

ECMWF: Proposed SW Drainage Network Car Park Catchment				Date: 16/09/2024								
				Designed by:	Checked by:	Approved By:						
				LJ	SR	JT						
Report Details: Type: Connections Summary Storm Phase: Catchment 1 (Car Park)				Company: BDP								

S2.000	Design Criteria FSR: 100 years: +40 %: 15 mins: Summer	Pipe	Simple Junction	Simple Junction (1)	66.777	66.097	0.225	0.345	0.3	0.08	2.8	Surcharged
S2.001	Design Criteria FSR: 100 years: +40 %: 15 mins: Winter	Pipe	Simple Junction (1)	Simple Junction (2)	66.843	66.125	0.225	2.218	0.7	0.41	15.2	Surcharged
S2.002	Design Criteria FSR: 100 years: +40 %: 15 mins: Winter	Pipe	Simple Junction (2)	SW.30	66.832	66.135	0.225	2.648	0.7	0.14	17.0	Surcharged
Pipe (8)	Design Criteria FSR: 100 years: +40 %: 600 mins: Winter	Pipe	PP6.1	Simple Junction (2)	66.832	66.256	0.150	2.540	0.7	0.08	8.1	Surcharged
S1.000	Design Criteria FSR: 100 years: +40 %: 15 mins: Winter	Pipe	Simple Junction (4)	SW.27	66.498	66.144	0.225	0.616	0.4	0.11	4.0	Surcharged
Pipe (11)	Design Criteria FSR: 100 years: +40 %: 15 mins: Winter	Pipe	PP1	Simple Junction (4)	66.498	66.143	0.150	1.112	0.6	0.05	4.0	Surcharged
S1.001	Design Criteria FSR: 100 years: +40 %: 30 mins: Winter	Pipe	SW.27	Simple Junction (3)	66.528	66.201	0.225	0.865	0.4	0.07	2.6	Surcharged
Pipe (12)	Design Criteria FSR: 100 years: +40 %: 15 mins: Winter	Pipe	PP2	Simple Junction (3)	66.574	66.135	0.150	0.736	0.8	0.06	5.6	OK
S1.002	Design Criteria FSR: 100 years: +40 %: 30 mins: Winter	Pipe	Simple Junction (3)	Simple Junction (5)	66.581	66.201	0.225	1.005	0.4	0.17	6.0	Surcharged
S1.004	Design Criteria FSR: 100 years: +40 %: 30 mins: Summer	Pipe	SW.28	Simple Junction (6)	66.719	66.179	0.225	1.696	0.5	0.28	10.4	Surcharged
S1.005	Design Criteria FSR: 100 years: +40 %: 15 mins: Winter	Pipe	Simple Junction (6)	Simple Junction (7)	66.729	66.154	0.225	1.552	0.3	0.28	10.1	Surcharged
Pipe (14)	Design Criteria FSR: 100 years: +40 %: 600 mins: Winter	Pipe	PP4.1	Simple Junction (6)	66.724	66.258	0.150	12.175	0.3	0.05	5.4	Surcharged
Pipe (15)	Design Criteria FSR: 100 years: +40 %: 15 mins: Winter	Pipe	PP4.2	Simple Junction (7)	66.744	66.163	0.150	2.673	0.6	0.04	5.2	Surcharged
S1.006	Design Criteria FSR: 100 years: +40 %: 15 mins: Winter	Pipe	Simple Junction (7)	Simple Junction (8)	66.742	66.155	0.225	1.829	0.3	0.37	13.5	Surcharged

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S1.007	Design Criteria FSR: 100 years: +40 %: 15 mins: Winter	Pipe	Simple Junction (8)	Simple Junction (9)	66.860	66.160	0.225	1.529	0.3	0.35	12.8	Surcharged
S1.008	Design Criteria FSR: 100 years: +40 %: 15 mins: Winter	Pipe	Simple Junction (9)	SW.29	66.882	66.169	0.225	2.045	0.4	0.49	17.8	Surcharged
Pipe (16)	Design Criteria FSR: 100 years: +40 %: 15 mins: Winter	Pipe	PP5.1	Simple Junction (8)	66.862	66.164	0.150	0.423	0.4	0.03	3.7	Surcharged
Pipe (17)	Design Criteria FSR: 100 years: +40 %: 15 mins: Winter	Pipe	PP5.2	Simple Junction (9)	66.879	66.181	0.150	6.028	0.8	0.06	7.3	Surcharged
6.000	Design Criteria FSR: 100 years: +40 %: 15 mins: Winter	Pipe	PP.8	Simple Junction (10)	66.868	66.105	0.150	6.236	2.0	0.06	6.5	OK
S3.000	Design Criteria FSR: 100 years: +40 %: 15 mins: Summer	Pipe	Simple Junction (10)	SW.31	66.886	66.146	0.150	5.728	0.4	0.19	6.1	Surcharged
S1.010	Design Criteria FSR: 100 years: +40 %: 15 mins: Winter	Pipe	SW.30	Cellular Storage	66.859	66.162	0.300	22.893	1.4	1.55	99.2	Surcharged
S1.011	Design Criteria FSR: 100 years: +40 %: 30 mins: Winter	Pipe	Cellular Storage	SW.31	66.859	66.210	0.300	15.089	0.6	0.55	35.3	Surcharged
S1.003	Design Criteria FSR: 100 years: +40 %: 30 mins: Summer	Pipe	Simple Junction (5)	Simple Junction (11)	66.694	66.174	0.225	1.254	0.5	0.21	7.8	Surcharged
S1.003 (1)	Design Criteria FSR: 100 years: +40 %: 15 mins: Winter	Pipe	Simple Junction (11)	SW.28	66.730	66.150	0.225	1.949	0.4	0.33	12.1	Surcharged
Pipe (2)	Design Criteria FSR: 100 years: +40 %: 15 mins: Winter	Pipe	PP3.2	Simple Junction (11)	66.730	66.150	0.150	3.634	0.5	0.07	6.7	OK
Pipe (6)	Design Criteria FSR: 100 years: +40 %: 15 mins: Winter	Pipe	PP7	Simple Junction	66.778	66.085	0.150	0.483	1.1	0.05	3.4	OK
Pipe (7)	Design Criteria FSR: 100 years: +40 %: 15 mins: Winter	Pipe	PP6.2	Simple Junction (1)	66.841	66.119	0.150	2.022	1.4	0.15	14.1	Surcharged
Pipe (3)	Design Criteria FSR: 100 years: +40 %: 15 mins: Winter	Pipe	PP3.1	Simple Junction (5)	66.693	66.148	0.150	0.878	0.6	0.07	6.4	Surcharged

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Pipe (23)	Design Criteria FSR: 100 years: +40 %: 15 mins: Winter	Pipe	SW.24	SW.29	66.945	66.227	0.300	48.174	1.0	0.68	70.5	Surcharged	
Pipe (1)	Design Criteria FSR: 100 years: +40 %: 15 mins: Winter	Pipe	PP9	SW.25	66.550	66.278	0.150	9.629	0.9	0.43	11.0	Surcharged	

Appendix D – Thames Water Correspondence



Sabrina Ram

BDP
16 Brewhouse Yard
London
EC1V 4LJ



07 August 2024

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

Site: UNIVERSITY OF READING CAMPUS, WHITENIGHTS ROAD, READING, RG6 6EQ

Dear Sabrina,

Thank you for providing information on your development.

Demolish 6000m² Offices

Proposed 9600m² Offices

Proposed foul water discharge via gravity by indirect connection on site that eventually discharges into FWMH SU74721001

Proposed surface water discharge via to private University of Reading drainage, no surface water discharge into Thames Water assets.

We have completed the assessment of the foul water flows and surface water run-off 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.

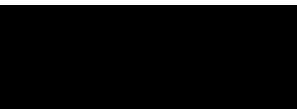
Please see our [FAQ's leaflet](#) for additional information.

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,



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

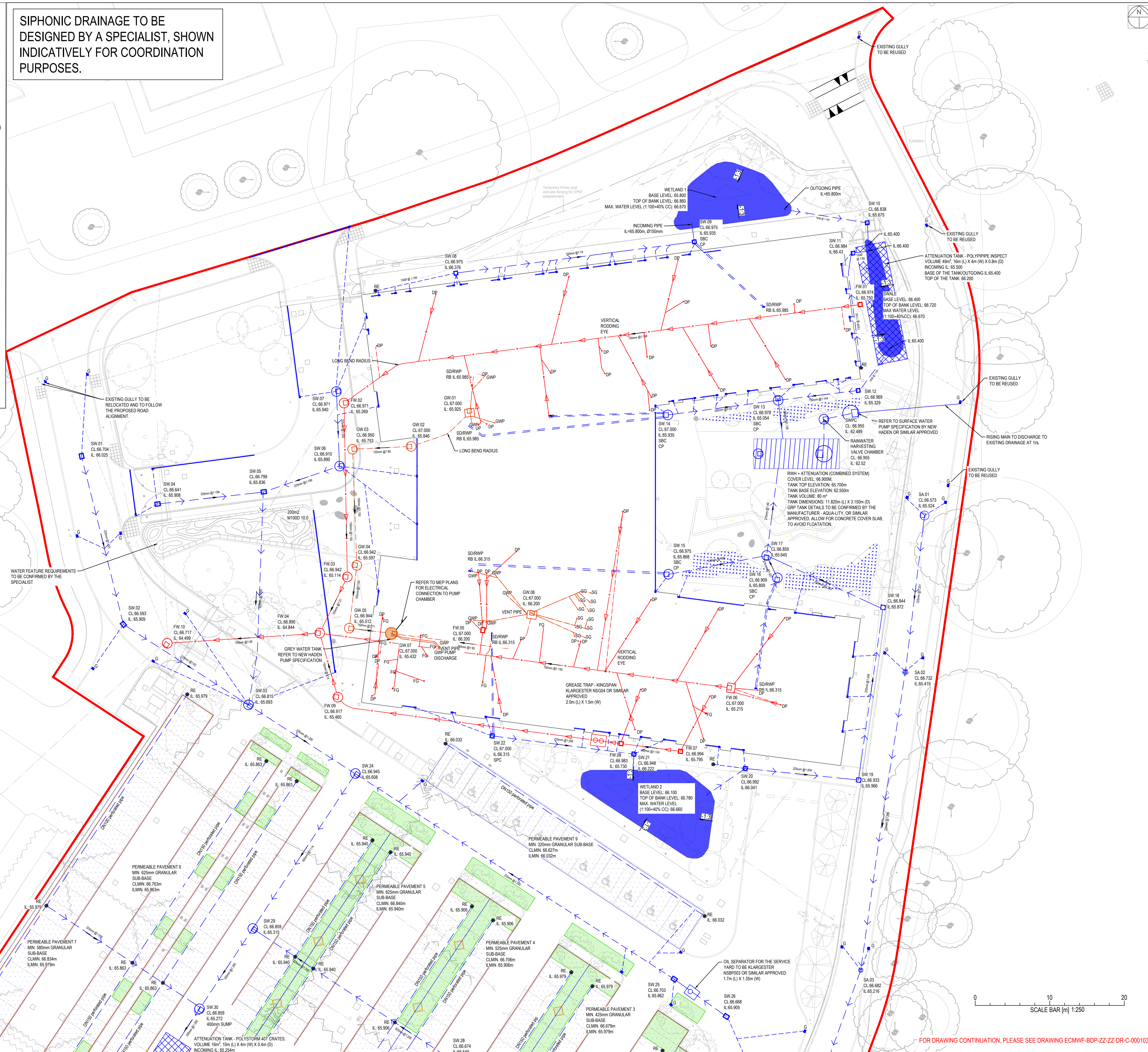
Clearwater Court, Vastern Road, Reading, RG1 8DB

Find us online at developers.thameswater.co.uk

Appendix E – Below Ground Drainage Layouts

Abbreviations

CS	CONDENSATE PIPE
SS	STUB STACK
DP	FOUL WATER DRAIN POINT
SD/RWP	SIPHONIC DRAIN POINT
RE	RODDING EYE
GWP	GREY WATER POINT
SWPC	SURFACE WATER PUMP CHAMBER
GWPC	GRAY WATER PUMP CHAMBER
SBC	SIPHONIC BREAK CHAMBER



BUILDING DESIGN PARTNERSHIP SHALL HAVE NO RESPONSIBILITY FOR ANY USE MADE OF THIS DOCUMENT OTHER THAN FOR THAT WHICH IT WAS PREPARED AND ISSUED.

ALL DIMENSIONS SHOULD BE CHECKED ON SITE

DO NOT SCALE FROM THIS DRAWING

ANY DRAWING ERRORS OR DIVERGENCIES SHOULD BE BROUGHT TO THE ATTENTION OF BUILDING DESIGN PARTNERSHIP AT THE ADDRESS SHOWN BELOW.

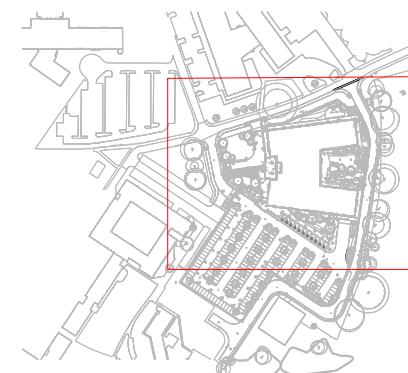
DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE FOLLOWING BEFORE WORK COMMENCES:

- THE CDM DESIGN ISSUES REGISTER
- THE BDP RISK SERIES OF DRAWINGS
- THE PROJECT CDM RISK REGISTER

NOTES

- | | | |
|---|--|----------------|
| 1. | DRAINAGE STRATEGY IS SUBJECT TO APPROVAL BY THE ENVIRONMENT AGENCY, LEAD LOCAL AUTHORITY (LLFA) AND THAMES WATER | |
| 2. | THIS DRAWING IS BASED ON: | |
| 2.1. | TOPOGRAPHICAL AND UTILITIES SURVEY BY ST1 HORIZON FG-U95699 DRAWING SERIES DATED 17.09.2023 | |
| 2.2. | WHERE THERE ARE LEVEL DATA IS REQUIRED, LIDAR DATA HAS BEEN USED AND THIS IS ANNOTATED ON THE PLAN. | |
| 2.3. | LANDSCAPE SITE PLAN DATED 08.05.2024 | |
| 2.4. | ARCHITECTURAL FLOOR LAYOUT DATED 03.05.2024 | |
| 2.5. | PUBLIC HEALTH ENGINEER LAYOUT DATED 03.05.2024 | |
| 2.6. | STRUCTURAL FOUNDATIONS LAYOUT DATED 03.05.2024 | |
| 3. | DRAINAGE CHANNELS, DRAINAGE CHANNELS WITHIN THE ROADS TO BE HEAVY DUTY (LIDAR CLASS (D40) BUT £600 FOR SERVICE YARD), ACO OR SIMILAR APPROVED, ALLOW FOR HIDDEN SLOD DRAINAGE CHANNEL FOR THE BUILDING PERIMETER AND AROUND THE MAIN ENTRANCE. SUBJECT TO APPROVAL BY THE LANDSCAPE ARCHITECT / ARCHITECT. | |
| 4. | A FERMESABLE SPECIALIST GEOTECHNICAL PRODUCT SUCH AS INBETWYN OR PERMAFLEX OR SIMILAR APPROVED TO BE INCORPORATED INTO PERMAFLEX PAVING TO IMPROVE WATER VAPOR FLUX FOR THE ROADS AND CAR PARK AREA. | |
| 5. | TOTAL SURFACE WATER PEAK DISCHARGE RATE PROPOSED IS 7.2 L/S, SUBJECT TO APPROVAL. PROPOSED SURFACE WATER DESIGNED TO ACCUMULATE IN 1 IN 100 CIRCULAR STORM EVENT WITH 40% CLIMATE CHANGE ALLOWANCE. | |
| 6. | TOTAL FLOOD WATER PEAK DISCHARGE RATE PROPOSED IS 7.3 L/S, SUBJECT TO APPROVAL. ESTIMATED BASED THE DISCHARGE UNIT METHOD (1996 D.5) | |
| 7. | REFER TO THE ARCHITECTS PLANS FOR FLOOD WATER POINT AND RAINWATER PIPE SETTING OUT INFORMATION | |
| 8. | REFER TO THE LANDSCAPE ARCHITECT PLANS FOR SETTING OUT OF ROADS AND DRAINAGE FEATURES | |
| 9. | KITCHEN SPECIALIST PLANS REQUIRED FOR COORDINATION. | |
| 10. | ALL DRAINAGE IS UPVC UNLESS OTHERWISE SPECIFIED. ALL SURFACE WATER DRAIN ARE 150mm DIAMETER. ALL FLOOR WATER DRAINS ARE 100mm DIAMETER UNLESS OTHERWISE SPECIFIED. | |
| 11. | FOR EXISTING SERVICES DRAWING REFER TO 1ST HORIZON DRAWINGS FG-U95699-01 TO 06, DATED 27.09.19. | |
| 12. | SIPHONIC DRAINAGE TO BE DETAILED AND DESIGNED BY A SPECIALIST. RAINWATER PIPES AND ASSOCIATED DRAINAGE IS SHOWN INDICATIVELY FOR COORDINATION PURPOSES ONLY. | |
| 13. | ALL COVERS TO BE RECESSED IN PAVED AREAS. ORIENTED TO PAVING. | |
| 14. | FOR DRAINAGE SCHEDULES REFER TO THE DRAWINGS ECKINF-BDP-ZZ-ZZ-OR-C-00014.000105 TO 000106 | |
| 15. | ALL FLOOD WATER AND GREY WATER DRAIN POINTS TO HAVE ABOVE GROUND RUNNING ACCESS. | |
| 16. | EXISTING DRAINAGE TO BE DEMOLISHED WITHIN THE BUILDING FOOTPRINT AND ABANDONED IN EXTERNAL AREAS | |
| 17. | REFER TO LANDSCAPE TYPICAL DETAILS FOR FURTHER INFO ON INTERFACE BETWEEN TREE PITS AND PERMEABLE PAVING BAYS. | |
| P12 - SA SECURITY CHANGE ISSUE | | JD JL 13/09/24 |
| P11 - UPDATED FROM TA COMMENTS | | GM JT 09/09/24 |
| P10 - FOR PLANNING | | GM LJ 07/08/24 |
| P09 - FOR PLANNING | | GM SR 26/07/24 |
| P08 - STAGE 4 REDESIGN | | GM SR 27/06/24 |
| P07 - STAGE 4 FINAL/INTERNAL DRAINAGE COORDINATED | | GM JT 03/06/24 |
| P06 - STAGE 4 FINAL | | GM SR 10/05/24 |
| P05 - FINAL STAGE 4 ISSUE | | GM SR 20/03/24 |
| P04 - STAGE 4 FOR COSTING | | GM SR 16/02/24 |
| P03 - STAGE 3 ISSUE | | TP TK 20/10/23 |
| P02 - WIP FOR COSTING | | AF GM 09/10/23 |
| P01 - WIP FOR COSTING | | TP TK 29/09/23 |

REVISION	DESCRIPTION	DRAWN	CHECKED	DATE
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Q1



Government
Property Agency

BDP.

16 Brewhouse Yard
Clerkenwell
London
EC1V 4LJ
United Kingdom

T +44 [0]20 7812 8000
www.bdp.com

PROJECT TITLE
ECMWF

SEP JOB NUMBER
P3002898

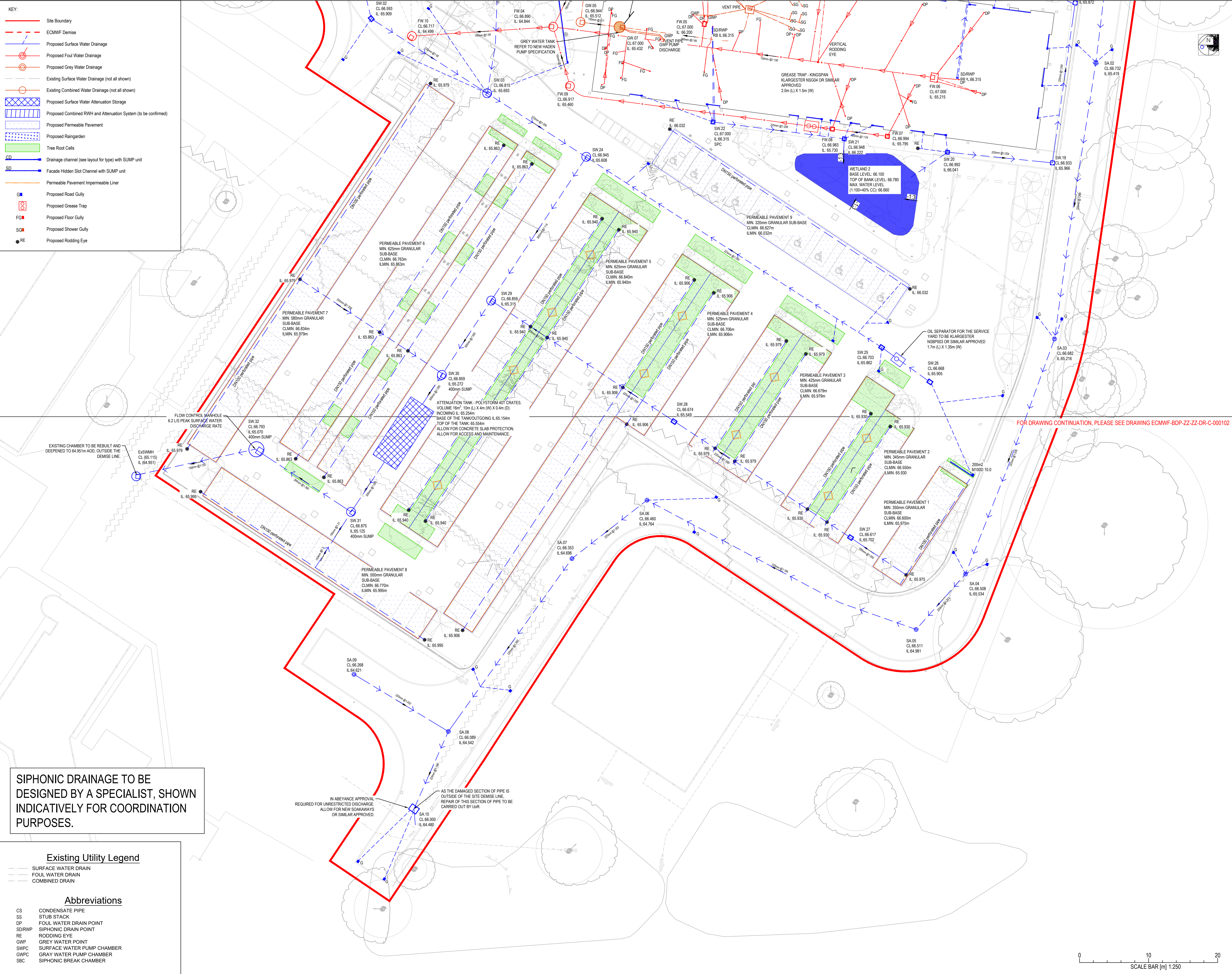
BELOW GROUND DRAINAGE
LAYOUT SHEET 1 of 2

STATUS SUITABILITY	S(4)
DRAWING No.	ECMWF-BDP-ZZ-ZZ-DR-C-000102

SCALE @ A

DATE FIRST ISSUED
09/29/21

REVISION
P11



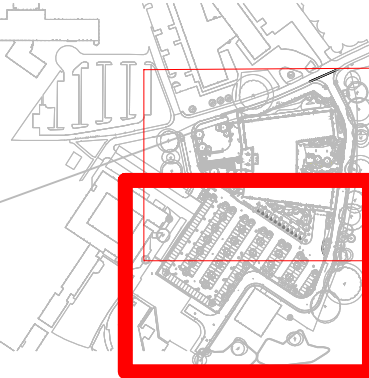
SIPHONIC DRAINAGE TO BE
DESIGNED BY A SPECIALIST, SHOWN
INDICATIVELY FOR COORDINATION
PURPOSES.

