

**Notes**  
 This drawing may be scaled for the purposes of Planning Applications. Land Registry and for Legal plans where the scale bar is used, and where it verifies that the drawing is an original or an accurate copy. It may not be scaled for construction purposes.  
 Always refer to figured dimensions. All dimensions are to be checked on site. Discrepancies and/or ambiguities between this drawing and information given elsewhere must be reported immediately to this office for clarification before proceeding. All drawings are to be read in conjunction with the specification and all works to be carried out in accordance with latest British Standards / Codes of Practice.



**Quantum of development:**

Total Residential = 104 homes  
 24 x 1B1P  
 40 x 1B2P  
 5 x 2B3P  
 35 x 2B4P

Student living  
 Total of 186 student bed spaces  
 -157 beds in cluster flats  
 - 29 x 1 bed studios

Flexible commercial unit = 148m<sup>2</sup>

**Car Parking:**  
 Total across site = 117 spaces

**Suggested allocation:**  
 Commercial unit = 3 spaces  
 Student living = 0 spaces  
 Residential living = 97 spaces  
 Overflow / visitors = 16 spaces  
 Car club = 1 space

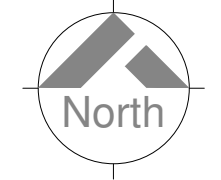
4 x car parking spaces to be wheelchair accessible. In addition to the above 2 no. motorcycle parking spaces will be allocated on site.

**Secure Cycle storage:**  
 Residential = 224 spaces  
 Student Living = 76 spaces

Visitor cycle parking = 12 stands (external sheffield stands)

To be read alongside the Landscaping GA plan by NPA.

P1 25.03.19 EW Issue for Planning CM  
 Re v e Dat e Init Note s Chk d



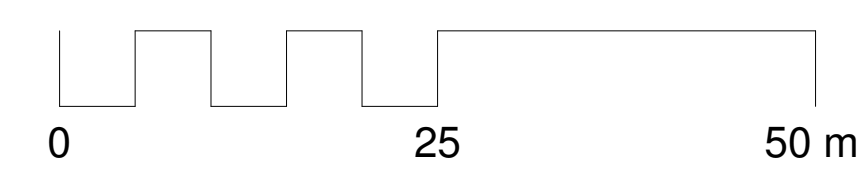
Client

Drawing Originator  
**AWW** inspired environments  
 London - 7 Birch Lane, London, EC3V 9BW 020 7160 6000  
 Bristol - Rivergate House, Bristol, BS1 6LS 0117 923 2535  
 Plymouth - East Quay House, Plymouth, PL4 0HN 01752 261 282  
 RIBA Chartered Practice www.aww-uk.com

Project  
**Newbridge Road Bath**

Drawing  
**Proposed Site Plan**

Scale	Sheet	Drawn	Checked	Date
1 : 500	A1	EW	CM	18.03.19
Status	Project No.			
<b>PLANNING</b>	<b>4014</b>			
Drawing Reference	Drawing No.	Revision		
<b>AWW-A-DWG-NEW</b>	<b>0110</b>	<b>P1</b>		





