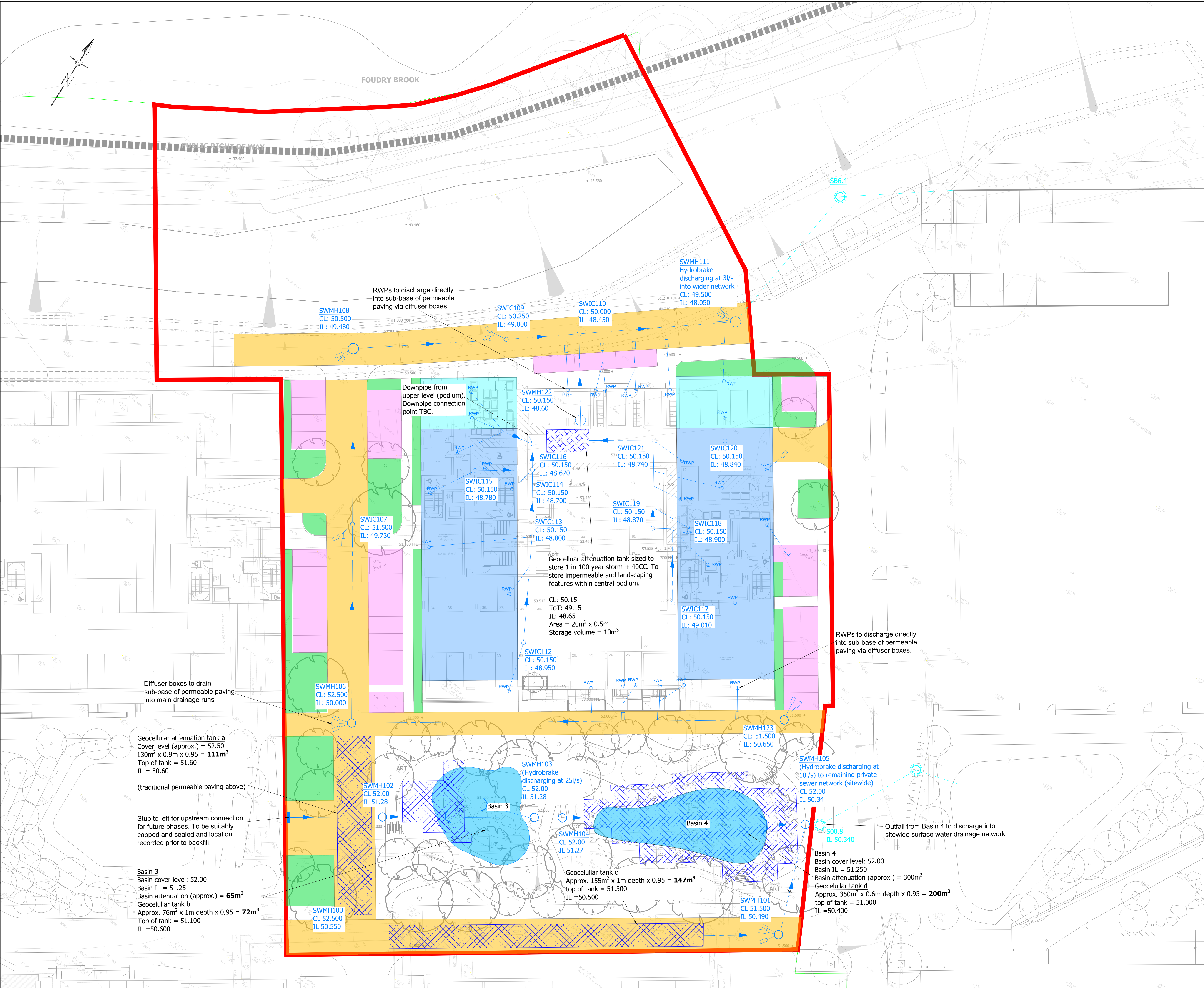




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 - Location and initial sizing of sitewide strategic drainage network including Basin 3 and 4 taken from Drainage Design Report undertaken by Arup in 2016 (reference 244202-ARP-00-XX-RP-CD-00001) as approved under the extant hybrid Planning Permission (ref: 160199).
 - Exact locations of RWP's to be determined by architect/MEP at next design stage.
 - All pipes to be 150 mm diameter unless stated otherwise.

- KEY**
- Redline boundary
 - Proposed surface water manhole
 - Proposed surface water inspection chamber
 - Proposed surface water pipe
 - Sitewide surface water manhole
 - Sitewide surface water pipe
 - Proposed attenuation tank
 - Proposed attenuation basin
 - Proposed diffuser box
 - Proposed rainwater pipe
 - Proposed parking bays permeable paving
Area = 421m², Depth = 0.45m, Void ratio = 30%,
Volume stored = 57m³
 - Proposed permeable road paving
Area = 1785m², Depth = 0.45m, Void ratio = 30%,
Volume stored = 241m³
 - Proposed raingarden
Area = 565m², Depth = 0.1m, Void ratio = 10%,
Volume stored = 6m³
 - Proposed Blue roof (roof level)
Area = 525m², Depth = 0.1m, Void ratio = 95%,
Volume stored = 50m³
 - Proposed Blue roof (Level 6)
Area = 130m², Depth = 0.1m, Void ratio = 95%,
Volume stored = 12m³

P01	Issued for Information	11/11/25	NA
Rev	Description	Date	By

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Job Title
Royal Elm Park

Client
RFC Prop Co Ltd

Phase 5, Proposed Ground Floor Drainage Layout Plan

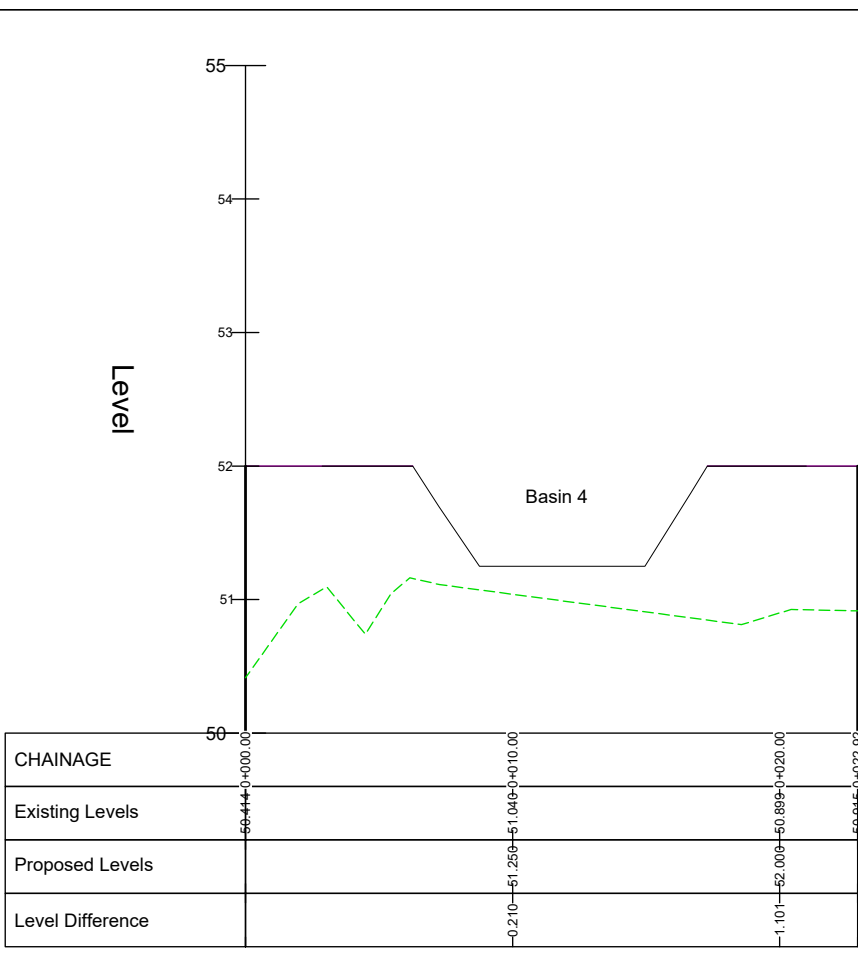
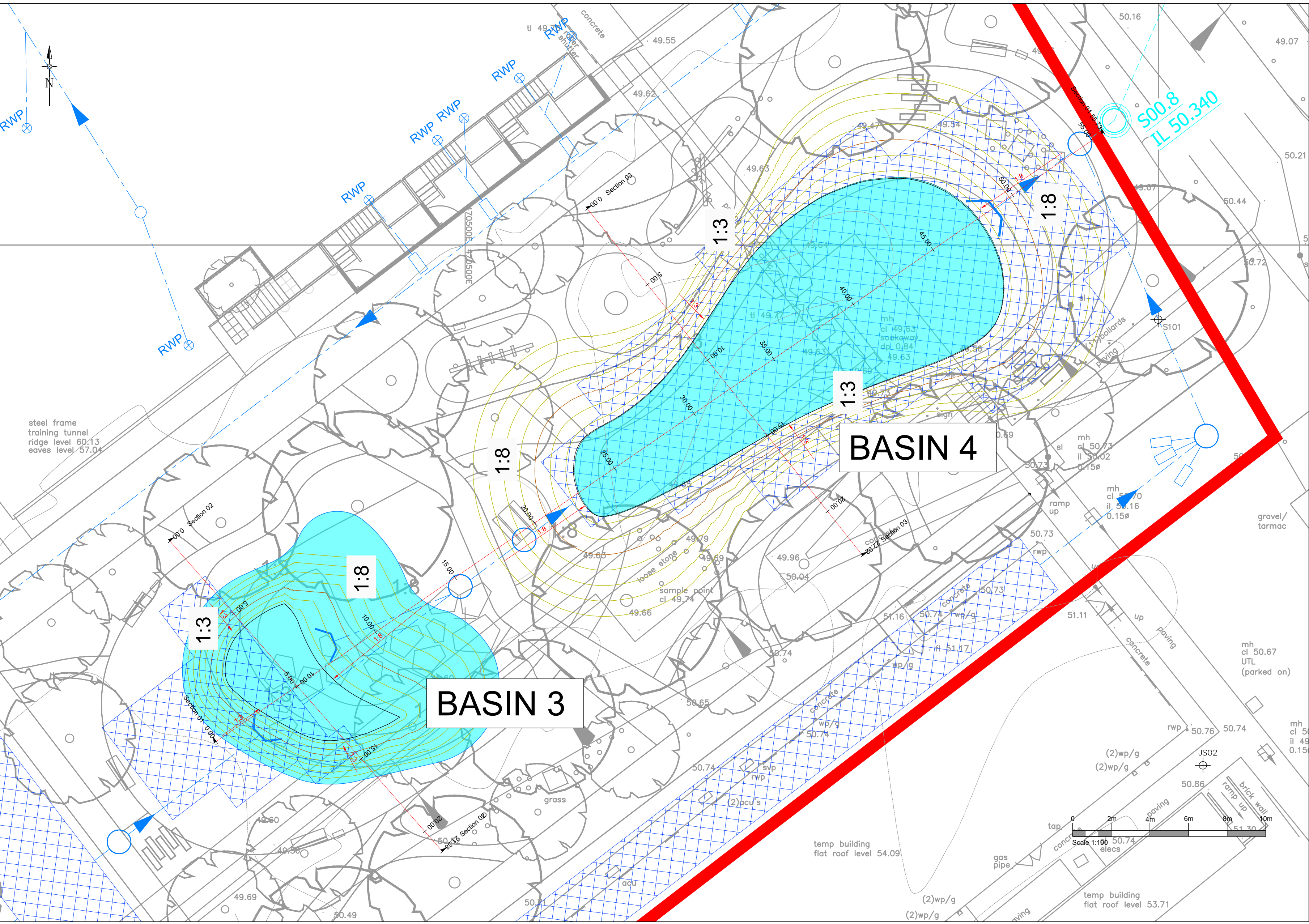
Drawn by	Date made	Scale @ A1	Checked by	Suitability	CR Project
AL	18.09.25	1:250	AJH	S2	14096

Project No	Orig.	Funct.	Spatial	Form	Disc.	Number	Rev
14096	CRH	XX	XX	DR	C	5050	P01

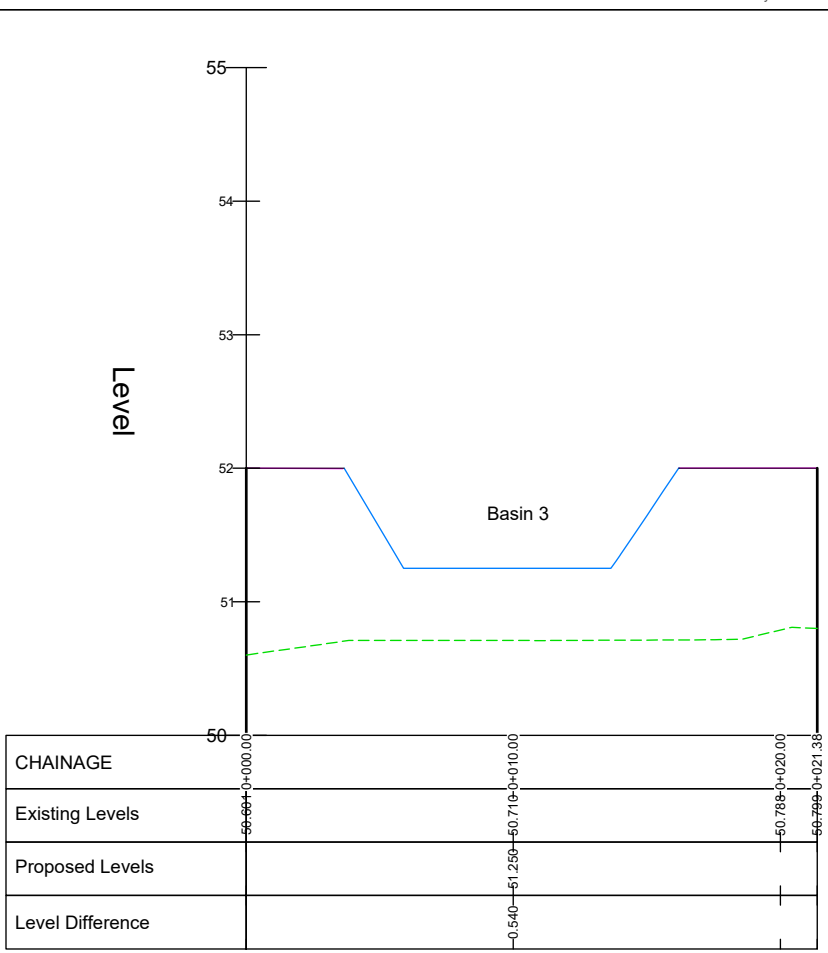
Notes

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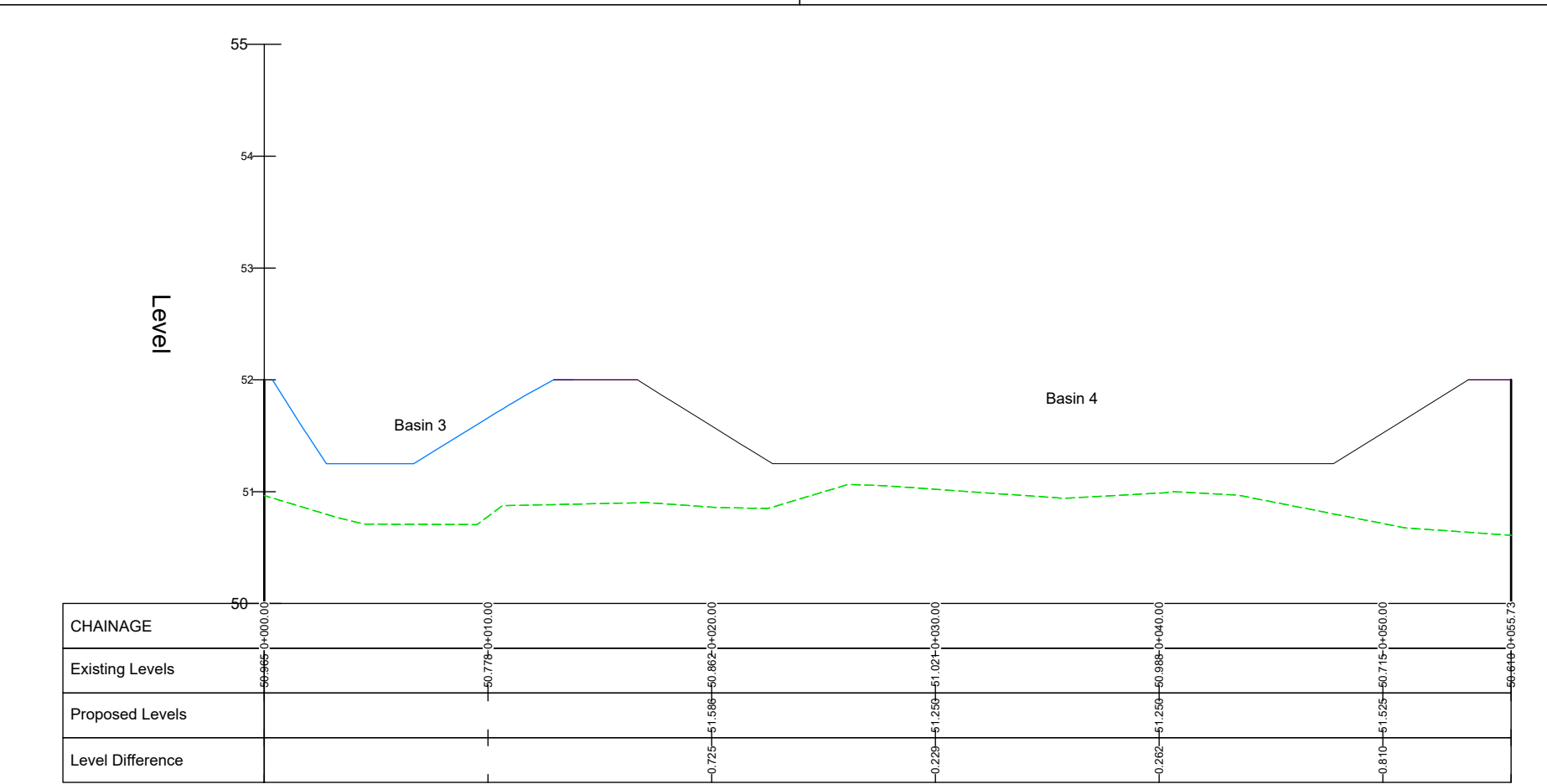
Existing ground level
Existing proposed level



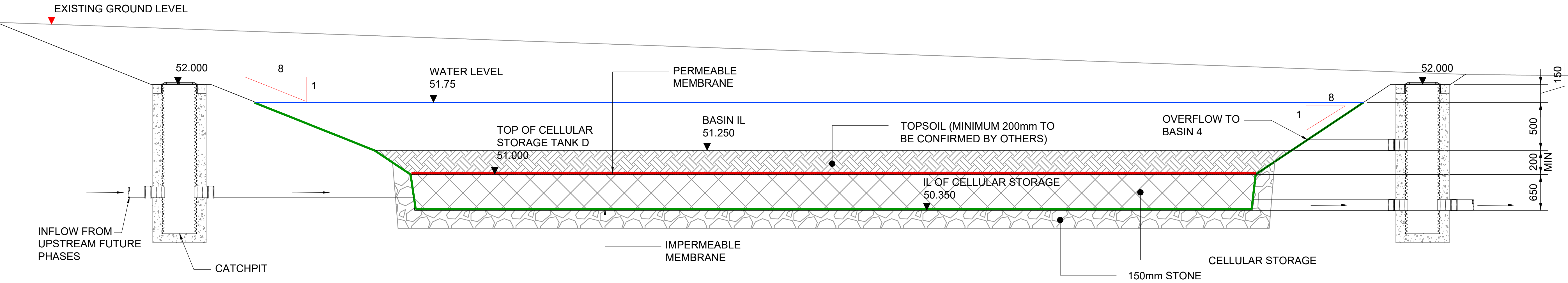
SECTION 03 - PV
SCALE: H 1:200, V 1:40. DATUM: 50.000



SECTION 02 - PV
SCALE: H 1:200, V 1:40. DATUM: 50.000



SECTION 01 - PV (1)
SCALE: H 1:200, V 1:40. DATUM: 50.000



BASIN 4 DETAIL

SCALE: NTS

Rev	Description	Date	By
P03	Section added for planning	11/11/25	AJH
P02	Basin slopes and position amended	17/09/25	NA
P01	Issued for Information	27/08/25	AR

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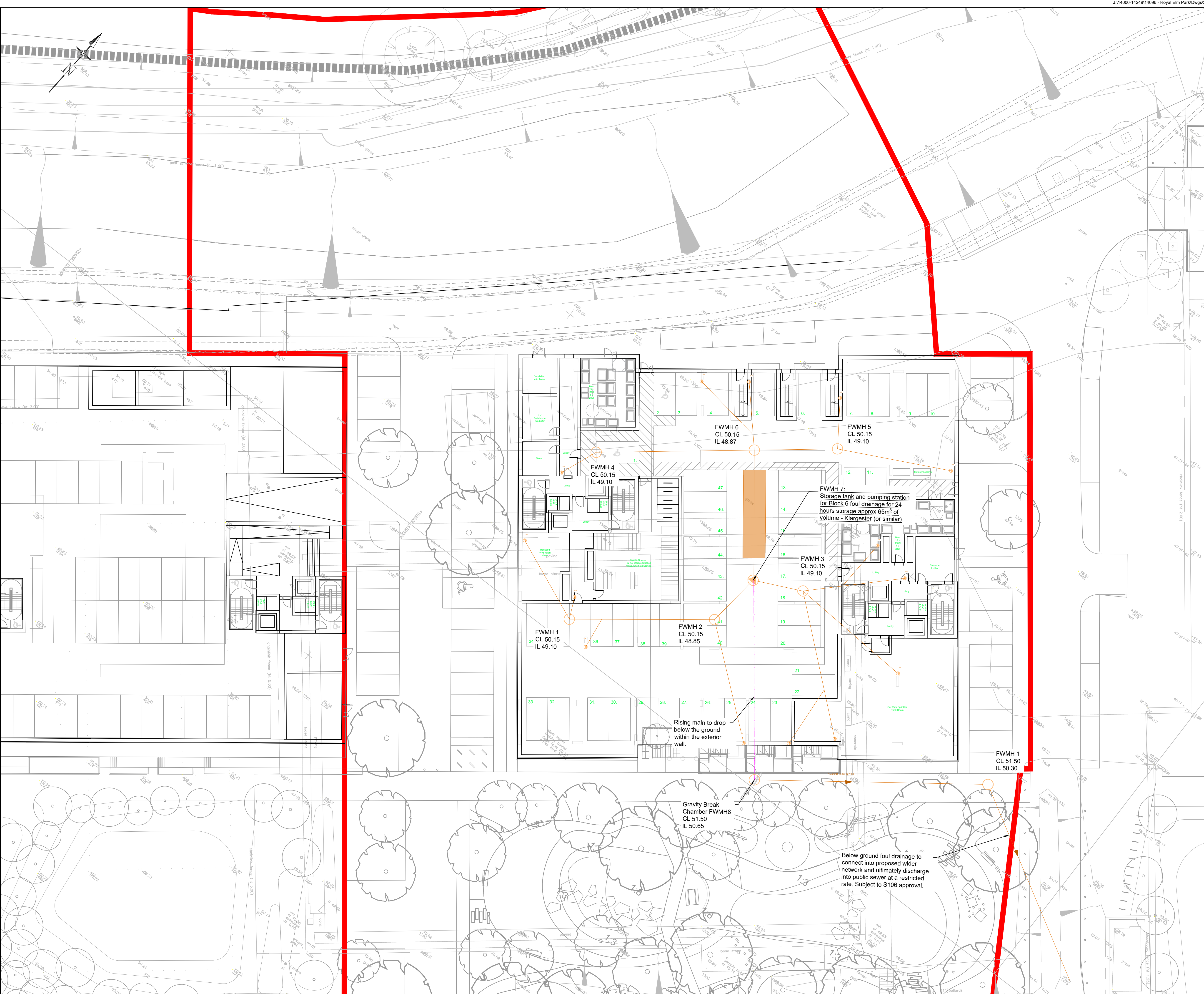
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Job Title	Royal Elm Park
Client	RFCC Prop Co Ltd