— SURFACE WATER DRAIN
 — FOUL WATER DRAIN
 — COMBINED DRAIN

CS	CONDENSATE PIPE
SS	STUB STACK
DP	FOUL WATER DRAIN POINT
SD/RWP	SIPHONIC DRAIN POINT
RE	RODDING EYE
GWP	GRAY WATER POINT
SWPC	SURFACE WATER PUMP CHAMBER
GWPC	GRAY WATER PUMP CHAMBER
SBC	SIPHONIC BREAK CHAMBER

DRAINAGE STRATEGY IS SUBJECT TO APPROVAL BY THE ENVIRONMENT AGENCY, LEAD LOCAL FLOOD AUTHORITY (LLFA) AND THAMES WATER			
2.	THIS DRAWING IS BASED ON:		
2.1.	TOPOGRAPHICAL AND UTILITIES SURVEY BY 1ST HORIZON 'FOU-95699' DRAWING SERIES DATED 27.09.2023		
2.2.	WHERE FURTHER LEVELS DATA IS REQUIRED, LEAD DATA HAS BEEN USED AND THIS IS ANNOTATED ON THE PLAN.		
2.3.	LANDSCAPE SITE PLAN DATED 08.05.2024		
2.4.	ARCHITECTURAL FLOOR LAYOUT DATED 03.05.2024		
2.5.	PUBLIC HEALTH ENGINEER LAYOUT DATED 03.05.2024		
2.6.	STRUCTURAL FOUNDATIONS LAYOUT DATED 03.05.2024		
3.	DRAINAGE CHANNELS, DRAINAGE CHANNELS WITHIN THE ROAD TO BE HEAVY DUTY LOADING CLASS D400 BUT E600 FOR SERVICE VEHICLES), AC/20 OR SIMILAR APPROVED. ALLOW FOR HIDDEN SLOT DRAINAGE CHANNEL, FOR THE BUILDING PERIMETER AND AROUND THE MAIN ENTRANCE. SUBJECT TO APPROVAL BY THE LANDSCAPE ARCHITECT / ARCHITECT.		
4.	A PERMEABLE SPECIALIST GEOTEXTILE PRODUCT SUCH AS IMBITEXT/NO PERMIFILM OR SIMILAR APPROVED TO BE INCORPORATED INTO PERMEABLE PAVING TO IMPROVE WATER QUALITY FOR THE ROADS AND CAR PARK AREAS.		
5.	TOTAL SURFACE WATER PEAK DISCHARGE RATE PROPOSED IS 7.3 L/S, SUBJECT TO APPROVAL. PROPOSED SURFACE WATER DESIGNED TO ACHIEVE A FLOW RATE OF 1 IN 100 CIRCULAR STORM EVENT WITH 40% CLIMATE CHANGE ALLOWANCE.		
6.	TOTAL FLOOD WATER PEAK DISCHARGE RATE PROPOSED IS 7.3 L/S, SUBJECT TO APPROVAL. ESTIMATED BASED THE DISCHARGE UNIT METHOD (109.6 D/S).		
7.	REFER TO THE ARCHITECTS PLANS FOR FLOOD WATER POINT AND RAINWATER PIPE SETTING OUT INFORMATION.		
8.	REFER TO THE LANDSCAPE ARCHITECT PLANS FOR SETTING OUT OF ROADS AND DRAINAGE FEED LINES.		
9.	KITCHEN SPECIALIST PLANS REQUIRED FOR COORDINATION.		
10.	DRAINAGE IS UPVC UNLESS OTHERWISE SPECIFIED. ALL SURFACE WATER DRAINS ARE: 150mm DRAINAGE AND ALL FLOOD WATER DRAINS ARE: 100mm DRAINAGE UNLESS OTHERWISE SPECIFIED.		
11.	FOR EXISTING SERVICES DRAWING REFER TO 1ST HORIZON DRAWINGS 'FOU-95699-01' TO '06', DATED 27.09.23.		
12.	SPHONIC DRAINAGE TO BE DETAILED AND DESIGNED BY A SPECIALIST. RAINWATER PIPES AND ASSOCIATED DRAINAGE IS SHOWN INDICATIVELY FOR COORDINATION PURPOSES ONLY.		
13.	ALL COVERS TO BE RECESSED IN PAVED AREAS, ORIENTED TO PAVING.		
14.	FOR DRAINAGE SCHEDULES REFER TO DRAWINGS ECOMF-BP-DD-22-ZD-CR-0001(04.0001/5 + 0.001/6)		
15.	ALL FLOOD WATER AND GREY WATER DRAIN POINTS TO HAVE ABOVE GROUND ROOILING ACCESS.		
16.	EXISTING DRAINAGE TO BE DEMOLISHED WITHIN THE BUILDING FOOTPRINT AND ABANDONED IN EXTERNAL AREAS.		
17.	REFER TO LANDSCAPE TYPICAL DETAILS FOR FURTHER INFO ON INTERFACE BETWEEN TREES/PITS AND PERMEABLE PAVING BAYS.		
P12 - S4 SECURITY CHANGE ISSUE	JD	LT	13/09/24
P11 - UPDATED FROM TA COMMENTS	GM	JR	09/09/24
P10 - FOR PLANNING	GM	JR	07/08/24
P09 - FOR FINANCING	GM	SR	26/07/24
P08 - STAGE 4 FINAL	GM	SR	27/06/24
P07 - STAGE 4 FINAL/INTERNAL DRAINAGE COORDINATED	GM	JT	03/06/24
P06 - STAGE 4 FINAL	GM	SR	10/05/24
P05 - FINAL STAGE 4 ISSUE	GM	SR	20/03/24
P04 - STAGE 4 FOR COSTING	GM	SR	16/02/24
P03 - STAGE 3 ISSUE	TP	TK	20/10/23
P02 - WIP FOR COSTING	AF	GM	09/11/23
P01 - WIP FOR COSTING	TP	TK	29/09/23

REVISION	DESCRIPTION	DRAWN	CHECKED	DATE
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Property Agency

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EC1V 4LJ
United Kingdom

T +44 [0]20 7812 8000
www.bdp.com

ECMWF

ECOF JOB NUMBER
P3002898

DRAWING TITLE

BELOW GROUND DRAINAGE
LAYOUT SHEET 2 of 2

STATUS SUITABILITY
S(4)

ECMWF-BDP-ZZ-ZZ-DR-C-000103

SCALE @ A

1:250

DATE FIRST ISSUED
09/29/23

REVISION
D4.1

OFFICIAL

SURFACE WATER NETWORK MANHOLE SCHEDULE								
Manhole ID	Cover Level (m)	Invert Level (m)	Manhole Depth to Invert Level (m)	Size (mm)	Chamber Type	Cover Loading	Cover Size (mm)	Notes
SW.01	66.704	66.025	0.679	600x450	Concrete IC	D400	600x450	
SW.02	66.593	65.909	0.684	600x450	Concrete IC	D400	600x450	
SW.03	66.815	65.693	1.122	1200	A1	D400	600x600	
SW.04	66.64	65.908	0.732	600x450	Concrete IC	D400	600x450	
SW.05	66.799	65.836	0.963	600x450	Concrete IC	D400	600x450	
SW.06	66.91	65.89	1.020	1200	A1	D400	600x600	
SW.07	66.971	65.94	1.031	1200	A1	D400	600x600	
SW.08	66.975	66.376	0.599	450	PPIC	C250	450X450	
SW.09	66.975	65.935	1.040	450	PPIC	C250	450X450	400mm CATCHPIT
SW.10	66.838	65.675	1.163	450	PPIC	B125	450X450	400mm CATCHPIT
SW.11	66.984	66.43	0.554	450	PPIC	C250	450X450	
SW.12	66.969	65.329	1.640	450	PPIC	C250	450X450	400mm CATCHPIT
SW.13	66.978	65.054	1.924	1200	A1	D400	600x600	
SW.14	67	65.935	1.065	1200	A1	D400	600x600	400mm CATCHPIT
SW.15	66.979	65.868	1.111	1200	A1	D400	600x600	400mm CATCHPIT
SW.16	66.909	65.809	1.100	1200	A1	B125	600x600	400mm CATCHPIT
SW.17	66.859	65.645	1.214	1200	A1	B125	600x600	
SW.18	66.844	65.872	0.972	600	PPIC	C250	600X600	
SW.19	66.933	65.966	0.967	600	PPIC	C250	600X600	
SW.20	66.992	66.041	0.951	450	PPIC	C250	450X450	400mm CATCHPIT
SW.21	66.948	66.222	0.726	450	PPIC	C250	450X450	
SW.22	67	66.315	0.685	450	PPIC	C250	450X450	400mm CATCHPIT
SW.23	-	-	-	-	-	-	-	REMOVED
SW.24	66.945	65.608	1.337	1200	A1	C250	600x600	
SW.25	66.703	65.862	0.841	600x450	Concrete IC	D400	600x450	
SW.26	66.668	65.905	0.763	600x450	Concrete IC	D400	600x450	
SW.27	66.617	65.702	0.915	600x450	Concrete IC	D400	600x450	
SW.28	66.674	65.549	1.125	600x450	Concrete IC	D400	600x450	
SW.29	66.859	65.315	1.544	1200	A1	D400	600x600	
SW.30	66.859	65.272	1.587	1200	A1	D400	600x600	400mm CATCHPIT
SW.31	66.875	65.125	1.750	1200	A1	D400	600x600	400mm CATCHPIT
SW.32	66.793	65.07	1.723	1200	A1	D400	600x600	400mm CATCHPIT

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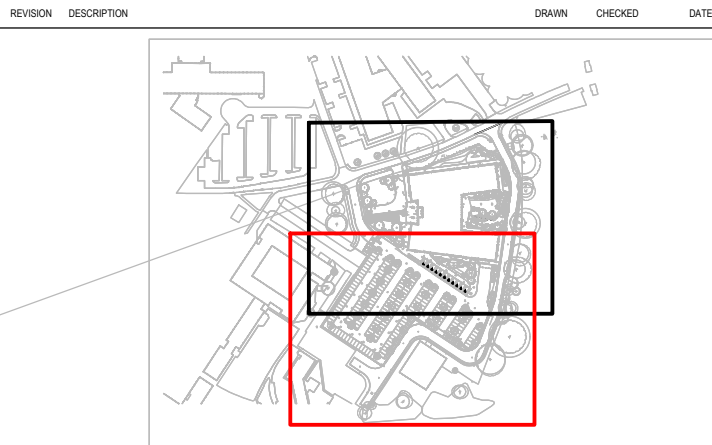
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- THE CDM DESIGN ISSUES REGISTER
- THE BDP RISK SERIES OF DRAWINGS
- THE PROJECT CDM RISK REGISTER

NOTES

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 - WHERE FURTHER LEVELS DATA IS REQUIRED, LIDAR DATA HAS BEEN USED AND THIS IS ANNOTATED ON THE PLAN.
 - LANDSCAPE SITE PLAN DATED 08.05.2024
 - ARCHITECTURAL FLOOR LAYOUT DATED 03.05.2024
 - PUBLIC HEALTH ENGINEER LAYOUT DATED 03.05.2024
 - STRUCTURAL FOUNDATIONS LAYOUT DATED 03.05.2024
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- A PERMEABLE SPECIALIST GEOTEXTILE PRODUCT SUCH AS INBITEXTM OR PERMAFILTER OR SIMILAR APPROVED TO BE INCORPORATED INTO PERMEABLE PAVING TO IMPROVE WATER QUALITY FOR THE ROADS AND CAR PARK AREAS.
- FURTHER DRAINAGE SURVEYS REQUIRED TO CONFIRM EXISTING DRAINAGE DETAILS AND LOCATION. REFER TO SKETCHES FOR DRAINAGE SURVEY FOR FURTHER INFORMATION.
- TOTAL SURFACE WATER PEAK DISCHARGE RATE PROPOSED IS 7.2 L/S. SUBJECT TO APPROVAL. PROPOSED SURFACE WATER DESIGNED TO ACCOMMODATE 1 IN 100 CRITICAL STORM EVENT WITH 40% CLIMATE CHANGE ALLOWANCE.
- TOTAL FOUL WATER PEAK DISCHARGE RATE PROPOSED IS 7.3 L/S. SUBJECT TO APPROVAL. ESTIMATED BASED THE DISCHARGE UNIT METHOD (109.6 D/US).
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- REFER TO THE LANDSCAPE ARCHITECT PLANS FOR SETTING OUT OF ROADS AND DRAINAGE FEATURURES
- KITCHEN SPECIALIST PLANS REQUIRED FOR COORDINATION.
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- ALL FOUL WATER AND GREY WATER DRAIN POINTS TO HAVE ABOVE GROUND RODDING ACCESS.
- EXISTING DRAINAGE TO BE DEMOLISHED WITHIN THE BUILDING FOOTPRINT AND ABANDONED IN EXTERNAL AREAS.

P07 - STAGE 4 SECURITY CHANGE ISSUE	JD	LJ	13/09/24
P06 - FOR PLANNING	GM	SR	26/07/24
P05 - STAGE 4 REDESIGN	GM	SR	27/06/24
P04 - STAGE 4 FINAL	GM	JT	03/06/24
P03 - STAGE 4 FINAL	GM	SR	10/05/24
P02 - FINAL STAGE 04 ISSUE	GM	SR	20/03/24
P01 - WIP FOR COSTING	GM	SR	16/02/24



BDP.

16 Brewhouse Yard
Clerkenwell
London
EC1V 4LJ
United Kingdom

T +44 (0)20 7812 8000
www.bdp.com

PROJECT TITLE	
ECMWF	
BDP JOB NUMBER	
P3002898	
DRAWING TITLE	SCALE
BELOW GROUND DRAINAGE MANHOLE SCHEDULE SHEET 01	@ A1 N.T.S
DATE FIRST ISSUED	
S(4)	16/02/24
DRAWING BY	REVISION
ECMWF-BDP-ZZ-ZZ-DR-C-000104	P07

FOUL WATER NETWORK MANHOLE SCHEDULE								
Manhole ID	Cover Level (m)	Invert Level (m)	Manhole Depth to Invert Level (m)	Size (mm)	Chamber Type	Cover	Cover Size	Notes
FW.01	66.745	65.750	1.224	450	PPIC	C250	350x350	REDUCED ACCESS
FW.02	66.971	65.269	1.702	1200	A1	C250	600x600	
FW.03	66.942	65.114	1.828	1200	A1	C250	600x600	
FW.04	66.890	64.844	2.046	1200	A1	C250	600x600	
FW.05	67.000	66.200	0.800	450X600	Rectangular Structure	C250	450X600	INTERNAL MANHOLE, DOUBLE SEALED AND GREASED. RECESSED, TO MATCH FLOOR FINISHES
FW.06	67.000	65.215	1.785	1200x1000	Rectangular Structure	C250	600x600	INTERNAL MANHOLE, DOUBLE SEALED AND GREASED. RECESSED, TO MATCH FLOOR FINISHES
FW.07	66.994	65.795	1.199	450	PPIC	B125	450X450	
FW.08	66.983	65.730	1.253	450	PPIC	B125	450X450	
FW.09	66.917	65.460	1.457	1200	A1	B125	450X450	
FW.10	66.717	64.499	2.218	1200	A1	D400	450X450	

GRAY WATER NETWORK MANHOLE SCHEDULE								
Manhole ID	Cover Level (m)	Invert Level (m)	Manhole Depth to Invert Level (m)	Size (mm)	Chamber Type	Cover	Cover Size	Notes
GW.01	67.000	65.925	1.075	1200x1000	Rectangular Structure	C250	600x600	INTERNAL MANHOLE, DOUBLE SEALED AND GREASED, RECESSED TO SUIT FLOOR FINISHES
GW.02	67.000	65.846	1.154	1200	A1	C250	600x600	
GW.03	66.950	65.753	1.197	1200	A1	D400	600x600	
GW.04	66.942	65.597	1.345	1200	A1	C250	600x600	
GW.05	66.944	65.512	1.432	1200	A1	C250	600x600	
GW.06	67.000	66.200	0.800	1200x1000	Rectangular Structure	C250	600x600	INTERNAL MANHOLE, DOUBLE SEALED AND GREASED. RECESSED COVER TO SUIT FLOOR FINSIHES
GW.07	67.000	65.432	1.568	1500	A1	C250	600x600	GREY WATER PUMP STATION - REFER TO NEW HADEN PUMP SPECIFICATION. DOUBLE SEALED AND GREASED. COVER RECSSSED TO SUIT FLOOR FINSHES

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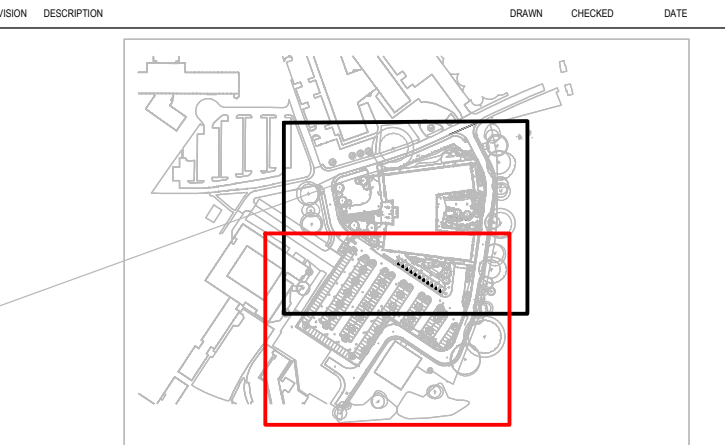
DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE FOLLOWING BEFORE WORK COMMENCES

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- THE BDP RISK SERIES OF DRAWINGS
- THE PROJECT CDM RISK REGISTER

NOTES

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 - 2.5. PUBLIC HEALTH ENGINEER LAYOUT DATED 03.05.2024
 - 2.6. STRUCTURAL FOUNDATIONS LAYOUT DATED 03.05.2024
3. DRAINAGE CHANNELS: DRAINAGE CHANNELS WITHIN THE ROADS TO BE HEAVY DUTY LOADING CLASS (D400 BUT E600 FOR SERVICE YARD). AGO OR SIMILAR APPROVED. ALLOW FOR HIDDEN SLOT DRAINAGE CHANNEL FOR THE BUILDING PERIMETER AND AROUND THE MAIN ENTRANCE. SUBJECT TO APPROVAL BY THE LANDSCAPE ARCHITECT / ARCHITECT.
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P06 - STAGE 4 SECURITY CHANGE ISSUE JD LJ 13/09/24
P05 - STAGE 4 REDESIGN GM SR 27/06/24
P04 - STAGE 4 FINAL/INTERNAL GM JT 03/06/24
DRAINAGE COORDINATED GM SR 10/05/24
P03 - STAGE 4 FINAL GM SR 20/03/24
P02 - FINAL STAGE 04 ISSUE GM SR 16/02/24
P01 - WIP FOR COSTING GM SR 16/02/24



BDP.

16 Brewhouse Yard
Clerkenwell
London
EC1V 4LJ
United Kingdom

T +44 (0)20 7812 8000
www.bdp.com

PROJECT TITLE ECMWF	
REF OR NUMBER P3002898	
DRAWING TITLE BELOW GROUND DRAINAGE MANHOLE SCHEDULE SHEET 02	SCALE @ A1 N.T.S.
ISSUE AUTHORITY S(4)	DATE FIRST ISSUED 16/02/24
DRAWING NO. ECMWF-BDP-ZZ-ZZ-DR-C-000105	REVISION P06

SURFACE WATER NETWORK MANHOLE SCHEDULE (EASTERN ROAD)								
Manhole ID	Cover Level (m)	Invert Level (m)	Manhole Depth to Invert Level (m)	Size (mm)	Chamber Type	Cover	Cover Size	Notes
SA.01	66.573	65.524	1.049	1200mm	A1	D400	600x600	150mm CONCRETE PLINTH UNDER COVER
SA.02	66.732	65.419	1.313	600mm PPIC	RAIC	D400	300x300	REDUCED ACCESS, 150mm CONCRETE PLINTH UNDER COVER
SA.03	66.682	65.216	1.466	600mm PPIC	RAIC	D400	300x300	REDUCED ACCESS, 150mm CONCRETE PLINTH UNDER COVER
SA.04	66.508	65.034	1.474	600mm PPIC	RAIC	D400	300x300	REDUCED ACCESS, 150mm CONCRETE PLINTH UNDER COVER
SA.05	66.511	64.981	1.530	600mm PPIC	RAIC	D400	300x300	REDUCED ACCESS, 150mm CONCRETE PLINTH UNDER COVER
SA.06	66.460	64.764	1.697	600mm PPIC	RAIC	D400	300x300	REDUCED ACCESS, 150mm CONCRETE PLINTH UNDER COVER
SA.07	66.353	64.696	1.657	600mm PPIC	RAIC	D400	300x300	REDUCED ACCESS, 150mm CONCRETE PLINTH UNDER COVER
SA.08	66.089	64.542	1.547	600mm PPIC	RAIC	D400	300x300	REDUCED ACCESS, 150mm CONCRETE PLINTH UNDER COVER
SA.09	66.268	64.621	1.647	600mm PPIC	RAIC	D400	300x300	REDUCED ACCESS, 150mm CONCRETE PLINTH UNDER COVER
SA.10	66.000	64.480	1.520	900x1200 Rectangular	RAIC	D400	900x1200	STEPS REQUIRED

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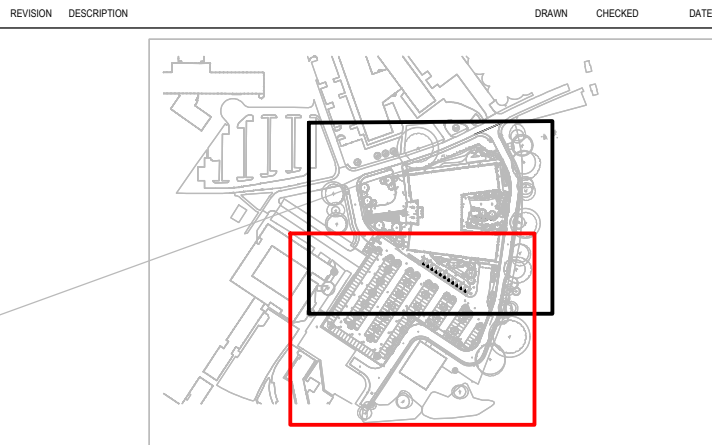
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P04 - STAGE 4 SECURITY CHANGE ISSUE JD LJ 13/09/24
P03 - STAGE 4 REDESIGN GM SR 27/06/24
P02 - STAGE 4 FINAL GM SR 10/05/24
P01 - FINAL STAGE 04 ISSUE GM SR 20/03/24

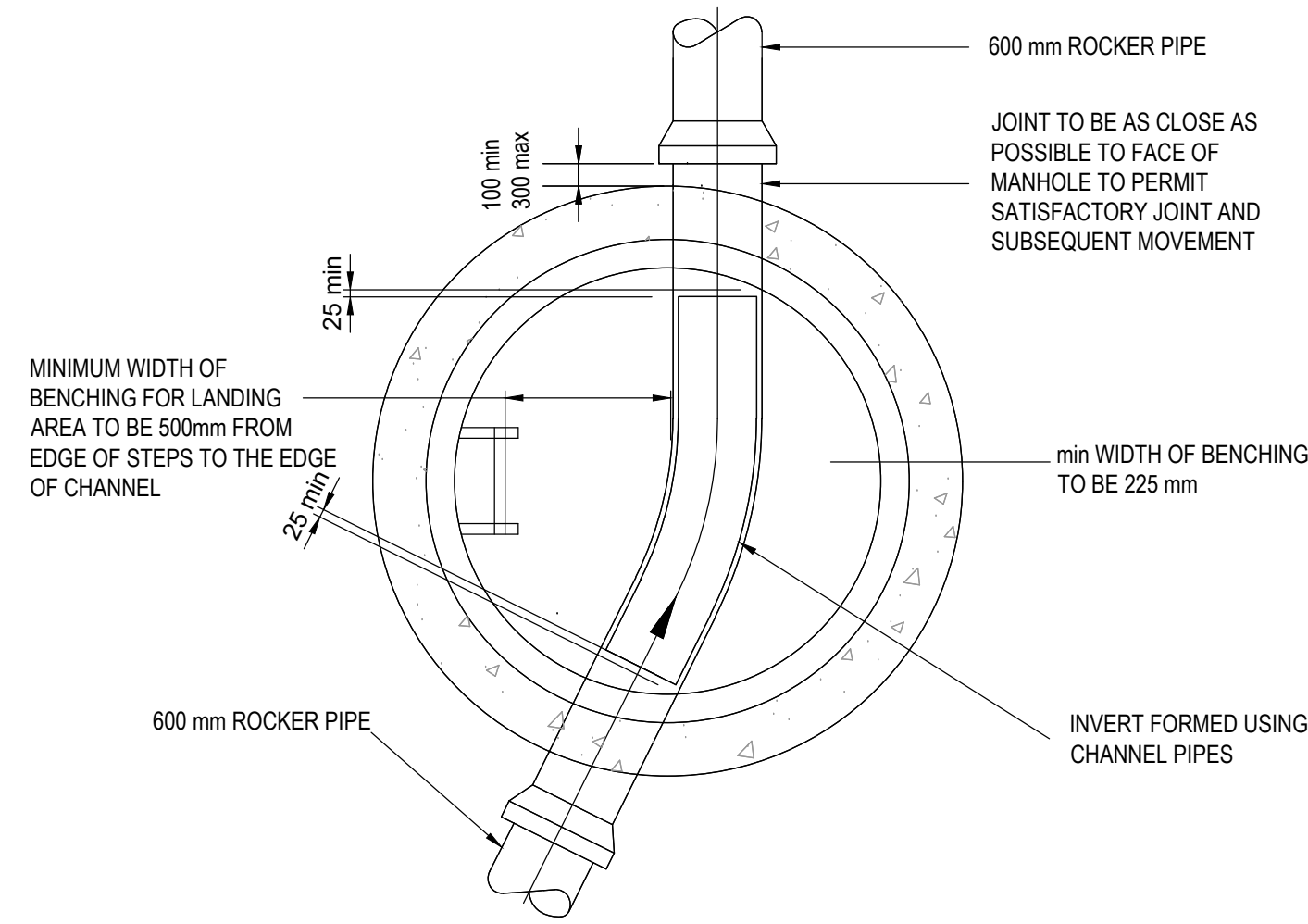
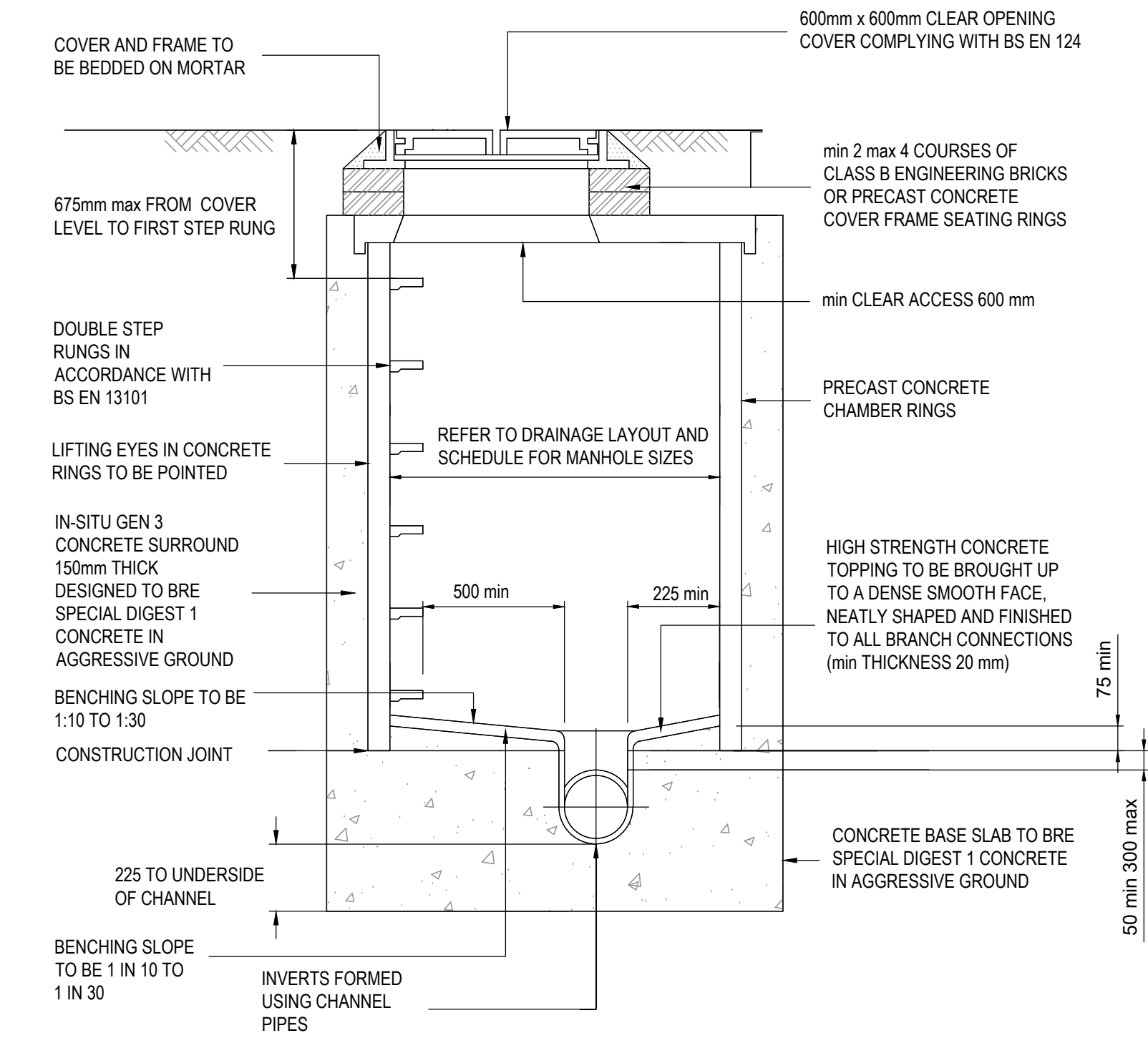