## Appendix C

### *Existing drainage survey*







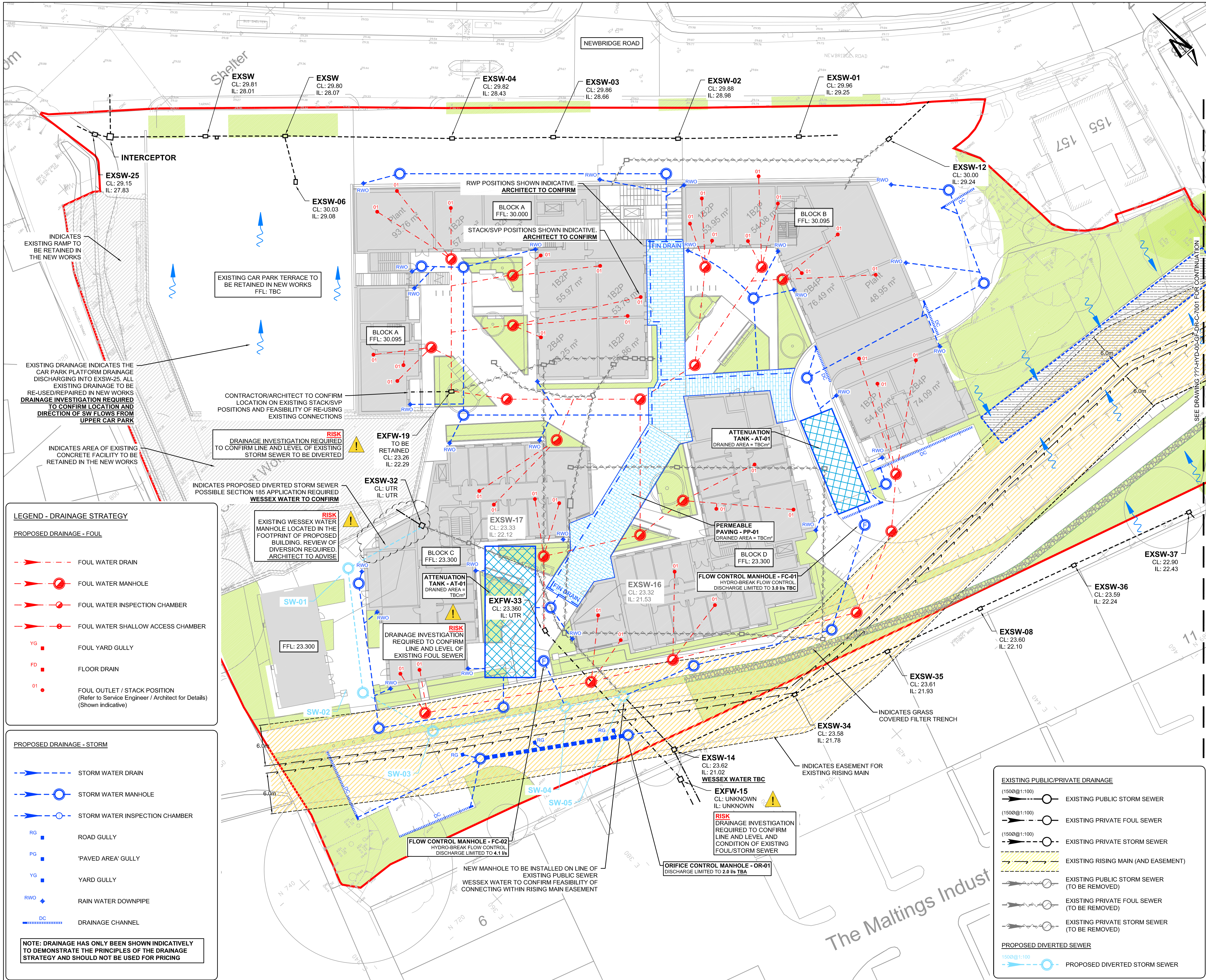




## Appendix D

### *Drainage layout*





**KEY PLAN**

**NOTES**

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- The DWG file is issued for the purposes of coordination only and does not represent formal drawing issue and are not to be reprinted in any form. Formal issue of drawings is via DWF, Adobe PDF files and/or hard copies and their associated information issue sheets.
- Note that all care has been taken with the export of DWG files and their content, but we recommend that you make due dimensional checks before using any DWG file information. Any errors found are to be reported to Hydrock immediately.
- All levels are shown in metres above Ordnance Datum (m AOD).
- All private drainage to comply with current Building Regulations, BS EN-752 Drain and Sewer systems outside Buildings and other relevant British Standards and Codes of Practices.
- Drainage pipework routes under building footprint will require Co-ordination with foundations.
- Final foul pipe connection routes and manholes are subject to confirmation of above ground drainage design discharge points at ground level by others to allow final pipe sizes, configuration and connections.
- Door threshold drainage channel requirements to be advised by others.
- Surface water drainage RWP locations to be confirmed by Architect.
- External levels shown on this drawing relating to the civils, drainage works etc are to be confirmed on receipt of final external levels drawing (by others).
- Foul drainage shown indicative subject to detailed design.