Basin Plans and Sections

Drawn by	Date made	Scale @ A0	Checked by	Suitability	CR Project
AR	Aug' 25	As Stated	AJH	S2	14096

Project No	Orig	Funct	Spatial	Form	Disc	Number	Rev
14096	CRH	XX	XX	DR	C	5676	P03



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 - Exact SVP locations to be determined at next design phase by MEP

- KEY**
- Proposed foul manhole
 - Proposed gravity brake chamber
 - Proposed foul pipe
 - Proposed rising main
 - SVP Proposed Soil Vent Pipe

P01	Issued for Information	11/11/25	NA
Rev	Description	Date	By

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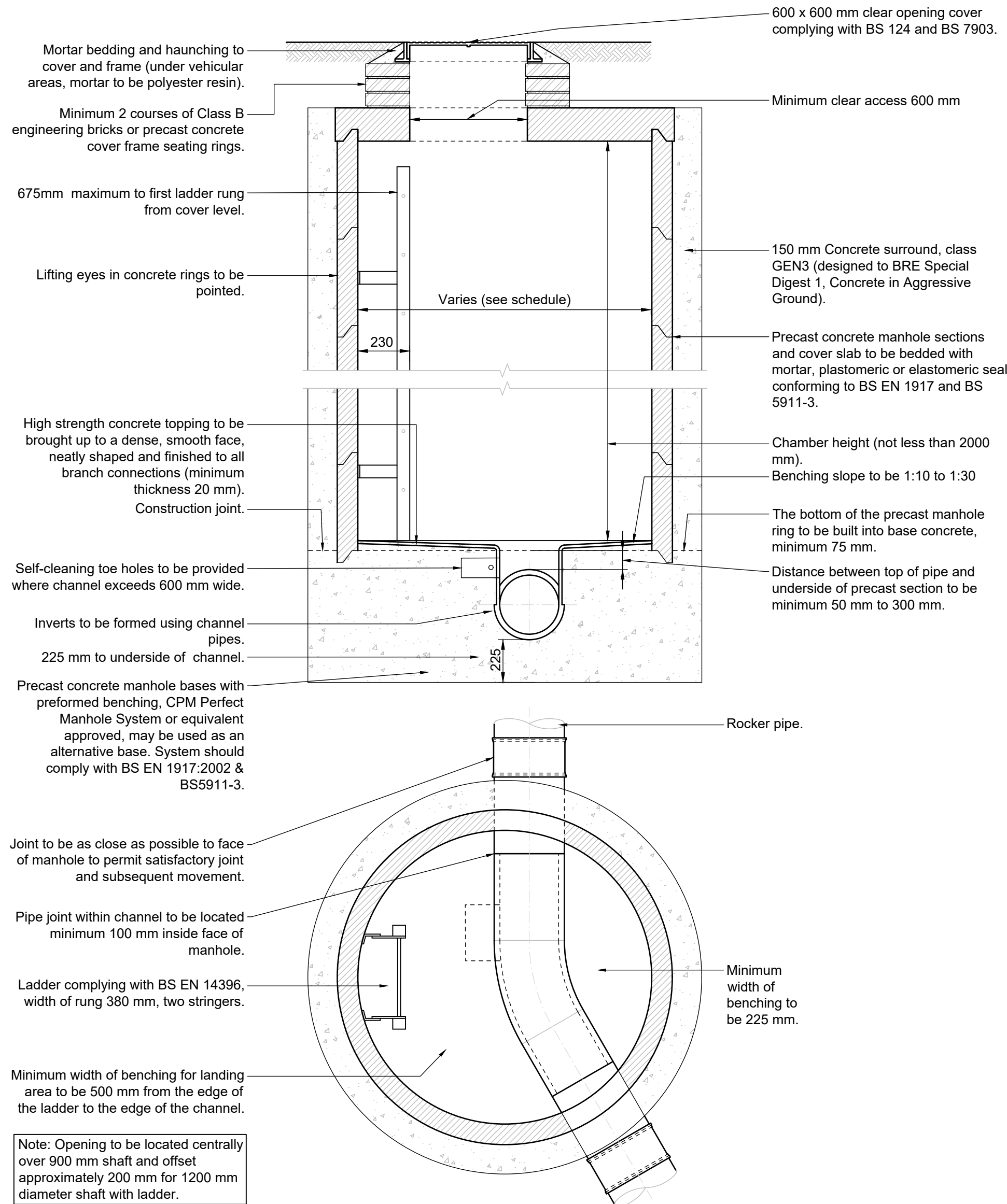
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Job Title	Royal Elm Park
Client	RFC Prop Co Ltd

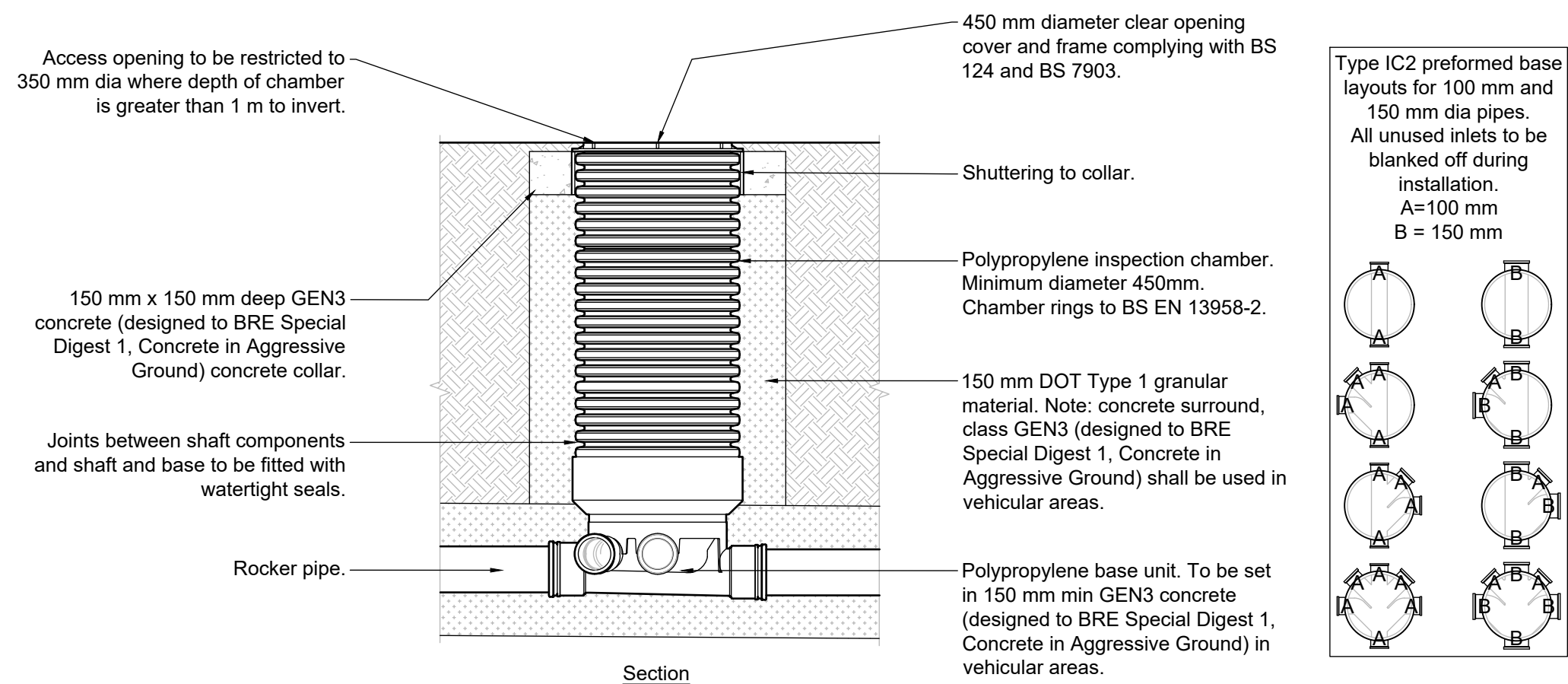
**Phase 5, Proposed Foul Drainage
Layout Plan**

Drawn by	Date made	Scale @ A1	Checked by	Suitability	CR Project
AL	18.09.25	1:200	AJH	S2	14096

Project No	Orig.	Funct.	Spatial	Form	Disc.	Number	Rev
14096	CRH	XX	XX	DR	C	5051	P01

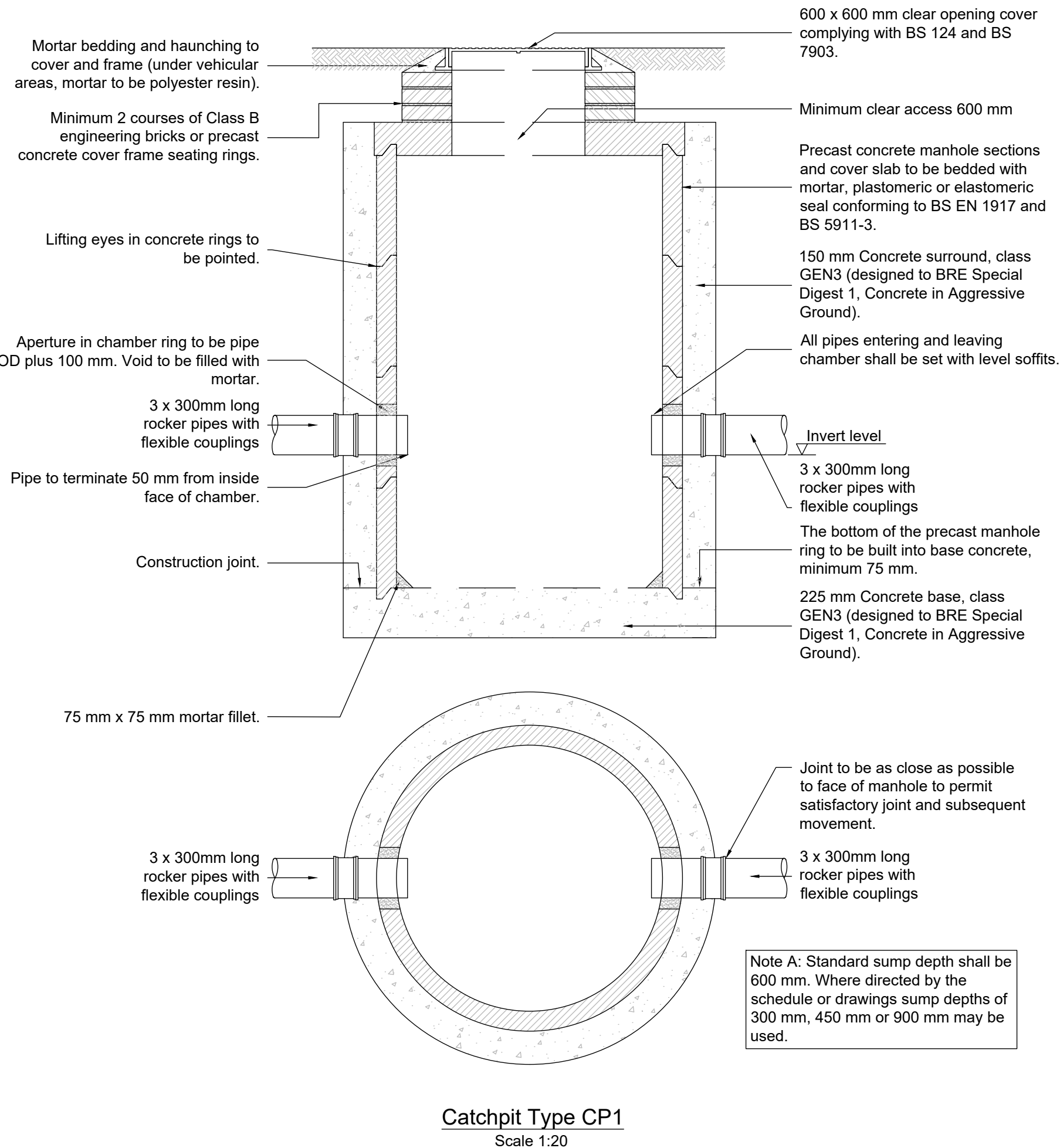
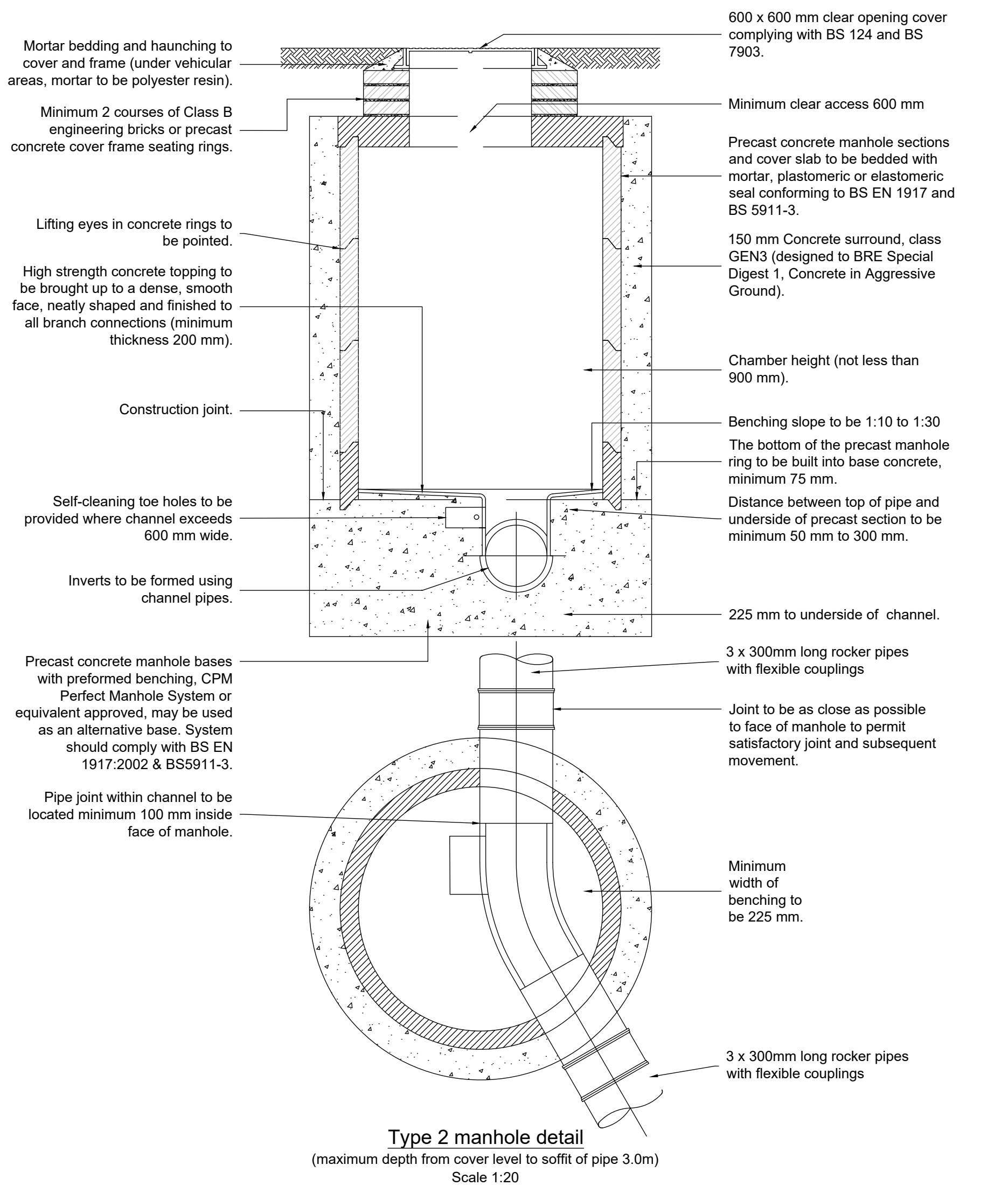
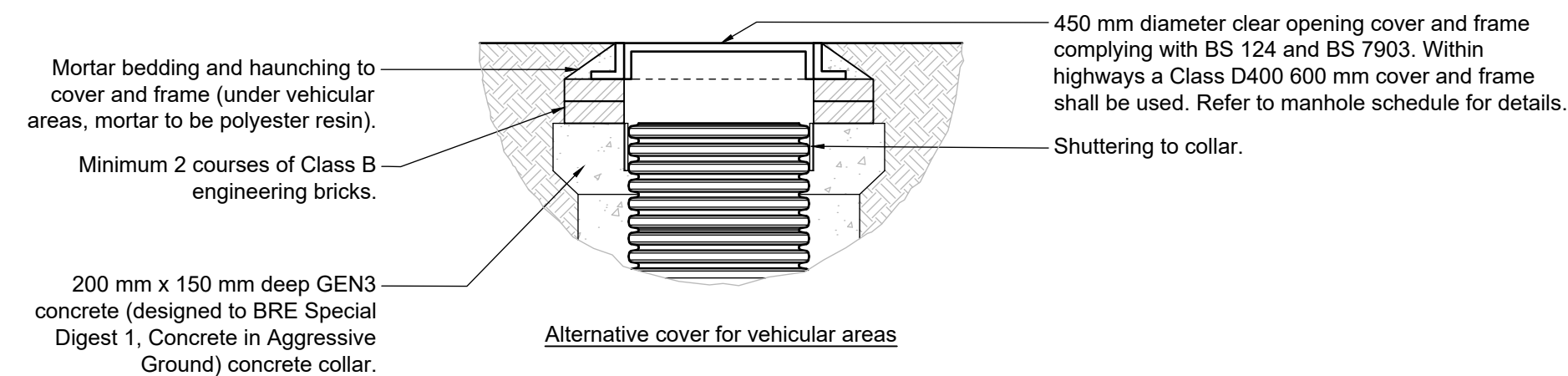


Type 1B manhole
(depth from cover level to soffit of pipe 3.0 m to 6.0 m)
Scale 1:20



Inspection chamber (Type IC2)

Non-entry
Maximum depth to soffit 3.0m
Scale 1:20



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Client	RFC Prop Co Ltd

Drainage Details Sheet 1

Drawn by	Date made	Scale @ A1	Checked by	Suitability	CR Project
WM	Nov 25'	1:20	AJH	S4	14096

Project No	Orig.	Funct.	Spatial	Form	Disc.	Number	Rev
14096	CRH	XX	XX	DR	C	5301	P01

