Shear Design
Consulting Civil and Structural Engineers

Andrew Condon

Domis Construction

Unit 2, Block C,

14 Hulme Street,

Salford,

M5 4ZG

Wednesday, 17th June 2026

Ref: EL|20047|L001

Dear Andrew

20047 | Deansgate South Manchester| SuDS Approval

Please accept this letter as confirmation that Shear Design have reviewed the as-built information provided to us by Domis Construction in relation to the drainage works at Deansgate, Manchester.

This letter seeks to discharge Planning Condition 13, the content of which is noted below:

> *13. The development hereby permitted shall not be occupied until details of the implementation, maintenance and management of the sustainable drainage scheme have been submitted to and approved in writing by the local planning authority. The scheme shall be implemented and thereafter managed and maintained in accordance with the approved details. The details shall include:*
>
> *a. Verification report providing photographic evidence of construction as per design drawings;*
>
> *b. As-built construction drawings if different from design construction drawings;*
>
> *c. Management and maintenance plan for the lifetime of the development which shall include the arrangements for adoption by any public body or statutory undertaker, or any other arrangements to secure the operation*

Shear Design have received the following information from Domis Construction:

- Photographs of the permeable paved areas during the construction process,
- Photographs of the as-built manholes,
- CCTV survey inspection report,
- CCTV video footage

In addition to the above received information, Domis Construction have confirmed that all drainage has been built in accordance with the design drawings provided by Shear Design Ltd with consideration for construction tolerances.

To discharge the required information in Planning Condition 13, Shear Design include the following information with this letter:

- As-built construction drawings:
  - 20047-121-AB01 Drainage Layout LGF
  - 20047-122-AB01 Drainage Layout GF
  - 20047-131-AB01 Drainage Construction Details Sheet 1
  - 20047-132-AB01 Drainage Construction Details Sheet 2
  - 20047-133-AB01 Drainage Construction Details Sheet 3
  - 20047-135-AB01 Detention Tank and Flow Control
  - 20047-138-AB01 Manhole Schedule
- SuDS Maintenance Plan,
- Copies of the information noted above as received from Domis Construction.
  - Photographs of the as-built manholes
  - CCTV survey inspection report
    - Links to video footage within report.

The building occupier should ensure than suitable systems are in place for the management of the SuDS features within the site, in accordance with the included SuDS Maintenance Plan for the lifetime of the building.

Therefore, based on the received information and assurances noted above; Shear Design confirm that the drainage works at Deansgate, Manchester have been constructed correctly and in accordance with the design drawings.

Yours sincerely,

[redacted]

Edward Law
Civil Engineer
ON BEHALF OF:
SHEAR DESIGN LTD
[redacted]
[redacted]
www.shear-design.com

20047 – Deansgate – Manchester

As-built Information

Drainage Photographs



Figure 1 - Northern Permeable Paved Area - Slab



Figure 2 - Northern Permeable Paved Area - Fin Drain



Figure 3 - Northern Permeable Paved Area - Clean Crushed Stone.



Figure 4 - Permeable Paving - Waterproof Membrane



Figure 5 - Eastern Permeable Paved Area - Sub-base



Figure 6 - Eastern Permeable Paved Area - During Construction



Figure 7 - Eastern Entrance Permeable Paving - During Construction



Figure 8 - Eastern Permeable Paved Area - During Construction.



Figure 9 - Eastern Permeable Paved Area - Manhole During Construction



Figure 10 - Eastern Permeable Paved Area - During Cosntructon: Clean Crushed Stone and Geotextile Layer



