainage layout amended and swale added to new car park extension	OCB	WD	P3
11.08.22	Linear Drain and interceptor added to layout	OCB	WD	P2
02.08.22	Initial Issue	OCB	WD	P1
Date	Description	By	Chk	Rev

ADEPT

CIVIL AND STRUCTURAL CONSULTING ENGINEERS

Web: www.adeptcsce.com

Email: info@adeptcsce.com

Tel: 0113 239 4518 (Leeds)

Tel: 0161 974 3620 (Manchester)

Originating Office

1312 Mills, Sunny Bank Mills,

Farsley, Leeds, LS28 5UJ

Project

Dodworth Business Park,

Great Cliffe Road, Dodworth

Title

Drainage Layout

Client

Magna Colours Ltd.

Scale @ A1

1:200

Initial author

OCB

Initial checker

WD

Approver

RP

Initial Date

18.07.22

Status

S2

Purpose

Preliminary

Adapt Ref

00.20259

Project Number

00.20259-ACE-00-ZZ-DR-C-01000

Originator

Volume

Level

Type

Role

Orig. No.

Rev.

P3

Appendix B – InfoDrainage Calculations

Project:	Date: 22/07/2022		
	Designed by: oliver.boyes	Checked by:	Approved By:
Report Details: Type: Junctions Storm Phase: Phase	Company Address:		



Outlets

Junction	Outlet Name	Outgoing Connection	Outlet Type
Manhole (2)	Outlet	Pipe (2)	Free Discharge
Manhole (3)	Outlet	Pipe (3)	Free Discharge
Manhole (4)	Outlet	Pipe (6)	Free Discharge
Manhole (5)	Outlet	Pipe (5)	Hydro-Brake®
	Invert Level (m)	148.746	
	Design Depth (m)	0.800	
	Design Flow (L/s)	2.0	
	Objective	Minimise Upstream Storage Requirements	
	Application	Surface Water Only	
	Sump Available	☒	
	Unit Reference	SHE-0070-2000-0800-2000	
	Depth (m) 1 0.8 0.6 0.4 0.2 0 0 0.5 1 1.5 2 Flow (L/s)		

Project:	Date: 22/07/2022		
	Designed by: oliver.boyes	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address:		



Cellular Storage

Type : Cellular Storage

Dimensions

Exceedence Level (m)	150.644
Depth (m)	0.800
Base Level (m)	148.811
Number of Crates Long	17
Number of Crates Wide	16
Number of Crates High	2
Porosity (%)	95
Crate Length (m)	1
Crate Width (m)	0.5
Crate Height (m)	0.4
Total Volume (m³)	104.393

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Pipe (3)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe
Outlet Type	Free Discharge

Project:	Date: 22/07/2022		
	Designed by: oliver.boyes	Checked by:	Approved By:
Report Details: Type: Connections Storm Phase: Phase	Company Address:		



Name	Length (m)	Connection Type	Slope (1:x)	Manning's n	Colebrook-White Roughness (mm)	Diameter / Base Width (mm)	Upstream Cover Level (m)	Upstream Invert Level (m)
Pipe (2)	6.509	Pipe	100.133		0.6	150	150.643	149.541
Pipe (5)	19.881	Pipe	48.373		0.6	150	151.009	148.746
Pipe (6)	8.616	Pipe	99.039		0.6	150	150.678	149.628
Pipe (3)	1.532	Pipe	102.161		0.6	150	150.699	149.476
Pipe	1.500	Pipe	100.000		0.6	100	150.644	148.811

Name	Downstream Cover Level (m)	Downstream Invert Level (m)	Flow Restriction (L/s)
Pipe (2)	150.699	149.476	
Pipe (5)	150.925	148.335	2.5
Pipe (6)	150.643	149.541	
Pipe (3)	150.644	149.461	
Pipe	151.009	148.796	

Project:		Date: 22/07/2022		
		Designed by: oliver.boyes	Checked by:	Approved By:
Report Details: Type: Inflow Summary Storm Phase: Phase		Company Address:		



Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Catchment Area	Manhole (4)		Time of Concentration	0.172	100	0	100	0.172
TOTAL		0.0		0.172				0.172