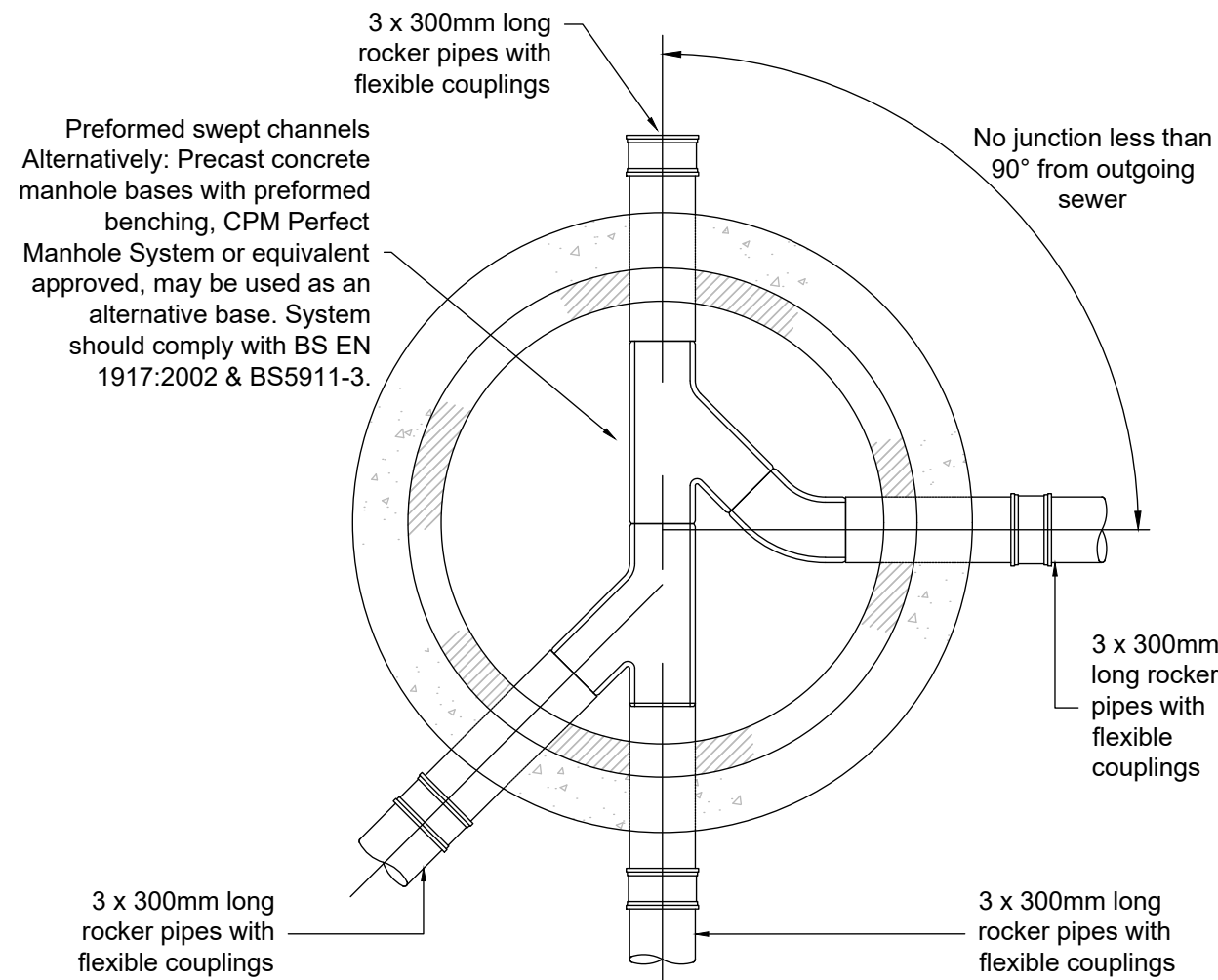
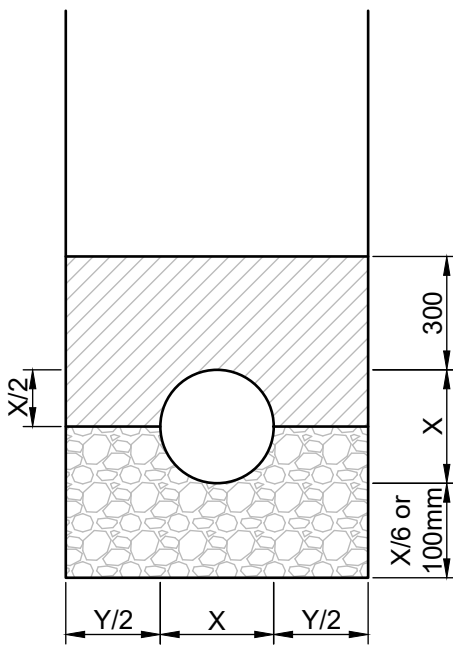
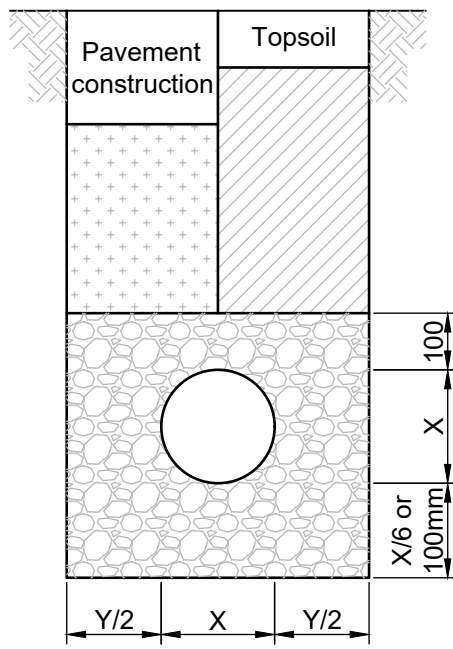


Table D1: Chamber diameters	
Nominal internal diameter of largest pipe in manhole (mm)	Minimum nominal internal dimension of manhole (mm)
Less than 375	1200
375 - 450	1300
500 - 700	1500
750 - 900	1800
Greater than 900	Pipe diameter + 900

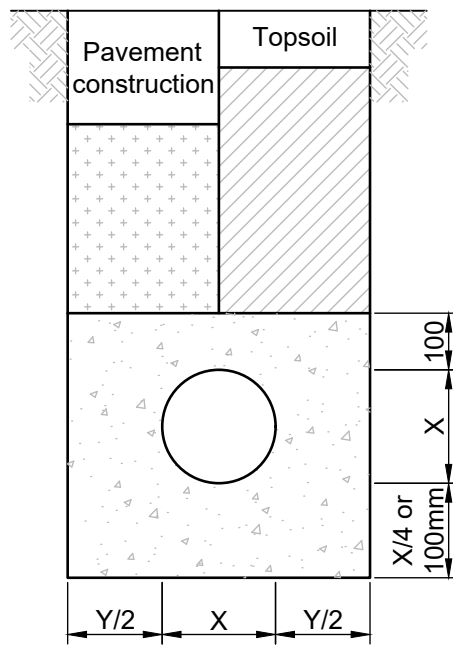
Table D2: Rocker pipe lengths	
Nominal diameter (mm)	Maximum effective length (m)
150 - 600	0.60
601 - 750	1.00
Over 750	1.25



Type B pipe bedding
(to be used where directed by the Engineer)

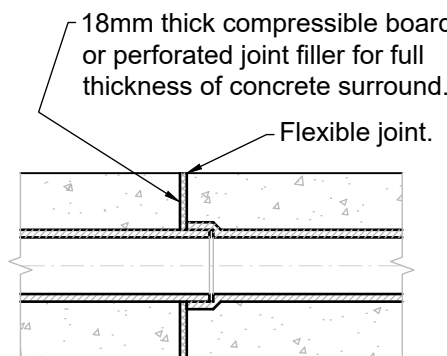


Type S pipe bedding
(Generally to be used to all pipes with cover from finished surface to crown greater than 900 mm in trafficked areas or greater than 600 mm cover in landscaped areas or under buildings)



Type Z pipe bedding
(Generally to be used to all pipes with cover from finished surface to crown less than or equal to 900 mm in trafficked areas or less than 600 mm cover in landscaped areas or under buildings)

Key	
	Selected as-dug material (maximum aggregate size 40mm).
	Type 1 granular material to SHW Clause 803.
	Granular material. Single size aggregate to BS EN 13242 and SHW Clause 803.3(i) including Table 5/3
	GEN1 Concrete (18mm compressible boards to be inserted at all pipe joints).
	0/20 mm filter material Type A to SHW Clause 505 and Table 5/5.
	20/40 mm filter material Type B to SHW Clause 505 and Table 5/5.



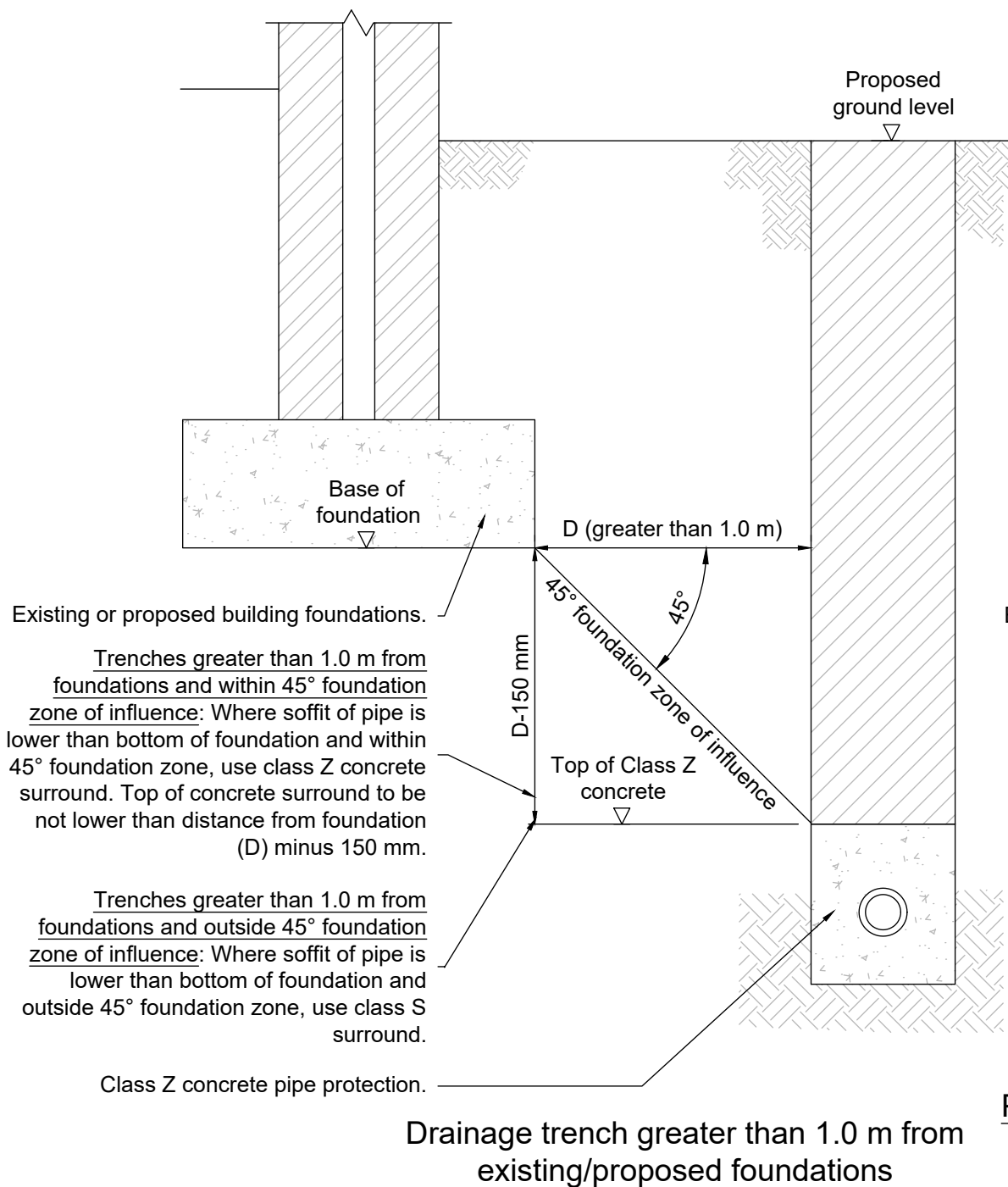
Movement joint for pipes with concrete bed and surround

NOTES:

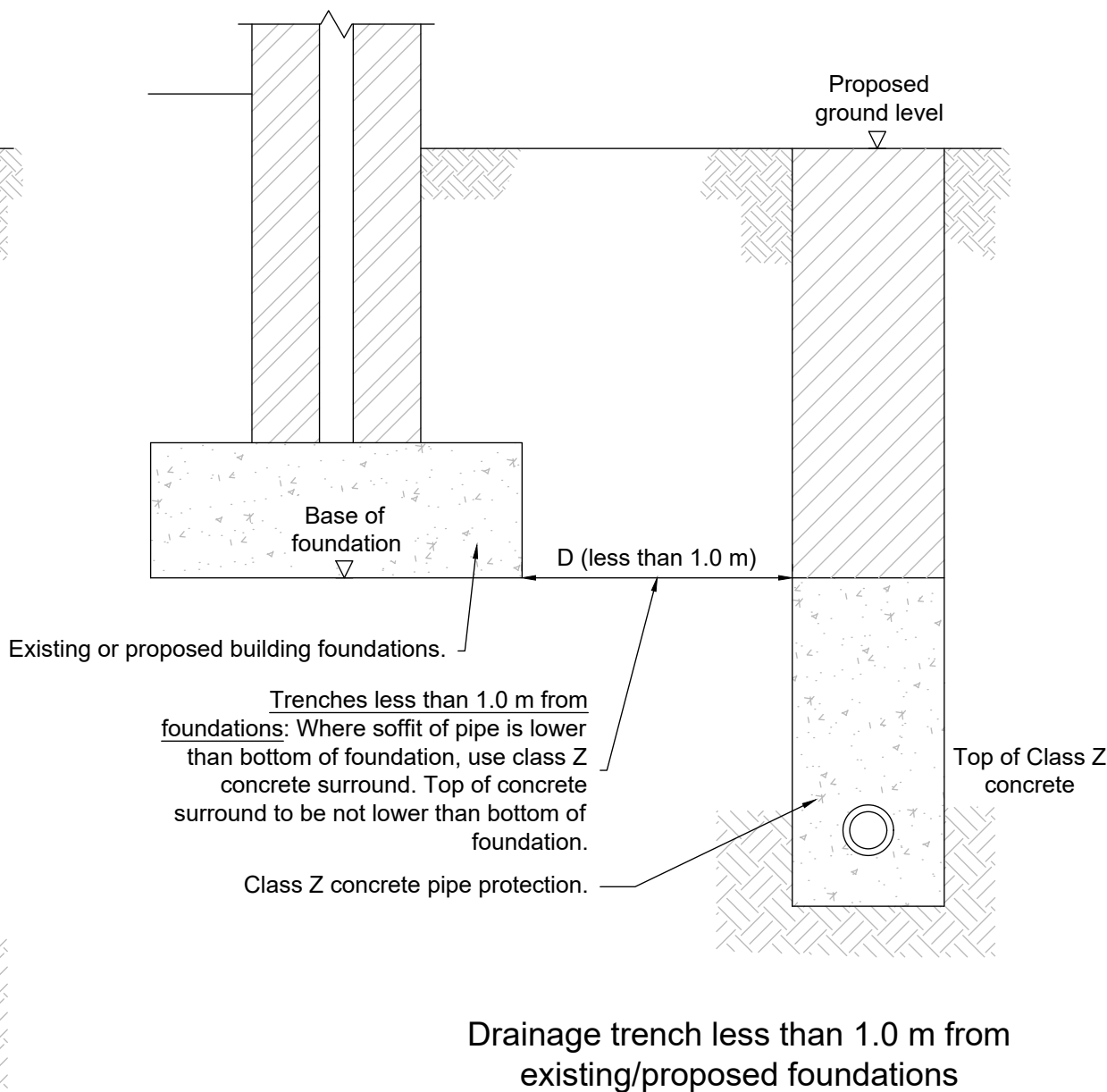
- X = Outside diameter (OD) of pipe.
- The first 300mm of fill above the crown of the pipe shall not be mechanically compacted.
- Geotextiles may be used, where directed by the Engineer, to contain bedding material in certain soils, such as running sand.
- In very wet conditions, or where directed by the Engineer, a temporary land drain may be laid within the granular bed.

Table P1: Trench widths and granular fill		
Pipe (DN) size	Y (mm)	Granular fill
100	400	10mm nominal size single stone
150	400	10, 14mm nominal size single stone
225 - 300	500	
375 - 450	700	
525 - 675	700	10, 14, 20mm nominal size single stone
750 - 1200	850	
1350 - 1800	1000	

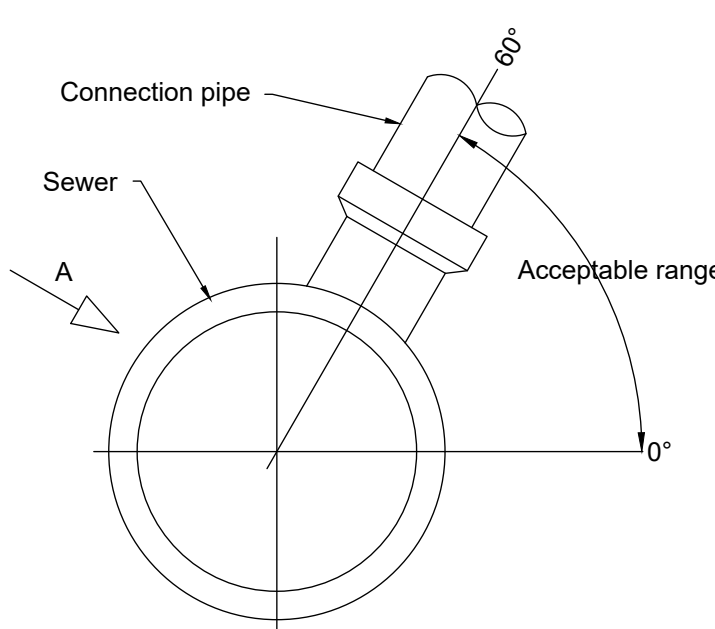
Pipe bedding details
Scale 1:20



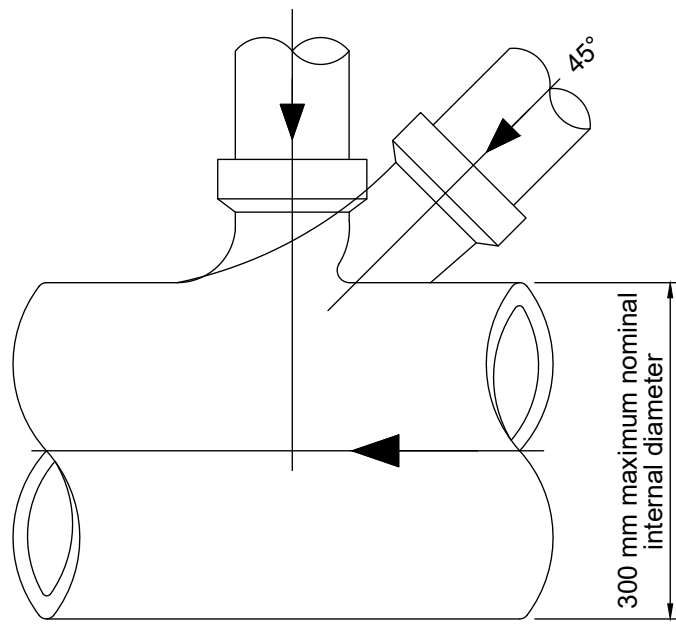
Drainage trench greater than 1.0 m from existing/proposed foundations



Pipe protection adjacent to existing/proposed foundations detail
Scale 1:20

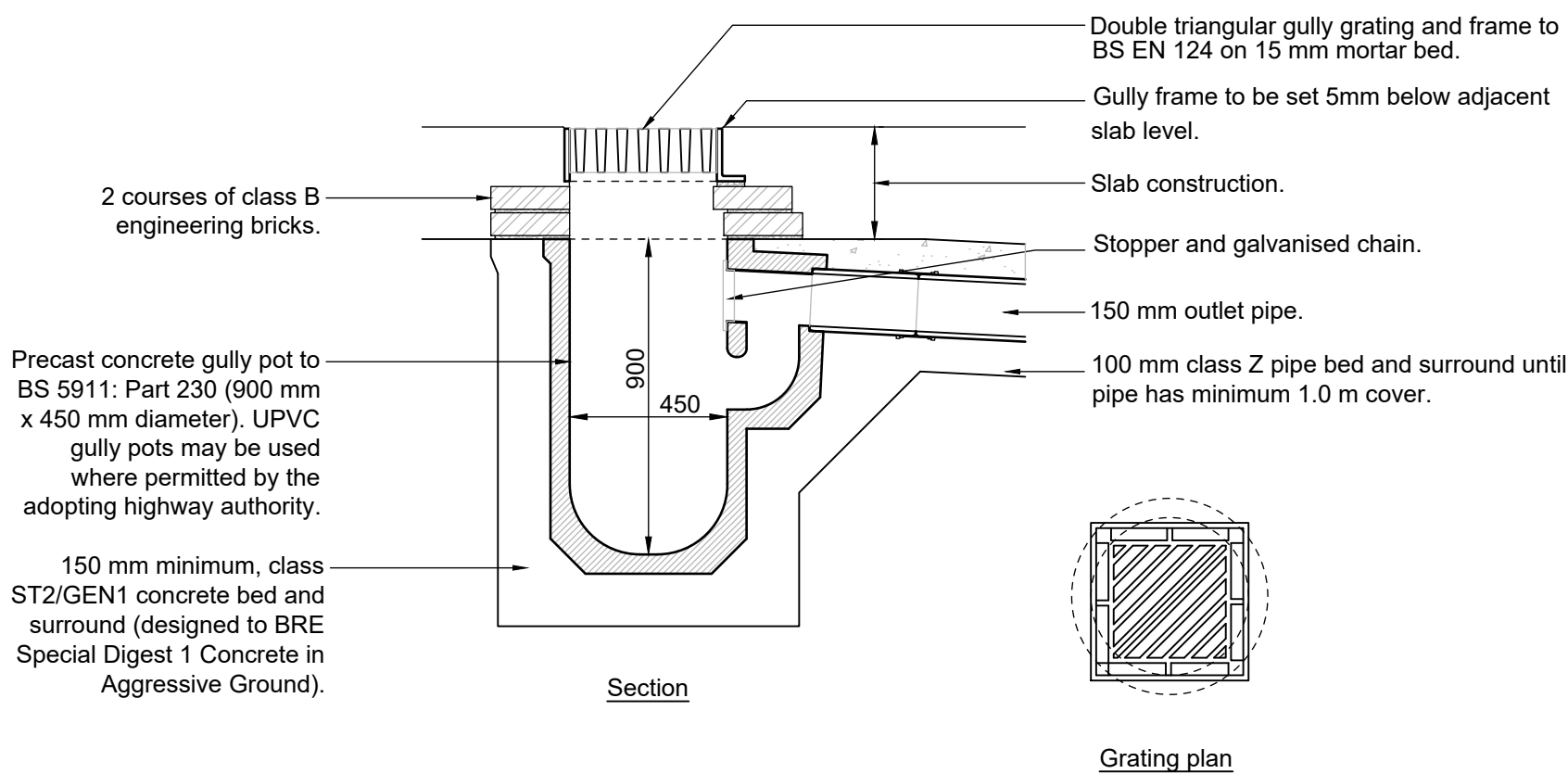


Cross-sectional view of sewer

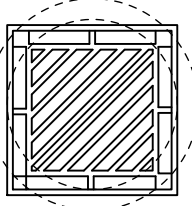


Plan viewed in direction of arrow - A

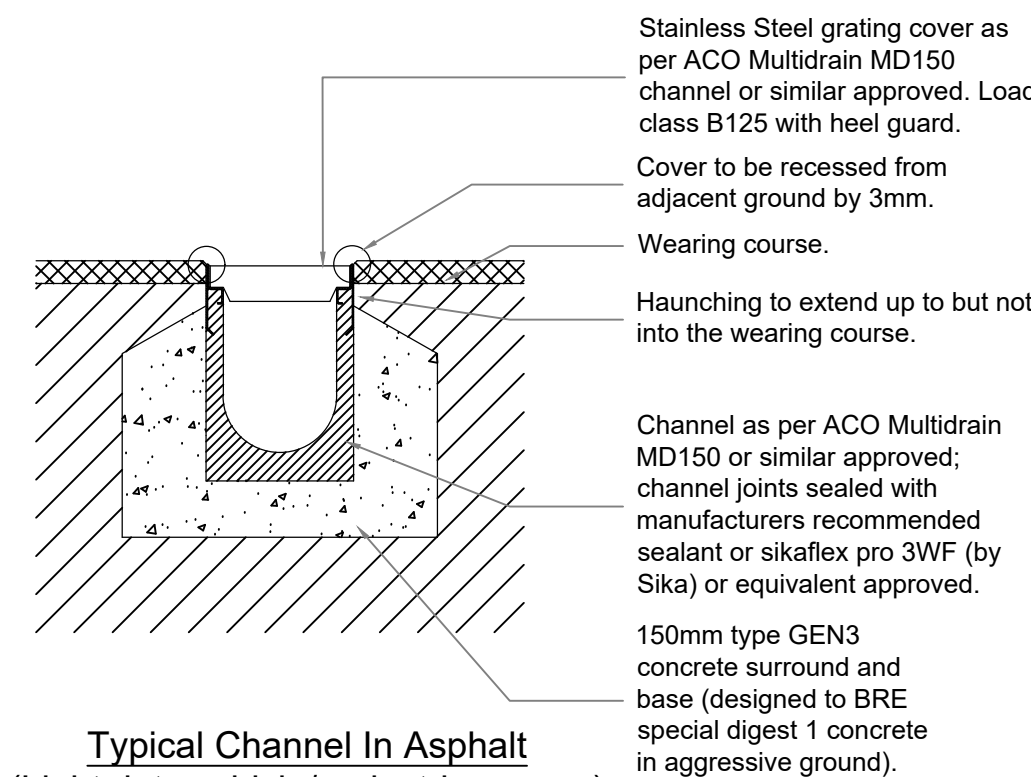
Connection to sewers detail
NTS



Road gully (type 1)
Scale 1:20



Grating plan



Typical Channel In Asphalt
(Light duty vehicle/pedestrian areas)
Scale 1:20

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Rev	Description	Date	By

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Job Title	Royal Elm Park
Client	RFC Prop Co Ltd