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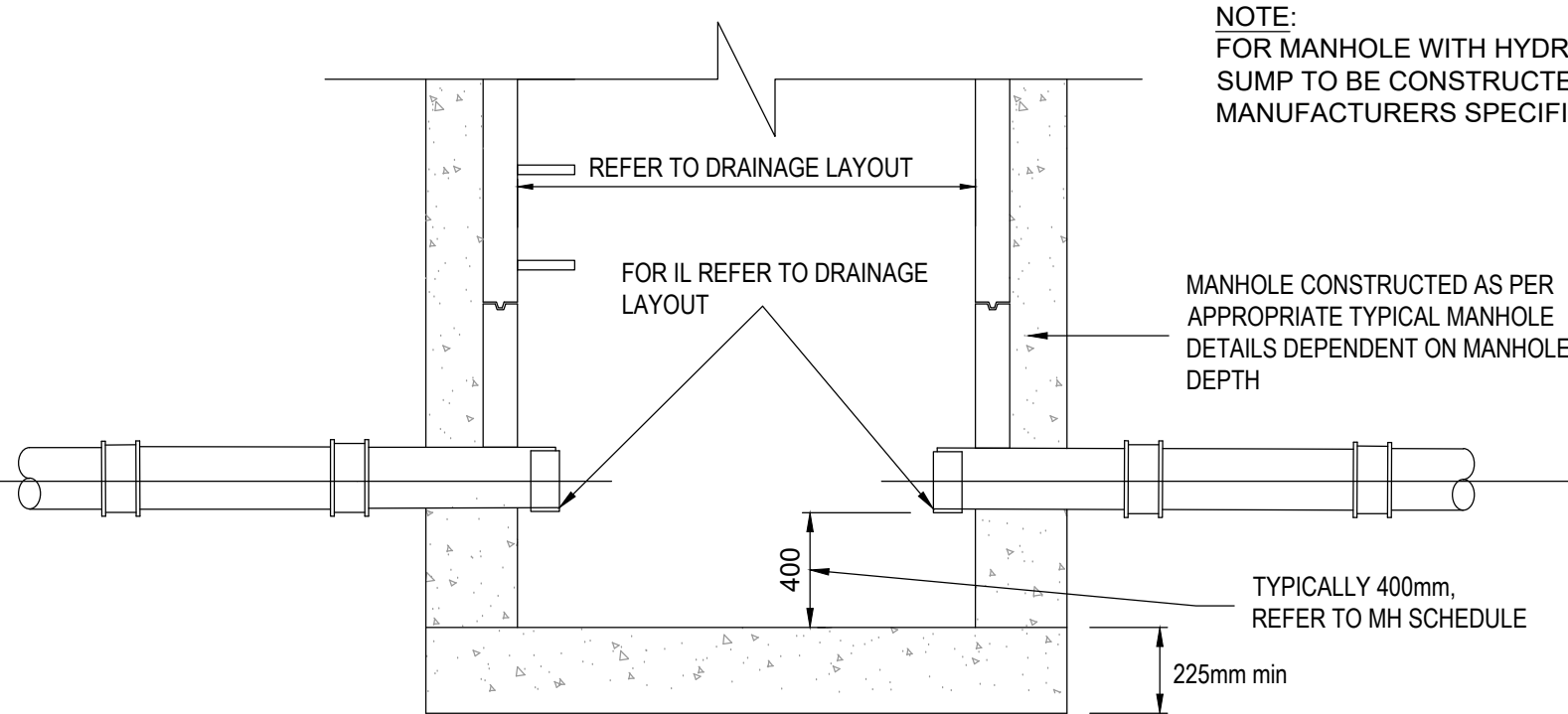
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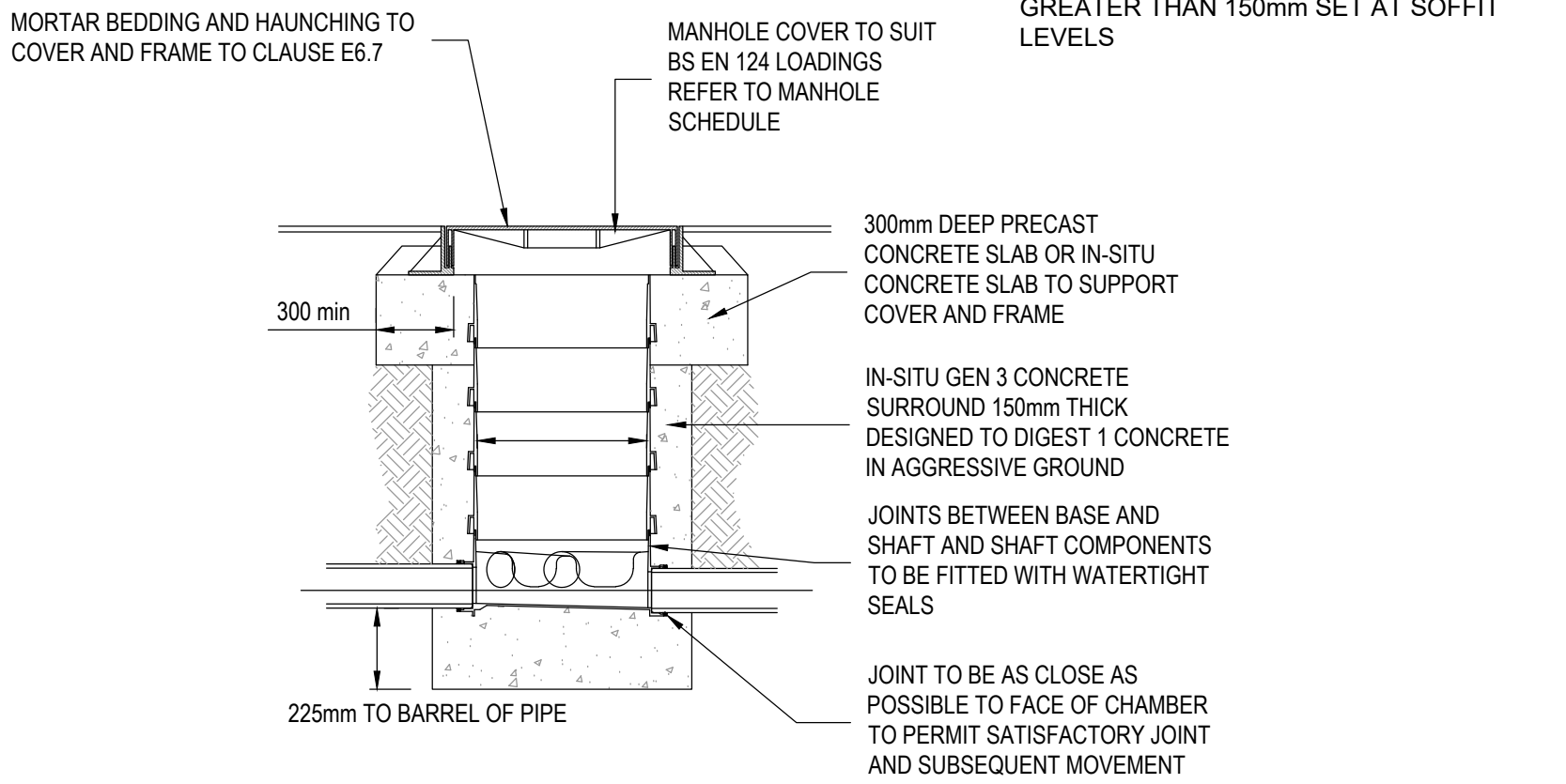
PROJECT TITLE	
ECMWF	
BDP JOB NUMBER	
P3002898	
DRAWING TITLE	SCALE
BELOW GROUND DRAINAGE	@ A1
MANHOLE SCHEDULE SHEET 03	N.T.S.
DATE PREPARED	DATE FIRST ISSUED
S(4)	15/03/24
DRAWING BY	REVISION
ECMWF-BDP-ZZ-ZZ-DR-C-000106	P04



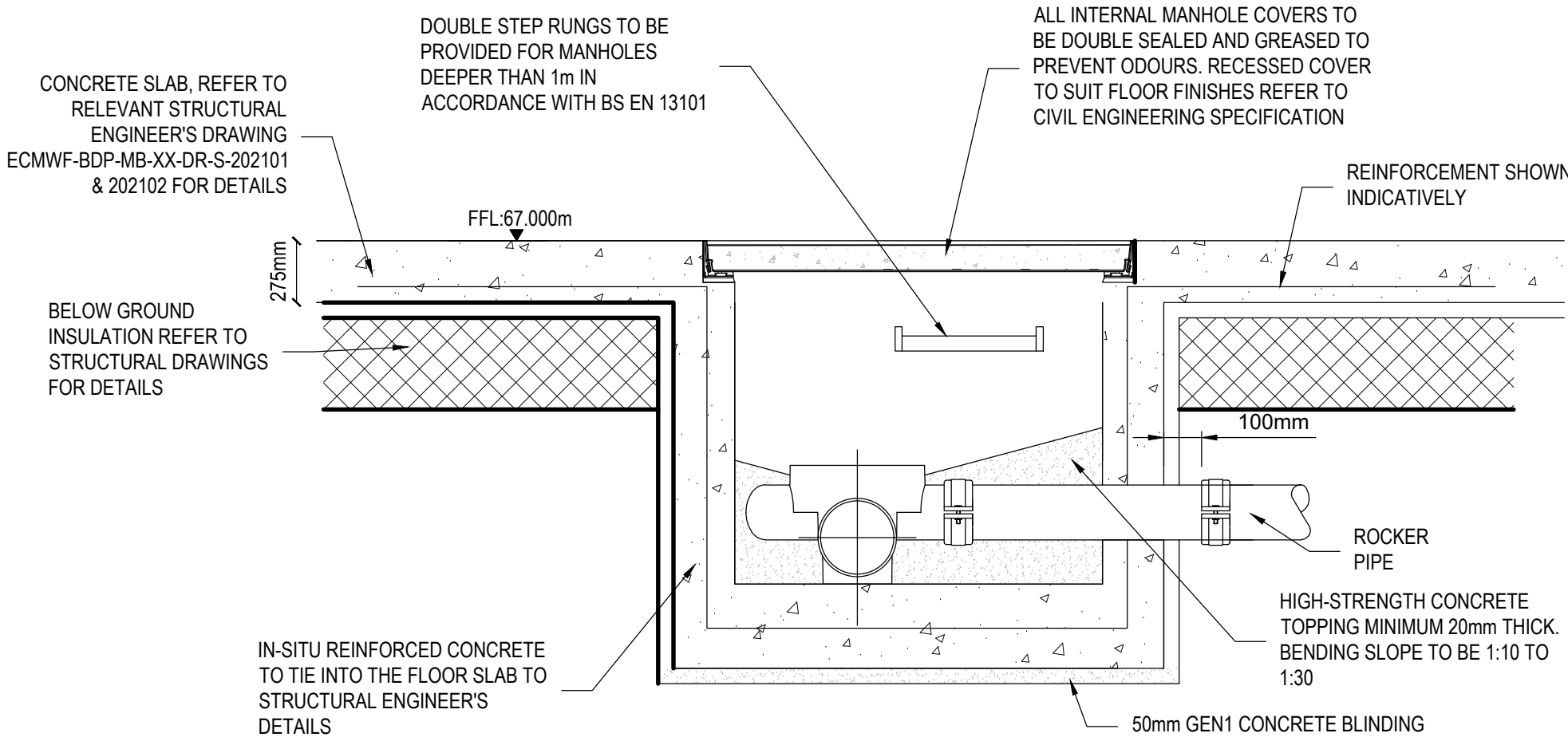
TYPICAL MANHOLE TYPE A1
DEPTH TO SOFFIT 1.0 TO 3.0 METRES



TYPICAL MANHOLE WITH SUMP (CATCHPIT)

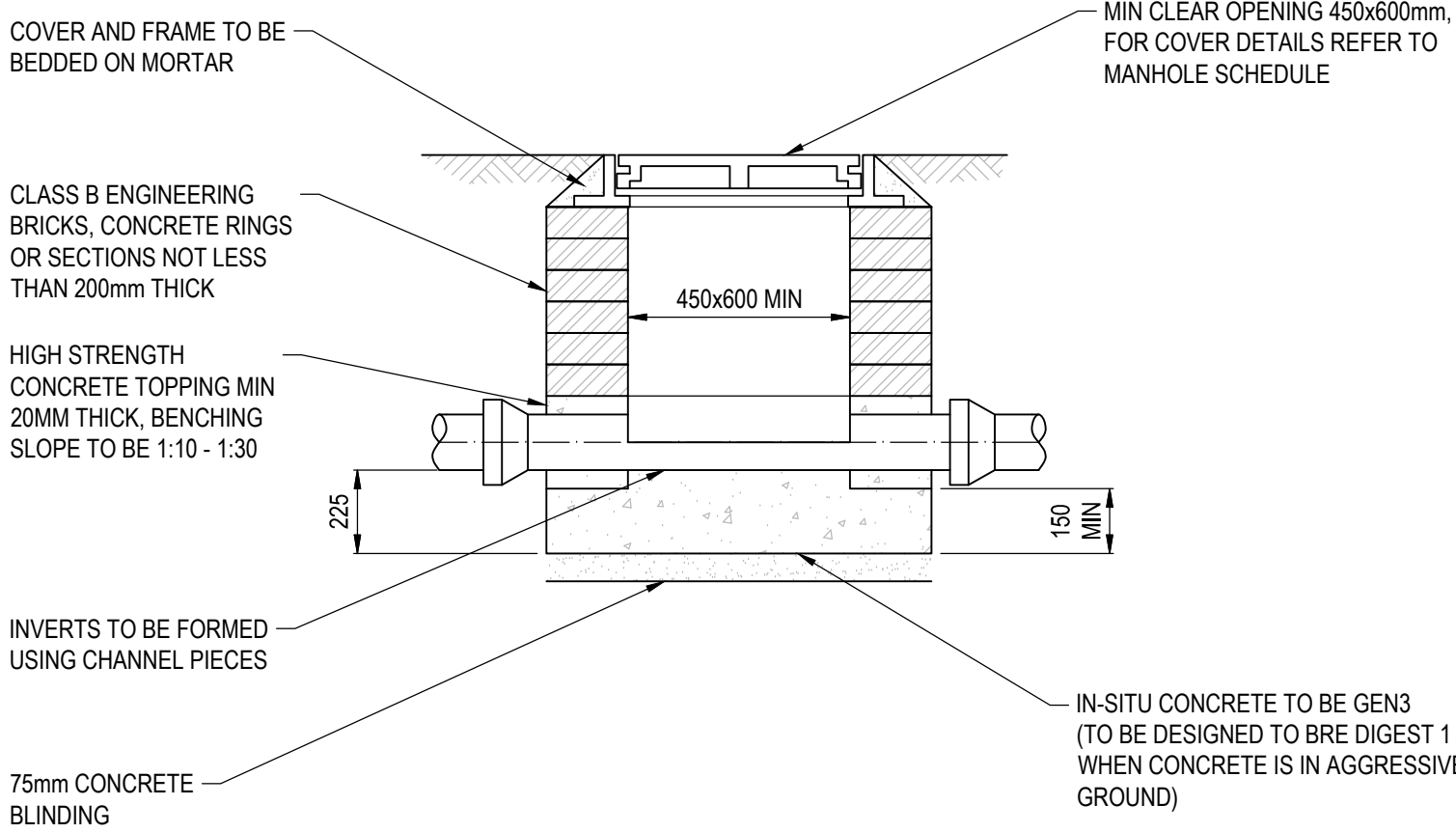


TYPICAL INSPECTION CHAMBER - TYPE D (PPIC)
DEPTH TO SOFFIT < 1.2m
VEHICULAR AREAS

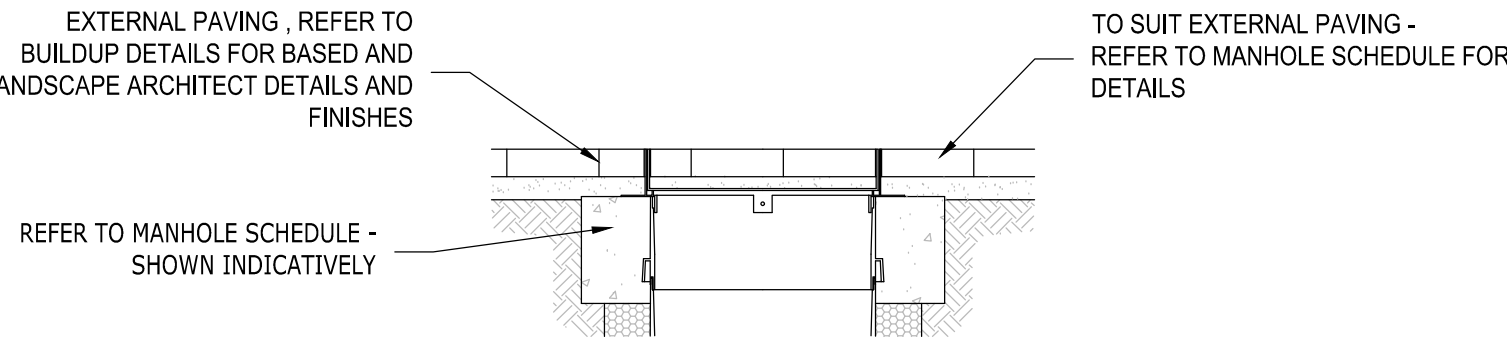


TYPICAL INTERNAL FOUL WATER
MANHOLE DETAIL - RECTANGULAR
STRUCTURE

NOTES:
1. REFER TO STRUCTURAL DRAWINGS FOR SLAB DETAILS, RAISED ACCESS GEOMETRY



CONCRETE INSPECTION CHAMBER
(COVER TO SOFFIT MAX. 1.0m)



EXTERNAL CHAMBER WITH
RECESSED COVER

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NOTES

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2. THE DRAINAGE STRATEGY IS SUBJECT TO APPROVAL BY LEAD LOCAL FLOOD AUTHORITY (LFA).

P07 - STAGE 4 SECURITY CHANGE ISSUE	JD	LJ	13/09/24
P08 - FOR PLANNING	GM	SR	22/07/24
P05 - STAGE 4 REDESIGN	GM	SR	27/06/24
P04 - STAGE 4 FINAL	GM	SR	10/05/24
P03 - FINAL STAGE 4 ISSUE	GM	SR	20/03/24
P02 - STAGE 3 ISSUE	TP	TK	20/10/23
P01 - WIP FOR COSTING	TP	TK	29/09/23

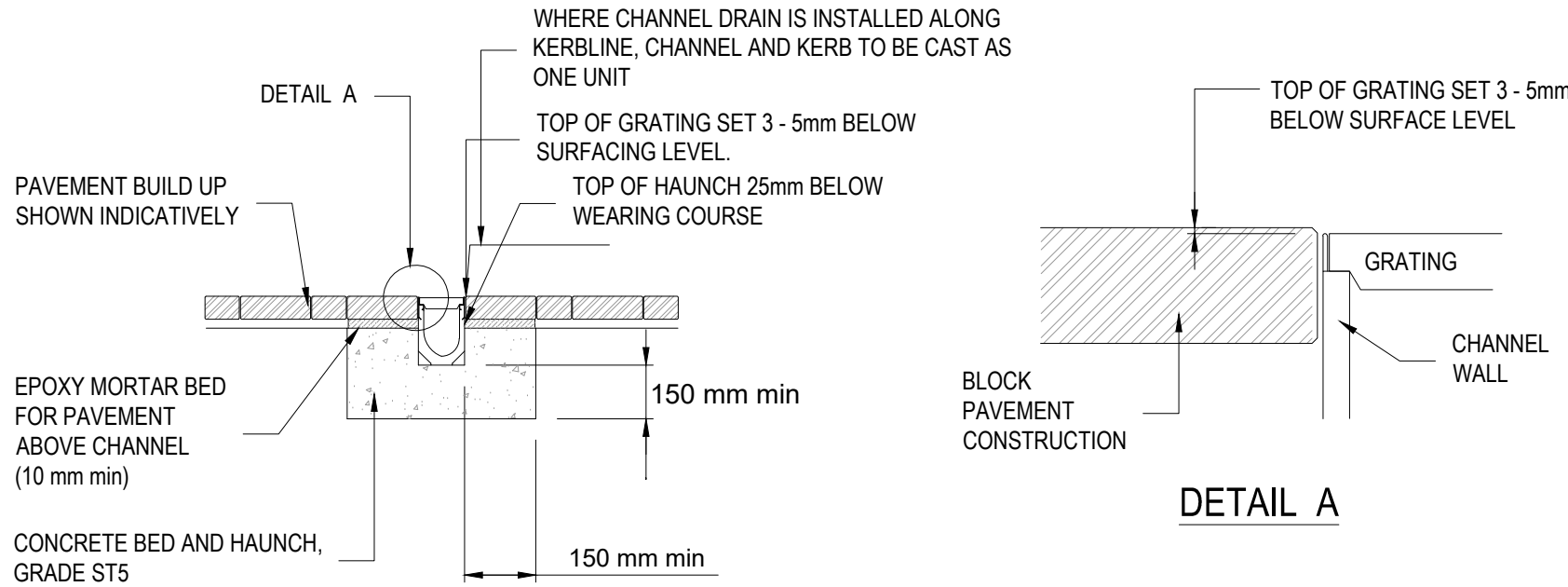
REVISION	DESCRIPTION	DRAWN	CHECKED	DATE

CLIENT

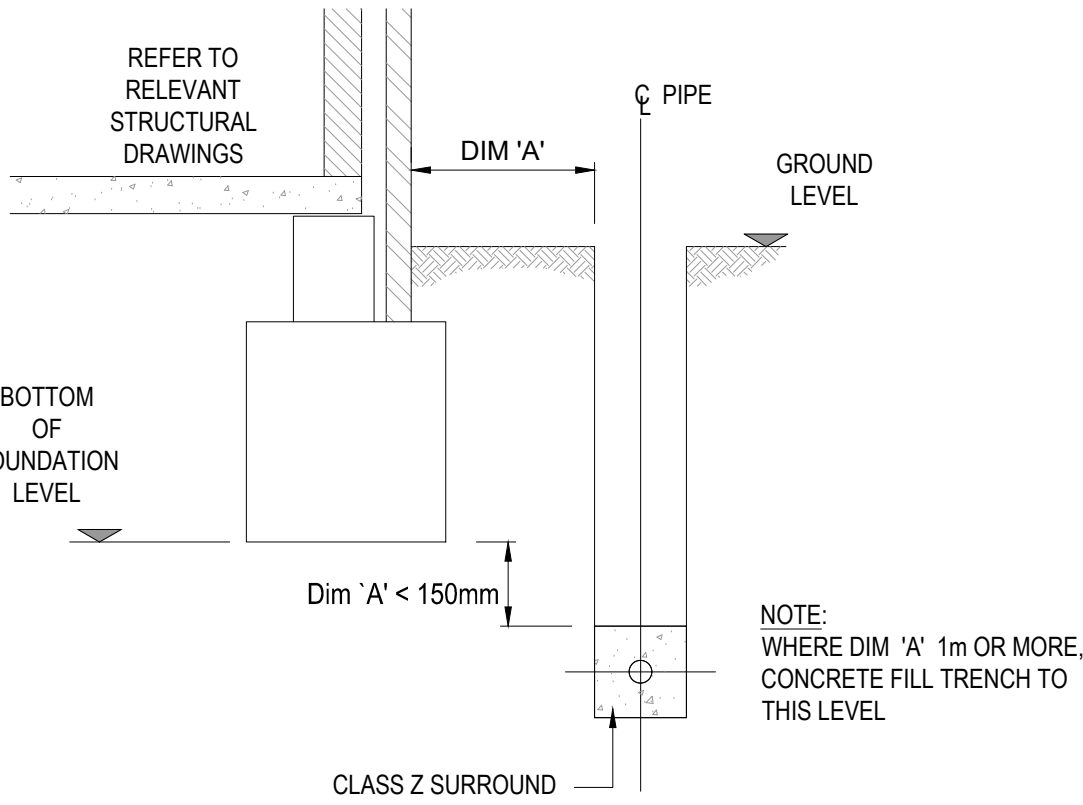

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Clerkenwell
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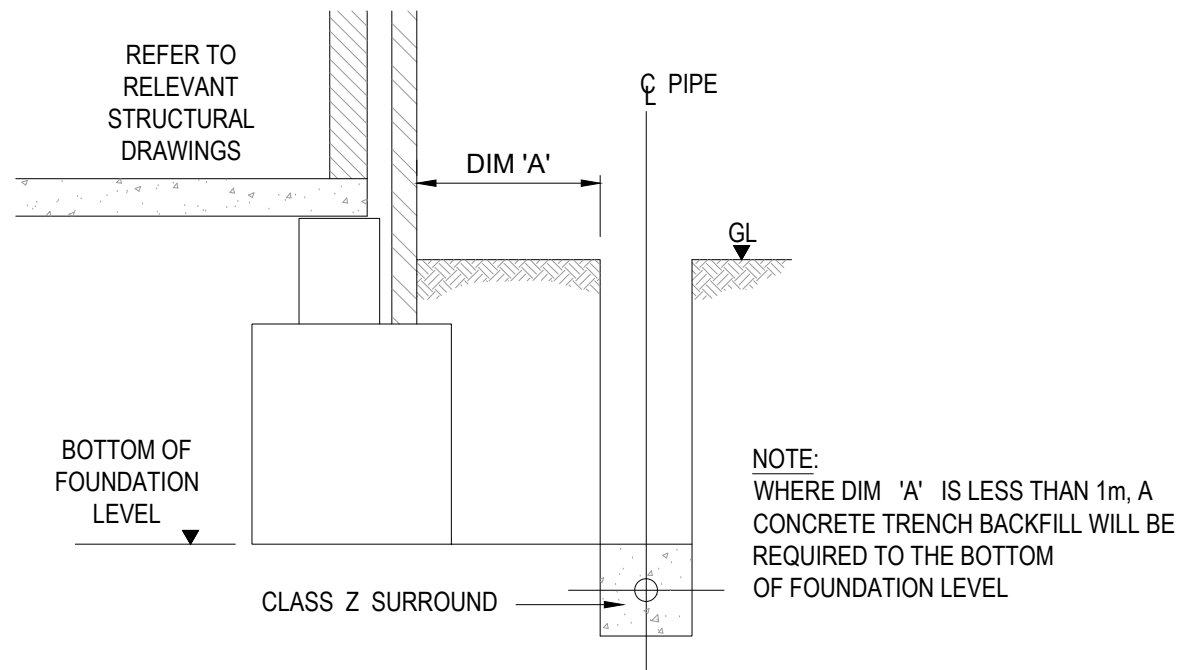
PROJECT TITLE	ECMWF
REF OR NUMBER	P3002898
DRAWING TITLE	BELOW GROUND DRAINAGE TYPICAL DETAILS SHEET 1 of 12
SCALE	@ A1 1:10
DESIGN AUTHORITY	S(4)
DATE FIRST ISSUED	09/29/2023
DRAWING NUMBER	ECMWF-BDP-ZZ-ZZ-DR-C-000400
REVISION	P07