Project:	Date: 22/07/2022			
	Designed by: oliver.boyes	Checked by:	Approved By:	
Report Title: Rainfall Analysis Criteria	Company Address:			

Runoff Type	Dynamic
Output Interval (mins)	1
Time Step	Shortest
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Rainfall

FSR Type: FSR

Region	England and Wales
M5-60 (mm)	19.0
Ratio R	0.325
Summer	☒
Winter	☒

Return Period

Return Period (years)	Increase Rainfall (%)
100.0	40

Storm Durations

Duration (mins)	Run Time (mins)
15	30
30	60
60	120
120	240
240	480
360	720
480	960
960	1920
1440	2880

Project:	Date: 22/07/2022		
	Designed by: oliver.boyes	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address:		



FSR: 100 years: Increase Rainfall (%): +40: Critical Storm Per Item

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
Manhole (2)	FSR: 100 years: +40 %: 15 mins: Winter	150.6 43	149.5 41	150.21 5	0.674	41.7	0.107	0.000	39.2	43.872	Surcharged
Manhole (3)	FSR: 100 years: +40 %: 15 mins: Winter	150.6 99	149.4 76	149.80 3	0.327	39.2	0.370	0.000	39.2	43.869	Surcharged
Manhole (4)	FSR: 100 years: +40 %: 15 mins: Winter	150.6 78	149.6 28	150.69 3	1.065	94.9	15.159	14.992	41.7	43.874	Flood
Manhole (5)	FSR: 100 years: +40 %: 360 mins: Winter	151.0 09	148.7 46	149.54 6	0.800	2.1	0.904	0.000	2.0	73.844	Surcharged
Manhole (6)	FSR: 100 years: +40 %: 15 mins: Summer	150.9 25	148.3 35	148.36 3	0.028	2.0	0.000	0.000	2.0	2.602	OK

Project:	Date: 22/07/2022		
	Designed by: oliver.boyes	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address:		




FSR: 100 years: Increase Rainfall (%): +40: Critical Storm Per Item

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residual Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
Cellular Storage	FSR: 100 years: +40 %: 360 mins: Winter	149.549	149.549	0.738	0.738	15.4	95.289	0.000	0.000	2.1	74.432	9	OK

Project:	Date: 22/07/2022		
	Designed by: oliver.boyes	Checked by:	Approved By:
Report Details: Type: Connections Summary Storm Phase: Phase	Company Address:		



FSR: 100 years: Increase Rainfall (%): +40: Critical Storm Per Item

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
Pipe (2)	FSR: 100 years: +40 %: 15 mins: Winter	Pipe	Manhole (2)	Manhole (3)	150.6	150.21 ₅	0.150	43.872	2.2	2.21	39.2	Surcharged
Pipe (5)	FSR: 100 years: +40 %: 15 mins: Summer	Pipe	Manhole (5)	Manhole (6)	151.0	149.09 ₃	0.028	2.602	0.9	0.08	2.0	Surcharged
Pipe (6)	FSR: 100 years: +40 %: 15 mins: Winter	Pipe	Manhole (4)	Manhole (2)	150.7	150.69 ₃	0.150	43.874	2.4	2.34	41.7	Flood
Pipe (3)	FSR: 100 years: +40 %: 15 mins: Winter	Pipe	Manhole (3)	Cellular Storage	150.7	149.80 ₃	0.150	43.869	2.2	2.23	39.2	Surcharged
Pipe	FSR: 100 years: +40 %: 15 mins: Winter	Pipe	Cellular Storage	Manhole (5)	150.6	149.13 ₁	0.100	3.109	0.6	0.39	2.4	Surcharged

Appendix C – Yorkshire Water Developer Enquiry Response



YorkshireWater

Oliver Boyes
Adept Consulting Engineers Ltd;
Unit 2 1912 Mill
Sunny Bank Mills
83-85 Town Street
Pudsey
LS28 5UJ
oliver.boyes@adeptcsce.com

Yorkshire Water Services
Developer Services
Pre-Development Team
PO BOX 52
Bradford
BD3 7AY

Tel: 0345 120 8482

Fax:

Email:
technical.sewerage@yorkshirewater.co.uk

For telephone enquiries ring:
George Mullaney on 0345 120 8482

2nd August 2022

Your Ref:
Our Ref: Y010965

Dear Mr Boyes,

**Magna Colours, Copia House, Great Cliffe Court, Great Cliffe Road, Barnsley, S75 3SP –
Pre Planning Sewerage Enquiry U722088**

Thank you for your recent enquiry and remittance. Our official VAT receipt has been sent to you under separate cover. Please find enclosed a complimentary extract from the Statutory Sewer Map which indicates the recorded position of the public sewers. Please note that as of October 2011 and the private to public sewer transfer, there are many uncharted Yorkshire Water assets currently not shown on our records.