Drainage Details
Sheet 2

Drawn by	Date made	Scale @ A1	Checked by	Suitability	CR Project
WM	Nov 25'	1:20mm	AJH	S4	14096

Project No	Orig.	Funct.	Spatial	Form	Disc.	Number	Rev
14096	CRH	XX	XX	DR	C	5302	P01

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P1	Issued for Stage 3	11.11.25	WM
Rev	Description	Date	By

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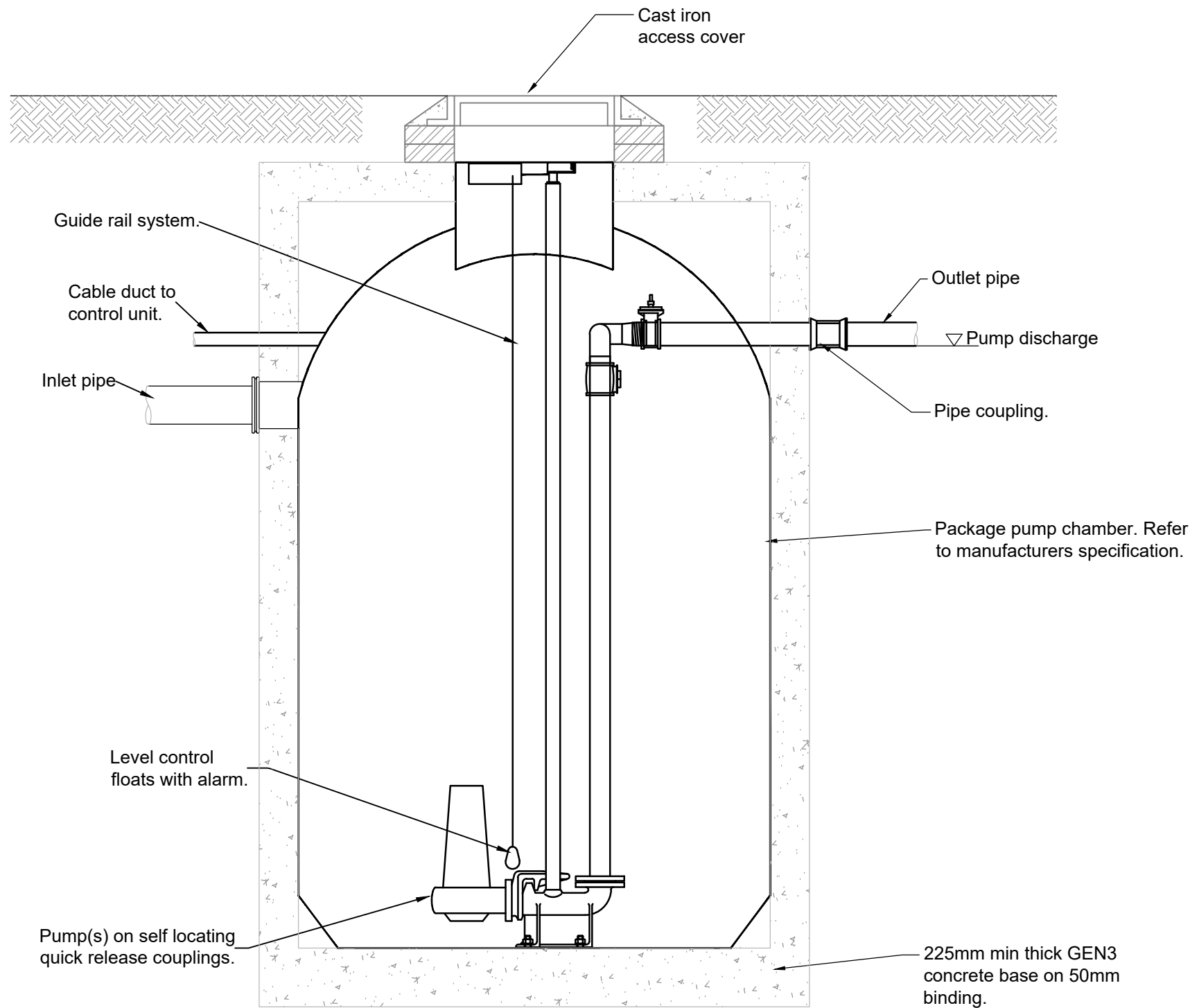
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Job Title	Royal Elm Park
Client	RFC Prop Co Ltd

Proposed Drainage Details
Sheet 3

Drawn by	Date made	Scale @ A1	Checked by	Suitability	CR Project
WM	Nov.24	As shown	AJH	S2	14096

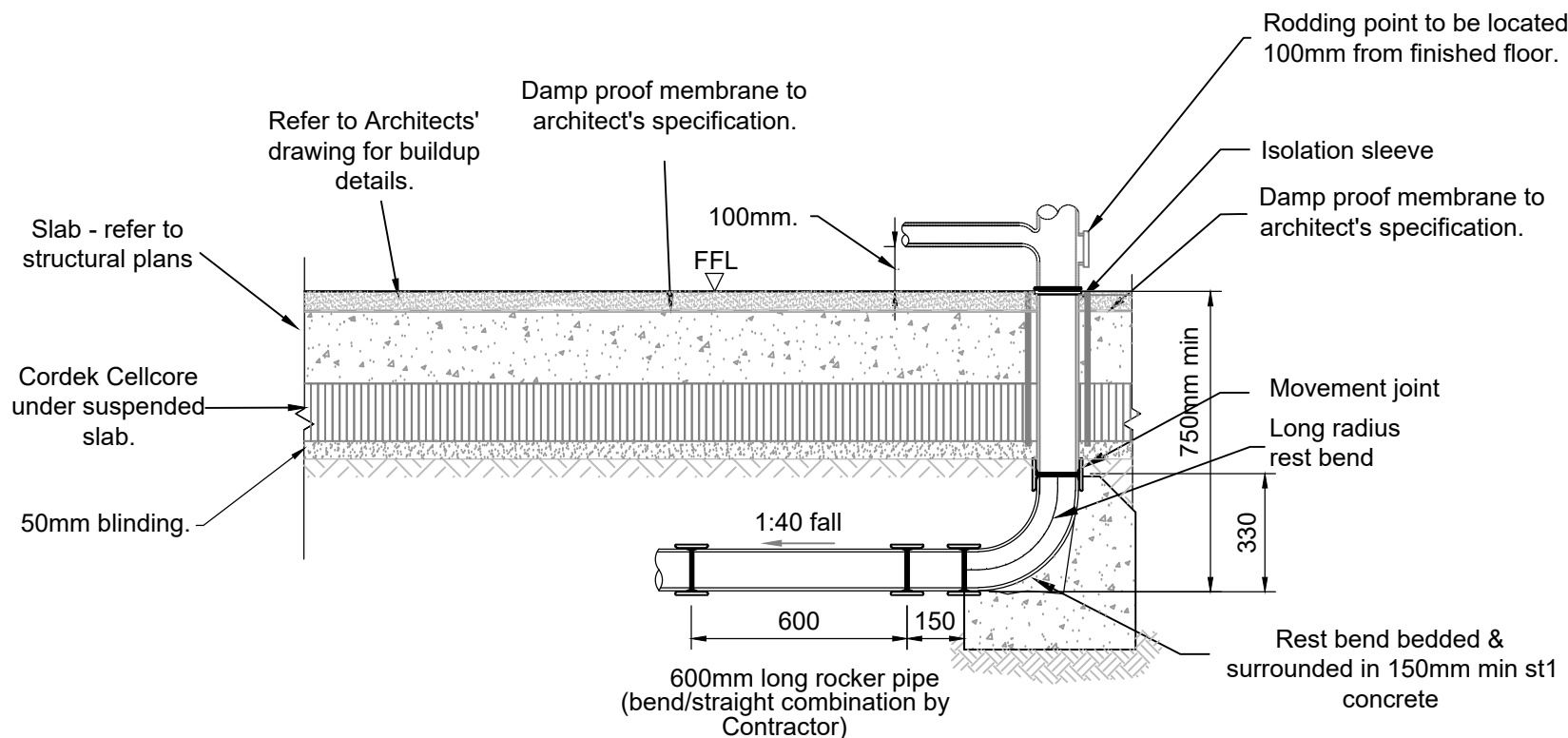
Project No	Orig.	Funct.	Spatial	Form	Disc.	Number	Rev
14096	CRH	XX	XX	DR	C	5303	P1



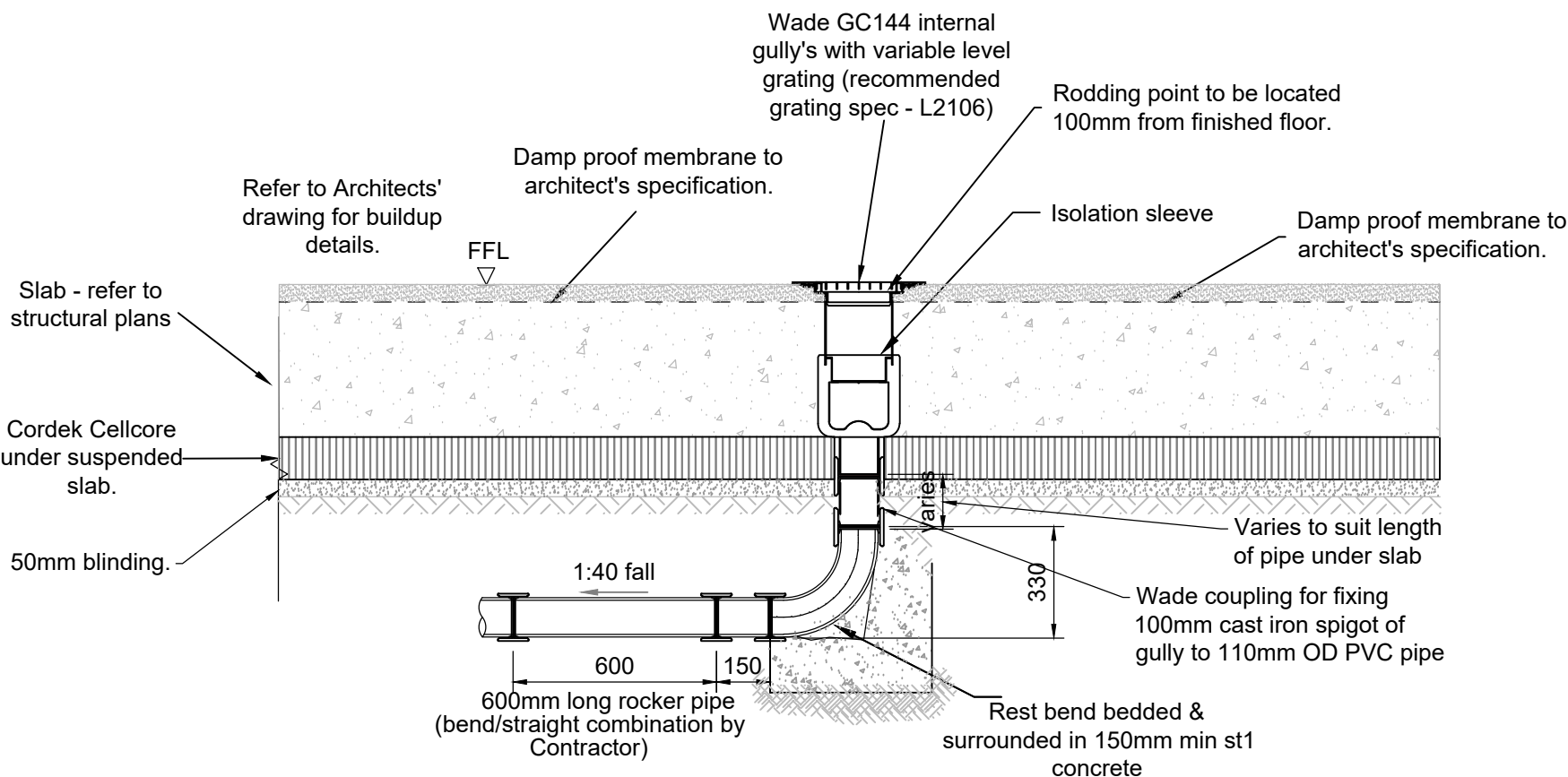
Typical Vertical pumping station

- A. The pump station (private) shall be installed in accordance with the manufacturers specifications and drawings, including all ventilation and alarm requirements.
- B. The pump station shall be provided with an alarm and control panel, installed in accordance with the manufacturers specifications and drawings.
- C. The wet well shall be designed to accommodate a minimum of 24 hrs flow.
- D. Both duty and standby pumps shall be installed.
- E. All concrete shall be designed to BRE Special Digest 1, Concrete in Aggressive Ground.
- F. Primary backfill material (subject to manufacturers recommendations):
Granular: Either a rounded pea gravel (min. particle size 3 mm, max. 18 mm, compacted to a relative density >70%) or a crushed or processed stone (min. particle size 3 mm, max. 12 mm, compacted to a relative density of >40%).

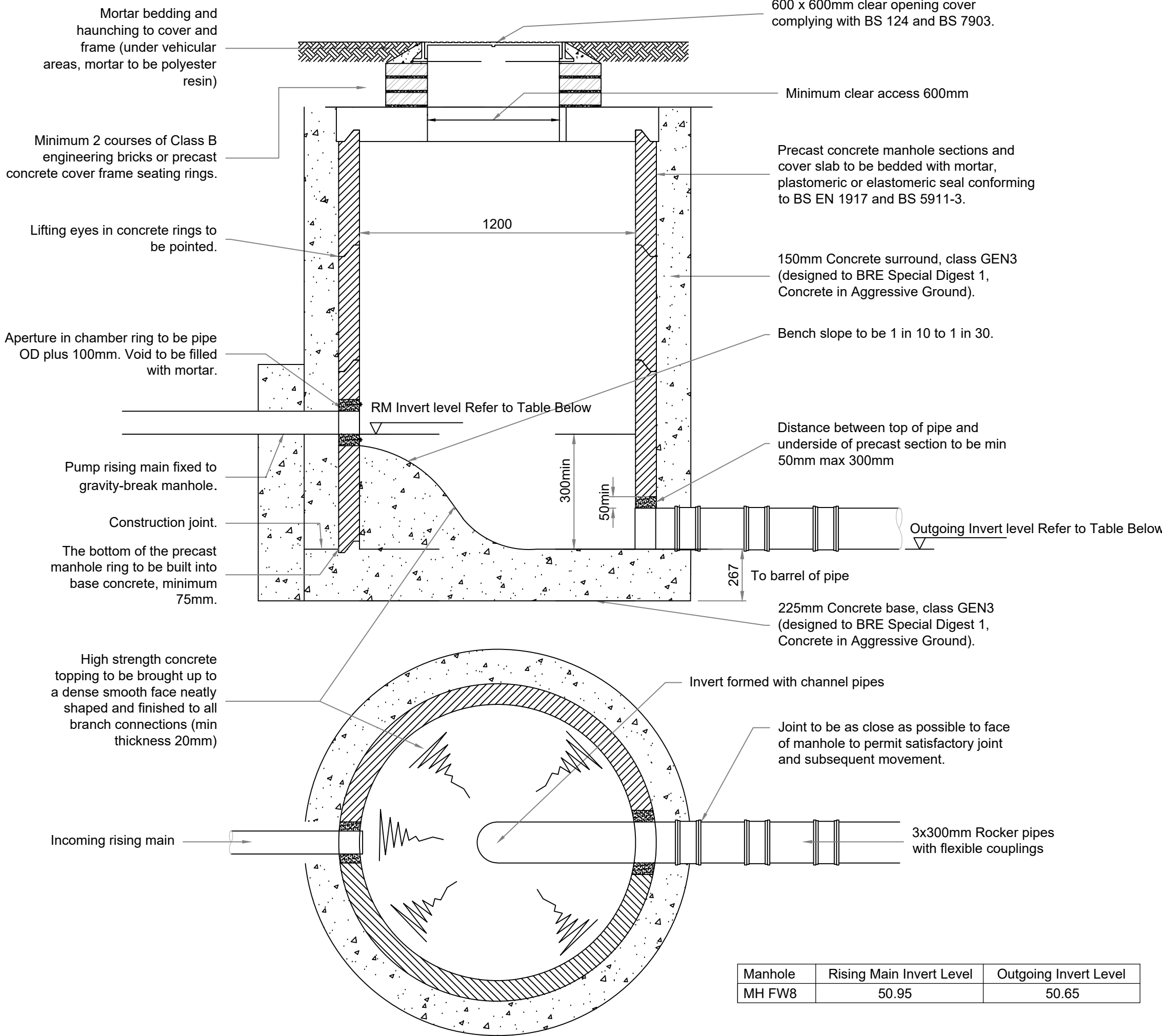
Pump Station	
Pump Rate	TBC l/s
Pump CL	50.15 mAoD
Pump IL	48.85 mAoD
Design Head	1.50 m
Rising Main Length	23 m



Typical underslab pipe bedding details for pipework under suspended slab
Scale 1:20