Figure 11 – Eastern Permeable Paving - Top Stone Layer & Fin Drain Installation



Figure 12 - Eastern Permeable Paved Area - Block Paving

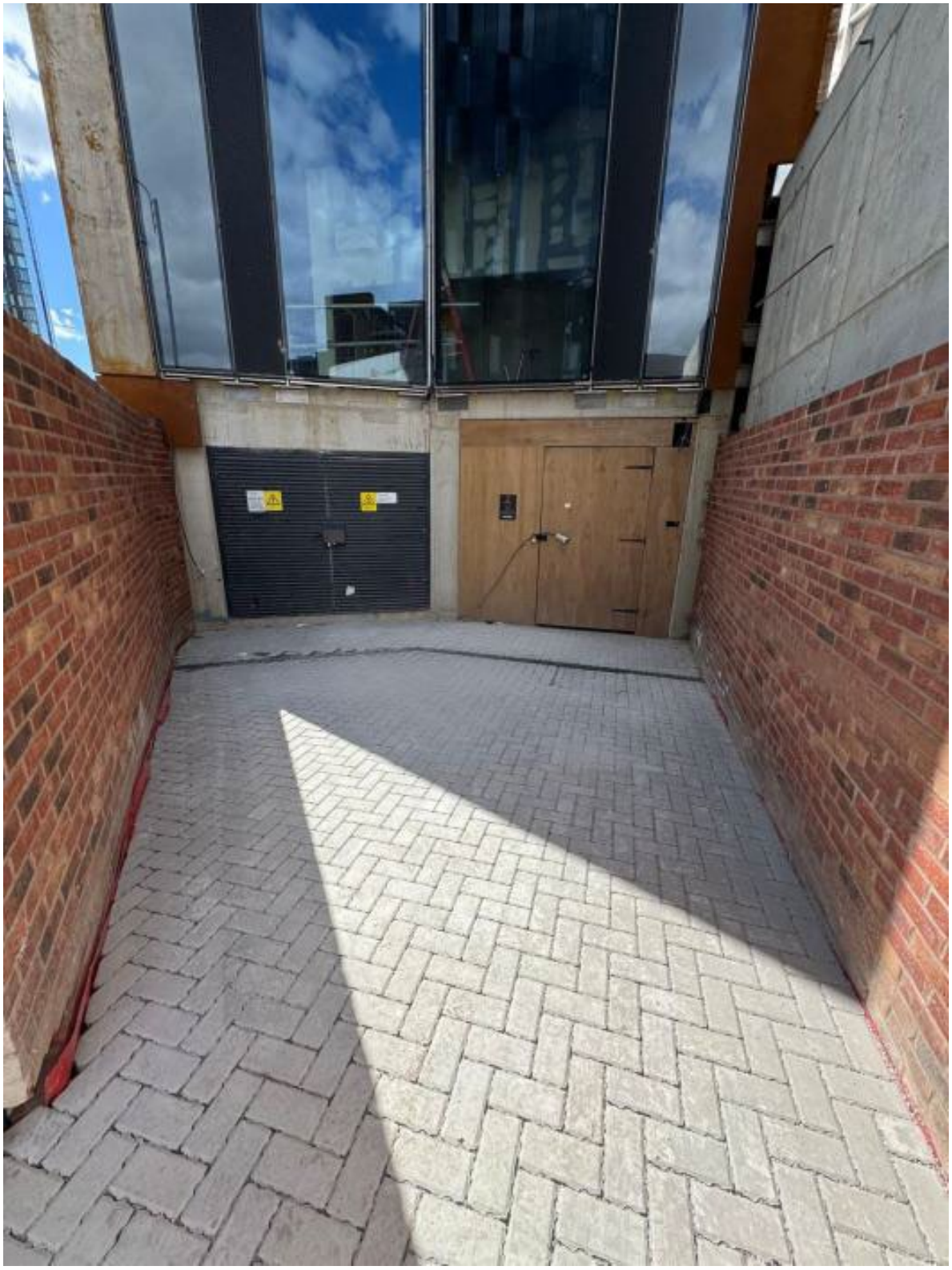