The following comments reflect our view, with regard to the public sewer network only, based on a 'desk top' study of the site and are valid for a maximum period of twelve months:

Existing Infrastructure

There is a 600mm diameter public surface water sewer recorded crossing the site. No buildings, or other obstructions, are to be erected within 3.5 (three point five) metres is required at each side of the sewer centre-line, no trees planted within 5 (five) metres of this public sewer. It may not be acceptable to raise or lower ground levels over the sewer, nor to restrict access to the manholes on the sewer. If you wish to have this sewer diverted under Section 185 of the Water Industry Act 1991 an application should be made in



writing. To discuss this matter, please telephone 0345 120 84 82.

Foul Water

Development of the site should take place with separate systems for foul and surface water drainage. The separate systems should extend to the points of discharge to be agreed.

Foul water domestic waste can discharge to the 150 mm diameter public foul sewer recorded in Great Cliffe Road, at a point to the east of the site.

Foul water from kitchens and/or food preparation areas of any restaurants and/or canteens etc. must pass through a fat and grease trap of adequate design before any discharge to the public sewer network.

Surface Water

The developer's attention is drawn to Requirement H3 of the Building Regulations 2010. This establishes a preferred hierarchy for surface water disposal. Consideration should firstly be given to discharge to soakaway, infiltration system and watercourse in that priority order.

Sustainable Drainage Systems (SuDS), for example the use of soakaways and/or permeable hardstanding etc, may be a suitable solution for surface water disposal appropriate in this situation. You are advised to seek comments on the suitability of SuDS in this instance from the appropriate authorities.

As a last resort and subject to providing satisfactory evidence as to why the other methods of surface water disposal have been discounted, curtilage surface water may discharge to the 600 mm diameter public surface water sewer recorded crossing the site.

The surface water discharge from the site to be restricted to not greater than 2 (two) litres/second. This permission is not an acceptance in respect to any planning conditions imposed under the Grant of Planning Permission.

Surface water run-off from communal parking (greater than 800 sq metres or more than 50 car parking spaces) and hardstanding must pass through an oil, petrol and grit interceptor/separator of adequate design before any discharge to the public sewer network. Roof water should not pass through the traditional 'stage' or full retention type of interceptor/separator. It is good drainage practice for any interceptor/separator to be located upstream of any on-site balancing, storage or other means of flow attenuation that may be required.

Other Observations

Any new connection to an existing public sewer will require the prior approval of Yorkshire



YorkshireWater

Water. You may apply on line or obtain an application form from our website (www.yorkshirewater.com) or by telephoning 0345 120 84 82.

Under the provisions of section 111 of the Water Industry Act 1991 it is unlawful to pass into any public sewer (or into any drain or private sewer communicating with the public sewer network) any items likely to cause damage to the public sewer network interfere with the free flow of its contents or affect the treatment and disposal of its contents. Amongst other things this includes fat, oil, nappies, bandages, syringes, medicines, sanitary towels and incontinence pants. Contravention of the provisions of section 111 is a criminal offence.

Yorkshire Water's Trade Effluent team must be consulted in respect of any proposed trade effluent discharge to the public sewer. Please visit - <https://www.yorkshirewater.com/business/trade-effluent/>

All the above comments are based upon the information and records available at the present time and is subject to formal planning approval agreement. The information contained in this letter together with that shown on any extract from the Statutory Sewer Map that may be enclosed is believed to be correct and is supplied in good faith. Please note that capacity in the public sewer network is not reserved for specific future development. It is used up on a 'first come, first served' basis. You should visit the site and establish the line and level of any public sewers affecting your proposals before the commencement of any design work.

Yours sincerely

George Mullaney
Development Services Technician