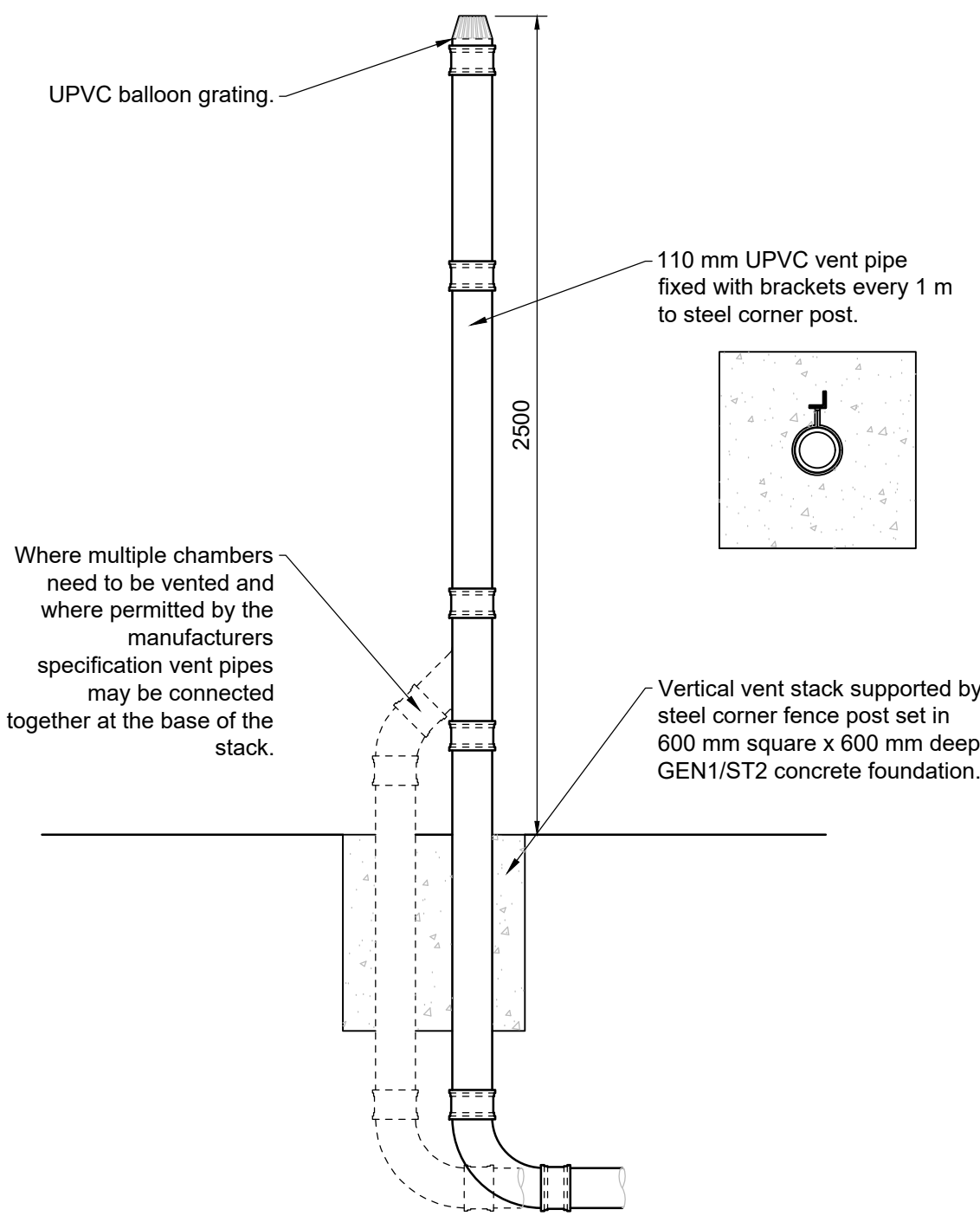


Internal Floor Gully Detail (Trapped)
Scale 1:20

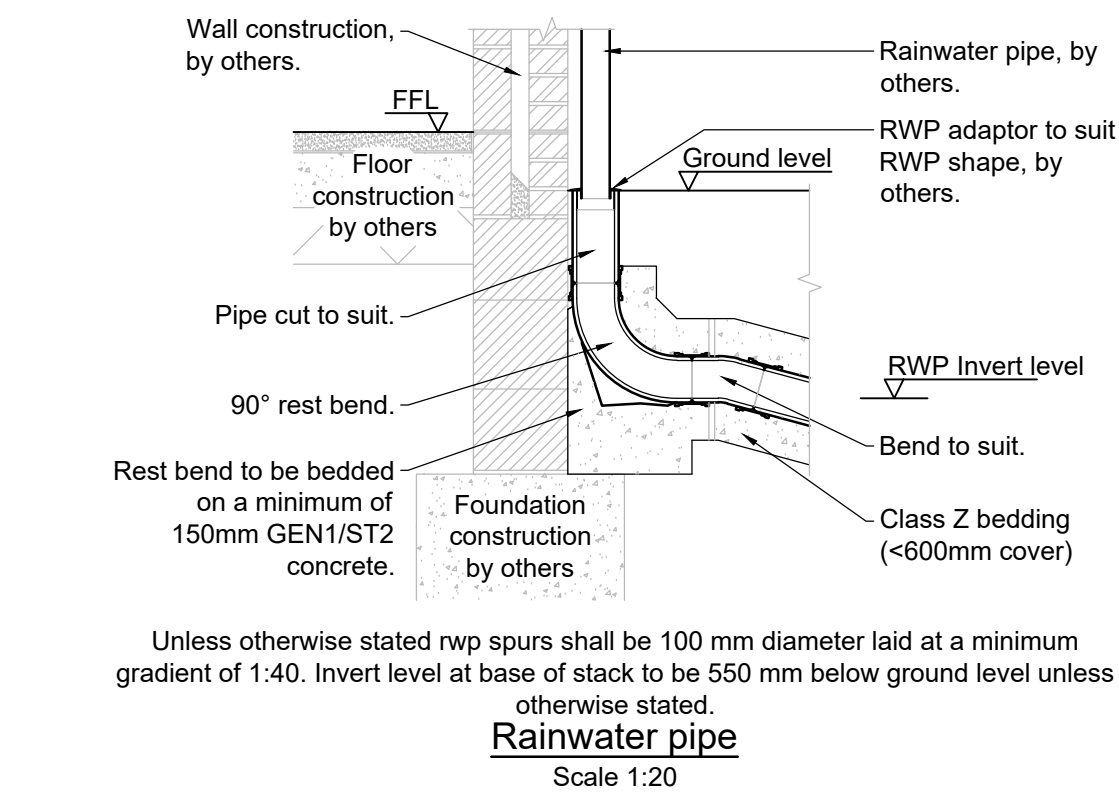


Gravity-Break Manhole
Scale: NTS

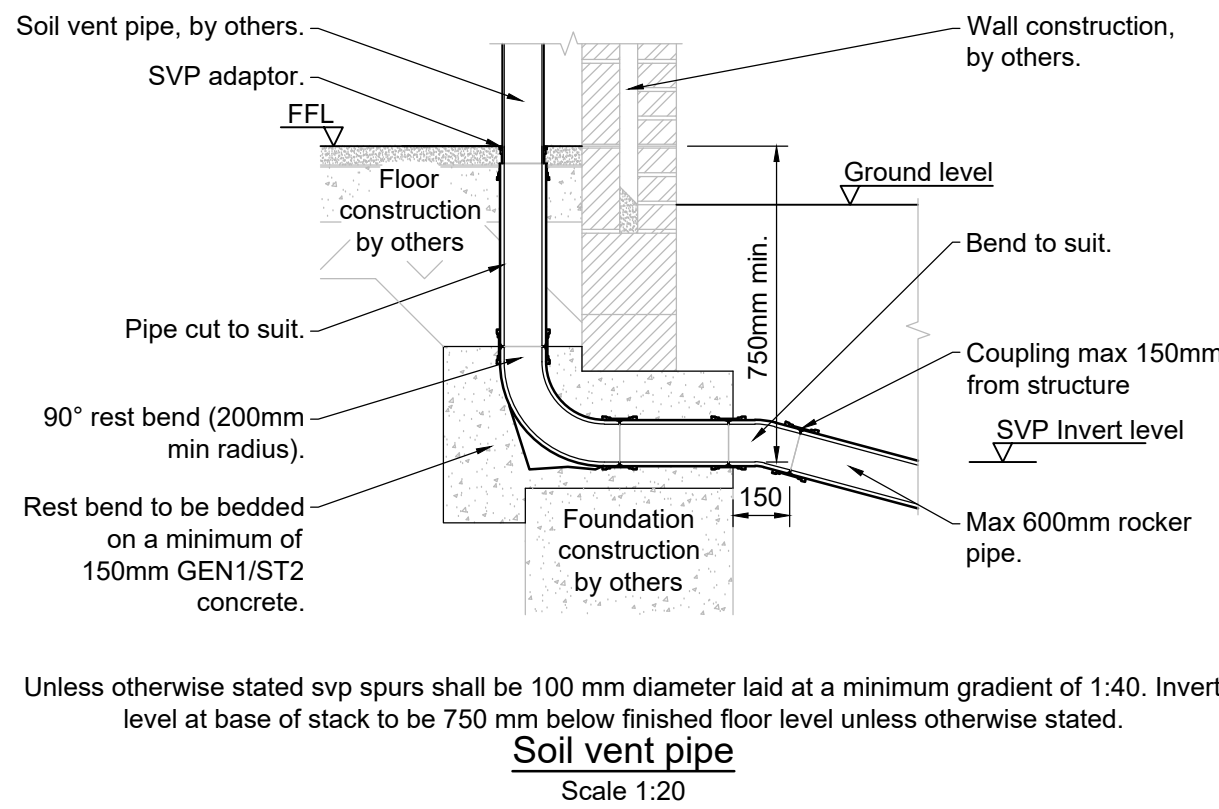
Manhole	Rising Main Invert Level	Outgoing Invert Level
MH FW8	50.95	50.65



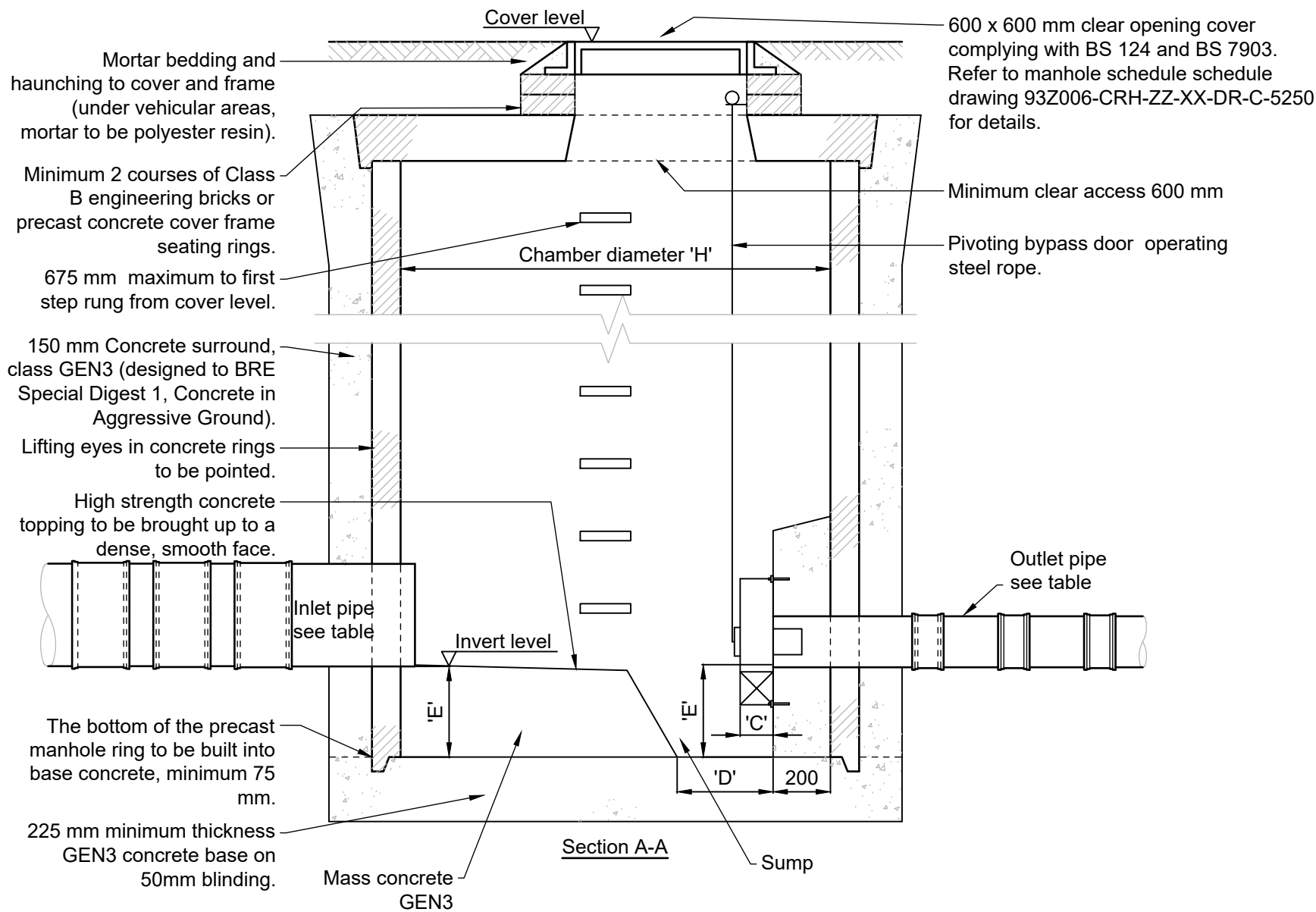
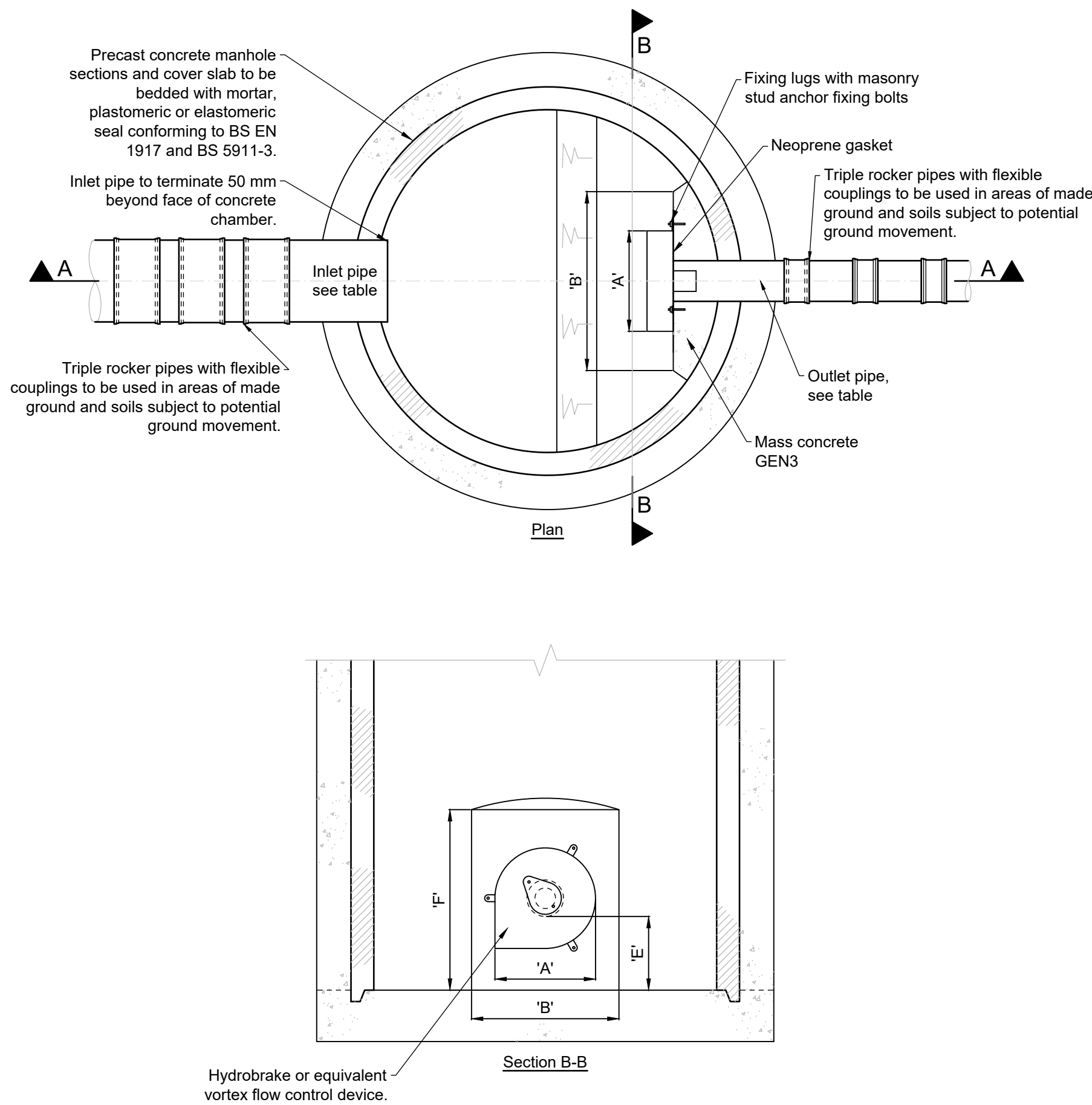
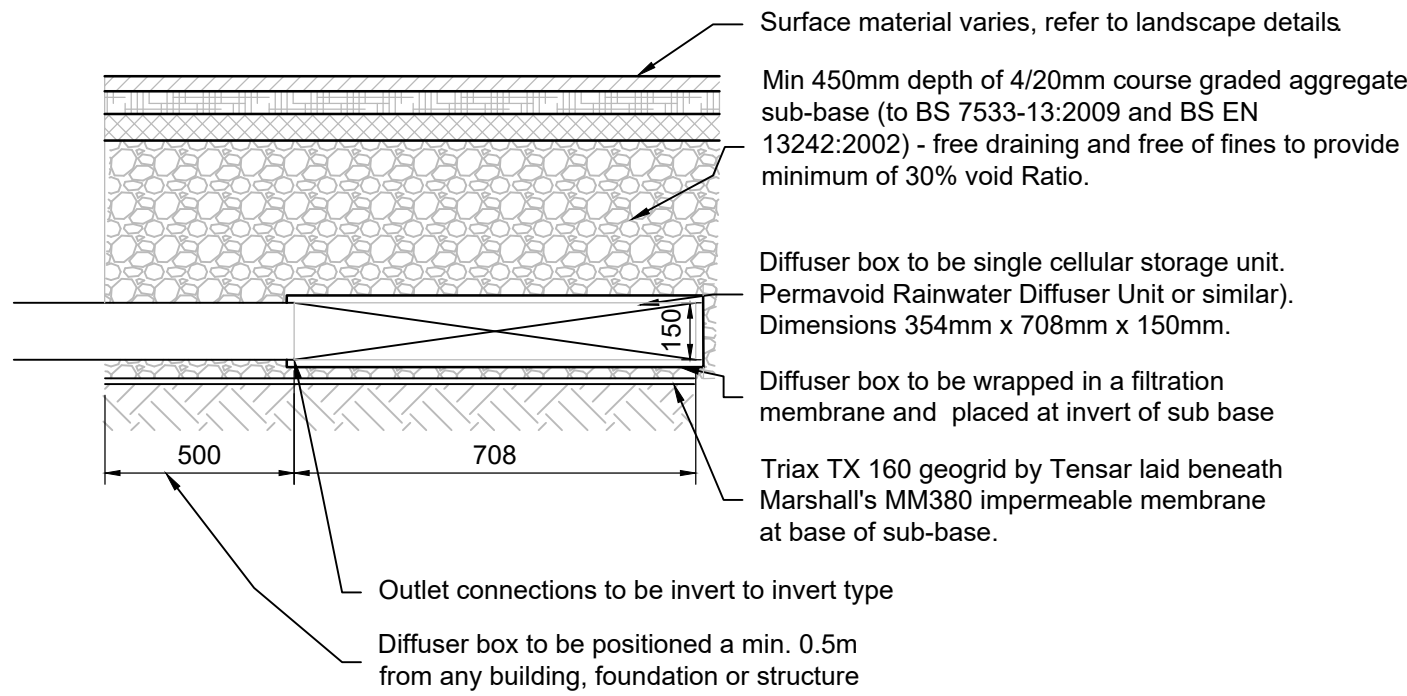
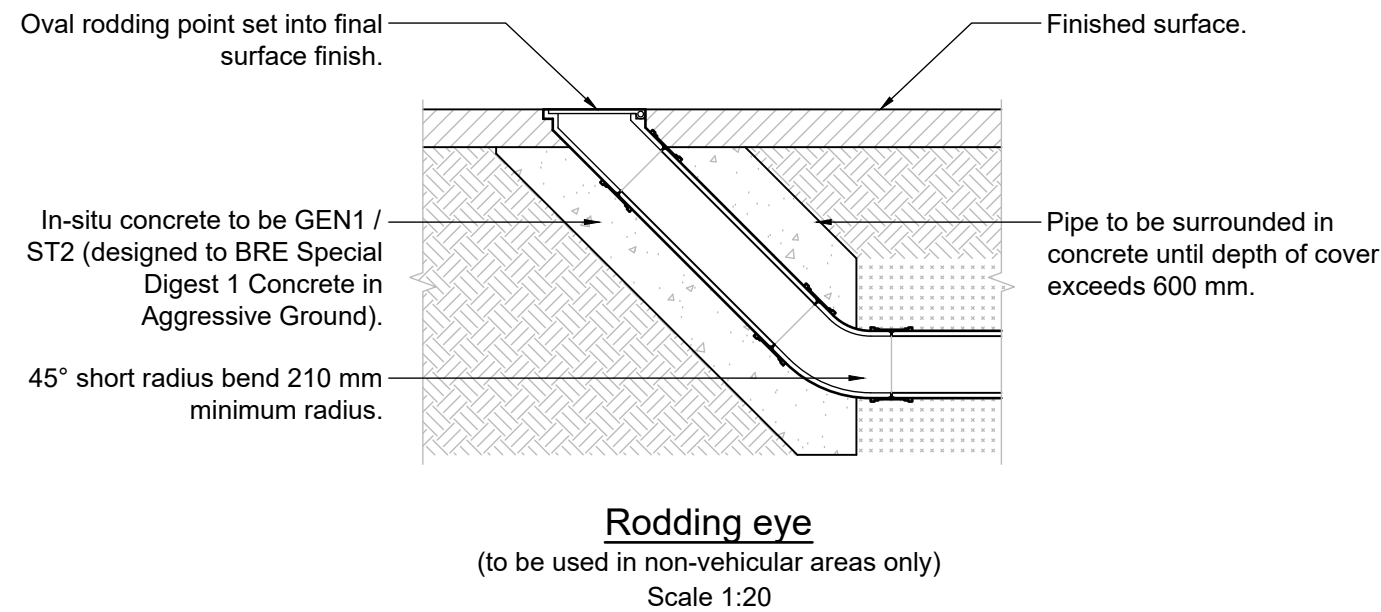
Typical vent pipe arrangement
Scale 1:20



Rainwater pipe
Scale 1:20



Soil vent pipe
Scale 1:20



Note: an equivalent vortex flow device may be used subject to meeting the minimum specifications provided below:

Grade 304 stainless steel vortex flow control unit with integral stainless steel pivoting bypass door allowing clear line of sight through to outlet, c/w stainless steel operating rope. Stainless steel fixings and neoprene gasket seal to outlet.

Manhole Reference:	SW MH111
Cover Level (m):	49.500
Invert Level (m):	48.050
Hydrobrake Reference:	CHE-0079-3000-1000-3000
Design Head (m):	1.0
Design Flow (l/s):	3.0

Manhole Reference:	SW MH103
Cover Level (m):	52.000
Invert Level (m):	51.280
Hydrobrake Reference:	CHE-0237-3500-1200-3500
Design Head (m):	1.2
Design Flow (l/s):	35

Manhole Reference:	SW MH105
Cover Level (m):	52.000
Invert Level (m):	50.340
Hydrobrake Reference:	CHE-0138-1000-1000-1000
Design Head (m):	1.0
Design Flow (l/s):	10

Inlet Pipe diameter (mm):	varies
Outlet Pipe diameter (mm):	varies
Dimension 'A' (mm):	varies
Dimension 'E' (mm):	varies
Dimension 'B' (mm):	varies
Dimension 'F' (mm):	varies
Dimension 'C' (mm):	varies
Dimension 'G' (mm):	N/A
Dimension 'D' (mm):	varies
Dimension 'H' (mm):	1200

Note: proprietary products shall be installed strictly in accordance with manufacturers details and specification.