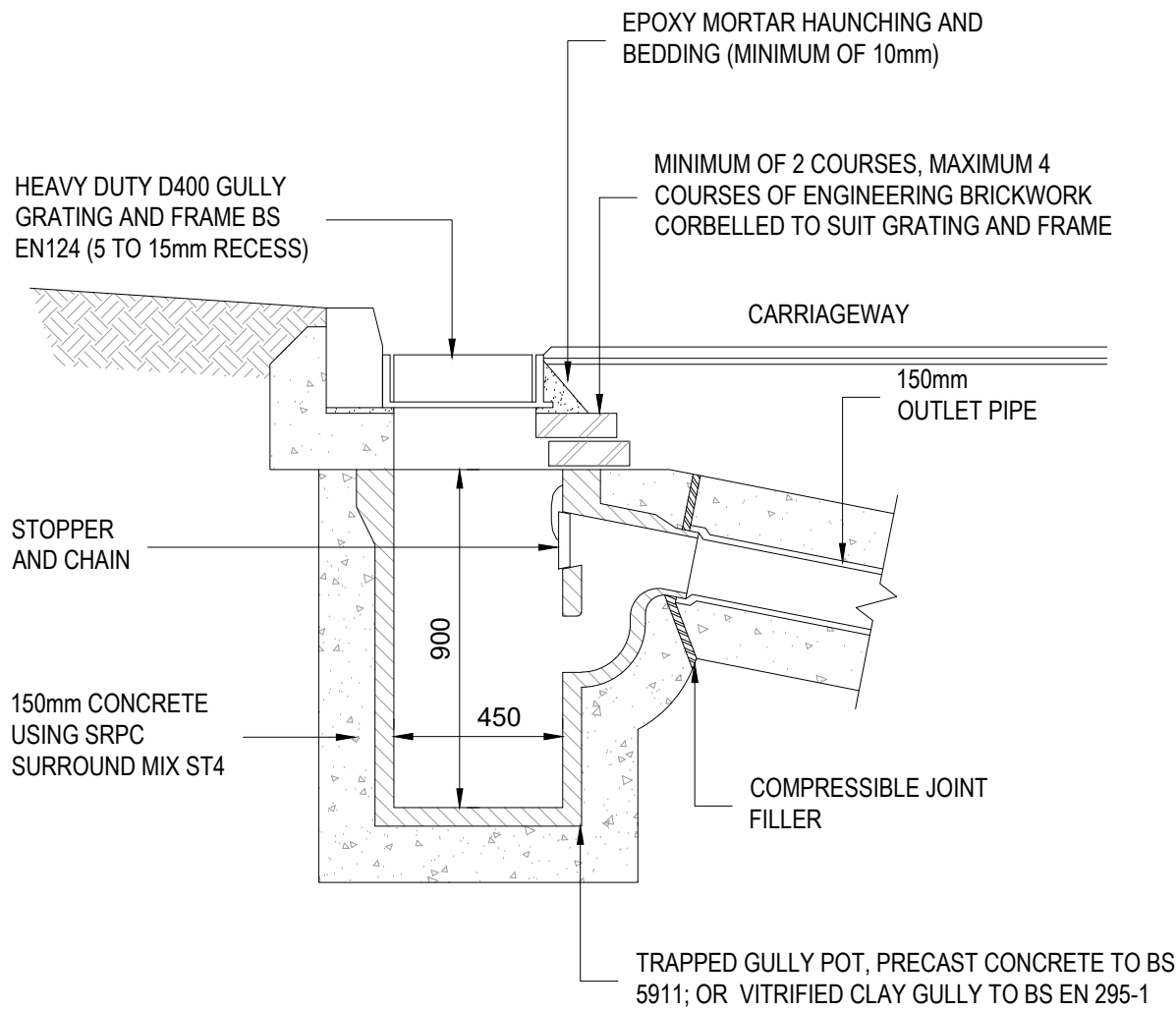
TYPICAL ACO CHANNEL DRAIN DETAIL
ACO MULTIDRAIN MD OR SIMILAR APPROVED -CD ON PLAN



PIPE RUNS NEAR BUILDINGS > 1m



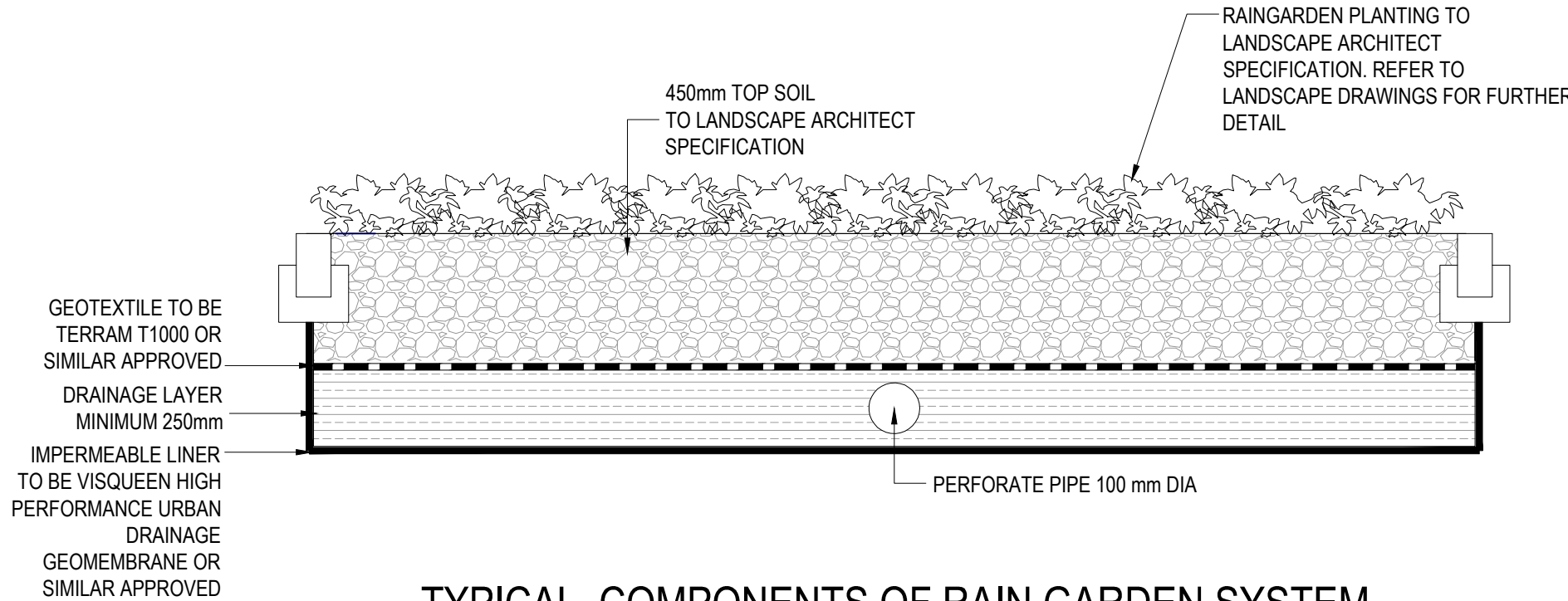
PIPE RUNS NEAR BUILDINGS < 1m



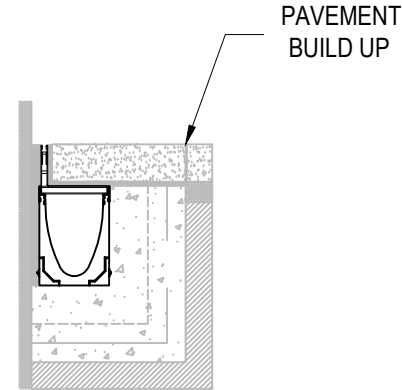
NOTES:

1. WHERE GULLY IS LOCATED AWAY FROM KERB, SURROUNDING PARKING / ROAD SURFACE TO FALL TOWARDS RECESSED GULLY GRATING.
2. CLASSES OF MORTAR AND CONCRETE SHALL BE IN ACCORDANCE WITH DEPARTMENT OF TRANSPORT 'SPECIFICATION FOR HIGHWAY WORKS.'
3. ROAD GULLY TO COMPLY WITH CD 526

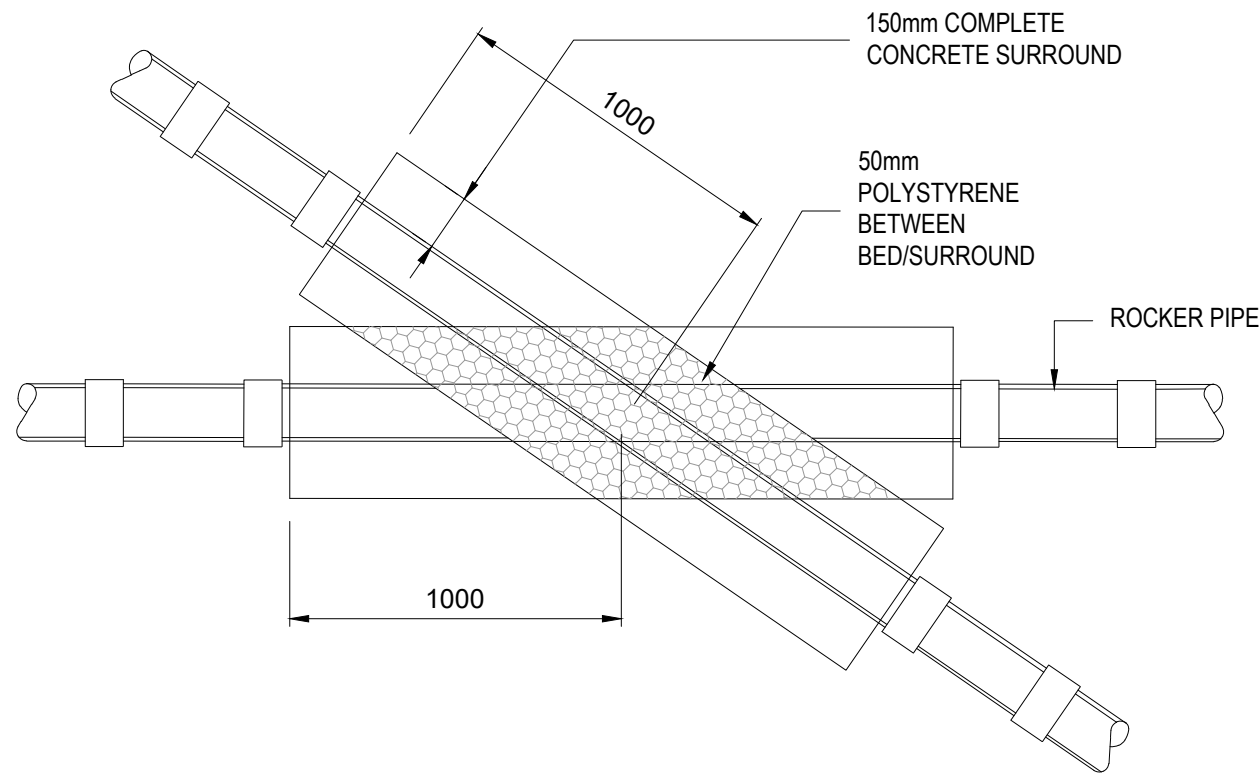
TYPICAL ROAD GULLY DETAIL
REFER TO SPECIFICATION - MARSHALLS GULLY POT 450X900mm



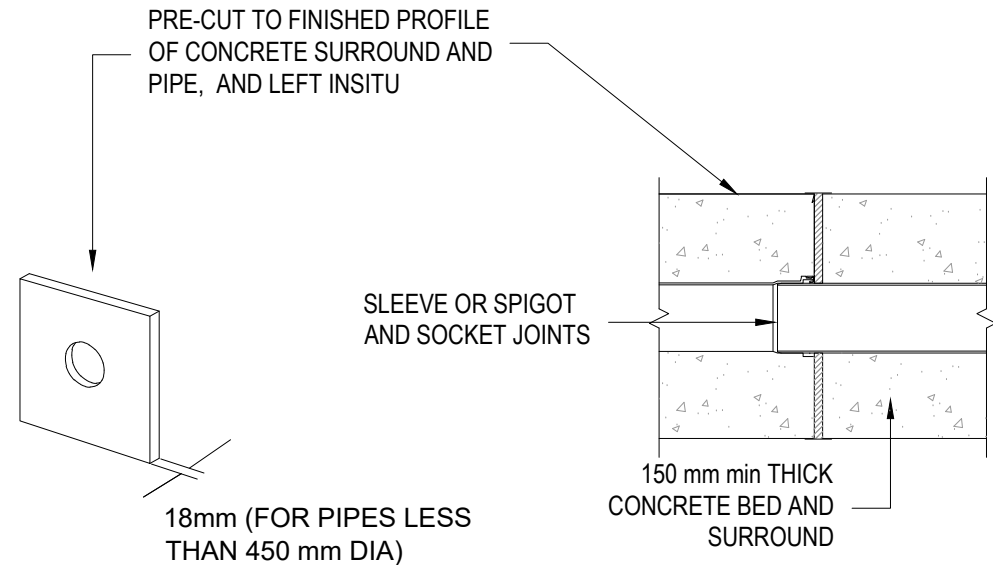
TYPICAL COMPONENTS OF RAIN GARDEN SYSTEM
(PLANTED AREA THAT RECEIVES SURFACE WATER RUNOFF FROM HARD-STANDING SURFACE)



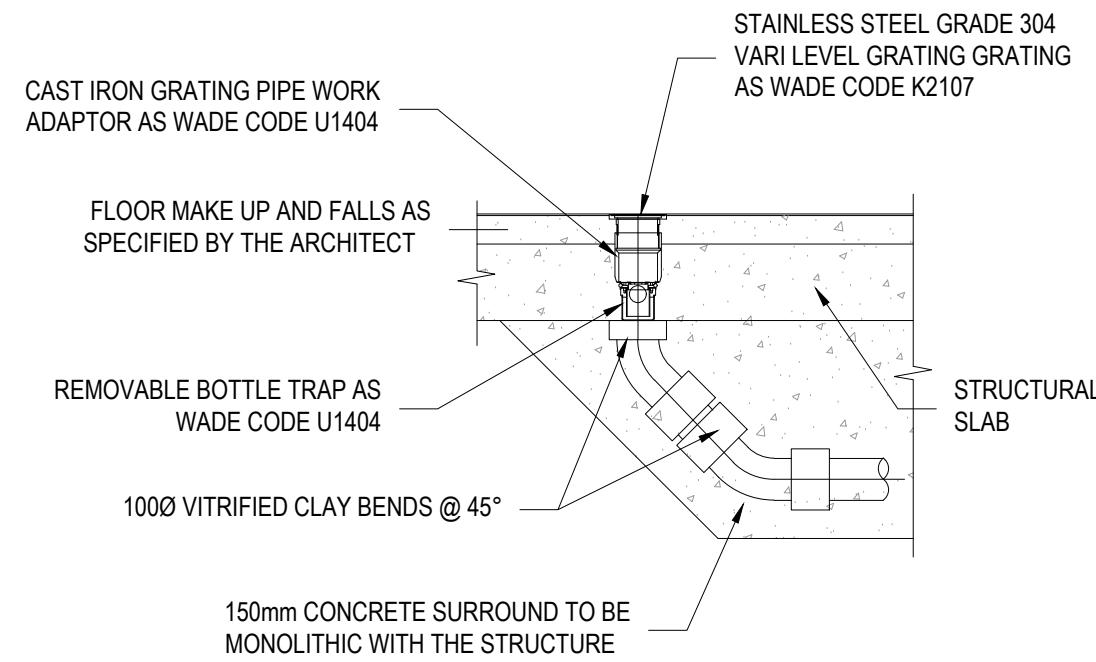
TYPICAL FACADE HIDDEN SLOT CHANNEL ADJACENT TO THE BUILDING
ACO MULTIDRAIN MD BRICKSLOT OR SIMILAR APPROVED - SD ON PLAN



TYPICAL PIPE CROSSING



FLEXIBLE JOINT DETAIL
I.E. AT CONCRETE SURROUND AT PIPE JOINT



TYPICAL ACCESS SHOWER CONECTION DETAIL (SG)

BUILDING DESIGN PARTNERSHIP SHALL HAVE NO RESPONSIBILITY FOR ANY USE MADE OF THIS DOCUMENT OTHER THAN FOR THAT WHICH IT WAS PREPARED AND ISSUED.

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DO NOT SCALE FROM THIS DRAWING

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DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE FOLLOWING BEFORE WORK COMMENCES:

- THE CDM DESIGN ISSUES REGISTER
- THE BDP RISK SERIES OF DRAWINGS
- THE PROJECT CDM RISK REGISTER

NOTES

1. THIS DRAWING IS WORK IN PROGRESS AND SUBJECT TO CHANGE. TO BE FURTHER DETAILED AND COORDINATED.
2. THE DRAINAGE STRATEGY IS SUBJECT TO APPROVAL BY LEAD LOCAL FLOOD AUTHORITY (LLFA).
3. ALL DRAINAGE IS UPVICILAY UNLESS OTHERWISE SPECIFIED. ALL SURFACE WATER DRAINS ARE 150mm DIAMETER AND ALL FOUL WATER DRAINS ARE 100mm DIAMETER UNLESS OTHERWISE SPECIFIED.

P07 - STAGE 4 SECURITY CHANGE ISSUE	JD	LJ	13/09/24
P06 - FOR PLANNING	GM	SR	22/07/24
P05 - STAGE 4 REDESIGN	GM	SR	27/06/24
P04 - STAGE 4 FINAL	GM	SR	10/05/24
P03 - FINAL STAGE 4 ISSUE	GM	SR	20/03/24
P02 - STAGE 3 ISSUE	TP	TK	20/10/23
P01 - WIP FOR COSTING	TP	TK	29/09/23

REVISION	DESCRIPTION	DRAWN	CHECKED	DATE
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CLIENT



BDP.

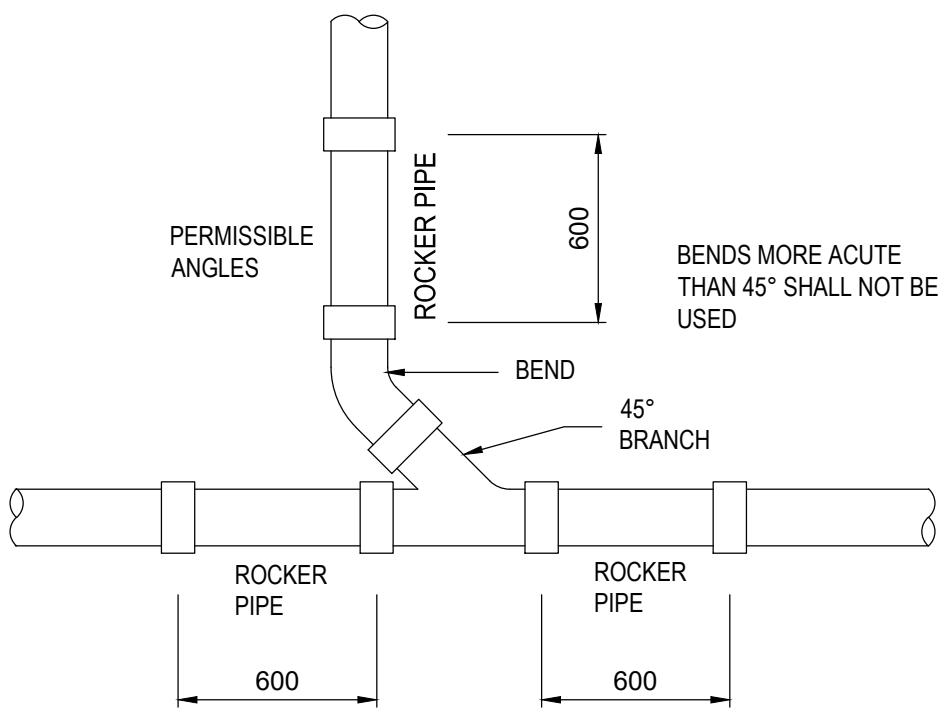
16 Brewhouse Yard
Clerkenwell
London
EC1V 4LJ
United Kingdom

T +44 (0)20 7812 8000
www.bdp.com

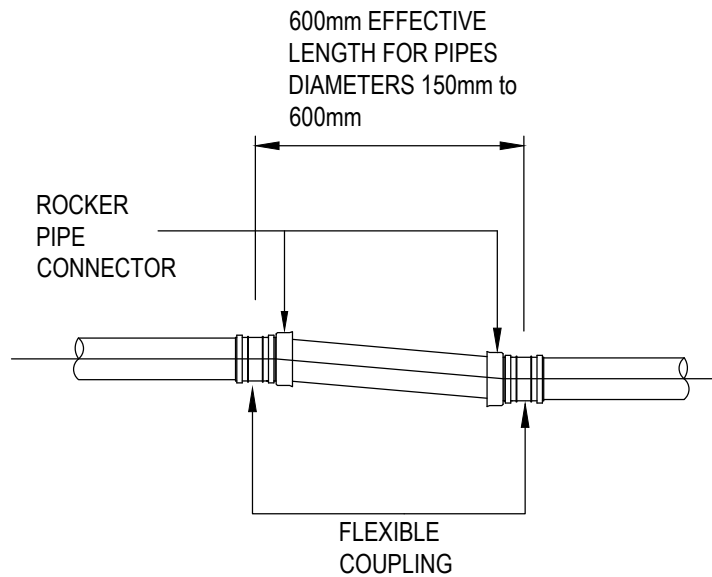
PROJECT TITLE
ECMWF

REF OR NUMBER P3002898	SCALE @ A1
DRAWING TITLE BELOW GROUND DRAINAGE	DATE FIRST ISSUED 09/29/2023
PROJECT REFERENCE S(4)	REGION P07
DRAWING NO. ECMWF-BDP-ZZ-ZZ-DR-C-000401	

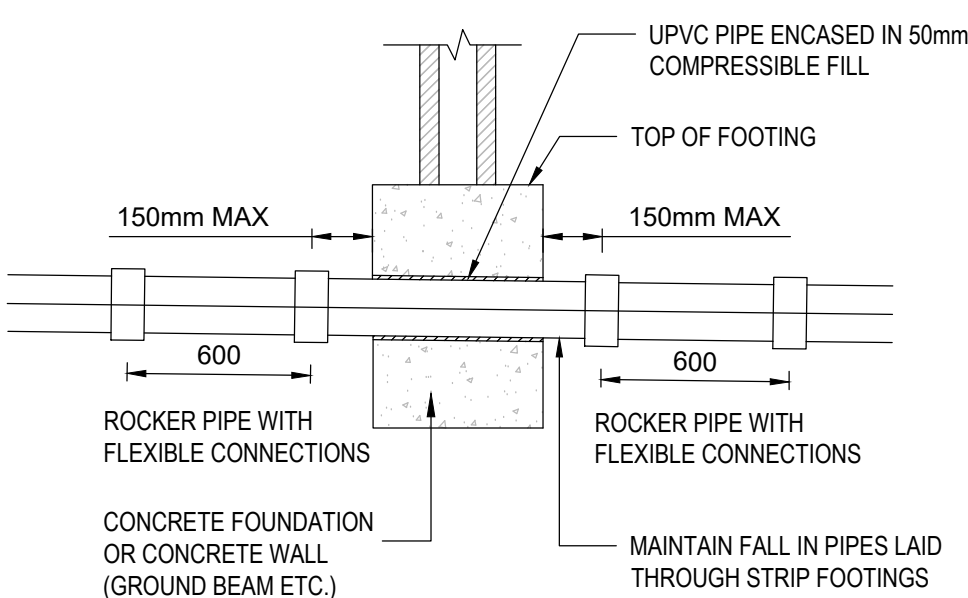
TYPICAL DETAILS SHEET 2 of 12



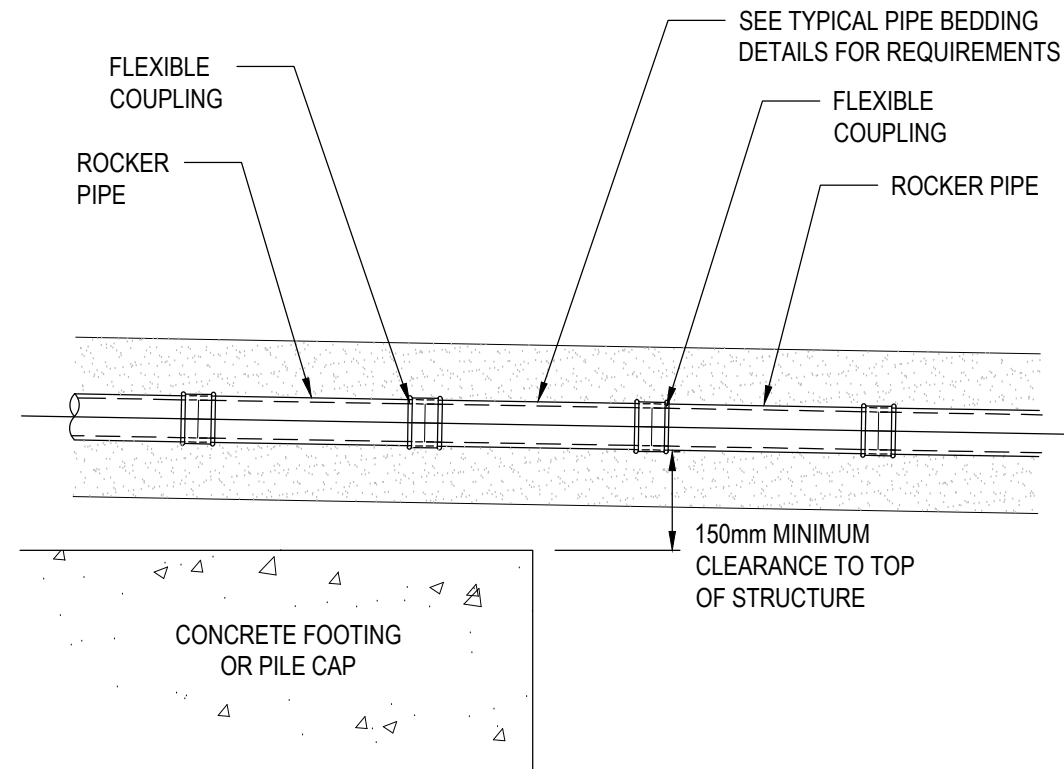
TYPICAL OBLIQUE JUNCTION ARRANGEMENT



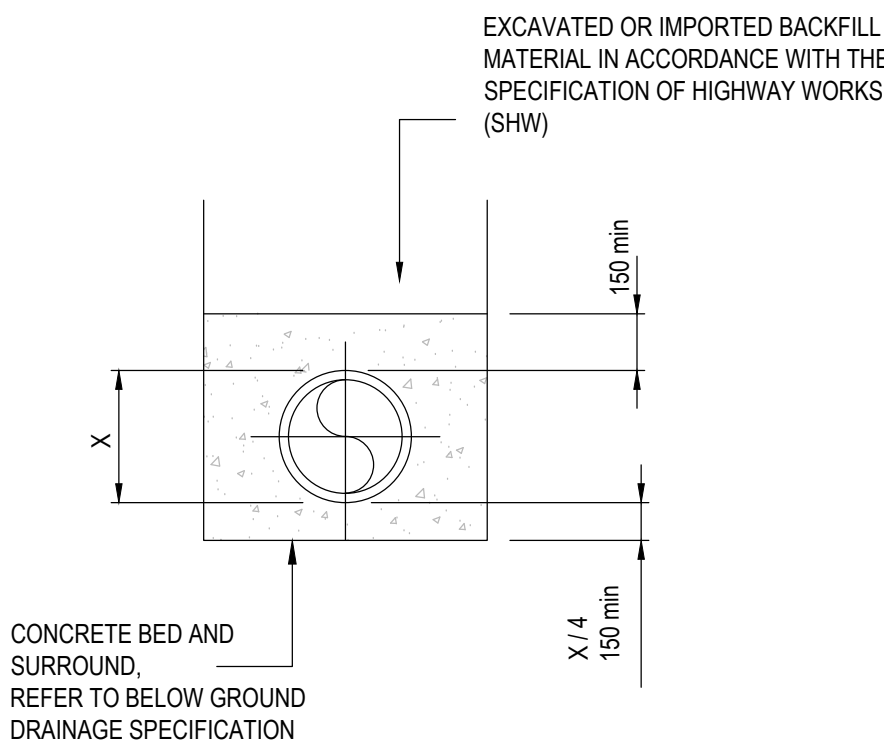
TYPICAL ROCKER PIPE ASSEMBLY



TYPICAL PIPE PENETRATION DETAIL
(THROUGH CONCRETE WALL OR FOOTING)