Figure 13 - Eastern Permeable Paving - As-built



Figure 14 - Linear Drainage Channel - North of Site

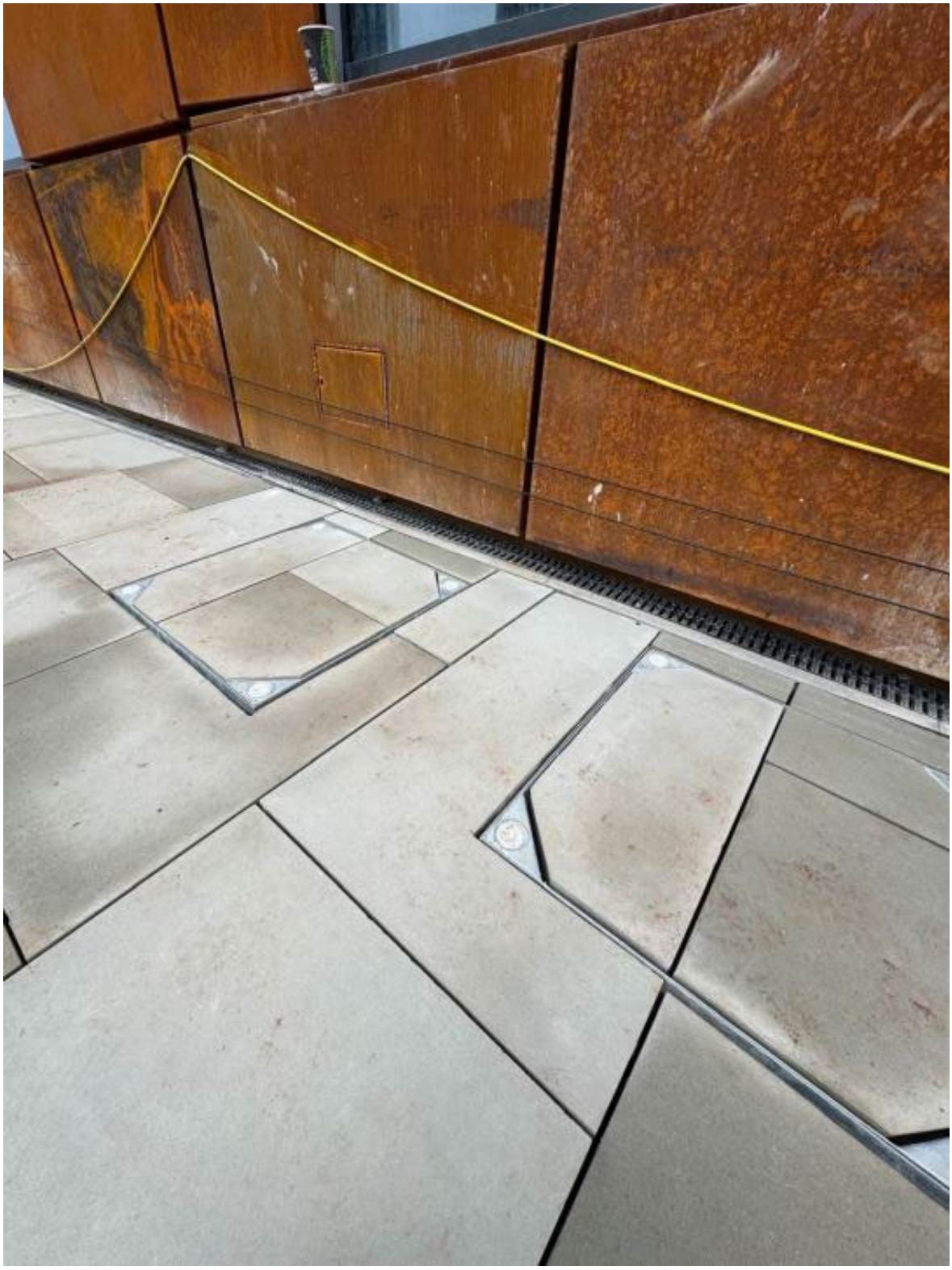
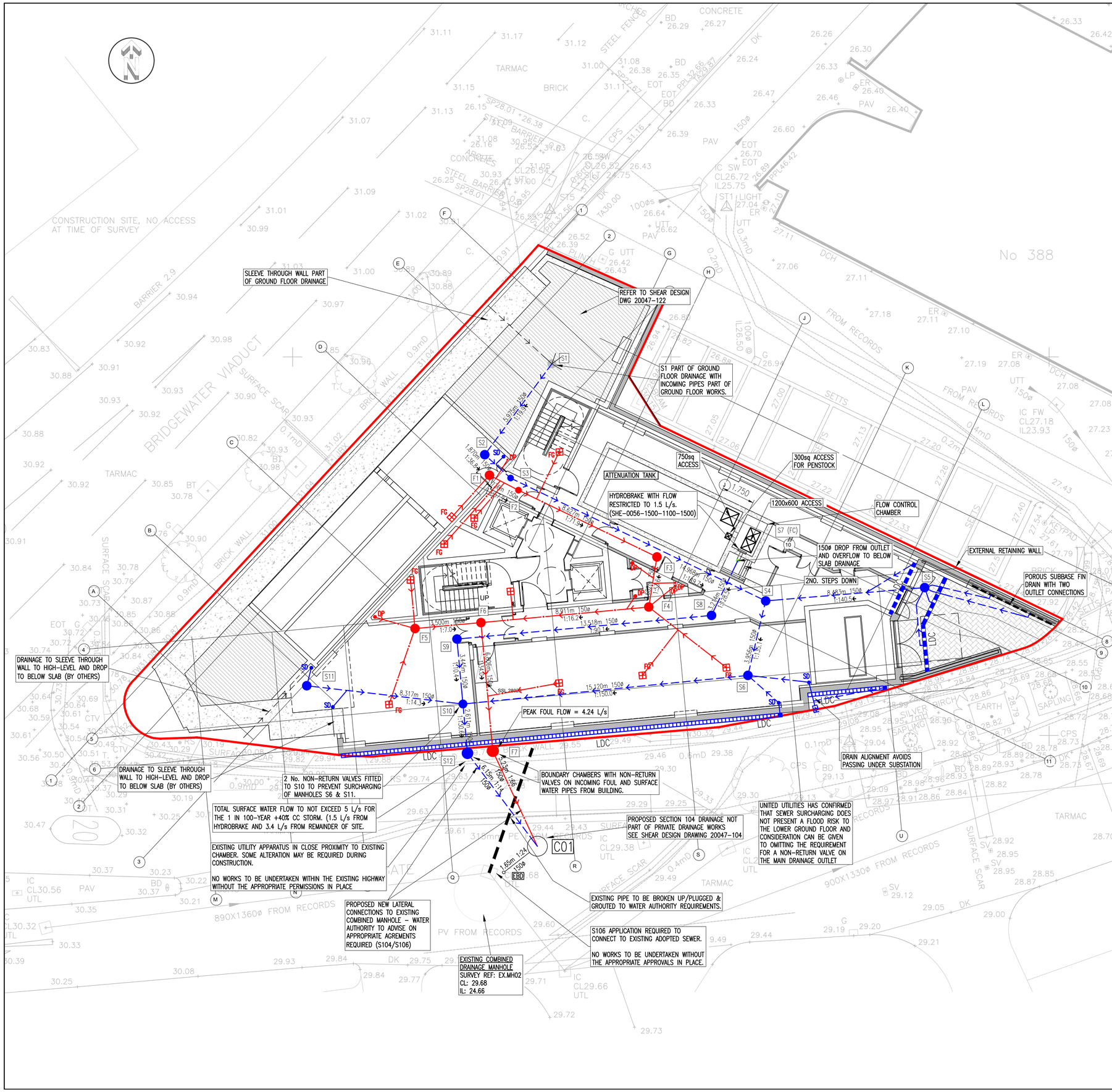