Notes

- Do not scale from this drawing on print or electronically. Work from figured dimensions only.
- No deviation from the details on this drawing is allowed without CampbellReith's prior permission in writing.
- Read this drawing with all Architect's, Service Engineer's and CampbellReith's relevant details, specifications and drawings.
- All work is to be done in accordance with the relevant specifications issued by CampbellReith, British Standard Codes of Practice, Statutory Requirements and the Contract Documents.
- Drawing revision:**
P: Preliminary Evolving drawings for approvals, tenders, billings etc.
C: Contractual Drawings authorized and approved for stage completion.
- Drawing status:**
Work in progress
S0 - Initial status
Shared (Non-contractual)
S1 - Suitable for coordination, **S2** - Suitable for information, **S3** - Suitable for review and comment, **S4** - Suitable for stage approval.
Published (For contractors purposes)
A1, An etc - Authorised and accepted ('n' relates to work stages)
B1, Bn etc - Partial sign-off (with comments)
CR - As constructed record document (Final Construction ONLY). Any deviations to that which is on site is not the liability of CampbellReith)
- Work Stages:**
2 - Concept, **3** - Definition, **4** - Design, **5** - Build & commission, **6** - Handover
- Only drawings with **revision Cn and status A5 to be used for Construction.**

P1	Issued for Stage 3		23.12.24	WM
Rev	Description		Date	By

CampbellReith
consulting engineers

London 020 7340 1700 Manchester 0161 819 3060
Bristol 0117 916 1066 Birmingham 01675 467 484

www.campbellreith.com

Job Title	Royal Elm Park
Client	RFC Prop Co Ltd

Proposed Drainage Details Sheet 4

Drawn by	Date made	Scale @ A1	Checked by	Suitability	CR Project
WM	Nov.25	As shown	AJH	S2	14096

Project No	Orig.	Funct.	Spatial	Form	Disc.	Number	Rev
14096	CRH	XX	XX	DR	C	5304	P1

Royal Elm Park

Design Calculations

Network A: Phase 5 (Block 6)

14096 - Proposed Surface Water Network

Rev P2

Date: 11/11/22

CRH Project No: 14096

Engineer: N. Abed

Checked: A. Higgins

Campbell Reith Hill LLP
15 Bermondsey Square
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Project:	Date: 16/07/2025		
	Designed by: NoorAbed	Checked by:	Approved By:
Report Details: Type: Junctions Storm Phase: Phase	Company Address:		



Name	Junction Type	Easting (m)	Northing (m)	Cover Level (m)	Depth (m)	Invert Level (m)	Chamber Shape	Diameter (m)
SWIC102	Manhole	208556.869	601592.296	50.500	1.500	49.000	Circular	1.200
SB6.2	Manhole	208577.079	601592.578	50.500	2.795	47.705	Circular	1.200
SB6.4	Manhole	208583.031	601599.209	50.500	2.933	47.567	Circular	1.200
SWMH102	Manhole	208557.148	601564.182	50.500	0.600	49.900	Circular	1.200

Name	Lock
SWIC102	None
SB6.2	None
SB6.4	None
SWMH102	None

Outlets

Junction	Outlet Name	Outgoing Connection	Outlet Type
SWIC102	Outlet	Pipe (3)	Free Discharge
SB6.2	Outlet	Pipe (4)	Hydro-Brake®
	Invert Level (m)	47.705	
	Design Depth (m)	1.000	
	Design Flow (L/s)	3.0	
	Objective	Minimise Upstream Storage Requirements	
	Application	Surface Water Only	
	Sump Available	☐	
	Unit Reference	CHE-0079-3000-1000-3000	
SWMH102	Outlet	Pipe (7)	Free Discharge

Project:	Date: 16/07/2025			
	Designed by: NoorAbed	Checked by:	Approved By:	
Report Details:	Company Address:			
Type: Stormwater Controls Storm Phase: Phase				



Blue roof 1 (highest level)

Type : Tank

Dimensions

Exceedance Level (m)	56.000
Depth (m)	0.100
Base Level (m)	55.900
Freeboard (mm)	0
Initial Depth (m)	0.000
Porosity (%)	95
Average Slope (1:X)	0.00
Total Volume (m³)	20.330

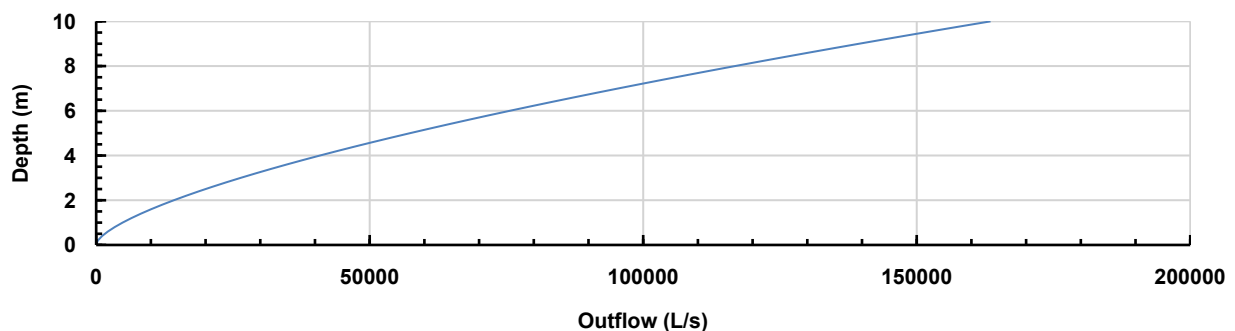
Depth (m)	Area (m²)	Volume (m³)
0.000	214.00	0.000
0.100	214.00	20.330

Outlets

Outlet

Outgoing Connection	Pipe
Outlet Type	Multiple
Invert Level (m)	55.900

Combined Outflow



Orifice

Diameter (m)	0.037
Coefficient of Discharge	0.600
Depth Above Invert (m)	0.000

Weir

Width (m)	3.057
Coefficient of Discharge	0.544
Depth Above Invert (m)	0.050

Orifice

Diameter (m)	0.037
Coefficient of Discharge	0.600
Depth Above Invert (m)	0.000

Advanced

Perimeter	Circular
Length (m)	32.177

Project:	Date: 16/07/2025			
	Designed by: NoorAbed	Checked by:	Approved By:	
Report Details:	Company Address:			
Type: Stormwater Controls Storm Phase: Phase				



Blue roof 2 (highest level)

Type : Tank

Dimensions

Exceedance Level (m)	56.000
Depth (m)	0.100
Base Level (m)	55.900
Freeboard (mm)	0
Initial Depth (m)	0.000
Porosity (%)	95
Average Slope (1:X)	0.00
Total Volume (m³)	29.355

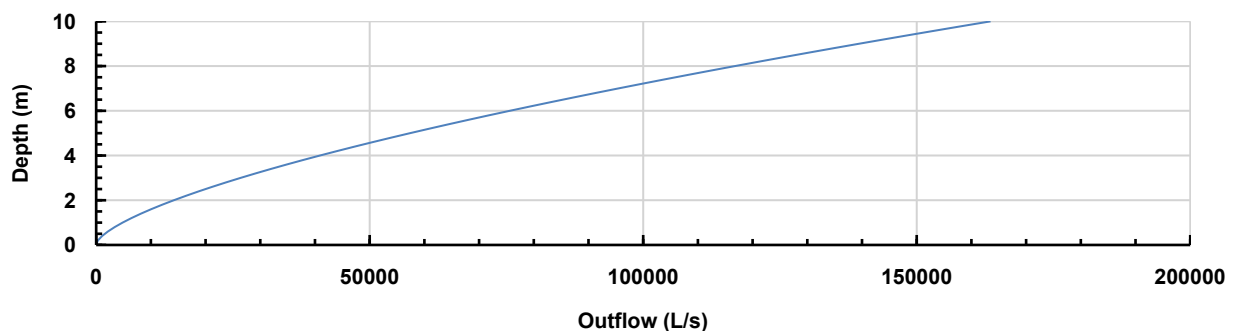
Depth (m)	Area (m²)	Volume (m³)
0.000	309.00	0.000
0.100	309.00	29.355

Outlets

Outlet

Outgoing Connection	Pipe (1)
Outlet Type	Multiple
Invert Level (m)	55.900

Combined Outflow



Orifice

Diameter (m)	0.037
Coefficient of Discharge	0.600
Depth Above Invert (m)	0.000

Weir

Width (m)	3.057
Coefficient of Discharge	0.544
Depth Above Invert (m)	0.050

Orifice

Diameter (m)	0.037
Coefficient of Discharge	0.600
Depth Above Invert (m)	0.000

Advanced

Perimeter	Circular
Length (m)	22.627

Project:	Date: 16/07/2025			
	Designed by: NoorAbed	Checked by:	Approved By:	
Report Details:	Company Address:			
Type: Stormwater Controls Storm Phase: Phase				



Blue roof A (6th floor)

Type : Tank

Dimensions

Exceedance Level (m)	54.000
Depth (m)	0.100
Base Level (m)	53.900
Freeboard (mm)	0
Initial Depth (m)	0.000
Porosity (%)	95
Average Slope (1:X)	0.00
Total Volume (m³)	6.175

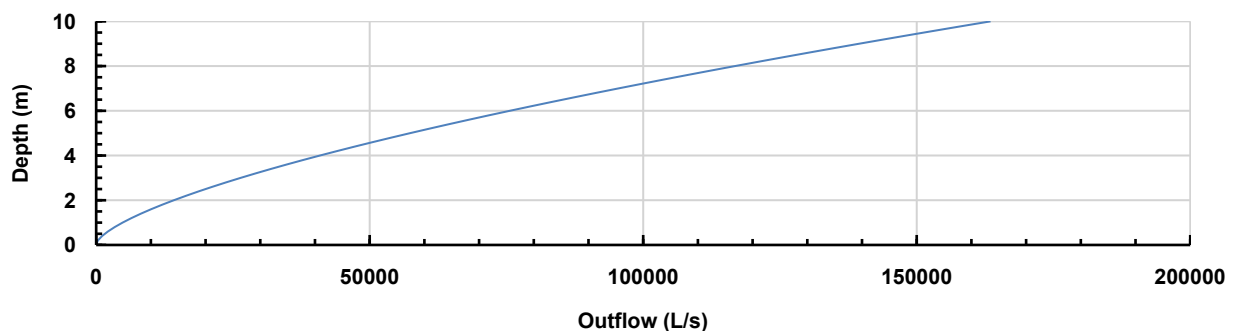
Depth (m)	Area (m²)	Volume (m³)
0.000	65.00	0.000
0.100	65.00	6.175

Outlets

Outlet

Outgoing Connection	Pipe (2)
Outlet Type	Multiple
Invert Level (m)	53.900

Combined Outflow



Orifice

Diameter (m)	0.037
Coefficient of Discharge	0.600
Depth Above Invert (m)	0.000

Weir

Width (m)	3.057
Coefficient of Discharge	0.544
Depth Above Invert (m)	0.050

Orifice

Diameter (m)	0.037
Coefficient of Discharge	0.600
Depth Above Invert (m)	0.000

Advanced

Perimeter	Circular
Length (m)	15.729

Project:	Date: 16/07/2025			
	Designed by: NoorAbed	Checked by:	Approved By:	
Report Details:	Company Address:			
Type: Stormwater Controls Storm Phase: Phase				



Blue roof B (6th floor)

Type : Tank

Dimensions

Exceedance Level (m)	54.000
Depth (m)	0.100
Base Level (m)	53.900
Freeboard (mm)	0
Initial Depth (m)	0.000
Porosity (%)	95
Average Slope (1:X)	0.00
Total Volume (m³)	6.175

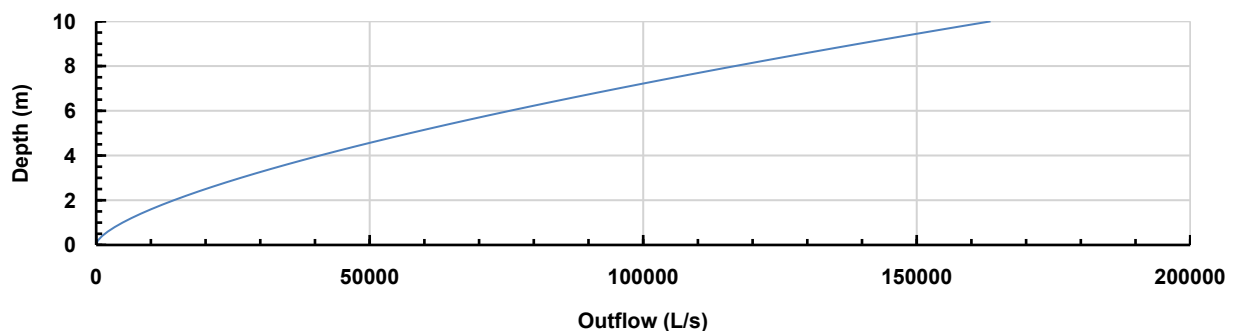
Depth (m)	Area (m²)	Volume (m³)
0.000	65.00	0.000
0.100	65.00	6.175

Outlets

Outlet

Outgoing Connection	Pipe (6)
Outlet Type	Multiple
Invert Level (m)	53.900

Combined Outflow



Orifice

Diameter (m)	0.037
Coefficient of Discharge	0.600
Depth Above Invert (m)	0.000

Weir

Width (m)	3.057
Coefficient of Discharge	0.544
Depth Above Invert (m)	0.050

Orifice

Diameter (m)	0.037
Coefficient of Discharge	0.600
Depth Above Invert (m)	0.000

Advanced

Perimeter	Circular
Length (m)	15.729

Project:	Date: 16/07/2025			
	Designed by: NoorAbed	Checked by:	Approved By:	
Report Details:	Company Address:			
Type: Stormwater Controls Storm Phase: Phase				



Attenuation tank for hardstanding areas ground level

Type : Tank

Dimensions

Exceedance Level (m)	50.500
Depth (m)	1.200
Base Level (m)	49.300
Freeboard (mm)	0
Initial Depth (m)	0.000
Porosity (%)	95
Average Slope (1:X)	0.00
Total Volume (m³)	10.200

Depth (m)	Area (m²)	Volume (m³)
0.000	20.00	0.000
0.500	20.00	9.500

Outlets

Outlet

Outgoing Connection	Pipe (8)
Outlet Type	Free Discharge

Advanced

Perimeter	Circular
Length (m)	10.142

Project:	Date: 16/07/2025		
	Designed by: NoorAbed	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address:		





Permeable road

Type : Porous Paving

Dimensions

Exceedance Level (m)	50.500
Depth (m)	0.450
Base Level (m)	50.050
Paving Layer Depth (mm)	10
Membrane Percolation (m/hr)	1.0
Porosity (%)	30
Length (m)	20.000
Long. Slope (1:X)	1000.00
Width (m)	110.000
Total Volume (m³)	291.390

Under Drain

Height Above Base (m)	0.000
Diameter (mm)	300
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Outlets

Outlet

Outgoing Connection	Pipe (5)
Outlet Type	Free Discharge

Advanced

Conductivity (m/hr)	0.1
---------------------	-----

Project:	Date: 16/07/2025		
	Designed by: NoorAbed	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)
Blue roof 2	Blue roof 2 (highest level)		Time of Concentration	0.055	100	0	100	0.055
Blue roof A	Blue roof A (6th floor)		Time of Concentration	0.010	100	0	100	0.010
Blue roof B	Blue roof B (6th floor)		Time of Concentration	0.010	100	0	100	0.010
Catchment Area (1)	Permeable road		Time of Concentration	0.220	100	0	100	0.220
Ground floor external (675m2)	SWMH102		Time of Concentration	0.068	100	0	100	0.068
Impermeable roof catchment (north and south) 6th floor	Permeable road		Time of Concentration	0.035	100	0	100	0.035
Roofs 1	Blue roof 1 (highest level)		Time of Concentration	0.055	100	0	100	0.055
TOTAL		0.0		0.452				0.452

Project:	Date: 16/07/2025		
	Designed by: NoorAbed	Checked by:	Approved By:
Report Details: Type: Network Design Criteria Storm Phase: Phase		Company Address:	



Flow Options

Peak Flow Calculation	(UK) Modified Rational Method
Min. Time of Entry (mins)	5
Max. Travel Time (mins)	30

Pipe Options

Lock Slope Options	None
Design Options	Minimise Excavation
Design Level	Level Soffits
Min. Cover Depth (m)	1.200
Min. Slope (1:X)	500.00
Max. Slope (1:X)	40.00
Min. Velocity (m/s)	1.0
Max. Velocity (m/s)	3.0
Use Flow Restriction	☐
Reduce Channel Depths	☐

Pipe Size Library

Default

Add. Increment (mm)	75
Max. Diameter (mm)	0

Diameter (mm)	Min. Slope (1:X)	Max. Slope (1:X)
100	0.00	0.00
150	0.00	0.00

Project:	Date: 16/07/2025		
	Designed by: NoorAbed	Checked by:	Approved By:
Report Details: Type: Network Design Criteria Storm Phase: Phase	Company Address:		



Manhole Options

Apply Offset ☐

Manhole Size Library

Default

Diameter / Width

Connection (mm)	Diameter / Length (m)	Width (m)
0	1.200	0.000
375	1.350	0.000
500	1.500	0.000
750	1.800	0.000

Additional Sizing

Connection (mm)	900
Diameter / Length (m)	0.900
Width (m)	0.000

Depth

Depth (m)	Diameter / Length (m)	Width (m)
0.000	1.050	0.000
1.500	1.200	0.000

Access

Depth (m)	Ladder Protrusion (mm)
0.000	130
3.000	230

Benching Requirements

Landing Width (mm)	500
Benching Width (mm)	225

Project:	Date: 16/07/2025			
	Designed by: NoorAbed	Checked by:	Approved By:	
Report Details: Type: Outfall Details Storm Phase: Phase	Company Address:			

Outfalls

Outfall	Outfall Type	Gated	Fixed Surcharged Level (m)	Level Curve
SB6.4	Free Discharge			

Project:	Date: 16/07/2025			
	Designed by: NoorAbed	Checked by:	Approved By:	
Report Title: Rainfall Analysis Criteria	Company Address:			

Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Default
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Rainfall

FEH	Type: FEH	
Site Location	GB 470550 169950 SU 70550 69950	
Rainfall Version	2022	
Summer	☒	
Winter	☒	

Return Period

Return Period (years)	Increase Rainfall (%)
2.0	0.000
30.0	0.000
100.0	40.000

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: 16/07/2025		
	Designed by: NoorAbed	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address:		





FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Outflow

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
SWIC102	FEH: 2 years: +0 %: 15 mins: Winter	50.50 0	49.00 0	49.032	0.032	8.3	0.036	0.000	8.0	4.712	OK
SB6.2	FEH: 2 years: +0 %: 30 mins: Winter	50.50 0	47.70 5	49.029	1.324	6.9	1.498	0.000	3.3	6.521	Surcharged
SB6.4	FEH: 2 years: +0 %: 480 mins: Winter	50.50 0	47.56 7	47.598	0.032	3.3	0.000	0.000	3.3	97.416	OK
SWMH102	FEH: 2 years: +0 %: 15 mins: Winter	50.50 0	49.90 0	49.939	0.039	10.6	0.044	0.000	10.6	4.939	OK

Project:	Date: 16/07/2025		
	Designed by: NoorAbed	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address:		





FEH: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Outflow

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
SWIC102	FEH: 30 years: +0 %: 15 mins: Summer	50.50 0	49.00 0	49.484	0.484	22.4	0.548	0.000	17.3	7.705	Surcharged
SB6.2	FEH: 30 years: +0 %: 15 mins: Summer	50.50 0	47.70 5	49.484	1.779	17.3	2.012	0.000	3.3	4.551	Surcharged
SB6.4	FEH: 30 years: +0 %: 15 mins: Summer	50.50 0	47.56 7	47.598	0.032	3.3	0.000	0.000	3.3	4.479	OK
SWMH102	FEH: 30 years: +0 %: 15 mins: Winter	50.50 0	49.90 0	49.966	0.066	27.4	0.074	0.000	27.3	12.725	OK

Project:	Date: 16/07/2025			
	Designed by: NoorAbed	Checked by:	Approved By:	
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address:			



FEH: 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Outflow

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
SWIC102	FEH: 100 years: +40 %: 30 mins: Winter	50.50 0	49.00 0	50.283	1.283	21.2	1.451	0.000	10.0	22.137	Flood Risk
SB6.2	FEH: 100 years: +40 %: 15 mins: Summer	50.50 0	47.70 5	50.157	2.453	5.8	2.774	0.000	3.3	4.848	Surcharged
SB6.4	FEH: 100 years: +40 %: 240 mins: Winter	50.50 0	47.56 7	47.598	0.032	3.3	0.000	0.000	3.3	84.773	OK
SWMH102	FEH: 100 years: +40 %: 15 mins: Winter	50.50 0	49.90 0	50.226	0.326	49.7	0.369	0.000	49.3	22.703	Flood Risk

Project:	Date: 16/07/2025		
	Designed by: NoorAbed	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address:		





FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Resident Volume

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. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)	Percentage Available (%)	Status
Permeable road	FEH: 2 years: +0 %: 240 mins: Winter	50.164	50.077	0.094	0.027	10.1	42.091	0.000	6.3	56.816		85.555	OK
Blue roof 1 (highest level)	FEH: 2 years: +0 %: 240 mins: Winter	55.936	55.936	0.036	0.036	2.0	7.401	0.000	0.4	8.982		63.597	OK
Blue roof 2 (highest level)	FEH: 2 years: +0 %: 360 mins: Winter	55.929	55.929	0.029	0.029	1.5	8.540	0.000	0.3	9.792		70.906	OK
Blue roof A (6th floor)	FEH: 2 years: +0 %: 120 mins: Winter	53.916	53.916	0.016	0.016	0.5	0.978	0.000	0.1	1.224		84.163	OK
Blue roof B (6th floor)	FEH: 2 years: +0 %: 120 mins: Winter	53.916	53.916	0.016	0.016	0.5	0.981	0.000	0.1	1.218		84.106	OK
Attenuation tank for hardstanding areas ground level	FEH: 2 years: +0 %: 480 mins: Winter	50.085	50.085	0.785	0.785	3.6	9.778	0.000	1.9	23.034	200	4.138	OK

Project:	Date: 16/07/2025		
	Designed by: NoorAbed	Checked by:	Approved By:
	Company Address:		
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase			





FEH: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Resident Volume

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. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)	Percentage Available (%)	Status
Permeable road	FEH: 30 years: +0 %: 360 mins: Winter	50.246	50.245	0.176	0.195	20.1	122.288	0.000	9.9	105.900		58.033	OK
Blue roof 1 (highest level)	FEH: 30 years: +0 %: 60 mins: Winter	55.958	55.958	0.058	0.058	10.8	11.873	0.000	8.5	9.320	25	41.597	OK
Blue roof 2 (highest level)	FEH: 30 years: +0 %: 240 mins: Winter	55.953	55.953	0.053	0.053	4.1	15.569	0.000	2.3	17.845	40	46.964	OK
Blue roof A (6th floor)	FEH: 30 years: +0 %: 60 mins: Winter	53.933	53.933	0.033	0.033	1.9	2.007	0.000	0.3	2.078		67.497	OK
Blue roof B (6th floor)	FEH: 30 years: +0 %: 60 mins: Winter	53.933	53.933	0.033	0.033	1.9	2.011	0.000	0.3	2.069		67.430	OK
Attenuation tank for hardstanding areas ground level	FEH: 30 years: +0 %: 360 mins: Winter	50.245	50.245	0.945	0.945	9.1	9.930	0.000	5.6	25.996		2.650	OK

Project:	Date: 16/07/2025		
	Designed by: NoorAbed	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address:		





FEH: 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Resident Volume

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. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)	Percentage Available (%)	Status
Permeable road	FEH: 100 years: +40 %: 480 mins: Winter	50.473	50.473	0.403	0.423	29.7	272.439	0.000	8.8	133.371		6.504	OK
Blue roof 1 (highest level)	FEH: 100 years: +40 %: 30 mins: Winter	55.972	55.972	0.072	0.072	26.8	14.607	0.000	31.5	15.263	20	28.153	OK
Blue roof 2 (highest level)	FEH: 100 years: +40 %: 60 mins: Winter	55.967	55.967	0.067	0.067	19.9	19.613	0.000	22.9	18.572	40	33.186	OK
Blue roof A (6th floor)	FEH: 100 years: +40 %: 60 mins: Winter	53.953	53.953	0.053	0.053	3.4	3.255	0.000	2.0	4.254	10	47.281	OK
Blue roof B (6th floor)	FEH: 100 years: +40 %: 60 mins: Winter	53.953	53.953	0.053	0.053	3.4	3.257	0.000	2.0	4.246	10	47.263	OK
Attenuation tank for hardstanding areas ground level	FEH: 100 years: +40 %: 480 mins: Winter	50.472	50.472	1.172	1.172	8.1	10.146	0.000	5.0	51.434		0.530	OK