**LEGEND - DRAINAGE STRATEGY**

**PROPOSED DRAINAGE - FOUL**

- FOUL WATER DRAIN
- FOUL WATER MANHOLE
- FOUL WATER INSPECTION CHAMBER
- FOUL WATER SHALLOW ACCESS CHAMBER
- FOUL YARD GULLY
- FLOOR DRAIN
- FOUL OUTLET / STACK POSITION (Refer to Service Engineer / Architect for Details) (Shown indicative)

**PROPOSED DRAINAGE - STORM**

- STORM WATER DRAIN
- STORM WATER MANHOLE
- STORM WATER INSPECTION CHAMBER
- ROAD GULLY
- 'PAVED AREA' GULLY
- YARD GULLY
- RAIN WATER DOWNPIPE
- DRAINAGE CHANNEL

**NOTE: DRAINAGE HAS ONLY BEEN SHOWN INDICATIVELY TO DEMONSTRATE THE PRINCIPLES OF THE DRAINAGE STRATEGY AND SHOULD NOT BE USED FOR PRICING**

**LEGEND - DRAINAGE STRATEGY**

**EXISTING PUBLIC/PRIVATE DRAINAGE**

- EXISTING PUBLIC STORM SEWER
- EXISTING PRIVATE FOUL SEWER
- EXISTING PRIVATE STORM SEWER
- EXISTING RISING MAIN (AND EASEMENT)
- EXISTING PUBLIC STORM SEWER (TO BE REMOVED)
- EXISTING PRIVATE FOUL SEWER (TO BE REMOVED)
- EXISTING PRIVATE STORM SEWER (TO BE REMOVED)

**PROPOSED DIVERTED SEWER**

- PROPOSED DIVERTED STORM SEWER

REV	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE
P01	D. GALLIMORE	28/03/19	E. TROWER	28/03/19	E. TROWER	28/03/19
P01	D. GALLIMORE	08/03/19	E. TROWER	08/03/19	E. TROWER	08/03/19

REVISION NOTES/COMMENTS

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**CLIENT**  
OAKHILL GROUP LTD