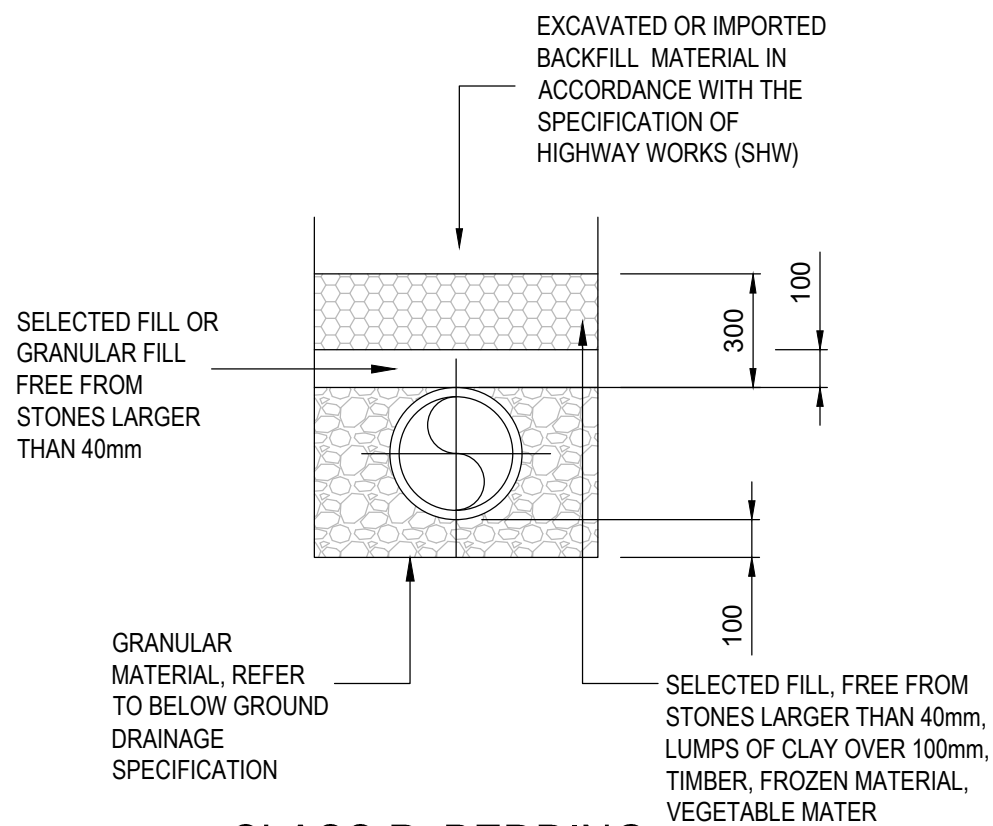


TYPICAL DETAIL OF DRAIN PASSING ABOVE STRUCTURE



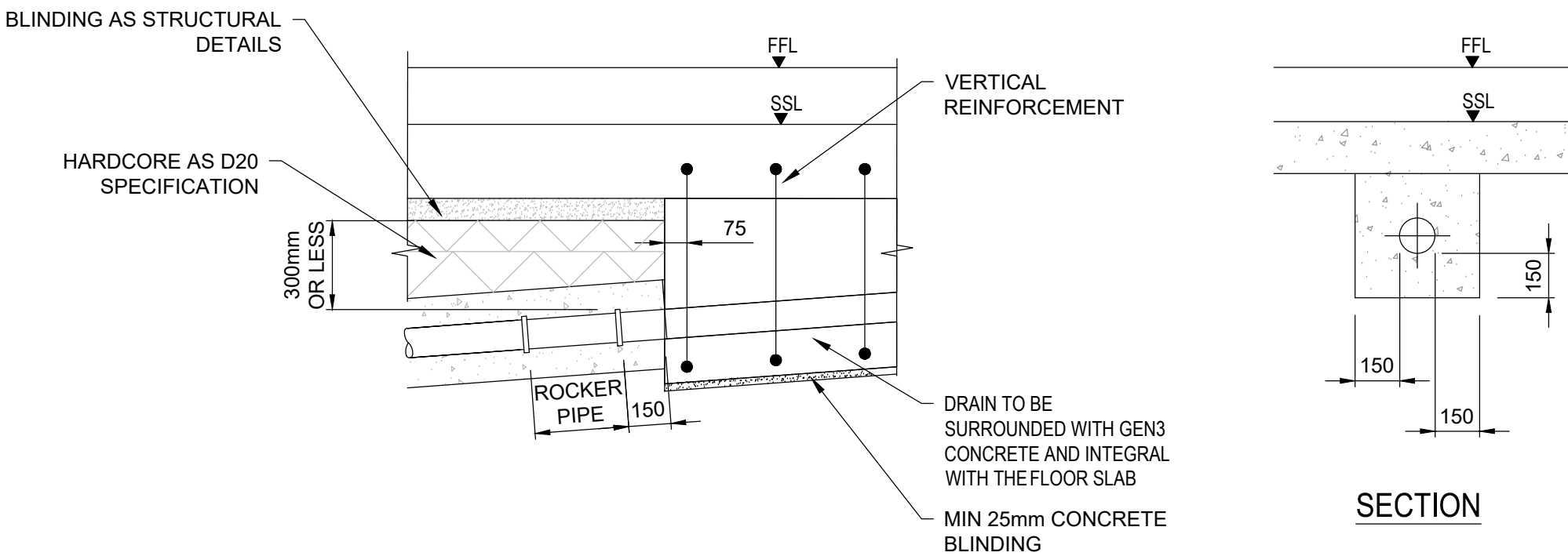
CLASS Z CONCRETE SURROUND
TYPICAL DETAIL

(for roads and car park areas
for pipes with cover less than 1.2m above the pipe crown)



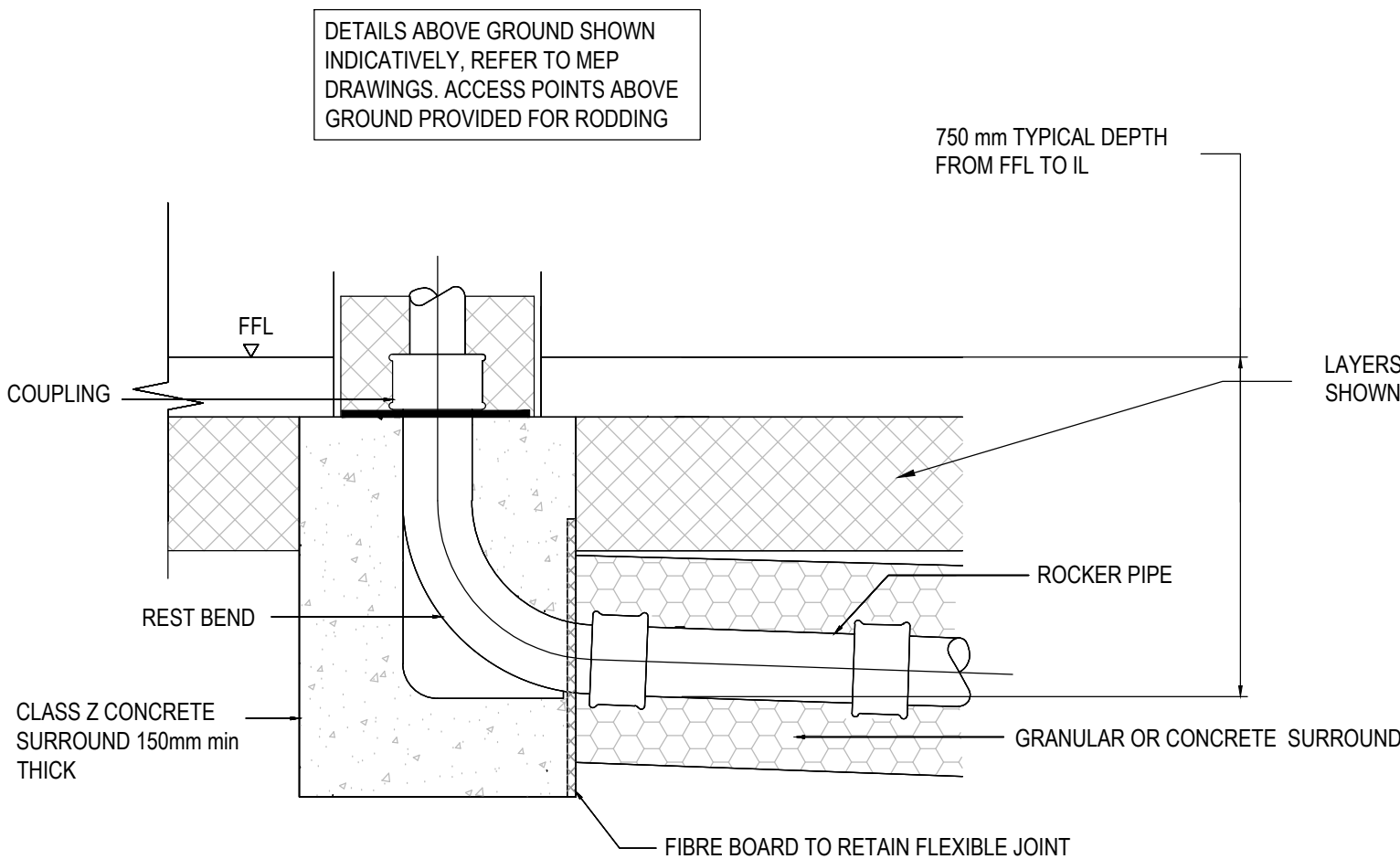
CLASS P BEDDING
TYPICAL DETAIL

(pedestrian and landscaping areas only
for PVC-U pipes with cover more than 0.9m above the pipe crown)

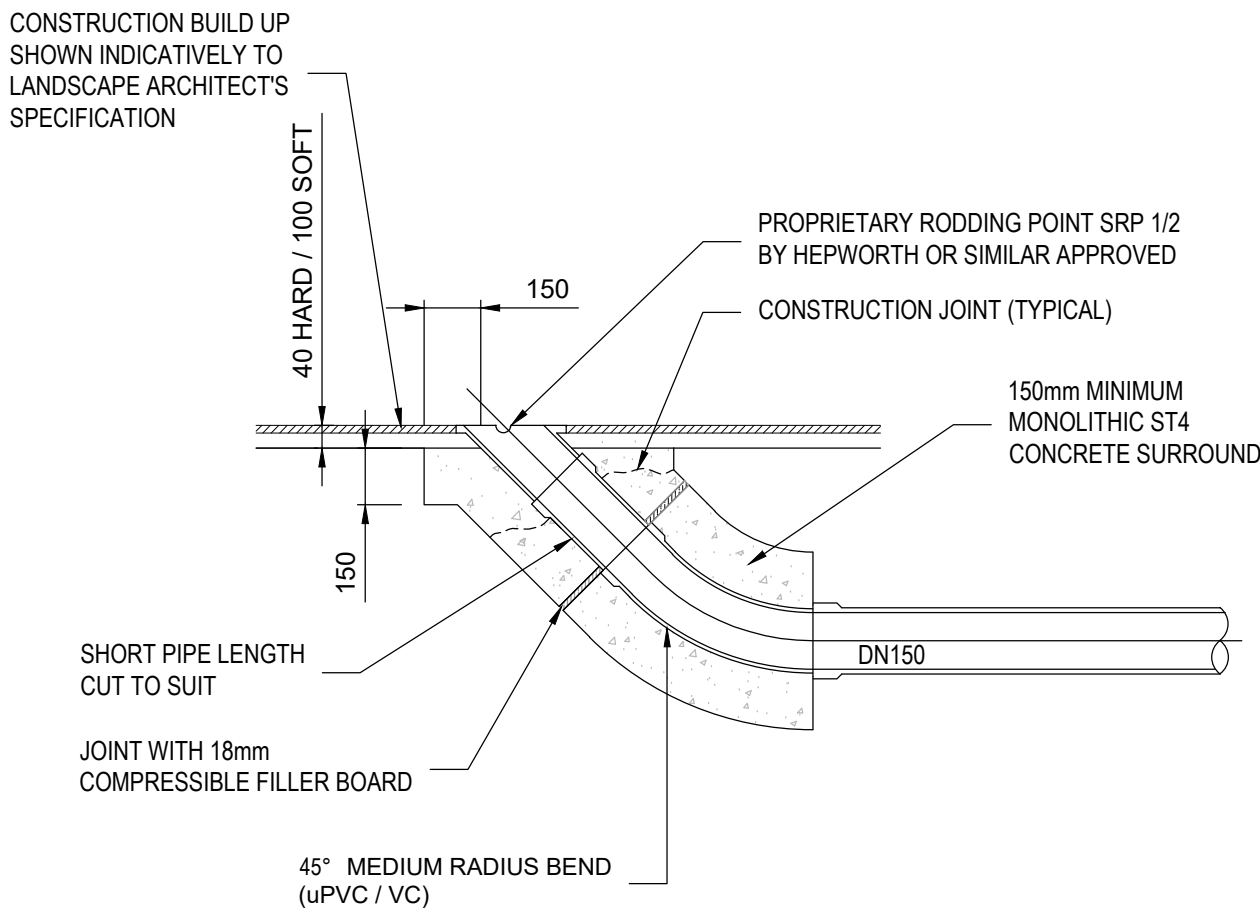


CLASS Y CONCRETE SURROUND
TYPICAL DETAIL

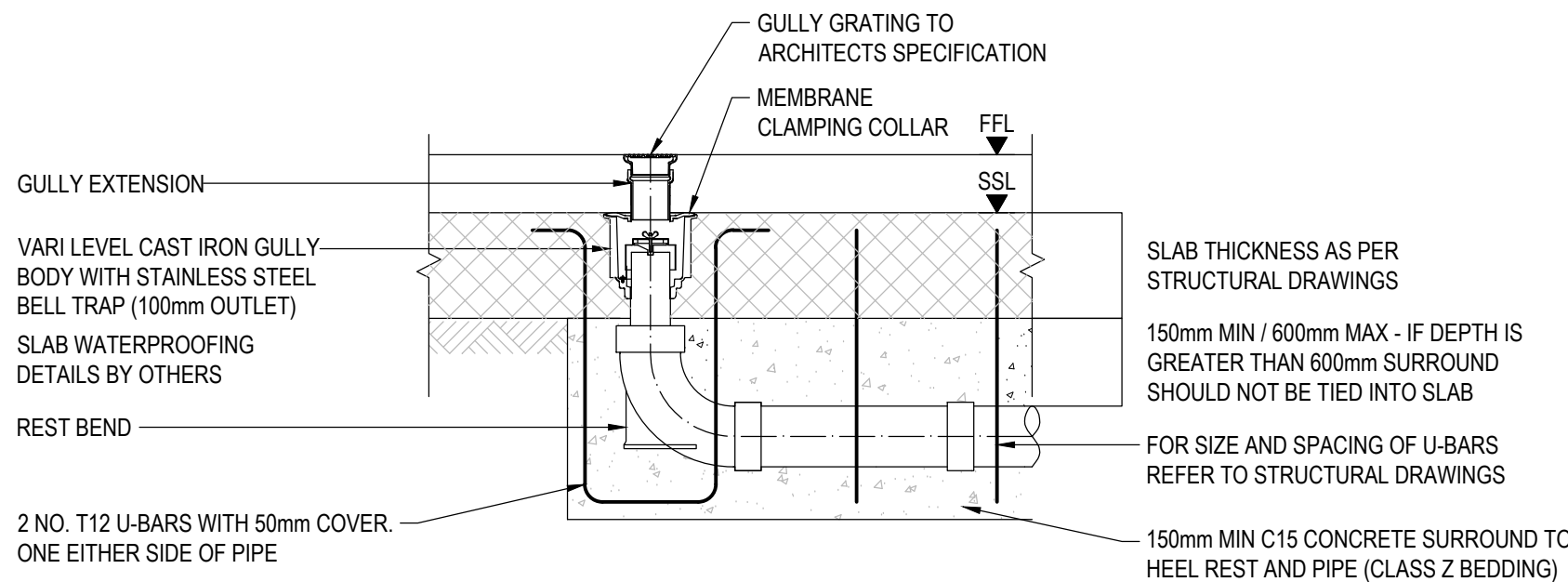
(within 300mm of floor slab)



TYPICAL INTERNAL DRAIN POINT DETAIL
BELOW SLAB
Scale 1:10



TYPICAL EXTERNAL RODDING EYE



TYPICAL INTERNAL FLOOR GULLY CAST INTO STRUCTURAL SLAB (FG)

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P05 - STAGE 4 REDESIGN	GM	SR	27/06/24
P04 - STAGE 4 FINAL	GM	SR	10/05/24
P03 - FINAL STAGE 4 ISSUE	GM	SR	20/03/24
P02 - STAGE 3 ISSUE	TP	TK	20/10/23
P01 - WIP FOR COSTING	TP	TK	29/09/23

REVISION	DESCRIPTION	DRAWN	CHECKED	DATE
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EC1V 4LJ
United Kingdom

T +44 (0)20 7812 8000
www.bdp.com

PROJECT TITLE
ECMWF

REF OR NUMBER
P3002898

DRAWING TITLE
BELOW GROUND DRAINAGE
TYPICAL DETAILS SHEET 3 of 12

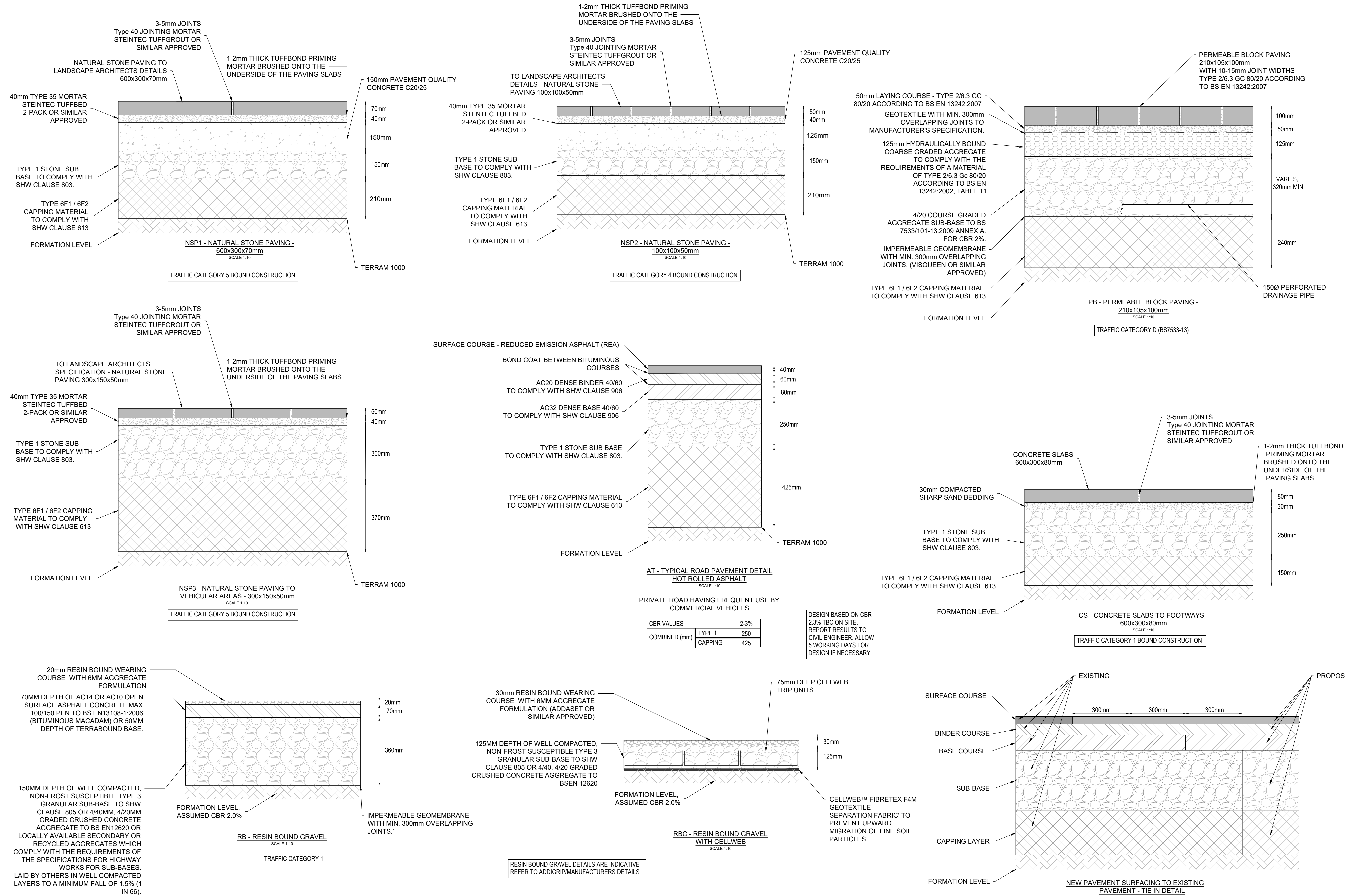
SCALE
@ A1
1:10

ISSUE RESPONSIBILITY
S(4)

DATE FIRST ISSUED
09/29/2023

DRAWING NUMBER
ECMWF-BDP-ZZ-ZZ-DR-C-000402

REVISION
P06



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- THE PROJECT CDM RISK REGISTER

- ### NOTES
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED
 2. FOR THE PROPOSED GENERAL ARRANGEMENT AND INTERNAL ROADS LAYOUT PLEASE REFER TO ECMWF-BDP-ZZ-ZZ-DR-C-000100 & 000101.
 3. FOR THE PROPOSED ROADS LONGITUDINAL SECTIONS PLEASE REFER TO ECMWF-BDP-ZZ-ZZ-DR-C-000200.
 4. FOR THE PROPOSED SURFACE FINISH MATERIALS PLEASE REFER TO ECMWF-BDP-ZZ-ZZ-DR-C-000300 & 000301.
 5. ALL BUILDUPS ARE REQUIRED TO BE 450mm DEEP UNLESS THE FROST INDEX IS ATTAINED AND REPORTED TO THE ENGINEER.
 6. ROAD FORMATION TO BE CHECKED FOR SOFT SPOTS. SOFT SPOTS TO BE REMOVED AND REPLACED WITH TYPE 1 MATERIAL OR TYPE 6F2 CAPPING MATERIAL.
 7. BUILDUPS DO NOT ALLOW FOR CONSTRUCTION TRAFFIC. A SACRIFICIAL LAYER OF HARDCORE UNDERLAIN WITH A GEOTEXTILE, OR SIMILAR, SHOULD BE USED TO PROTECT THE SUB-BASE FROM CONSTRUCTION TRAFFIC.
 8. BLOCK PAVING HAS BEEN DESIGNED IN ACCORDANCE WITH BS 7533-101:2021. REFER TO BS 7533-101:2021 TABLE 2B FOR TRAFFIC CATEGORIES.
 9. PERMEABLE BLOCK PAVING HAS BEEN DESIGNED IN ACCORDANCE WITH BS 7533-13:2009. REFER TO BS 7533-13:2009 TABLE 6 FOR TRAFFIC CATEGORIES.
 10. HOT ROLLED ASPHALT PAVEMENT DESIGNED TO NHBC STANDARDS.
 11. MINIMUM SKID RESISTANCE FOR PRIVATE ACCESS ROAD SURFACING IS PSV 65 AS PER CIVIL SPEC.

CBR TESTS ARE REQUIRED IN SITU AT FORMATION DEPTH. PRIOR TO FINAL DESIGN AND CONSTRUCTION. ALL BUILDUPS ARE BASED ON A CBR OF 2%. ALLOW 5 WORKING DAYS FOR REDESIGN, IF NECESSARY.

P08 - STAGE 4 SECURITY CHANGE ISSUE	JD	LJ	13/09/24
P07 - FOR PLANNING	GM	SR	22/07/24
P06 - STAGE 4 REDESIGN	GM	SR	27/06/24
P05 - STAGE 4 FINAL	COB	SR	10/05/24
P04 - STAGE 4 ISSUE	GM	SR	20/03/24
P03 - STAGE 4 COSTING WIP ISSUE	SPB	SR	19/01/24
P02 - STAGE 3 ISSUE	GM	TK	20/10/23
P01 - WIP FOR COSTING	GM	TK	09/10/23

REVISION	DESCRIPTION	DRAWN	CHECKED	DATE
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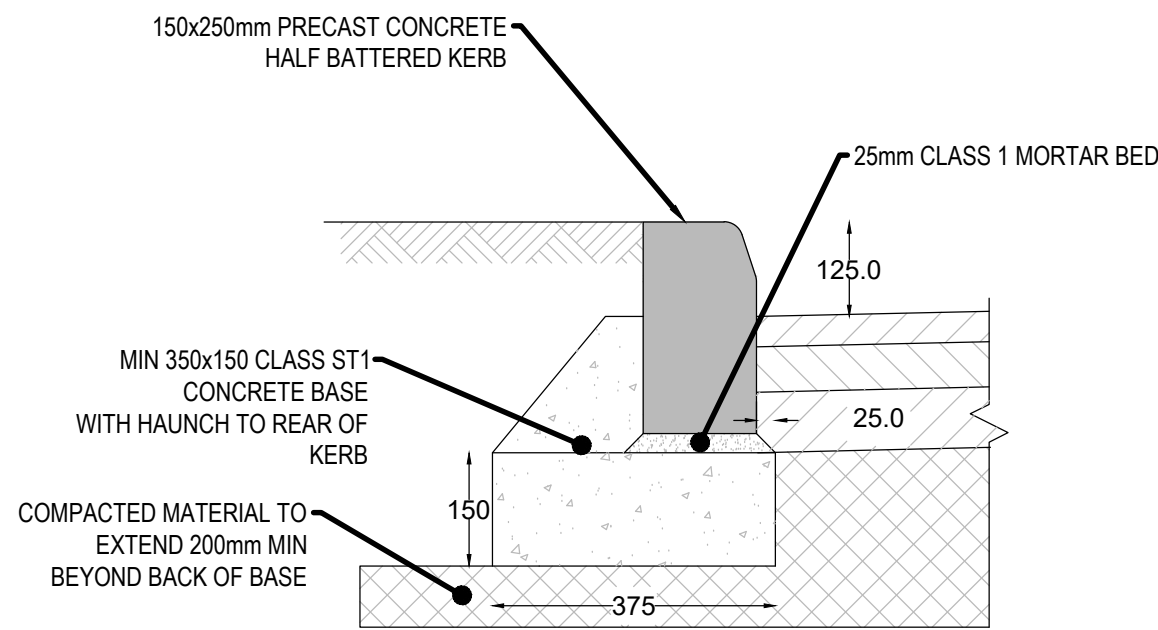
PROJECT TITLE
ECMWF