Project:	Date: 16/07/2025		
	Designed by:	Checked by:	Approved By:
	NoorAbed		
Report Details: Type: Connections Summary Storm Phase: Phase		Company Address:	





FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow

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 (3)	FEH: 2 years: +0 %: 15 mins: Winter	Pipe	SWIC102	SB6.2	50.500	49.032	0.300	4.712	0.8	0.03	8.0	OK
Pipe (4)	FEH: 2 years: +0 %: 480 mins: Winter	Pipe	SB6.2	SB6.4	50.500	50.084	0.032	97.416	0.8	0.02	3.3	Surcharged
Pipe (5)	FEH: 2 years: +0 %: 240 mins: Winter	Pipe	Permeable road	SWIC102	50.520	50.114	0.300	56.816	1.3	0.02	6.3	OK
Pipe	FEH: 2 years: +0 %: 240 mins: Winter	Pipe	Blue roof 1 (highest level)	Permeable road	56.000	55.936	0.052	8.971	0.2	0.03	0.7	OK
Pipe (1)	FEH: 2 years: +0 %: 360 mins: Winter	Pipe	Blue roof 2 (highest level)	Permeable road	56.000	55.929	0.049	9.780	0.2	0.02	0.5	OK
Pipe (6)	FEH: 2 years: +0 %: 120 mins: Winter	Pipe	Blue roof B (6th floor)	Permeable road	54.000	53.916	0.049	1.214	0.1	0.01	0.2	OK
Pipe (2)	FEH: 2 years: +0 %: 120 mins: Winter	Pipe	Blue roof A (6th floor)	Permeable road	54.000	53.916	0.049	1.220	0.1	0.01	0.2	OK
Pipe (7)	FEH: 2 years: +0 %: 15 mins: Winter	Pipe	SWMH102	Attenuation tank for hardstanding areas ground level	50.500	49.939	0.050	4.939	1.6	0.07	10.6	OK
Pipe (8)	FEH: 2 years: +0 %: 15 mins: Winter	Pipe	Attenuation tank for hardstanding areas ground level	SWIC102	50.500	49.362	0.047	4.751	1.4	0.14	8.3	OK

Project:	Date: 16/07/2025		
	Designed by:	Checked by:	Approved By:
	NoorAbed		
Report Details: Type: Connections Summary Storm Phase: Phase		Company Address:	





FEH: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow

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 (3)	FEH: 30 years: +0 %: 15 mins: Summer	Pipe	SWIC102	SB6.2	50.500	49.484	0.300	7.617	0.6	0.06	17.3	Surcharged
Pipe (4)	FEH: 30 years: +0 %: 15 mins: Summer	Pipe	SB6.2	SB6.4	50.500	49.484	0.032	4.479	0.8	0.02	3.3	Surcharged
Pipe (5)	FEH: 30 years: +0 %: 120 mins: Summer	Pipe	Permeable road	SWIC102	50.520	50.181	0.300	35.421	0.2	0.05	15.6	OK
Pipe	FEH: 30 years: +0 %: 60 mins: Winter	Pipe	Blue roof 1 (highest level)	Permeable road	56.000	55.958	0.096	9.292	0.6	0.19	5.0	OK
Pipe (1)	FEH: 30 years: +0 %: 240 mins: Winter	Pipe	Blue roof 2 (highest level)	Permeable road	56.000	55.953	0.091	17.824	0.3	0.08	1.9	OK
Pipe (6)	FEH: 30 years: +0 %: 60 mins: Winter	Pipe	Blue roof B (6th floor)	Permeable road	54.000	53.933	0.088	2.055	0.1	0.03	0.6	OK
Pipe (2)	FEH: 30 years: +0 %: 60 mins: Winter	Pipe	Blue roof A (6th floor)	Permeable road	54.000	53.933	0.087	2.067	0.1	0.02	0.6	OK
Pipe (7)	FEH: 30 years: +0 %: 15 mins: Winter	Pipe	SWMH102	Attenuation tank for hardstanding areas ground level	50.500	49.966	0.132	12.725	1.9	0.17	27.3	OK
Pipe (8)	FEH: 30 years: +0 %: 15 mins: Winter	Pipe	Attenuation tank for hardstanding areas ground level	SWIC102	50.500	49.541	0.225	8.627	1.2	0.41	25.4	Surcharged

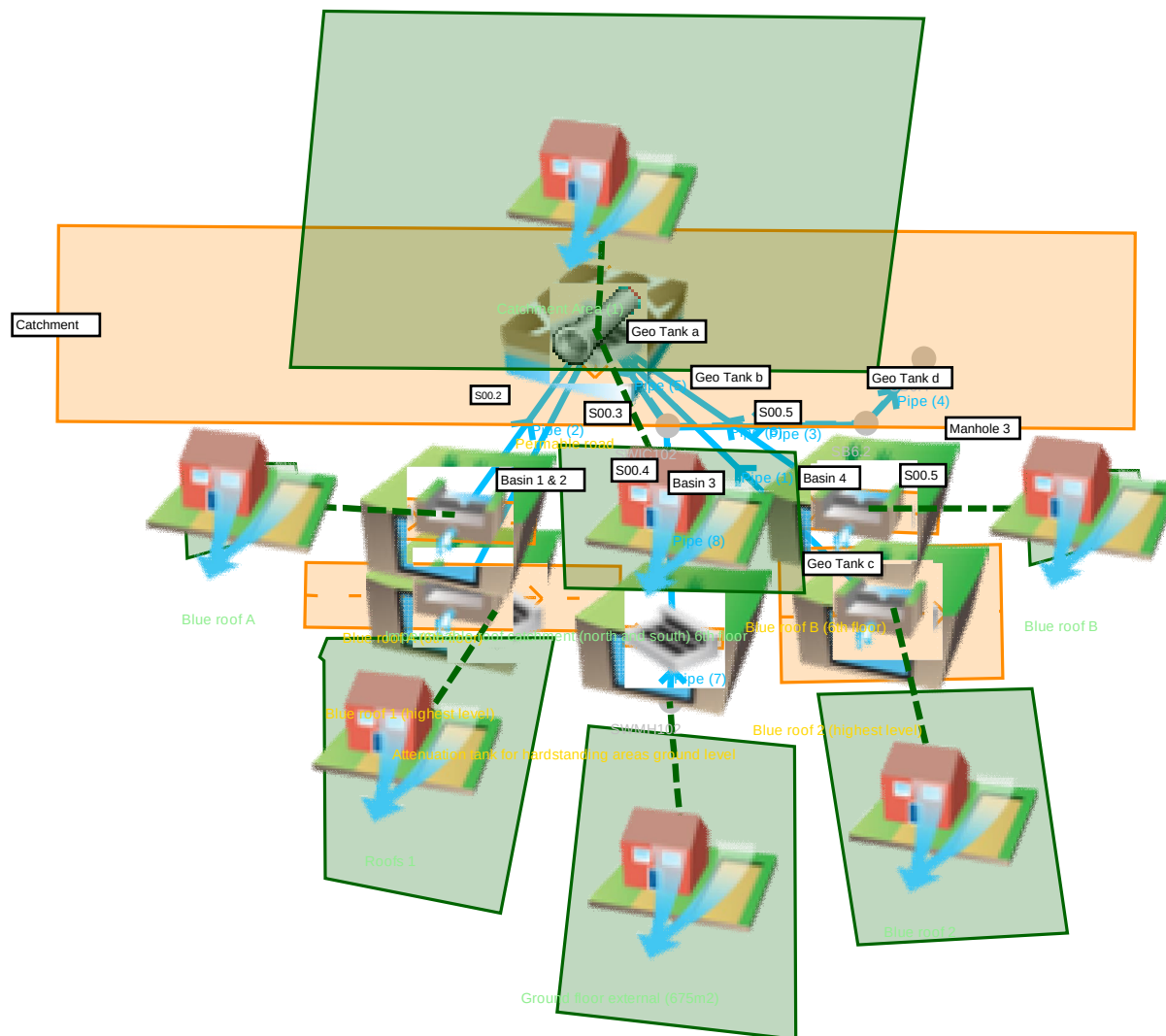
Project:	Date: 16/07/2025		
	Designed by:	Checked by:	Approved By:
	NoorAbed		
Report Details: Type: Connections Summary Storm Phase: Phase		Company Address:	





FEH: 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Flow

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 (3)	FEH: 100 years: +40 %: 30 mins: Winter	Pipe	SWIC102	SB6.2	50.500	50.283	0.300	14.408	0.6	0.04	10.0	Flood Risk
Pipe (4)	FEH: 100 years: +40 %: 240 mins: Winter	Pipe	SB6.2	SB6.4	50.500	50.452	0.032	84.773	0.8	0.02	3.3	Flood Risk
Pipe (5)	FEH: 100 years: +40 %: 240 mins: Winter	Pipe	Permeable road	SWIC102	50.520	50.443	0.300	51.830	0.7	0.04	14.2	Surcharged
Pipe	FEH: 100 years: +40 %: 30 mins: Winter	Pipe	Blue roof 1 (highest level)	Permeable road	56.000	55.972	0.100	15.233	2.1	0.61	16.4	OK
Pipe (1)	FEH: 100 years: +40 %: 60 mins: Winter	Pipe	Blue roof 2 (highest level)	Permeable road	56.000	55.967	0.100	18.537	1.5	0.52	12.0	OK
Pipe (6)	FEH: 100 years: +40 %: 60 mins: Winter	Pipe	Blue roof B (6th floor)	Permeable road	54.000	53.953	0.100	4.227	0.2	0.08	1.8	OK
Pipe (2)	FEH: 100 years: +40 %: 60 mins: Winter	Pipe	Blue roof A (6th floor)	Permeable road	54.000	53.953	0.100	4.238	0.2	0.07	1.8	OK
Pipe (7)	FEH: 100 years: +40 %: 15 mins: Winter	Pipe	SWMH102	Attenuation tank for hardstanding areas ground level	50.500	50.226	0.225	22.702	1.8	0.31	49.3	Flood Risk
Pipe (8)	FEH: 100 years: +40 %: 60 mins: Winter	Pipe	Attenuation tank for hardstanding areas ground level	SWIC102	50.500	50.354	0.225	27.409	1.4	0.39	24.1	Surcharged



	
Date: 16/07/2025 14:01:09	Designed by:
Checked by:	File: Block 6 model test.iddx
Plot Scale: 1:750	
InfoDrainage 2025.5.1	©2025 Autodesk, Inc. All rights reserved.

Royal Elm Park

Design Calculations
Network B: Sitewide

14096 - Proposed Surface Water Network
Rev P1

Date: 11/11/22

CRH Project No: 14096

Engineer: N. Abed

Checked: A. Higgins

Campbell Reith Hill LLP
15 Bermondsey Square
London
SE1 3UN

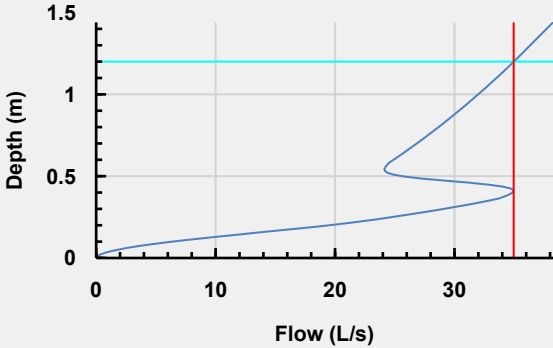
T: +44 (0)20 7340 1700
E: london@campbellreith.com
W: www.campbellreith.com

Project:	Date: 11/07/2025			
	Designed by: NoorAbed	Checked by:	Approved By:	
Report Details:	Company Address:			
Type: Junctions Storm Phase: Phase				

Name	Junction Type	Easting (m)	Northing (m)	Cover Level (m)	Depth (m)	Invert Level (m)	Chamber Shape	Diameter (m)
S00.3	Manhole	208279.683	601409.996	53.400	2.100	51.300	Circular	1.200
S00.5	Manhole	208306.214	601409.958	52.000	1.550	50.450	Circular	1.200
S00.7	Manhole	208329.295	601409.214	51.500	1.160	50.340	Circular	1.200
Manhole (3)	Manhole	208331.919	601409.244	51.794	1.912	49.881	Circular	1.200
S00.2	Manhole	208257.586	601413.360	53.400	0.900	52.500	Circular	1.200
S.004	Manhole	208286.500	601409.842	52.000	0.745	51.255	Circular	1.200

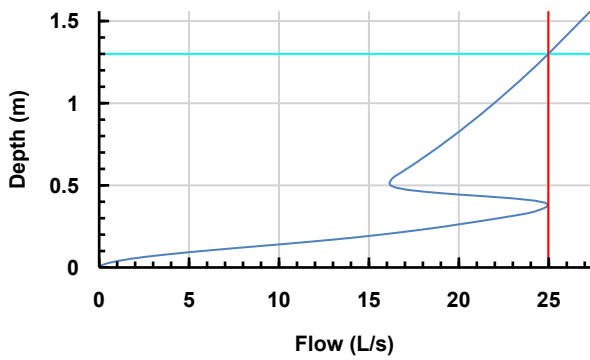
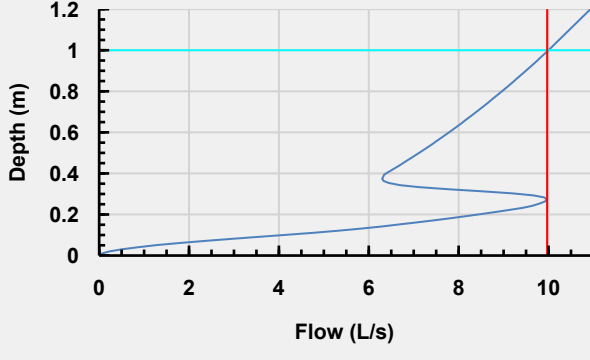
Name	Lock
S00.3	None
S00.5	None
S00.7	None
Manhole (3)	None
S00.2	None
S.004	None

Outlets

Junction	Outlet Name	Outgoing Connection	Outlet Type
S00.3	Outlet (2)	Pipe (9)	Hydro-Brake®
	Invert Level (m)	51.300	
	Design Depth (m)	1.200	
	Design Flow (L/s)	35.0	
	Objective	Minimise Upstream Storage Requirements	
	Application	Surface Water Only	
	Sump Available	☐	
	Unit Reference	CHE-0237-3500-1200-3500	
			
	Outlet	Pipe (2)	Hydro-Brake®

Project:	Date: 11/07/2025		
	Designed by: NoorAbed	Checked by:	Approved By:
Report Details: Type: Junctions Storm Phase: Phase	Company Address:		



Junction	Outlet Name	Outgoing Connection	Outlet Type	
S00.5	Invert Level (m)	50.450		
	Design Depth (m)	1.300		
	Design Flow (L/s)	25.0		
	Objective	Minimise Upstream Storage Requirements		
	Application	Surface Water Only		
	Sump Available	☐		
	Unit Reference	CHE-0202-2500-1300-2500		
				
	Outlet	Pipe (4)		Hydro-Brake®
	Invert Level (m)	50.340		
Design Depth (m)	1.000			
Design Flow (L/s)	10.0			
Objective	Minimise Upstream Storage Requirements			
Application	Surface Water Only			
Sump Available	☐			
Unit Reference	CHE-0138-1000-1000-1000			
				
S00.2	Outlet	Pipe (6)	Free Discharge	
S.004	Outlet (1)	Pipe (14)	Free Discharge	

Project:	Date: 11/07/2025			
	Designed by: NoorAbed	Checked by:	Approved By:	
Report Details:	Company Address:			
Type: Stormwater Controls Storm Phase: Phase				



Basin 3

Type : Tank

Dimensions			
Exceedance Level (m)		52.000	
Depth (m)		0.750	
Base Level (m)		51.250	
Freeboard (mm)		0	
Initial Depth (m)		0.000	
Porosity (%)		100	
Average Slope (1:X)		5.245	
Total Volume (m³)		63.298	
Depth (m)		Area (m²)	Volume (m³)
	0.000	30.00	0.000
	0.750	155.00	63.298

Outlets	
Outlet (1)	
Outgoing Connection	Pipe (1)
Outlet Type	Free Discharge

Advanced	
Perimeter	Circular
Length (m)	13.365

Project:	Date: 11/07/2025			
	Designed by: NoorAbed	Checked by:	Approved By:	
Report Details:	Company Address:			
Type: Stormwater Controls Storm Phase: Phase				



Basin 4

Type : Tank

Dimensions

Exceedance Level (m)	52.000
Depth (m)	0.750
Base Level (m)	51.250
Freeboard (mm)	0
Initial Depth (m)	0.000
Porosity (%)	100
Average Slope (1:X)	7.549
Total Volume (m³)	261.161

Depth (m)	Area (m²)	Volume (m³)
0.000	180.00	0.000
0.750	550.00	261.161

Outlets

Outlet

Outgoing Connection	Pipe (3)
Outlet Type	Free Discharge

Outlet (1)

Outgoing Connection	Pipe (15)
Outlet Type	Free Discharge

Advanced

Perimeter	Circular
Length (m)	19.962

Project:	Date: 11/07/2025			
	Designed by: NoorAbed	Checked by:	Approved By:	
Report Details:	Company Address:			
Type: Stormwater Controls Storm Phase: Phase				



Basin 1&2

Type : Tank

Dimensions

Exceedance Level (m)	53.400
Depth (m)	1.000
Base Level (m)	52.400
Freeboard (mm)	0
Initial Depth (m)	0.000
Porosity (%)	100
Average Slope (1:X)	0.00
Total Volume (m³)	520.000

Depth (m)	Area (m²)	Volume (m³)
0.000	520.00	0.000
1.000	520.00	520.000

Outlets

Outlet

Outgoing Connection	Pipe (5)
Outlet Type	Free Discharge

Advanced

Perimeter	Circular
Length (m)	16.473



Geo tank b

Type : Tank

Dimensions

Exceedance Level (m)	52.000
Depth (m)	1.500
Base Level (m)	50.500
Freeboard (mm)	0
Initial Depth (m)	0.000
Porosity (%)	95
Average Slope (1:X)	0.00
Total Volume (m³)	36.625

Depth (m)	Area (m²)	Volume (m³)
0.000	75.00	0.000
0.500	75.00	35.625

Outlets

Outlet

Outgoing Connection	Pipe (12)
Outlet Type	Free Discharge

Advanced

Perimeter	Circular
Length (m)	6.128

Project:	Date: 11/07/2025			
	Designed by: NoorAbed	Checked by:	Approved By:	
Report Details:	Company Address:			
Type: Stormwater Controls Storm Phase: Phase				



Geo tank d

Type : Tank

Dimensions

Exceedance Level (m)	52.000
Depth (m)	1.650
Base Level (m)	50.350
Freeboard (mm)	0
Initial Depth (m)	0.000
Porosity (%)	95
Average Slope (1:X)	0.00
Total Volume (m³)	217.125

Depth (m)	Area (m²)	Volume (m³)
0.000	350.00	0.000
0.650	350.00	216.125

Outlets

Outlet

Outgoing Connection	Pipe (7)
Outlet Type	Free Discharge

Advanced

Perimeter	Circular
Length (m)	6.505



Geo tank a

Type : Tank

Dimensions

Exceedance Level (m)	52.500
Depth (m)	1.240
Base Level (m)	51.260
Freeboard (mm)	0
Initial Depth (m)	0.000
Porosity (%)	95
Average Slope (1:X)	0.00
Total Volume (m³)	62.490

Depth (m)	Area (m²)	Volume (m³)
0.000	130.00	0.000
0.500	130.00	61.750

Outlets

Outlet (1)

Outgoing Connection	Pipe
Outlet Type	Free Discharge

Advanced

Perimeter	Circular
Length (m)	3.140

Project:	Date: 11/07/2025			
	Designed by: NoorAbed	Checked by:	Approved By:	
Report Details:	Company Address:			
Type: Stormwater Controls Storm Phase: Phase				



Geo tank c

Type : Tank

Dimensions

Exceedance Level (m)	52.500
Depth (m)	2.100
Base Level (m)	50.400
Freeboard (mm)	0
Initial Depth (m)	0.000
Porosity (%)	95
Average Slope (1:X)	0.00
Total Volume (m³)	148.350

Depth (m)	Area (m²)	Volume (m³)
0.000	155.00	0.000
1.000	155.00	147.250

Outlets

Outlet

Outgoing Connection	Pipe (10)
Outlet Type	Free Discharge

Advanced

Perimeter	Circular
Length (m)	2.612

Project:	Date: 11/07/2025		
	Designed by: NoorAbed	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)
Upstream area	S00.2		Time of Concentration	0.80	100	0	100	0.80
TOTAL		0.0		0.80				0.80

Project:	Date: 11/07/2025		
	Designed by: NoorAbed	Checked by:	Approved By:
Report Details: Type: Network Design Criteria Storm Phase: Phase		Company Address:	



Flow Options

Peak Flow Calculation	(UK) Modified Rational Method
Min. Time of Entry (mins)	5
Max. Travel Time (mins)	30

Pipe Options

Lock Slope Options	None
Design Options	Minimise Excavation
Design Level	Level Soffits
Min. Cover Depth (m)	1.200
Min. Slope (1:X)	500.00
Max. Slope (1:X)	40.00
Min. Velocity (m/s)	1.0
Max. Velocity (m/s)	3.0
Use Flow Restriction	☐
Reduce Channel Depths	☐

Pipe Size Library

Default

Add. Increment (mm)	75
Max. Diameter (mm)	0

Diameter (mm)	Min. Slope (1:X)	Max. Slope (1:X)
100	0.00	0.00
150	0.00	0.00

Project:	Date: 11/07/2025		
	Designed by: NoorAbed	Checked by:	Approved By:
Report Details: Type: Network Design Criteria Storm Phase: Phase	Company Address:		



Manhole Options

Apply Offset ☐

Manhole Size Library

Default

Diameter / Width

Connection (mm)	Diameter / Length (m)	Width (m)
0	1.200	0.000
375	1.350	0.000
500	1.500	0.000
750	1.800	0.000

Additional Sizing

Connection (mm)	900
Diameter / Length (m)	0.900
Width (m)	0.000

Depth

Depth (m)	Diameter / Length (m)	Width (m)
0.000	1.050	0.000
1.500	1.200	0.000

Access

Depth (m)	Ladder Protrusion (mm)
0.000	130
3.000	230

Benching Requirements

Landing Width (mm)	500
Benching Width (mm)	225

Project:	Date: 11/07/2025			
	Designed by: NoorAbed	Checked by:	Approved By:	
Report Details: Type: Outfall Details Storm Phase: Phase	Company Address:			

Outfalls

Outfall	Outfall Type	Gated	Fixed Surcharged Level (m)	Level Curve
Manhole (3)	Free Discharge			