**PROJECT**  
NEWBRIDGE ROAD BATH

**TITLE**  
DRAINAGE STRATEGY SHEET 1

**HYDROCK PROJECT NO.**  
C-07716-C

**SCALE**  
@ A1  
1:250

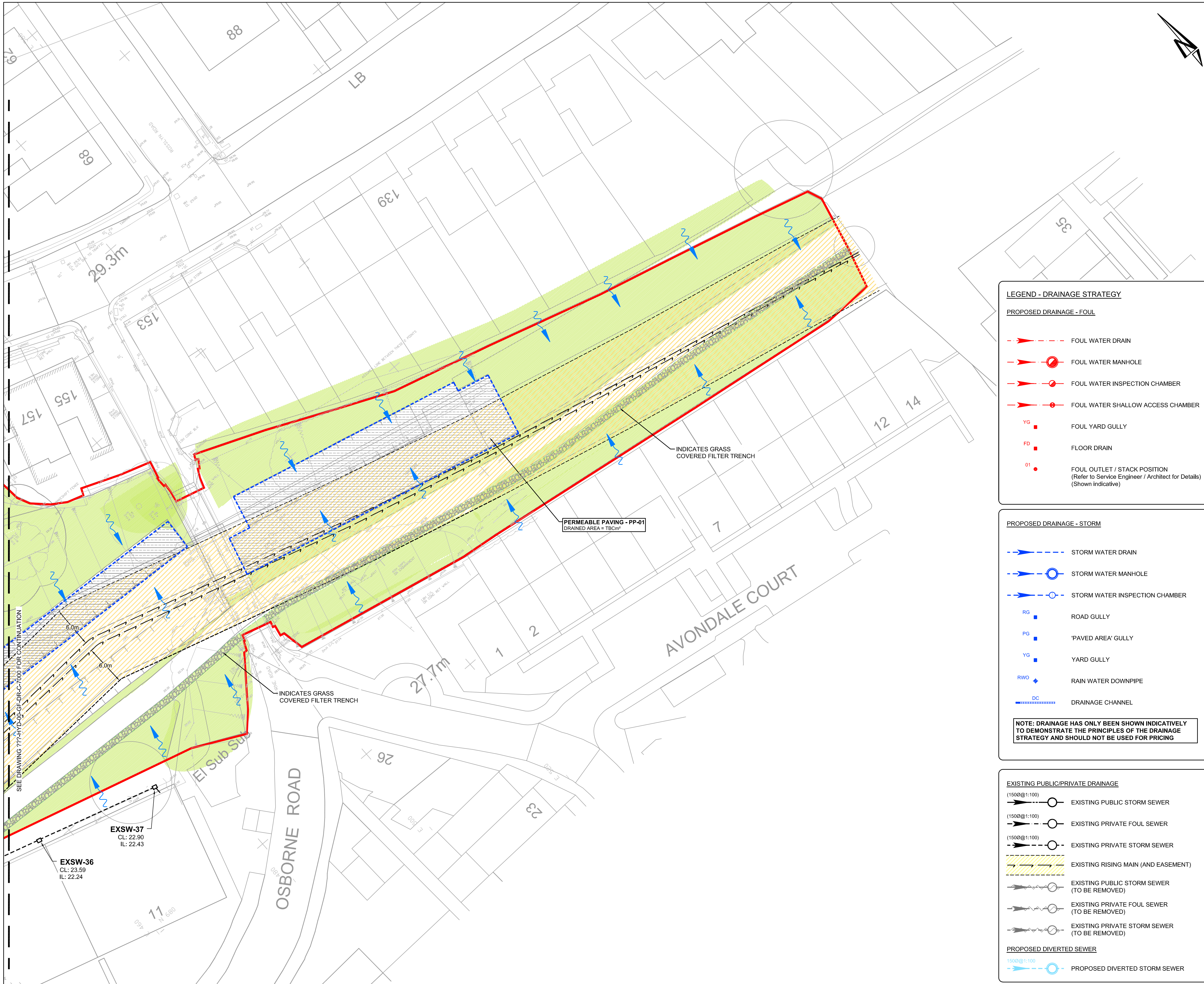
**STATUS DESCRIPTION**  
PLANNING

**STATUS**  
S2

**DRAWING NO. (PROJECT CODE-ORIGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER)**  
07716-HYD-00-XX-DR-C-7000

**REVISION**  
P02





KEY PLAN

- NOTES
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  - Door threshold drainage channel requirements to be advised by others.
  - Surface water drainage RWP locations to be confirmed by Architect.
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  - Foul drainage shown indicative subject to detailed design.

**LEGEND - DRAINAGE STRATEGY**

**PROPOSED DRAINAGE - FOUL**

- FOUL WATER DRAIN
- FOUL WATER MANHOLE
- FOUL WATER INSPECTION CHAMBER
- FOUL WATER SHALLOW ACCESS CHAMBER
- YG ■ FOUL YARD GULLY
- FD ■ FLOOR DRAIN
- O1 ● FOUL OUTLET / STACK POSITION (Refer to Service Engineer / Architect for Details) (Shown indicative)

**PROPOSED DRAINAGE - STORM**

- STORM WATER DRAIN
- STORM WATER MANHOLE
- STORM WATER INSPECTION CHAMBER
- RG ■ ROAD GULLY
- PG ■ 'PAVED AREA' GULLY
- YG ■ YARD GULLY
- RWD ◆ RAIN WATER DOWNPIPE
- DC ■ DRAINAGE CHANNEL