REF OR NUMBER
P3002898

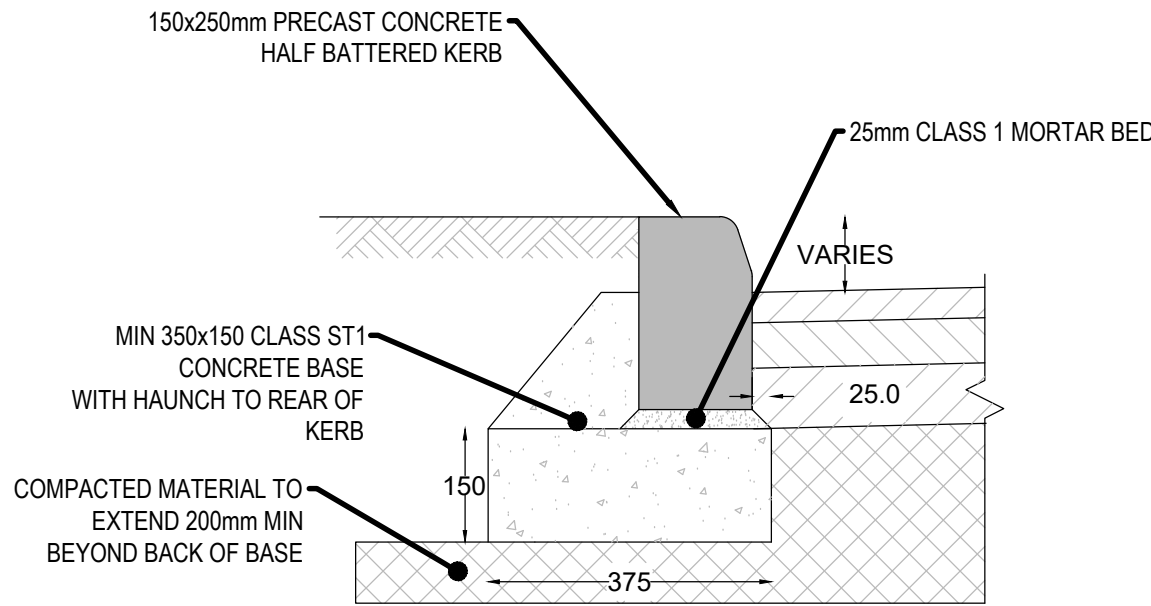
ISSUED TITLE CONSTRUCTION TYPICAL DETAILS SHEET 4 of 12	SCALE @ A1 1:10
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PROJECT REFERENCE S(4)	DATE FIRST ISSUED 09/10/2023
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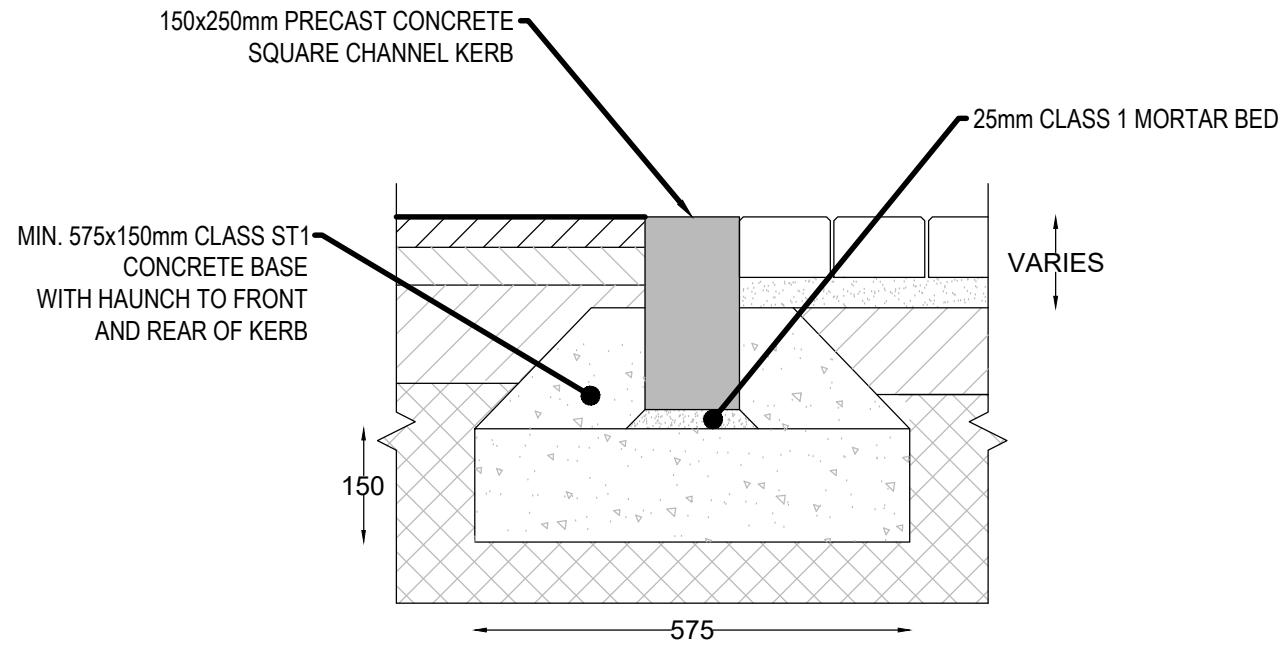
PROJECT NUMBER ECMWF-BDP-ZZ-ZZ-DR-C-000403	REVISION P08
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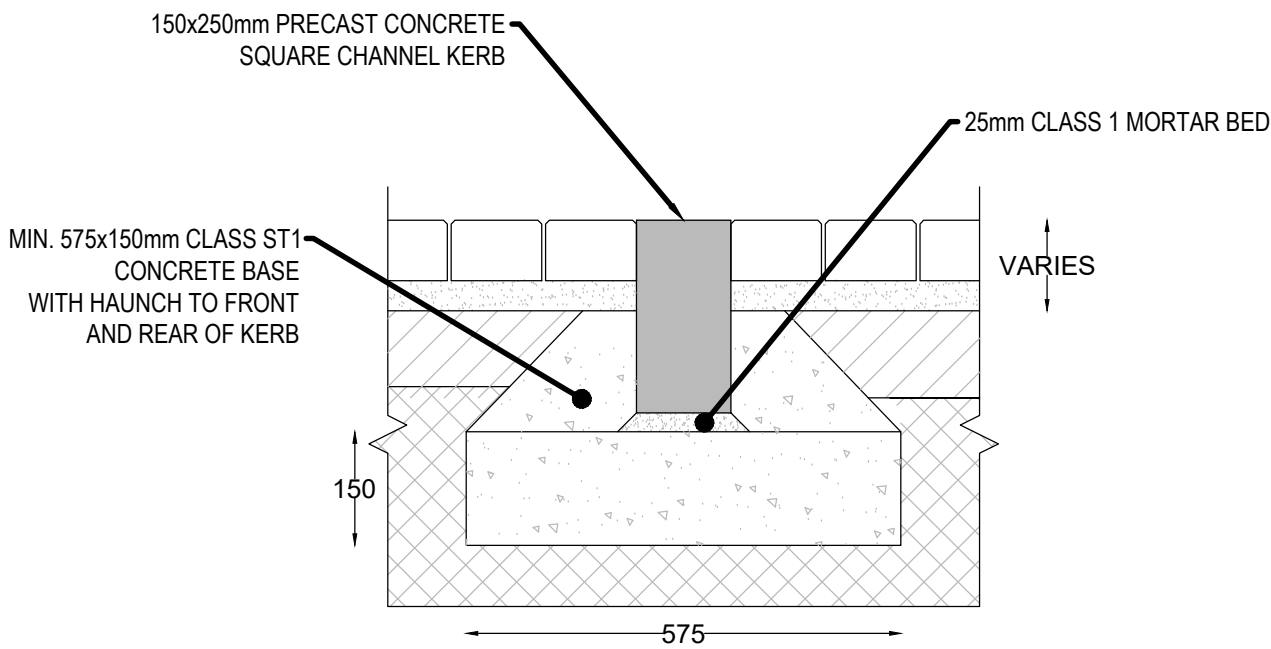
K1A - 150mm WIDE x 250mm DEEP x 1000mm
LONG HALF BATERED CONCRETE KERB
SCALE 1:10



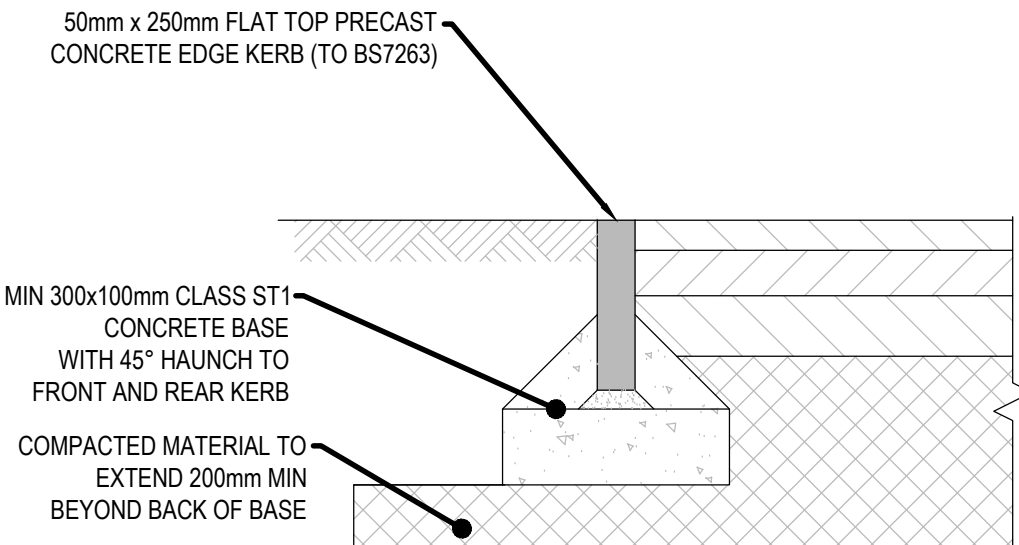
K1B - 150mm WIDE CONCRETE
TRANSITION KERB
SCALE 1:10



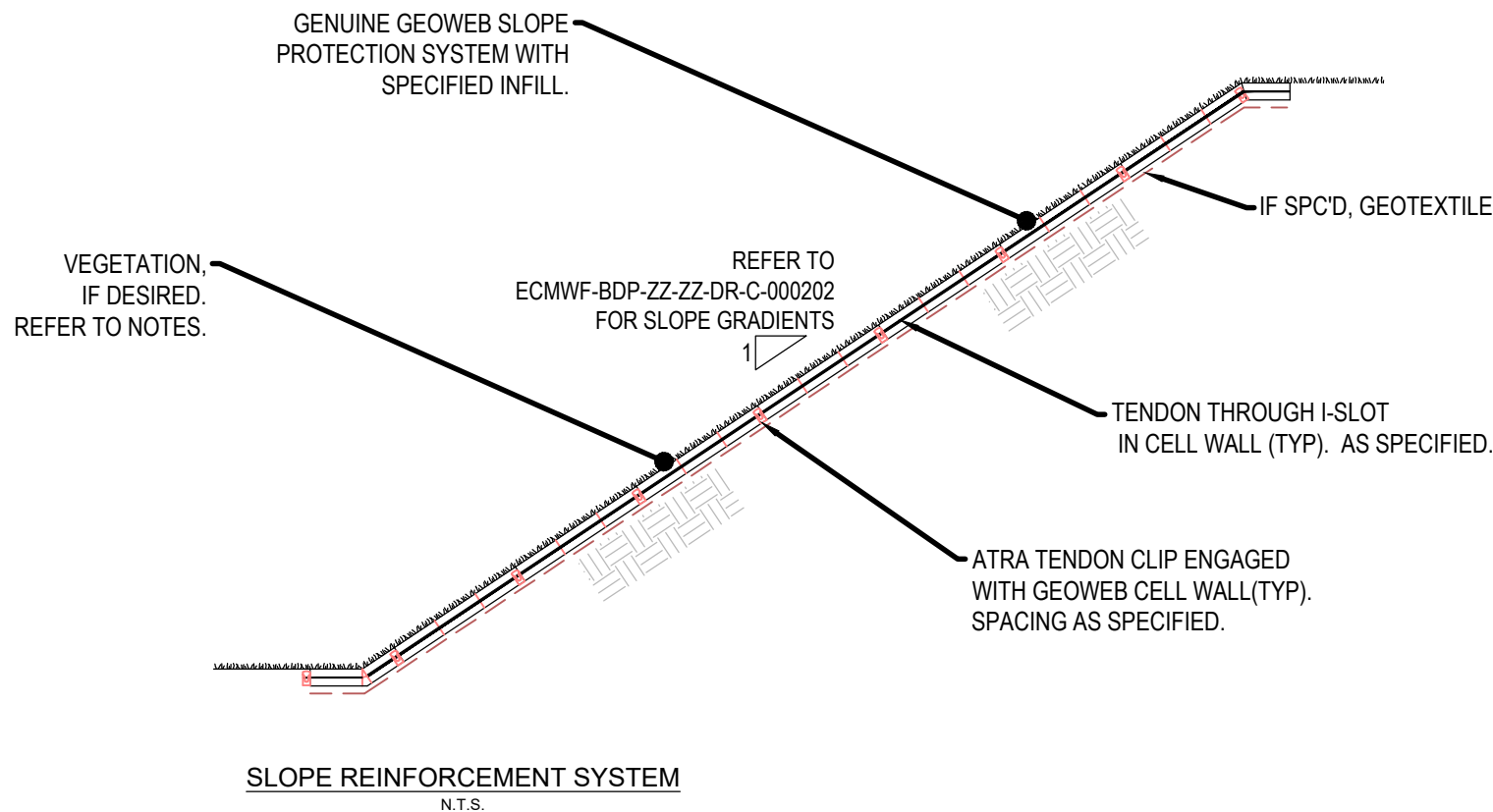
K1C - 150mm WIDE FLUSH CONCRETE
KERB (DROP KERB)
SCALE 1:10



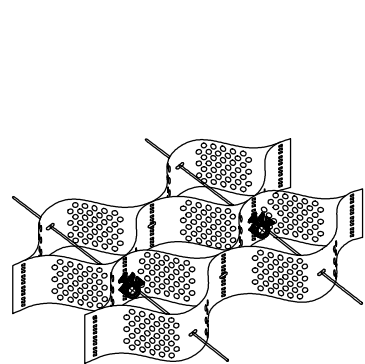
K2 - 150mm WIDE FLUSH GRANITE
KERB
SCALE 1:10



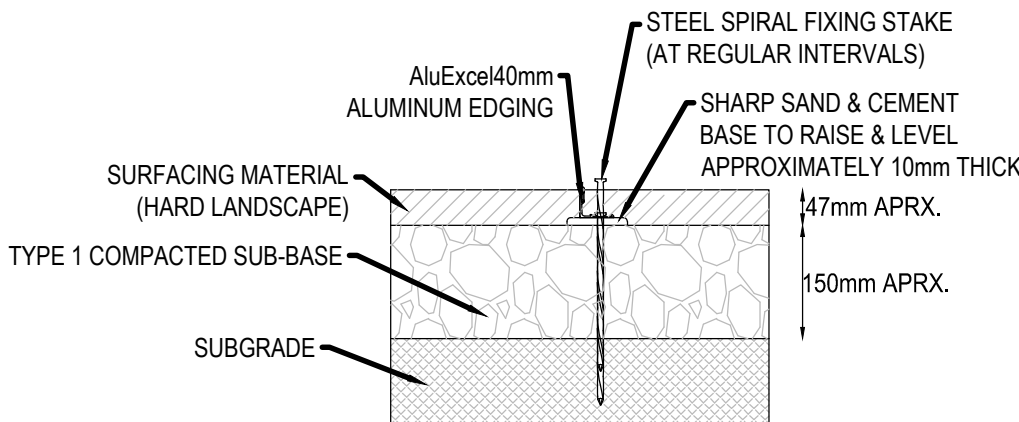
K3 - 50mm WIDE FLUSH CONCRETE
PIN KERB, FLAT TOP (50mm WIDE x 250mm
DEEP x 915mm LONG)
SCALE 1:10



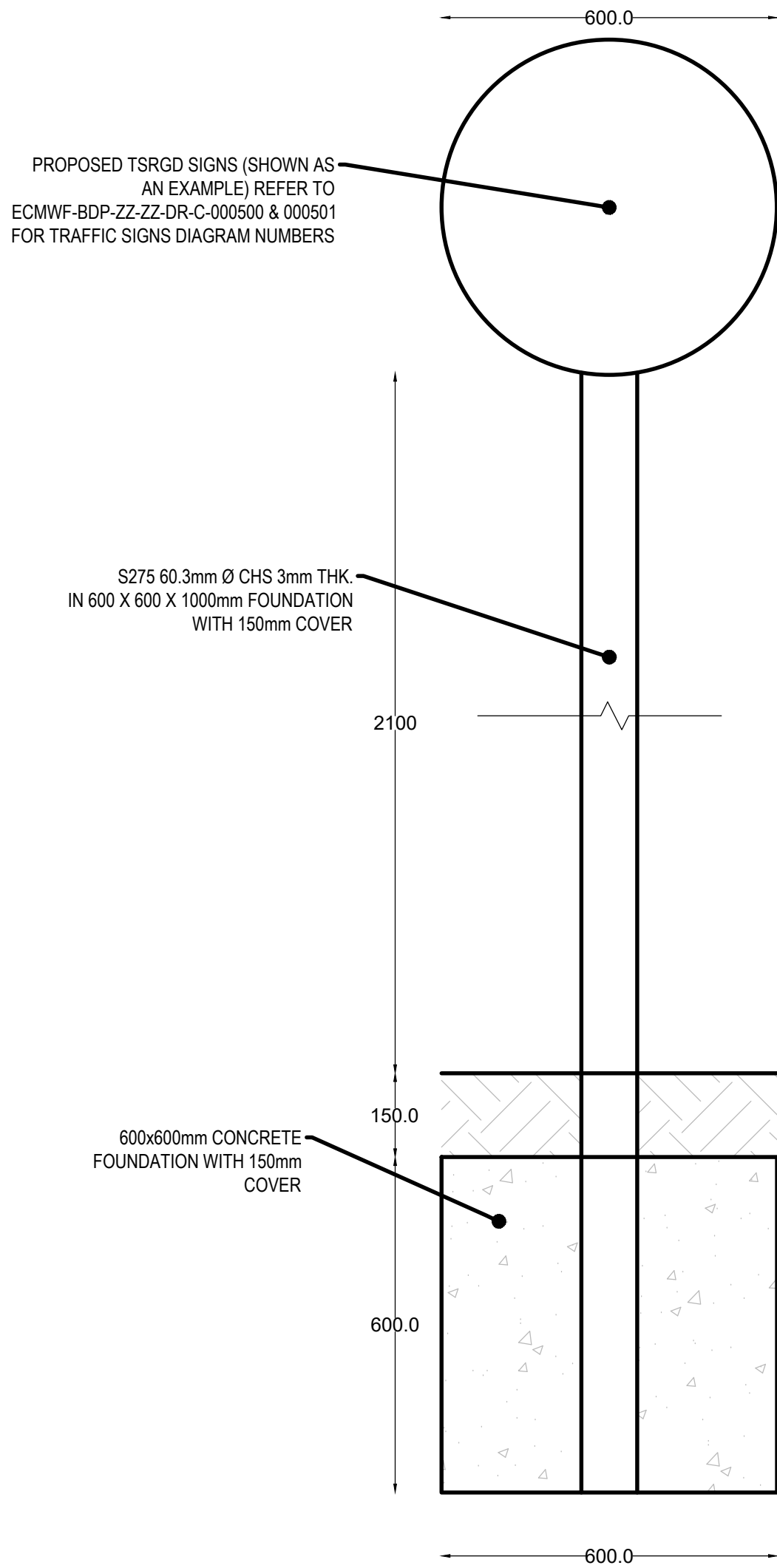
SLOPE REINFORCEMENT SYSTEM
N.T.S.



SLOPE REINFORCEMENT SYSTEM
PERSPECTIVE
N.T.S.



K4 - KINLEY METAL EDGING HARD LANDSCAPE
SCALE 1:4



TYPICAL POST AND
FOUNDATION DETAIL
SCALE 1:10

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- THE BDP RISK SERIES OF DRAWINGS
- THE PROJECT CDM RISK REGISTER

NOTES

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3. FOR THE PROPOSED ROADS LONGITUDINAL SECTIONS PLEASE REFER TO ECMWF-BDP-ZZ-ZZ-DR-C-000200
4. FOR THE PROPOSED SURFACE FINISH MATERIALS PLEASE REFER TO ECMWF-BDP-ZZ-ZZ-DR-C-000300 & 000301
5. FOR THE PROPOSED PAVEMENT BUILD UPS PLEASE REFER TO ECMWF-BDP-ZZ-ZZ-DR-C-000403
6. IF THE KERB HAUNCH AND LOG ARE LAID SEPARATELY THE HAUNCH IS TO BE KEED TO THE LOG WITH 200mm x 15mm DIAMETER MILD STEEL PIN S AT 450mm CENTRES. THE KERBS ARE TO BE LAID ON A 25mm MAX. MORTAR BED TO TABLE 24/1 DESIGNATION
7. ALL RETURNS IN KERB LINES ARE TO BE MADE USING QUADRANT KERB UNITS AND OR CORNER RETURN UNITS - MITRED JOINTS ARE NOT ACCEPTABLE
8. FOR DETAILS OF KS WALL DETAIL PLEASE REFER TO STRUCTURAL ENGINEER INFORMATION AND CIVIL DETAILS WILL BE DEFINED IN LATER DESIGN STAGES
9. THIS DRAWING IS WORK IN PROGRESS AND SUBJECT TO CHANGE

P06 - STAGE 4 SECURITY CHANGE ISSUE	JD	LJ	13/09/24
P05 - FOR PLANNING	GM	SR	22/07/24
P04 - STAGE 4 REDESIGN	GM	SR	27/05/24
P03 - STAGE 4 FINAL	GM	SR	10/05/24
P02 - FINAL STAGE 4 ISSUE	GM	SR	20/03/24
P01 - STAGE 3 ISSUE	GM	TK	20/10/23

REVISION	DESCRIPTION	DRAWN	CHECKED	DATE

CLIENT



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PROJECT TITLE	ECMWF
REF OR NUMBER	P3002898
DRAWN BY	CONSTRUCTION TYPICAL
CHECKED BY	DETAILS SHEET 5 of 12
DATE FIRST ISSUED	20/10/2023
REVISION	P06

UNIT REF NO	NOMINAL FLOW	DIA L (mm)	APPROX EMPTY WEIGHT (kgs)	FALL ACROSS UNIT	INLET SIZE (mm)	OUTLET SIZE (mm)
NSBP003	3 l/s	1700	180	100	Ø225	Ø225

NOTES:
1. DETAIL IS SHOWN INDICATIVELY - REFER TO MANUFACTURER'S INFORMATION

NOTES:

- INLET/OUTLET PIPES ARE PLAIN PIPE Ø315mm PVCu. THE STANDARD EN 858 STATES MINIMUM CONNECTION SIZES, UNITS ORDERED WITH DIFFERENT SIZED CONNECTIONS ARE NOT FULLY COMPLIANT WITH THE STANDARD.
- EXTENSION NECKS FOR DEEPER INVERTS CAN BE PROVIDED. THESE CAN BE CUT IN 200mm SECTIONS. MAX 2.0m INVERT RECOMMENDED.
- ALL UNITS REQUIRE APPROPRIATE COVER AND FRAME TO SUIT APPLIED LOADINGS.
- THIS DRAWING SHOULD BE USED FOR DIMENSIONAL INFORMATION ONLY. IT IS ESSENTIAL THAT THIS DRAWING IS READ IN CONJUNCTION WITH THE INSTALLATION GUIDELINES SUPPLIED WITH THE UNIT.
- THIS DRAWING IS ALSO AVAILABLE ON WWW.KINGSPANENV.COM
- A Ø76mm TUBE (INTERNAL) IS SUPPLIED TO HOUSE AN OIL ALARM PROBE
- WET SITE CONDITIONS - CONCRETE BACKFILL
- DRY SITE CONDITIONS - PEA SHINGLE BACKFILL
- PLEASE REFER TO INSTALLATION MANUAL FOR DETAILS OF CORRECT BACKFILLING
- DETAIL IS SHOWN INDICATIVELY PLEASE REFER TO MANUFACTURER GUIDES PRIOR TO COMMENCING ANY WORK ON SITE.

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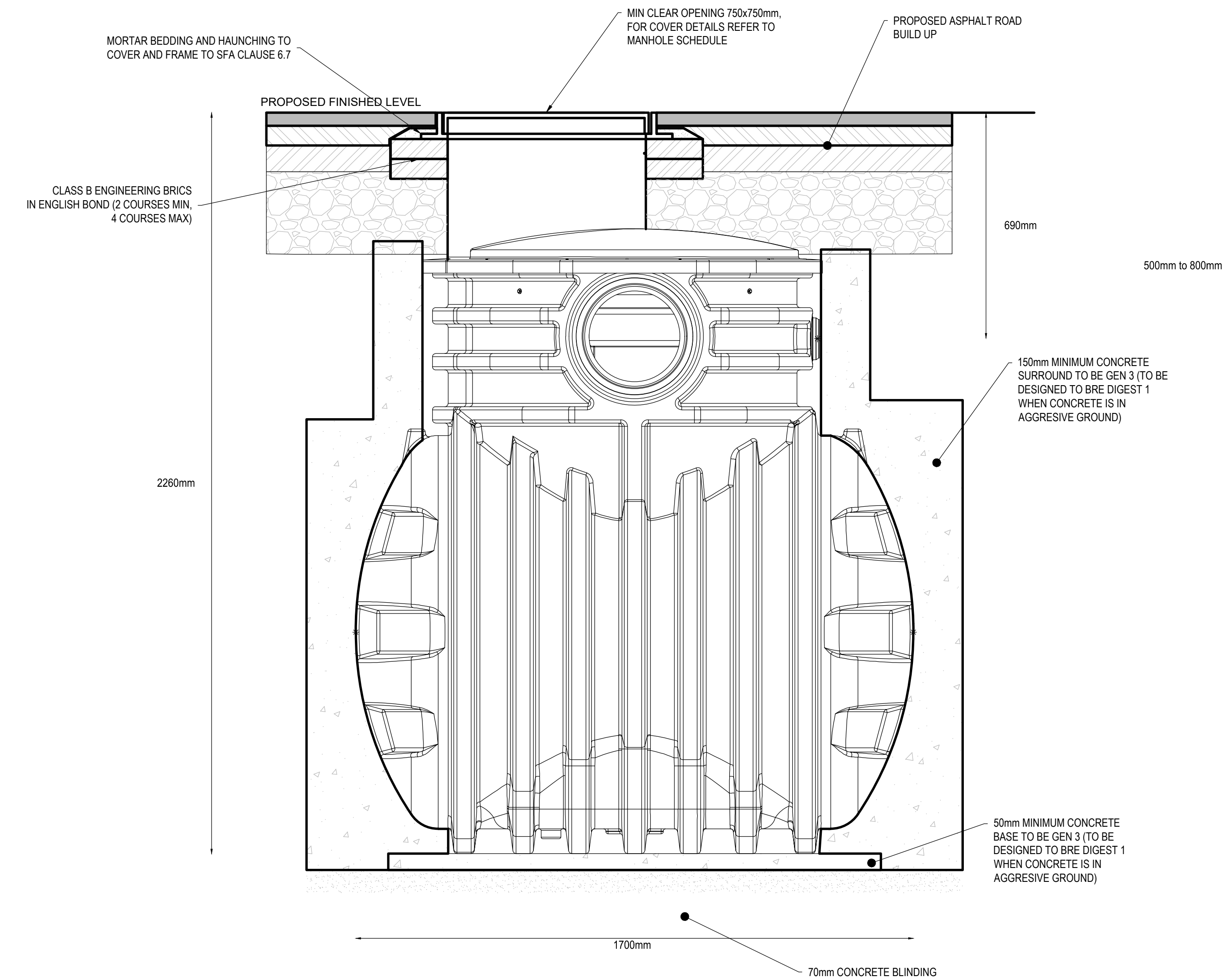
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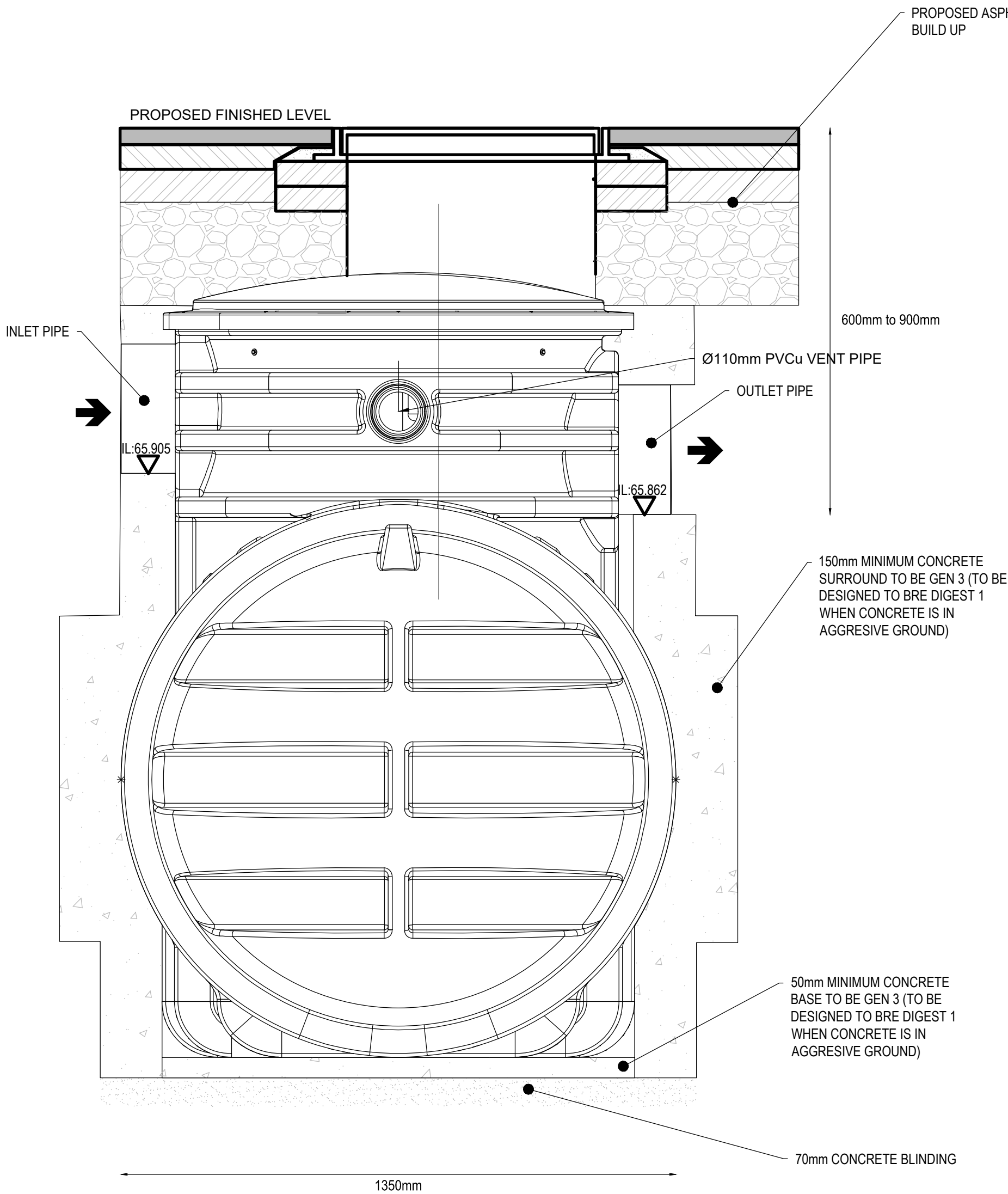
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- FOR THE PROPOSED ROADS LONGITUDINAL SECTIONS PLEASE REFER TO ECMWF-BDP-ZZ-ZZ-DR-C-000200.
- FOR THE PROPOSED SURFACE FINISH MATERIALS PLEASE REFER TO ECMWF-BDP-ZZ-ZZ-DR-C-000300 & 000301.
- FOR THE PROPOSED PAVEMENT BUILD UPS PLEASE REFER TO ECMWF-BDP-ZZ-ZZ-DR-C-000403.
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- ALL RETURNS IN KERB LINES ARE TO BE MADE USING QUADRANT KERB UNITS AND OR CORNER RETURN UNITS - MITRED JOINTS ARE NOT ACCEPTABLE.
- FOR K4 FLUSH METAL EDGE PLEASE REFER TO MANUFACTURER'S WINLEY TECHNICAL DRAWING PACKAGE
- FOR DETAILS OF K5 WALL DETAIL PLEASE REFER TO LANDSCAPE INFORMATION AND CIVIL DETAILS WILL BE DEFINED IN LATER DESIGN STAGES
- THIS DRAWING IS WORK IN PROGRESS AND SUBJECT TO CHANGE