Project:	Date: 11/07/2025			
	Designed by: NoorAbed	Checked by:	Approved By:	
Report Title: Rainfall Analysis Criteria	Company Address:			

Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Default
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Rainfall		
FEH		Type: FEH
Site Location	GB 470550 169950 SU 70550 69950	
Rainfall Version	2022	
Summer	☒	
Winter	☒	

Return Period

Return Period (years)	Increase Rainfall (%)
2.0	0.000
30.0	0.000
100.0	40.000

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: 11/07/2025		
	Designed by: NoorAbed	Checked by:	Approved By:
	Company Address:		
Report Details: Type: Junctions Summary Storm Phase: Phase			





FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Outflow

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
S00.3	FEH: 2 years: +0 %: 240 mins: Summer	53.40 0	51.30 0	51.850	0.550	34.7	0.622	0.000	34.9	146.360	Surcharged
S00.5	FEH: 2 years: +0 %: 120 mins: Winter	52.00 0	50.45 0	50.877	0.427	32.2	0.483	0.000	23.0	127.335	OK
S00.7	FEH: 2 years: +0 %: 480 mins: Winter	51.50 0	50.34 0	50.538	0.198	14.3	0.224	0.000	7.5	233.221	OK
Manhole (3)	FEH: 2 years: +0 %: 480 mins: Winter	51.79 4	49.88 1	49.905	0.024	7.5	0.000	0.000	7.5	170.790	OK
S00.2	FEH: 2 years: +0 %: 15 mins: Winter	53.40 0	52.50 0	52.685	0.185	126.5	0.210	0.000	125.9	58.485	OK
S.004	FEH: 2 years: +0 %: 240 mins: Summer	52.00 0	51.25 5	51.411	0.156	33.2	0.177	0.000	33.3	138.235	OK

Project:	Date: 11/07/2025		
	Designed by: NoorAbed	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Address:		





FEH: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Outflow

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
S00.3	FEH: 30 years: +0 %: 60 mins: Winter	53.400	51.300	52.690	1.390	35.6	1.572	0.000	35.6	209.842	Surcharged
S00.5	FEH: 30 years: +0 %: 240 mins: Summer	52.000	50.450	51.612	1.162	34.0	1.314	0.000	24.9	317.188	Surcharged
S00.7	FEH: 30 years: +0 %: 360 mins: Winter	51.500	50.340	50.789	0.449	20.5	0.508	0.000	10.0	416.062	OK
Manhole (3)	FEH: 30 years: +0 %: 960 mins: Winter	51.794	49.881	49.909	0.027	10.0	0.000	0.000	10.0	407.850	OK
S00.2	FEH: 30 years: +0 %: 15 mins: Winter	53.400	52.500	52.825	0.325	325.9	0.367	0.000	324.5	150.594	OK
S.004	FEH: 30 years: +0 %: 60 mins: Winter	52.000	51.255	51.570	0.315	35.5	0.356	0.000	35.6	170.062	OK

Project:	Date: 11/07/2025		
	Designed by:	Checked by:	Approved By:
	NoorAbed		
Report Details: Type: Junctions Summary Storm Phase: Phase		Company Address:	





FEH: 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Outflow

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
S00.3	FEH: 100 years: +40 %: 30 mins: Summer	53.400	51.300	52.896	1.596	40.2	1.805	0.000	38.3	115.486	Surcharged
S00.5	FEH: 100 years: +40 %: 60 mins: Winter	52.000	50.450	51.664	1.214	38.3	1.373	0.000	25.0	158.943	Surcharged
S00.7	FEH: 100 years: +40 %: 1440 mins: Winter	51.500	50.340	51.091	0.751	17.9	0.849	0.000	10.0	987.239	Surcharged
Manhole (3)	FEH: 100 years: +40 %: 1440 mins: Winter	51.794	49.881	49.909	0.027	10.0	0.000	0.000	10.0	770.738	OK
S00.2	FEH: 100 years: +40 %: 15 mins: Winter	53.400	52.500	53.151	0.651	590.5	0.736	0.000	581.8	272.082	Flood Risk
S.004	FEH: 100 years: +40 %: 30 mins: Winter	52.000	51.255	51.420	0.165	38.3	0.186	0.000	38.3	95.327	OK

Project:	Date: 11/07/2025		
	Designed by: NoorAbed	Checked by:	Approved By:
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Address:		





FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Resident Volume

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. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)	Percentage Available (%)	Status
Basin 3	FEH: 2 years: +0 %: 240 mins: Summer	51.376	51.376	0.126	0.126	33.3	4.642	0.000	33.4	135.720		92.667	OK
Basin 4	FEH: 2 years: +0 %: 15 mins: Summer	51.250	51.250	0.000	0.000	0.0	0.000	0.000	0.0	0.000		100.000	OK
Basin 1&2	FEH: 2 years: +0 %: 30 mins: Winter	52.482	52.482	0.082	0.082	81.7	42.460	0.000	32.9	65.623		91.835	OK
Geo tank b	FEH: 2 years: +0 %: 120 mins: Winter	50.877	50.877	0.377	0.377	14.9	26.872	0.000	6.9	12.458	25	26.630	OK
Geo tank d	FEH: 2 years: +0 %: 480 mins: Winter	50.538	50.538	0.188	0.188	10.1	62.392	0.000	2.7	53.020		71.265	OK
Geo tank a	FEH: 2 years: +0 %: 240 mins: Summer	51.428	51.428	0.168	0.168	34.9	20.807	0.000	33.2	138.392		66.704	OK
Geo tank c	FEH: 2 years: +0 %: 480 mins: Winter	50.540	50.540	0.140	0.140	14.6	20.542	0.000	14.3	180.326		86.153	OK

Project:	Date: 11/07/2025		
	Designed by:	Checked by:	Approved By:
	NoorAbed		
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Company Address:	





FEH: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Resident Volume

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. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)	Percentage Available (%)	Status
Basin 3	FEH: 30 years: +0 %: 240 mins: Winter	51.673	51.673	0.423	0.423	33.6	23.964	0.000	33.5	332.973		62.141	OK
Basin 4	FEH: 30 years: +0 %: 15 mins: Summer	51.250	51.250	0.000	0.000	0.0	0.000	0.000	0.0	0.000		100.000	OK
Basin 1&2	FEH: 30 years: +0 %: 60 mins: Winter	52.693	52.693	0.293	0.293	157.2	152.213	0.000	35.6	212.337		70.728	OK
Geo tank b	FEH: 30 years: +0 %: 240 mins: Winter	51.672	51.672	1.172	1.172	14.8	36.289	0.000	10.3	21.306	180	0.918	OK
Geo tank d	FEH: 30 years: +0 %: 360 mins: Winter	50.789	50.789	0.439	0.439	14.2	146.067	0.000	6.5	88.355	190	32.727	OK
Geo tank a	FEH: 30 years: +0 %: 240 mins: Winter	51.675	51.675	0.415	0.415	33.7	51.199	0.000	33.6	335.644	35	18.069	OK
Geo tank c	FEH: 30 years: +0 %: 360 mins: Winter	50.789	50.789	0.389	0.389	24.8	57.342	0.000	20.5	328.699		61.347	OK

Project:	Date: 11/07/2025		
	Designed by:	Checked by:	Approved By:
	NoorAbed		
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Company Address:	





FEH: 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Resident Volume

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. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)	Percentage Available (%)	Status
Basin 3	FEH: 100 years: +40 %: 360 mins: Winter	52.005	52.005	0.755	0.755	33.3	64.111	0.813	33.2	642.183	50	-1.285	Flood
Basin 4	FEH: 100 years: +40 %: 480 mins: Winter	51.343	51.343	0.093	0.093	8.2	18.265	0.000	3.4	18.222		93.006	OK
Basin 1&2	FEH: 100 years: +40 %: 60 mins: Winter	53.045	53.045	0.645	0.645	289.4	335.168	0.000	38.6	241.405	35	35.545	OK
Geo tank b	FEH: 100 years: +40 %: 360 mins: Winter	52.004	52.004	1.504	1.504	14.9	36.844	0.243	2.6	2.373		-0.598	Flood
Geo tank d	FEH: 100 years: +40 %: 480 mins: Winter	51.343	51.343	0.993	0.993	12.5	216.567	0.000	6.2	69.800		0.257	OK
Geo tank a	FEH: 100 years: +40 %: 360 mins: Winter	52.020	52.020	0.760	0.760	40.7	62.041	0.000	43.5	644.779	105	0.719	OK
Geo tank c	FEH: 100 years: +40 %: 480 mins: Winter	51.343	51.343	0.943	0.943	63.9	138.842	0.000	20.5	579.515	290	6.409	OK

Project:	Date: 11/07/2025		
	Designed by: NoorAbed	Checked by:	Approved By:
Report Details: Type: Connections Summary Storm Phase: Phase	Company Address:		





FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow

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 (3)	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	Basin 4	S00.7	52.000	51.250	0.051	0.000	0.0	0	0.0	OK
Pipe (4)	FEH: 2 years: +0 %: 480 mins: Winter	Pipe	S00.7	Manhole (3)	51.500	50.538	0.025	170.790	2.2	0.01	7.5	OK
Pipe (5)	FEH: 2 years: +0 %: 120 mins: Winter	Pipe	Basin 1&2	S00.3	53.400	52.463	0.450	126.432	0.4	0.03	35.7	OK
Pipe (6)	FEH: 2 years: +0 %: 15 mins: Winter	Pipe	S00.2	Basin 1&2	53.400	52.685	0.117	58.485	3.8	0.29	125.9	OK
Pipe (10)	FEH: 2 years: +0 %: 120 mins: Winter	Pipe	Geo tank c	S00.7	52.500	50.513	0.134	91.828	0.7	0.12	22.3	OK
Pipe (15)	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	Basin 4	Geo tank d	52.000	51.250	0.000	0.000	0.0	0	0.0	OK
Pipe (14)	FEH: 2 years: +0 %: 240 mins: Summer	Pipe	S.004	Basin 3	52.000	51.411	0.141	138.235	0.8	0.41	33.3	OK
Pipe (1)	FEH: 2 years: +0 %: 240 mins: Summer	Pipe	Basin 3	S00.5	52.000	51.376	0.208	135.720	0.5	0.04	33.4	OK
Pipe (9)	FEH: 2 years: +0 %: 240 mins: Summer	Pipe	S00.3	Geo tank a	53.400	51.850	0.154	146.317	0.9	0.09	34.9	Surcharged
Pipe (12)	FEH: 2 years: +0 %: 120 mins: Winter	Pipe	Geo tank b	S00.5	52.000	50.877	0.302	0.000	0.1	0.02	6.9	OK
Pipe	FEH: 2 years: +0 %: 240 mins: Summer	Pipe	Geo tank a	S.004	52.500	51.428	0.162	138.392	0.6	0.25	33.2	OK
Pipe (2)	FEH: 2 years: +0 %: 120 mins: Winter	Pipe	S00.5	Geo tank c	52.000	50.877	0.112	100.461	1.4	0.12	23.0	OK
Pipe (7)	FEH: 2 years: +0 %: 240 mins: Winter	Pipe	Geo tank d	S00.7	52.000	50.529	0.184	0.000	0.1	0.03	3.3	OK

Project:	Date: 11/07/2025		
	Designed by: NoorAbed	Checked by:	Approved By:
Report Details: Type: Connections Summary Storm Phase: Phase	Company Address:		



FEH: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow

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 (3)	FEH: 30 years: +0 %: 15 mins: Summer	Pipe	Basin 4	S00.7	52.000	51.250	0.059	0.000	0.0	0	0.0	OK
Pipe (4)	FEH: 30 years: +0 %: 960 mins: Winter	Pipe	S00.7	Manhole (3)	51.500	50.666	0.028	407.850	2.4	0.01	10.0	OK
Pipe (5)	FEH: 30 years: +0 %: 60 mins: Summer	Pipe	Basin 1&2	S00.3	53.400	52.655	0.450	202.190	0.5	0.04	42.3	OK
Pipe (6)	FEH: 30 years: +0 %: 15 mins: Winter	Pipe	S00.2	Basin 1&2	53.400	52.825	0.224	150.557	4.1	0.76	324.5	OK
Pipe (10)	FEH: 30 years: +0 %: 60 mins: Winter	Pipe	Geo tank c	S00.7	52.500	50.548	0.174	91.920	0.7	0.13	24.2	OK
Pipe (15)	FEH: 30 years: +0 %: 15 mins: Summer	Pipe	Basin 4	Geo tank d	52.000	51.250	0.001	0.000	0.0	0	0.0	OK
Pipe (14)	FEH: 30 years: +0 %: 60 mins: Winter	Pipe	S.004	Basin 3	52.000	51.570	0.317	170.062	0.8	0.44	35.6	OK
Pipe (1)	FEH: 30 years: +0 %: 60 mins: Winter	Pipe	Basin 3	S00.5	52.000	51.568	0.450	154.422	1.0	0.04	35.6	OK
Pipe (9)	FEH: 30 years: +0 %: 60 mins: Winter	Pipe	S00.3	Geo tank a	53.400	52.690	0.293	209.520	1.8	0.09	35.6	Surcharged
Pipe (12)	FEH: 30 years: +0 %: 120 mins: Summer	Pipe	Geo tank b	S00.5	52.000	51.598	0.450	0.000	0.1	0.04	17.4	Surcharged
Pipe	FEH: 30 years: +0 %: 60 mins: Winter	Pipe	Geo tank a	S.004	52.500	51.572	0.313	171.035	0.7	0.27	35.5	OK
Pipe (2)	FEH: 30 years: +0 %: 360 mins: Summer	Pipe	S00.5	Geo tank c	52.000	51.581	0.303	307.477	1.0	0.13	26.2	Surcharged
Pipe (7)	FEH: 30 years: +0 %: 360 mins: Winter	Pipe	Geo tank d	S00.7	52.000	50.789	0.444	0.000	0.1	0.05	6.5	OK

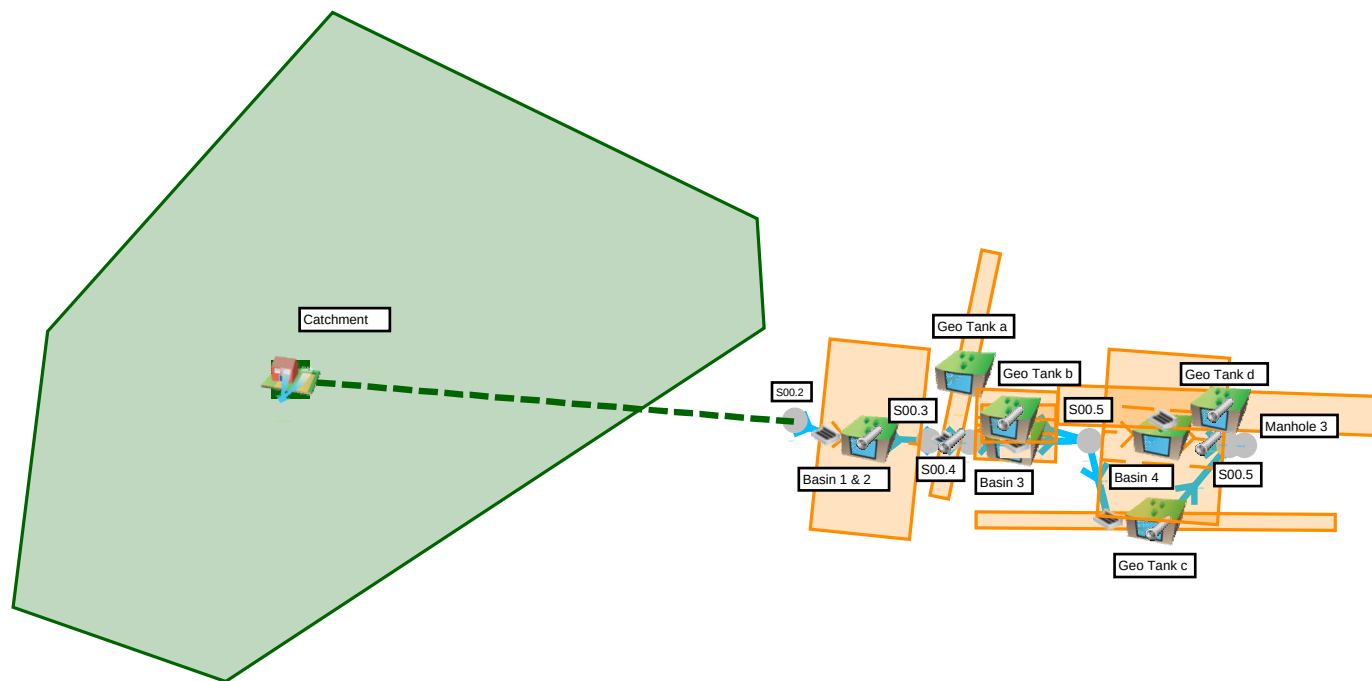
Project:	Date: 11/07/2025		
	Designed by: NoorAbed	Checked by:	Approved By:
Report Details: Type: Connections Summary Storm Phase: Phase	Company Address:		





FEH: 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Flow

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 (3)	FEH: 100 years: +40 %: 480 mins: Winter	Pipe	Basin 4	S00.7	52.000	51.343	0.450	0.443	0.0	0	1.7	OK
Pipe (4)	FEH: 100 years: +40 %: 1440 mins: Winter	Pipe	S00.7	Manhole (3)	51.500	51.091	0.028	770.738	2.4	0.01	10.0	Surcharged
Pipe (5)	FEH: 100 years: +40 %: 360 mins: Winter	Pipe	Basin 1&2	S00.3	53.400	52.797	0.450	652.806	0.4	0.05	60.0	OK
Pipe (6)	FEH: 100 years: +40 %: 15 mins: Winter	Pipe	S00.2	Basin 1&2	53.400	53.151	0.442	272.066	4.4	1.36	581.8	Flood Risk
Pipe (10)	FEH: 100 years: +40 %: 30 mins: Winter	Pipe	Geo tank c	S00.7	52.500	50.520	0.136	32.947	0.7	0.13	24.9	OK
Pipe (15)	FEH: 100 years: +40 %: 480 mins: Winter	Pipe	Basin 4	Geo tank d	52.000	51.343	0.450	0.000	0.0	0	1.7	OK
Pipe (14)	FEH: 100 years: +40 %: 30 mins: Winter	Pipe	S.004	Basin 3	52.000	51.420	0.151	95.327	0.9	0.47	38.3	OK
Pipe (1)	FEH: 100 years: +40 %: 30 mins: Winter	Pipe	Basin 3	S00.5	52.000	51.388	0.450	90.130	0.6	0.04	38.3	OK
Pipe (9)	FEH: 100 years: +40 %: 480 mins: Winter	Pipe	S00.3	Geo tank a	53.400	52.702	0.450	683.760	1.2	0.11	42.3	Surcharged
Pipe (12)	FEH: 100 years: +40 %: 1440 mins: Summer	Pipe	Geo tank b	S00.5	52.000	51.594	0.450	0.000	0.0	0.01	2.8	Surcharged
Pipe	FEH: 100 years: +40 %: 480 mins: Winter	Pipe	Geo tank a	S.004	52.500	52.018	0.450	675.988	0.6	0.34	45.8	Surcharged
Pipe (2)	FEH: 100 years: +40 %: 480 mins: Winter	Pipe	S00.5	Geo tank c	52.000	52.004	0.450	642.733	1.1	0.32	63.9	Flood
Pipe (7)	FEH: 100 years: +40 %: 480 mins: Summer	Pipe	Geo tank d	S00.7	52.000	51.249	0.450	0.000	0.1	0.07	8.9	Surcharged



I DRN
Date: 11/07/2025 13:33:05
Designed by:
Checked by:
File: Basin 3 and 4 new test.iddx
Plot Scale: 1:1250
InfoDrainage 2025.5.1
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Emma Thomas

Stantec
11 Prospect Court
Courteenhall Road
Blisworth, Northamptonshire
NN7 3DG



13 August 2025

Pre-planning enquiry: Confirmation of sufficient capacity (Foul Only)

Site Address: Royal Elm Park, Boot End / Northern Way, Reading RG2 0FL

Dear Emma,

Thank you for providing information on your development.

Block 6 only, part of whole masterplan

Proposed 6 General Housing, 80 Flats Proposed foul water discharge via pumped at 3.9 l/s info FWMH SU70708101

No info on surface water discharge. To follow surface water hierarchy as watercourse nearby

We have completed the assessment of the foul water flows based on the information submitted in your application with the purpose of assessing sewerage capacity within the existing Thames Water sewer network.

Foul Water

If your proposals progress in line with the details you've provided, we're pleased to confirm that there will be sufficient sewerage capacity in the adjacent foul water sewer network to serve your development.

This confirmation is valid for 12 months or for the life of any planning approval that this information is used to support, to a maximum of three years.

You'll need to keep us informed of any changes to your design – for example, an increase in the number or density of homes. Such changes could mean there is no longer sufficient capacity.

Surface Water

In accordance with the Building Act 2000 Clause H3.3, positive connection of surface water to a public sewer will only be consented when it can be demonstrated that the hierarchy of disposal methods have been examined and proven to be impracticable. Before we can consider your surface water needs, you'll need written approval from the lead local flood authority that you have followed the sequential approach to the disposal of surface water and considered all practical means.



The disposal hierarchy being:

1. rainwater use as a resource (for example rainwater harvesting, blue roofs for irrigation)
2. rainwater infiltration to ground at or close to source
3. rainwater attenuation in green infrastructure features for gradual release (for example green roofs, rain gardens)
4. rainwater discharge direct to a watercourse (unless not appropriate)
5. controlled rainwater discharge to a surface water sewer or drain
6. controlled rainwater discharge to a combined sewer

Where connection to the public sewerage network is still required to manage surface water flows, we will accept these flows at a discharge rate in line with CIRIA's best practice guide on SuDS or that stated within the sites planning approval.

Capacity at STW?

The receiving network is served by Reading STW and there is a known performance issue which may cause the EA to object to the development. A more detailed assessment will be carried out when the LPA consult our Development Control team, and we may require a planning condition to allow us time to upgrade the STW. We understand that the works are programmed for completion by 2028. Please visit our [website](#) for updates on the site specific upgrades.

Please see our [FAQ's leaflet](#) for additional information.

What happens next?

Please make sure you submit your connection application, giving us at least 21 days' notice of the date you wish to make your new connection/s.

If you have any further questions, please contact me on 0774 764 6498.

Kind Regards,

A handwritten signature in black ink that reads "Long Tran".

Long Tran
Developer Services – Adoptions Engineer, Sewer Adoptions Team
Tel: 0800 009 3921

Get advice on making your sewer connection correctly at connectright.org.uk

Clearwater Court, Vastern Road, Reading, RG1 8DB

Find us online at developers.thameswater.co.uk

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