**NOTE: DRAINAGE HAS ONLY BEEN SHOWN INDICATIVELY TO DEMONSTRATE THE PRINCIPLES OF THE DRAINAGE STRATEGY AND SHOULD NOT BE USED FOR PRICING**

**EXISTING PUBLIC/PRIVATE DRAINAGE**

- (1500@1:100) ● EXISTING PUBLIC STORM SEWER
- (1500@1:100) ● EXISTING PRIVATE FOUL SEWER
- (1500@1:100) ● EXISTING PRIVATE STORM SEWER
- EXISTING RISING MAIN (AND EASEMENT)
- EXISTING PUBLIC STORM SEWER (TO BE REMOVED)
- EXISTING PRIVATE FOUL SEWER (TO BE REMOVED)
- EXISTING PRIVATE STORM SEWER (TO BE REMOVED)

**PROPOSED DIVERTED SEWER**

- (1500@1:100) ● PROPOSED DIVERTED STORM SEWER

NEW LAYOUT ADDED AND ISSUED FOR PLANNING						
P02	D. GALLIMORE	28/03/19	E. TROWER	28/03/19	E. TROWER	28/03/19
PRELIMINARY ISSUE						
P01	D. GALLIMORE	08/03/19	E. TROWER	08/03/19	E. TROWER	08/03/19
REVISION NOTES/COMMENTS						
REV	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE

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CLIENT  
OAKHILL GROUP LTD

PROJECT  
NEWBRIDGE ROAD BATH

TITLE  
DRAINAGE STRATEGY  
SHEET 2

HYDROCK PROJECT NO. C-07716-C	SCALE @ A1 1:250
STATUS DESCRIPTION PLANNING	STATUS S2
DRAWING NO. (PROJECT CODE-ORIGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER) 07716-HYD-00-XX-DR-C-7001	REVISION P02