OIL SEPARATOR PLEASE REFER TO DRAINAGE PLANS FOR LOCATION
KLARGESTER AQUAOIL BYPASS DETAIL NSBP003



P06 - STAGE 4 SECURITY CHANGE ISSUE	JD	LJ	13/09/24
P05 - FOR PLANNING	GM	SR	29/07/24
P04 - STAGE 4 REDESIGN	GM	SR	27/06/24
P03 - STAGE 4 FINAL	GM	SR	10/05/24
P02 - STAGE 4 ISSUE	GM	SR	20/13/24
P01 - STAGE 4 COSTING WIP ISSUE	SPB	SR	26/01/24

REVISION	DESCRIPTION	DRAWN	CHECKED	DATE
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16 Brewhouse Yard
Clerkenwell
London
EC1V 4LJ
United Kingdom

T +44 (0)20 7812 8000
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PROJECT TITLE
ECMWF

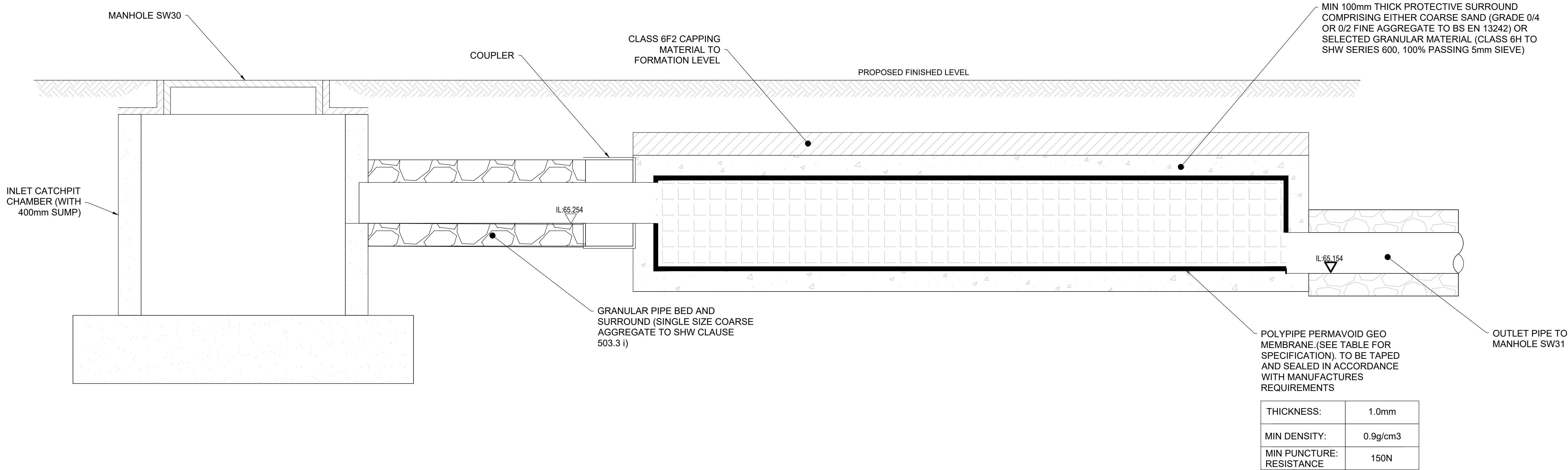
REF OR NUMBER
P3002898

DRAWING TITLE
CONSTRUCTION TYPICAL
DETAILS SHEET 6 of 12

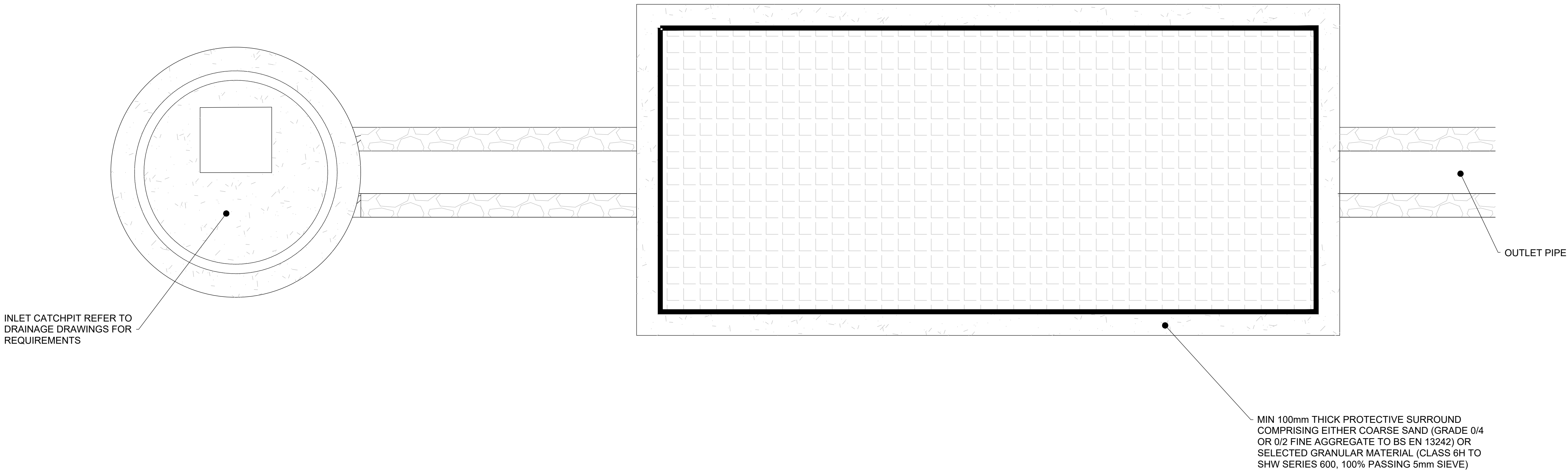
DATE FIRST ISSUED
24/01/2024

PROJECT TITLE
ECMWF-BDP-ZZ-ZZ-DR-C-000405

REGION
P06



ATTENUATION TANK DETAIL
SECTION



ATTENUATION TANK DETAIL
PLAN

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10. HOT ROLLED ASPHALT PAVEMENT DESIGNED TO NHBCC STANDARDS

P05 - STAGE 4 SECURITY CHANGE ISSUE	JD	LJ	13/09/24
P04 - FOR PLANNING	GM	SR	29/07/24
P03 - STAGE 4 REDESIGN	GM	SR	27/06/24
P02 - STAGE 4 FINAL	GM	SR	10/05/24
P01 - STAGE 04 ISSUE	GM	SR	20/03/24

REVISION	DESCRIPTION	DRAWN	CHECKED	DATE



BDP.

16 Brewhouse Yard
Clerkenwell
London
EC1V 4LJ
United Kingdom

T +44 (0)20 7812 8000
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PROJECT TITLE
ECMWF

REF OR NUMBER
P3002898

DRAWING TITLE CONSTRUCTION TYPICAL DETAILS SHEET 7 of 12	SCALE 1:10 @ A1
PROJECT REFERENCE S(4)	DATE FIRST ISSUED 20/03/2024
DRAWING NO. ECMWF-BDP-ZZ-ZZ-DR-C-000406	REVISION P05

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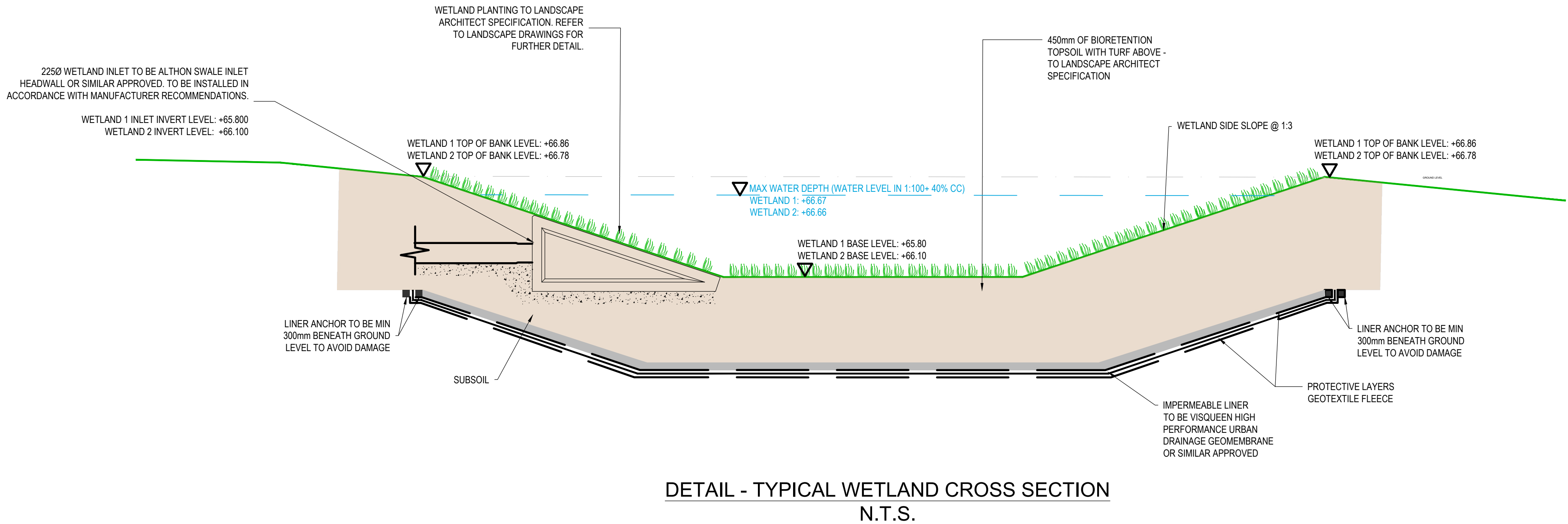
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- THE BDP RISK SERIES OF DRAWINGS
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NOTES

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2. FOR THE PROPOSED GENERAL ARRANGEMENT AND INTERNAL ROADS LAYOUT PLEASE REFER TO ECMWF-BDP-ZZ-ZZ-DR-C-000100 & 000101.
3. FOR THE PROPOSED ROADS LONGITUDINAL SECTIONS PLEASE REFER TO ECMWF-BDP-ZZ-ZZ-DR-C-000200.
4. FOR THE PROPOSED SURFACE FINISH MATERIALS PLEASE REFER TO ECMWF-BDP-ZZ-ZZ-DR-C-000300 & 000301.
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P04 - STAGE 4 SECURITY CHANGE ISSUE	JD	LJ	13/09/24
P03 - STAGE 4 REDESIGN	GM	SR	27/06/24
P02 - STAGE 04 FINAL	GM	SR	10/05/24
P01 - STAGE 04 ISSUE	GM	SR	20/03/24

REVISION	DESCRIPTION	DRAWN	CHECKED	DATE

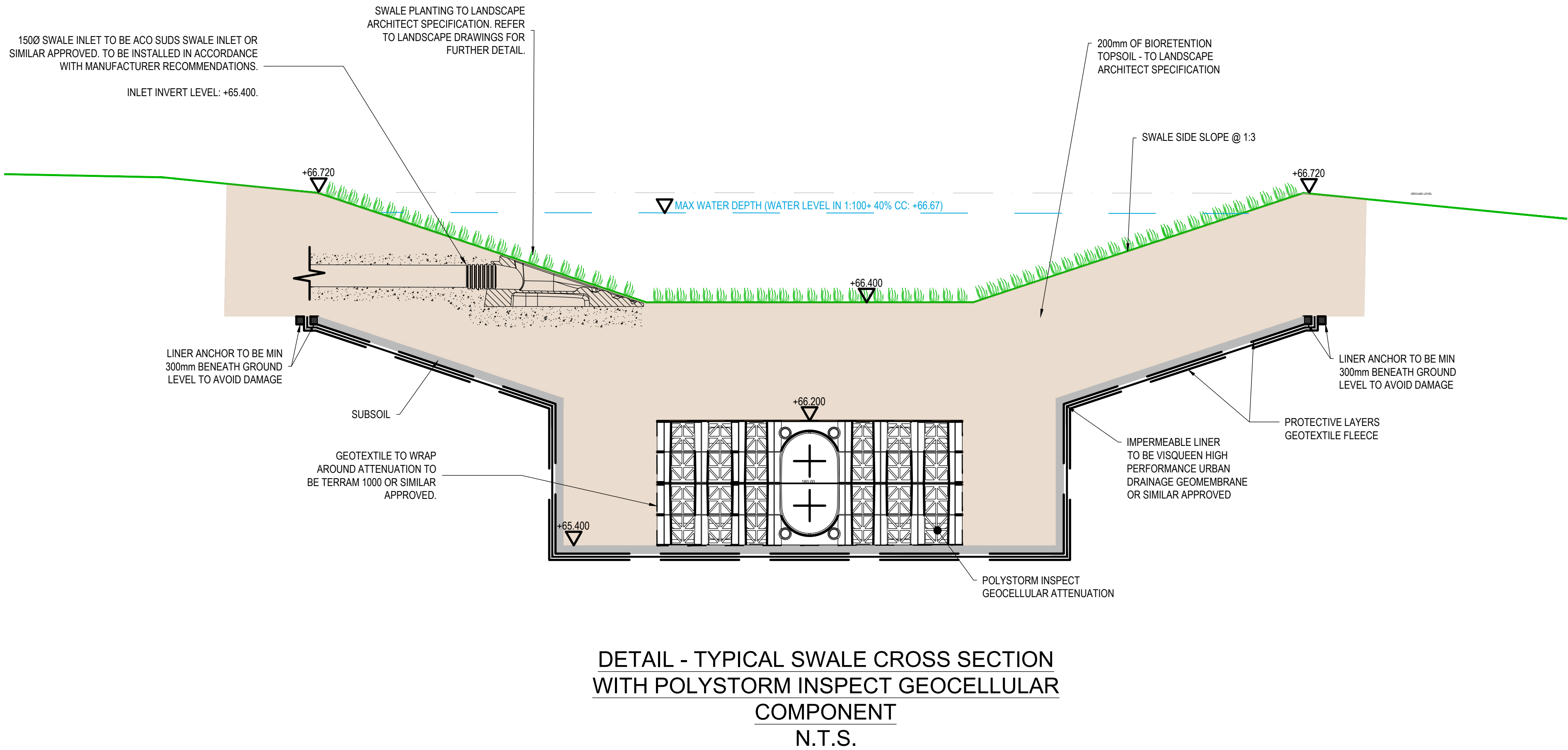


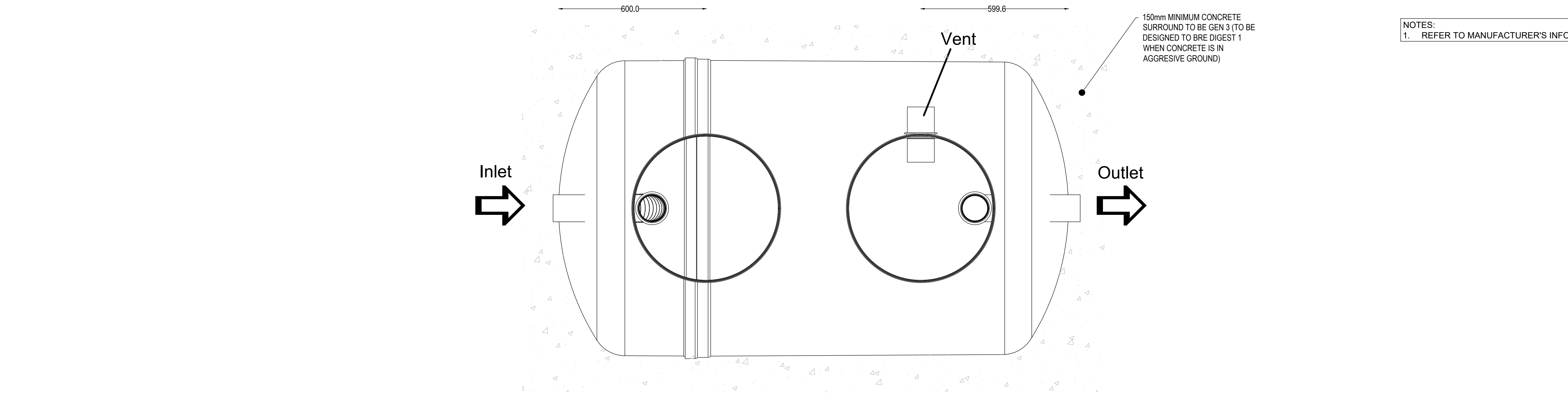
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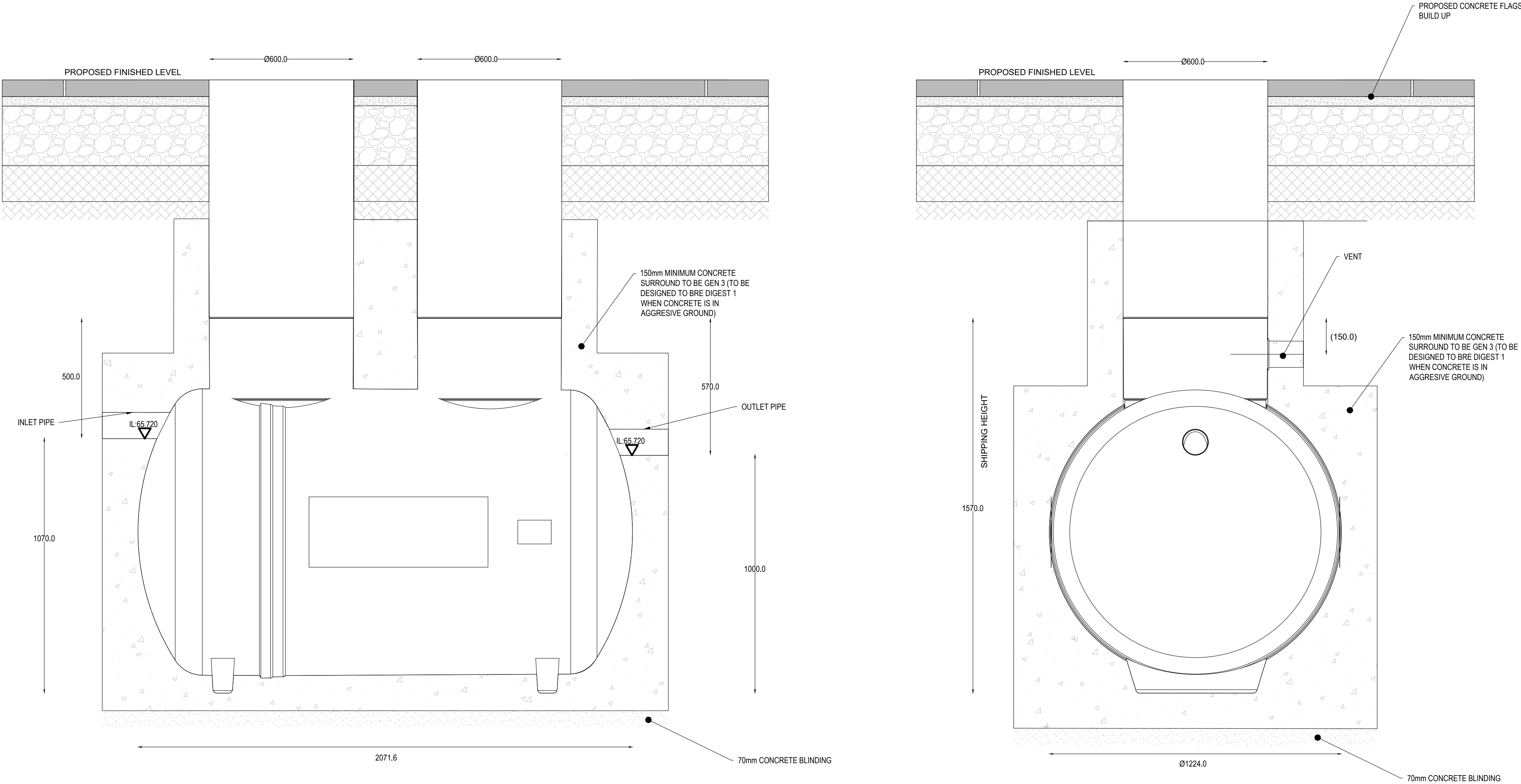
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PROJECT TITLE ECMWF	
REF OR NUMBER P3002898	SCALE @ A1
DRAWING TITLE CONSTRUCTION TYPICAL DETAILS SHEET 8 of 12	SCALE 1:10
DESIGN RESPONSIBILITY S(4)	DATE FIRST ISSUED 20/03/2024
DRAWING NO. ECMWF-BDP-ZZ-ZZ-DR-C-000407	REVISION P04





NOTES:
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DETAIL - NSG04 GREASE SEPARATOR - 2000L
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P04 - STAGE 4 SECURITY CHANGE ISSUE	JD	LJ	13/09/24
P03 - FOR PLANNING	GM	SR	29/07/24
P02 - STAGE 04 REDESIGN	GM	SR	27/06/24
P01 - STAGE 04 FINAL	GM	SR	10/05/24