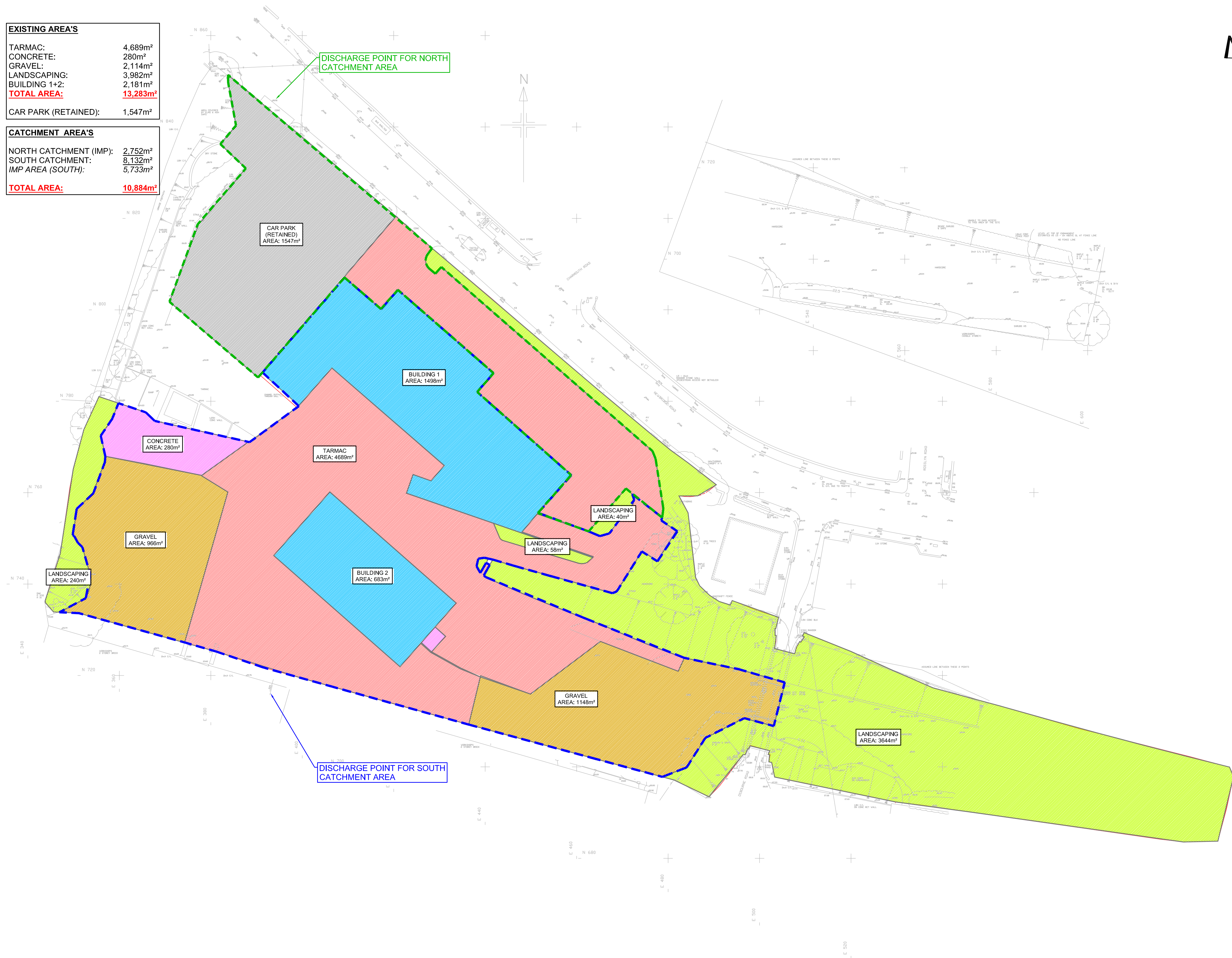
## Appendix E

### *Existing areas*



EXISTING AREA'S	
TARMAC:	4,689m <sup>2</sup>
CONCRETE:	280m <sup>2</sup>
GRAVEL:	2,114m <sup>2</sup>
LANDSCAPING:	3,982m <sup>2</sup>
BUILDING 1+2:	2,181m <sup>2</sup>
<b>TOTAL AREA:</b>	<b>13,283m<sup>2</sup></b>
CAR PARK (RETAINED):	1,547m <sup>2</sup>

CATCHMENT AREA'S	
NORTH CATCHMENT (IMP):	2,752m <sup>2</sup>
SOUTH CATCHMENT:	8,132m <sup>2</sup>
IMP AREA (SOUTH):	5,733m <sup>2</sup>
<b>TOTAL AREA:</b>	<b>10,884m<sup>2</sup></b>



KEY PLAN

NOTES

ISSUED FOR INFORMATION					
PO1	D. GALLIMORE	08/03/19	E. TROWER	08/03/19	08/03/19
REVISION NOTES/COMMENTS					
REV	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY

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CLIENT  
OAKLAND GROUP LTD

PROJECT  
NEWBRIDGE ROAD  
BATH

TITLE  
EXISTING AREA'S

HYDROCK PROJECT NO. C-07716-C	SCALE @ A1 NTS
STATUS DESCRIPTION INFORMATION	STATUS S2
DRAWING NO. (PROJECT CODE-ORIGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER) 07716-HYD-00-XX-SK-C-7700	REVISION PO1



## Appendix F

### *Proposed areas*





PROPOSED AREA'S	
HARDSTANDING TO SEWER:	3,422m <sup>2</sup>
HARDSTANDING TO GROUND:	2,170m <sup>2</sup>
LANDSCAPING:	4,083m <sup>2</sup>
BUILDING (ALL)	3,576m <sup>2</sup>
<b>TOTAL AREA:</b>	<b>15,828m<sup>2</sup></b>
EXISTING AREA (RETAINED): 2,577m <sup>2</sup>	

EXISTING AREA/CAR PARK (RETAINED) AREA: 2577m<sup>2</sup>

KEY PLAN

NOTES

PO1	PRELIMINARY ISSUE	D. GALLIMORE	08/03/19	E. TROWER	08/03/19	E. TROWER	08/03/19
REV	REVISION NOTES/COMMENTS						
	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE	

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CLIENT  
OAKHILL GROUP LTD

PROJECT  
NEWBRIDGE ROAD BATH

TITLE  
PROPOSED AREA'S

HYDROCK PROJECT NO. C-07716-C	SCALE @ A1 NTS
STATUS DESCRIPTION INFORMATION	STATUS S2
DRAWING NO. (PROJECT CODE-ORIGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER) 07716-HYD-00-XX-SK-C-7701	REVISION P01



## Appendix G

### *Brownfield runoff calcs*



# Brownfield Run-off Rates

Project Name:	Newbridge Rd	Revision: P1
Contract no.	C-07716	Date: 08/03/2019

Description of Catchment:	Total Pre-Development Impermeable Area to sewer. Southern Catchment	Author: ET Checked: -
---------------------------	--	--------------------------

Peak run-off rate for Brownfields sites is estimated using the following equation:

$$Q = 2.78CiA$$

Where

$Q$  = Peak run-off (l/s)

$C$  = Non-dimensional run-off coefficient which is dependent on the catchment characteristics

$I$  = Rainfall intensity for the design return period

$A$  = Total catchment area being drained

And

$$C = CvCr$$

$Cv$  = Volumetric run-off coefficient - usually set at 0.75 for brownfield sites

$Cr$  = Dimensionless routing coefficient - usually set at 1.3

Therefore

$$C = 0.75 * 1.3 = 0.975$$

Hence

$$Q = 2.710iA$$

## CATCHMENT DETAILS :

Ai = Impervious Area	0.5733 Ha
M5-2 Rainfall	67 mm/hr
M5-60 Rainfall	20 mm/hr
Ratio "r"	0.3
Z <sub>1</sub> Factor	0.79
D5-Dmin Rainfall	52.67

Return Period	1Y	30Y	100Y
Z <sub>2</sub>	0.64	1.58	2.03
Rainfall mm/hr	33.7	83.2	106.9

Return Period	Brownfield Ql/s	30% betterment
1 Year	<b>52.4</b>	36.65769
30 Year	<b>129.3</b>	90.49867
100 Year	<b>166.1</b>	116.2736



# Appendix H

## *Greenfield Runoff calcs*



.  
.  
.

Date 08/03/2019 15:59

Designed by EvanTrower

File ATTENUATION AREA 2.SRCX

Checked by

Innovyze

Source Control 2018.1

ICP SUDS Mean Annual Flood

## Input

Return Period (years)	30	Soil	0.150
Area (ha)	1.380	Urban	0.000
SAAR (mm)	816	Region Number	Region 8

**Results 1/s**

QBAR Rural 0.7

QBAR Urban 0.7

Q30 years 1.3

Q1 year 0.5

Q30 years 1.3

Q100 years 1.6



# Appendix I

## *Flood Exceedance route*





KEY PLAN

NOTES

PO2	ARCHITECT LAYOUT CHANGED					
	D. GALLIMORE	28/03/19	E. TROWER	28/03/19	E. TROWER	28/03/19
PO1	PRELIMINARY ISSUE					
	D. GALLIMORE	08/03/19	E. TROWER	08/03/19	E. TROWER	08/03/19
REV	REVISION NOTES/COMMENTS					
	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE

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 Bristol  
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 t: +44 (0)117 945 9225  
 e: bristolcentral@hydrock.com

CLIENT  
 OAKHILL GROUP LTD

PROJECT  
 NEWBRIDGE ROAD  
 BATH

TITLE  
 FLOOD EXCEEDANCE ROUTE

HYDROCK PROJECT NO.  
 C-07716-C

SCALE @ A1  
 NTS

STATUS DESCRIPTION	STATUS
INFORMATION	S2
DRAWING NO. (PROJECT CODE-ORIGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER)	REVISION
NBR-HYD-00-XX-SK-C-7702	PO2