REVISION	DESCRIPTION	DRAWN	CHECKED	DATE

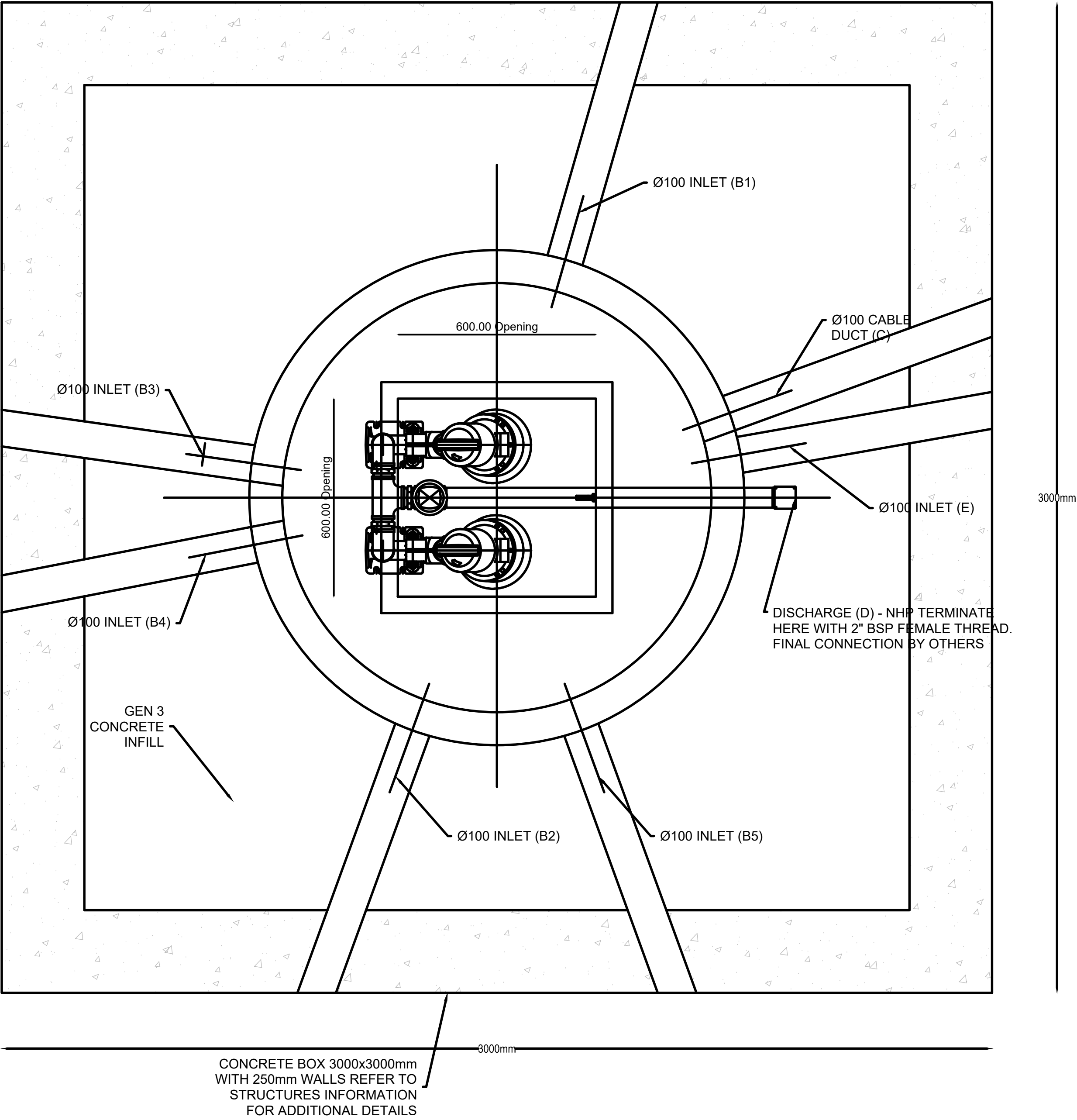
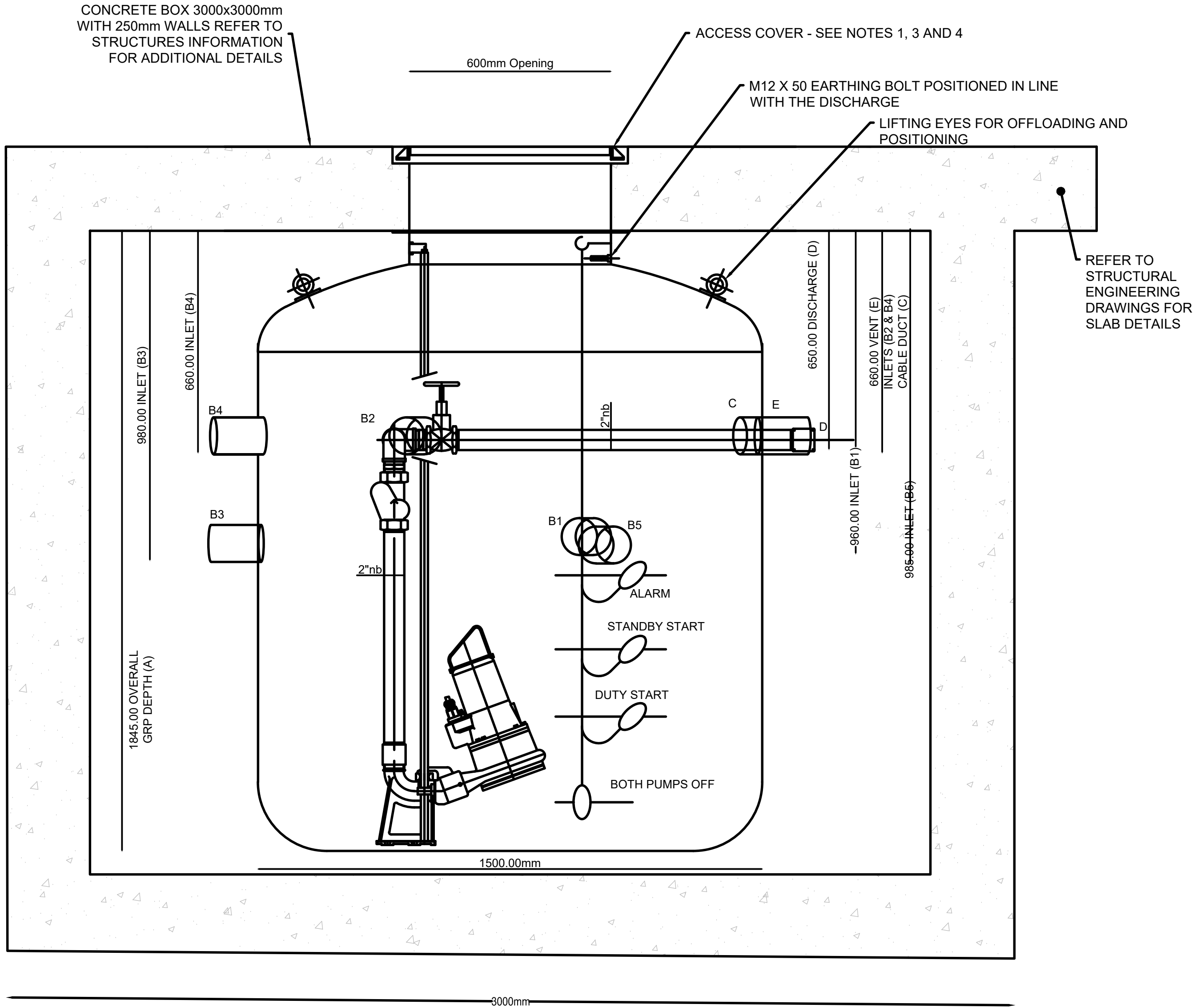


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16 Brewhouse Yard
Clerkenwell
London
EC1V 4LJ
United Kingdom

T +44 (0)20 7812 8000
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PROJECT TITLE ECMWF	
REF OR NUMBER P3002898	
DRAWING TITLE CONSTRUCTION TYPICAL DETAILS SHEET 9 of 12	SCALE 1:10 @ A1
DESIGN RESPONSIBILITY S(4)	DATE FIRST ISSUED 03/05/2024
DRAWING NO. ECMWF-BDP-ZZ-ZZ-DR-C-000408	REVISION P04



- NOTES:
- ACCESS COVER IS BY OTHERS.
 - THE TANK DIAMETER IS THE NOMINAL INTERNAL DIAMETER, THE CIVIL ENGINEER SHOULD ALLOW 50MM ALL ROUND TO ALLOW FOR JOINTS, WALL THICKNESSES AND STIFFENING RIBS.
 - ALL CIVIL ENGINEERING TO BE EXECUTED BY OTHERS INCLUDING FIXING OF ANY NON-STANDARD OR HEAVY DUTY ACCESS COVER
 - THE GRP TANK IS NOT A LOAD BEARING MEMBER. ANY NON-STANDARD OR HEAVY DUTY MANHOLE COVER MUST BE SUPPORTED ON A SEPERATE ISOLATED ROOF SLAB.
 - CABLE DUCT AND SEWER INLETS MAY BE POSITIONED AROUND THE TANK TO SUIT CLIENTS REASONABLE REQUIREMENTS. WHERE THE REQUIRED POSITION COINCIDES WITH STRUCTURAL DETAIL IT WILL BE PLACED IN THE NEAREST LOWER AND/OR HIGHEST ADJACENT POSITION.
 - REINFORCING BARS IN CONCRETE TO BE KEPT AT LEAST 75MM AWAY FROM ACCESS OPENING IN THE VICINITY OF THE TOP GUIDE-RAIL BRACKET FIXING HOLES.
 - THE LIFTING EYES ARE CERTIFIED FOR USE IN OFF LOADING AND POSITIONING ONLY.
 - FINAL CONNECTION TO DISCHARGE PIPEWORK IS BY OTHERS.

ARRANGEMENT OF DUPLEX PUMP
GPR SUMP Ø1500
PUMP TYPE: COMPAC-M 1500

NOTES:
1. DETAIL IS SHOWN INDICATIVELY - REFER TO MANUFACTURER'S INFORMATION

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P03 - STAGE 4 SECURITY CHANGE ISSUE JD LJ 13/09/24
P02 - FOR PLANNING GM SR 29/07/24
P01 - STAGE 04 FINAL GM SR 27/06/24

REVISION	DESCRIPTION	DRAWN	CHECKED	DATE
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16 Brewhouse Yard
Clerkenwell
London
EC1V 4LJ
United Kingdom

T +44 (0)20 7812 8000
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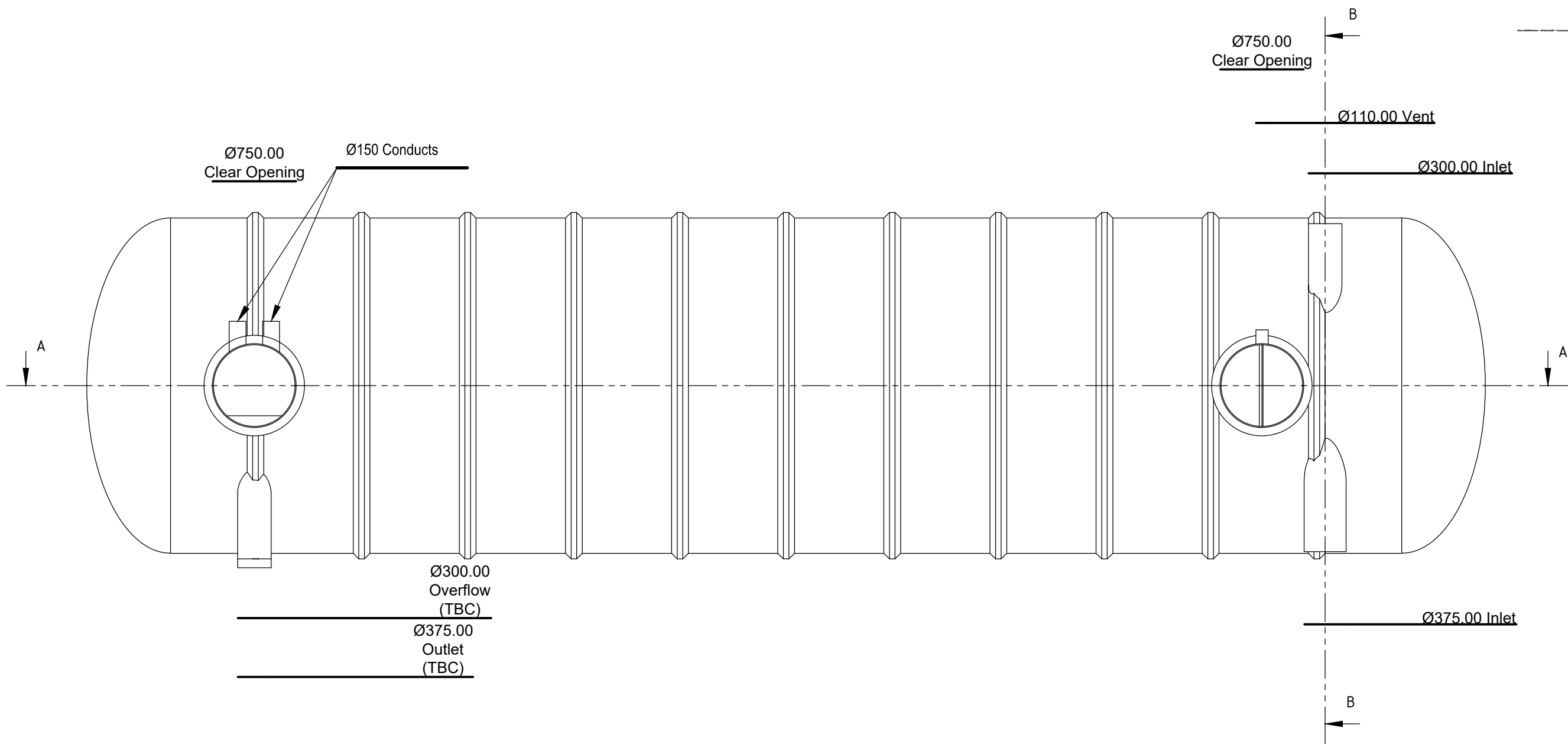
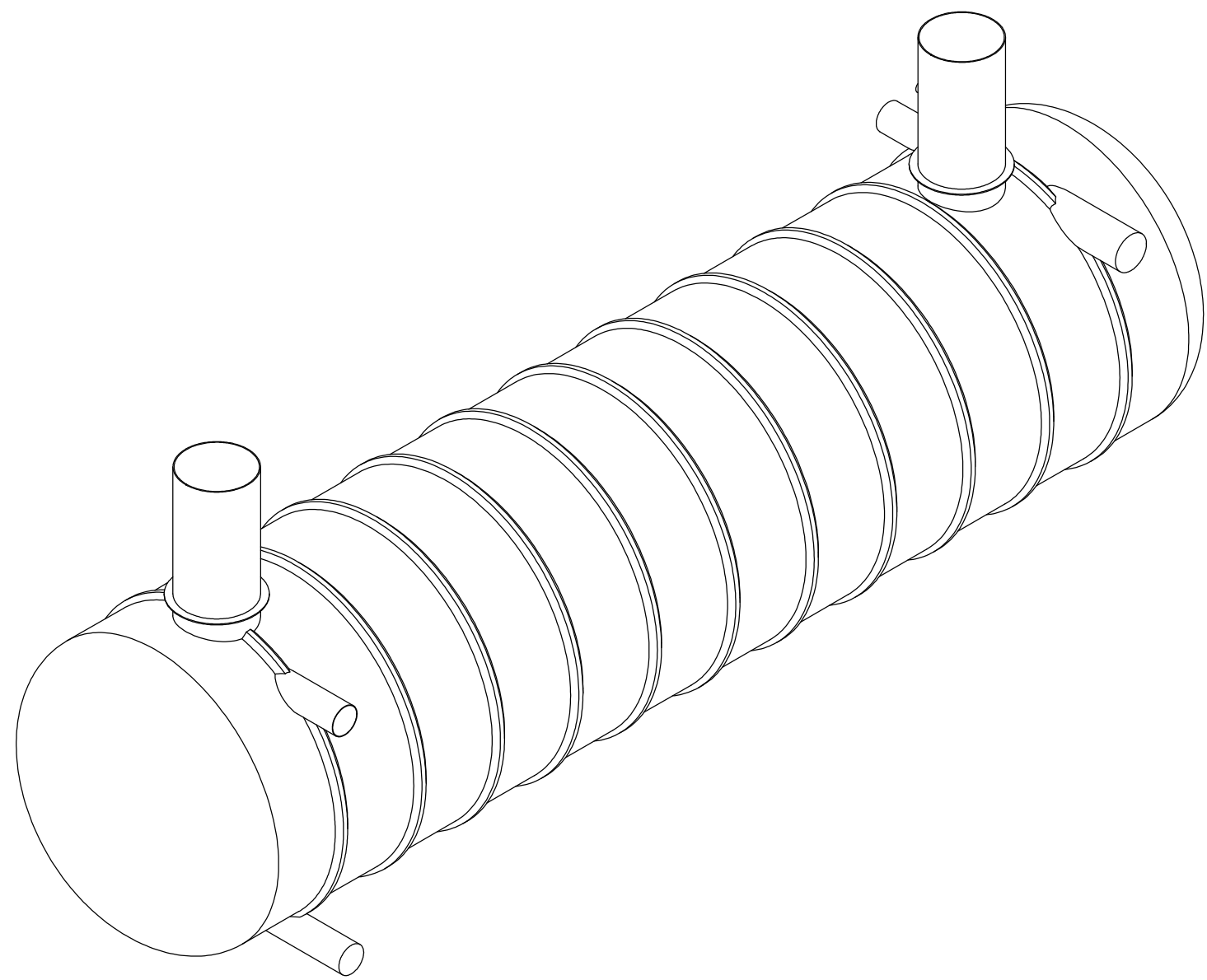
PROJECT TITLE
ECMWF

REF OR NUMBER
P3002898

DRAWING TITLE	SCALE
CONSTRUCTION TYPICAL DETAILS SHEET 10 OF 12	1:10 @ A1

PROJECT AUTHORITY	DATE FIRST ISSUED
S(4)	27/06/2024

DRAWING NUMBER	REVISION
ECMWF-BDP-ZZ-ZZ-DR-C-000409	P03



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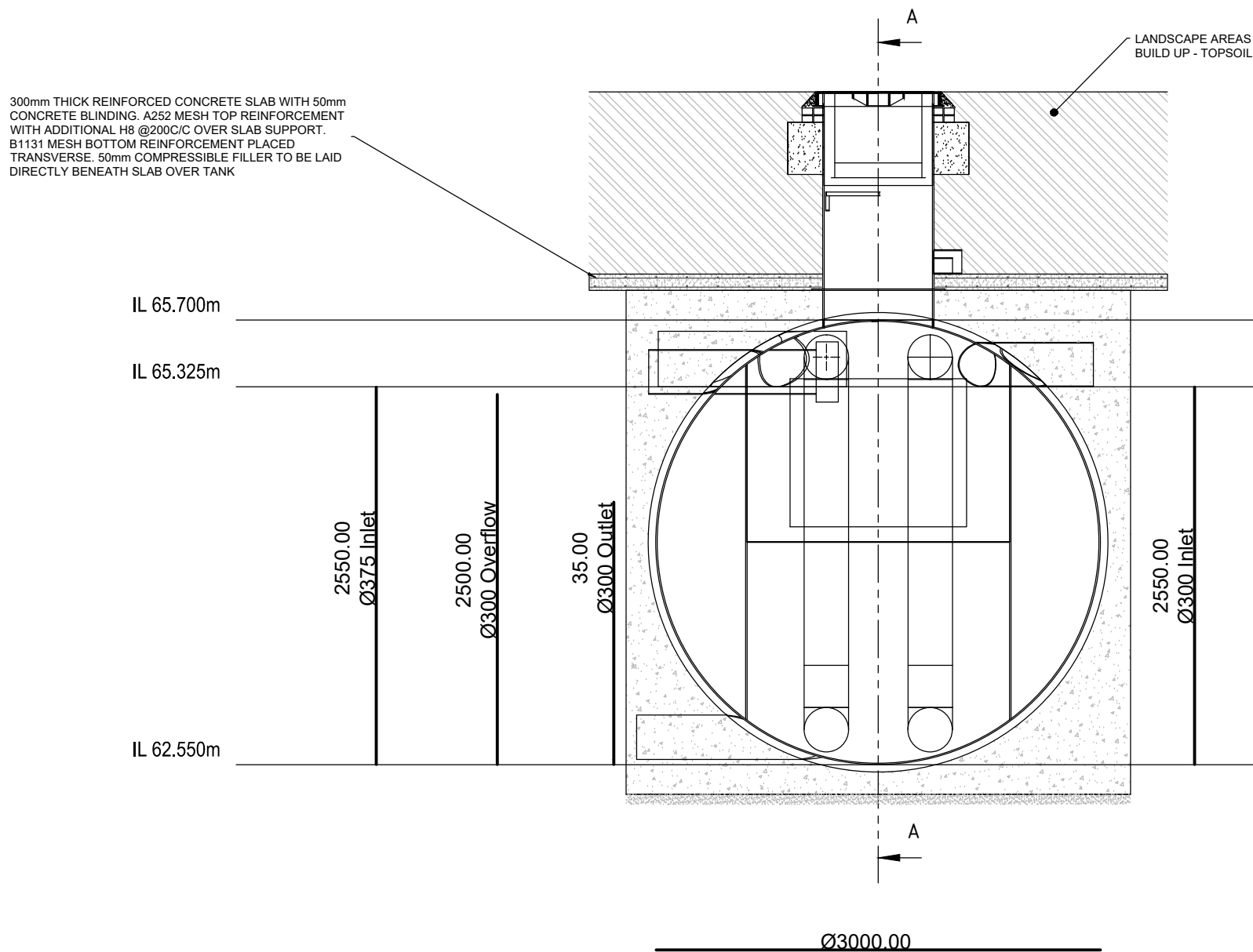
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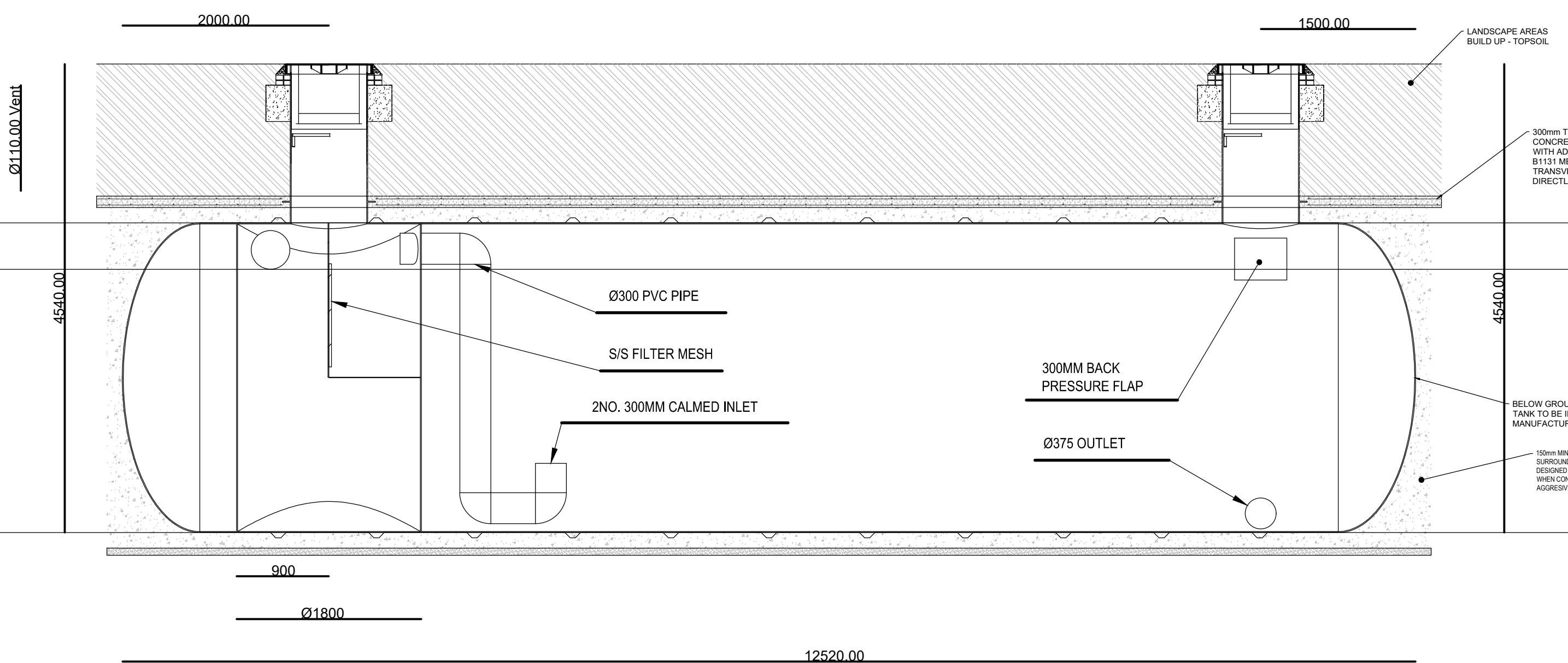
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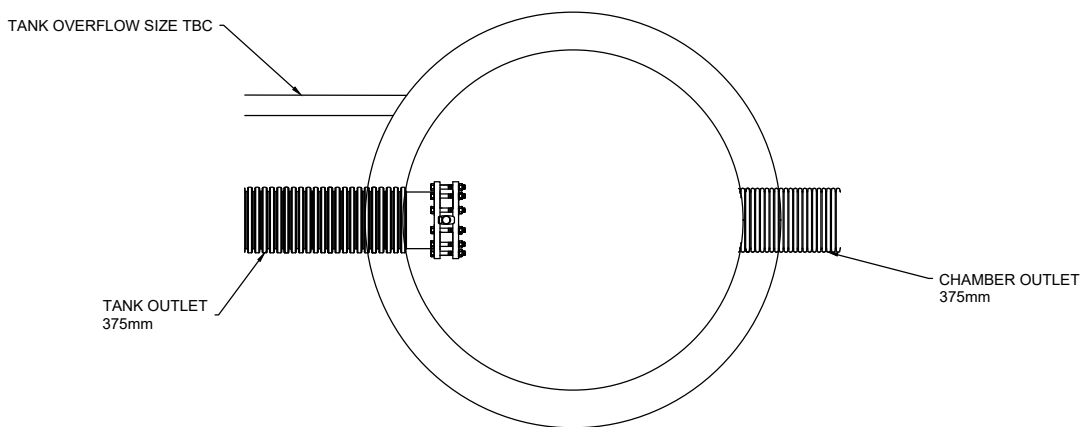


SECTION B-B



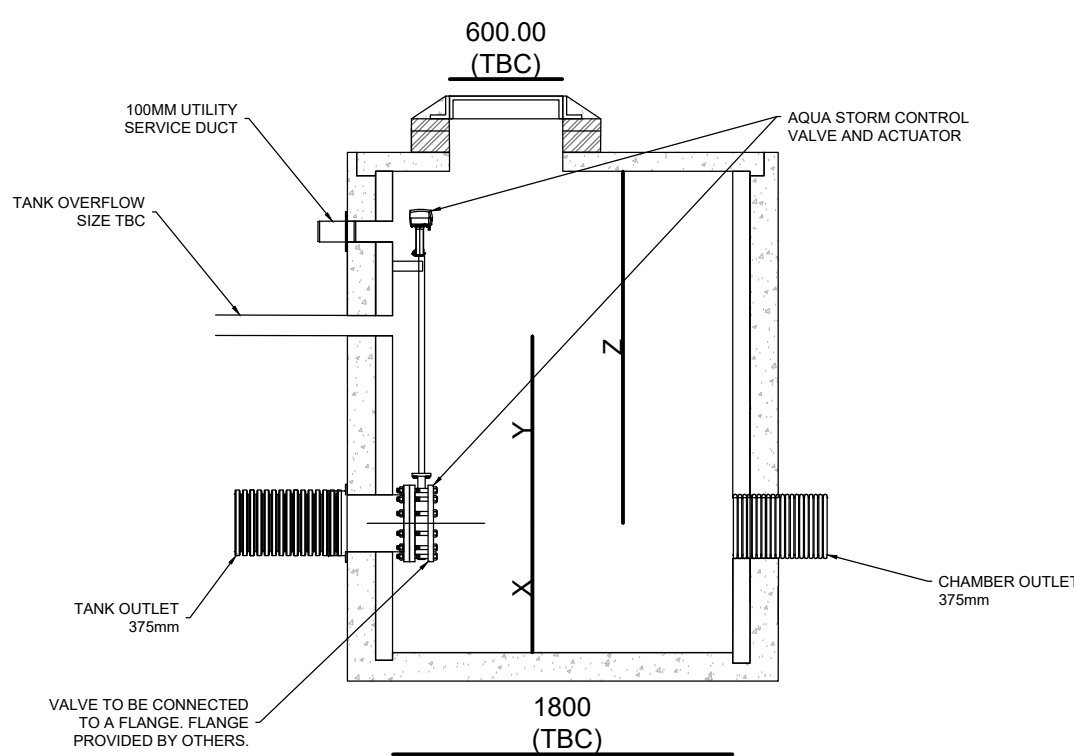
SECTION A-A

TYPICAL REINFORCED CONCRETE
PROTECTIVE SLAB TO RAINWATER
HARVESTING TANK
(N.T.S.)



VALVE CHAMBER
PLAN VIEW

VALVE CHAMBER
(N.T.S.)



SECTION VIEW



BDP.

16 Brewhouse Yard
Clerkenwell
London
EC1V 4LJ
United Kingdom

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PROJECT TITLE

ECMWF

REF OR NUMBER

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DRAWING TITLE
CONSTRUCTION TYPICAL
DETAILS SHEET 11 OF 12

DATE FIRST ISSUED
27/06/2024

REVISION
P02

ECMWF-BDP-ZZ-ZZ-DR-C-000410