Figure 15 - Linear Drainage Channel and Drainage Break Chambers - South of Site

Shear Design Drawings

- 20047-121-AB01 Drainage Layout LGF
- 20047-122-AB01 Drainage Layout GF
- 20047-131-AB01 Drainage Construction Details Sheet 1
- 20047-132-AB01 Drainage Construction Details Sheet 2
- 20047-133-AB01 Drainage Construction Details Sheet 3
- 20047-135-AB01 Detention Tank and Flow Control
- 20047-138-AB01 Manhole Schedule



NOTES:

1. EXISTING LEVELS/CONTOURS TAKEN FROM TOPOGRAPHICAL SURVEY BY EDI SURVEYS LTD 19147/T/01-01 SEP 2022)
2. ALL EXISTING LEVELS & DRAINAGE LEVELS TO BE CONFIRMED ON SITE PRIOR TO COmmENCEMENT OF WORKS. ALL FINDINGS TO BE REPORTED TO THE ENGINEER.
3. LEVEL OF PROPOSED OUTFALLS / CONNECTIONS TO SEWER/S TAKEN FROM EDI SURVEY. INVERT LEVEL.
4. PIPE SIZE & CONDITION OF ALL OUTFALL CHAMBERS TO BE SURVEYED BY CONTRACTOR ON SITE AND ALL FINDINGS REPORTED TO THE ENGINEER.
5. ARCHITECTURAL & LANDSCAPE ARCHITECTS LAYOUTS BASED ON MOST UP TO DATE DRAWINGS PROVIDED.
6. ALL EXISTING LEVELS TO BE CONFIRMED ON SITE PRIOR TO COMMENCEMENT OF WORKS.
7. REFER TO SITE TOPOGRAPHICAL SURVEY FOR DETAILS OF EXISTING SITE CONDITIONS AND BENCH MARKS.
8. PRIOR TO COMMENCEMENT OF THE WORKS THE CONTRACTOR SHALL LIAISE WITH ALL RELEVANT AUTHORITIES TO LOCATE, PROTECT AND WHERE NECESSARY DIVERT ALL EXISTING SERVICES AFFECTED BY THE WORKS; REFER TO SERVICES INFORMATION PREPARED BY EDI AND/OR OTHERS.
9. SHEAR DESIGN ARE NOT RESPONSIBLE, NOR SHOULD BE RELIED UPON, FOR THE IDENTIFICATION OR LOCATION OF EXISTING SERVICES ONSITE.
10. SHEAR DESIGN ARE NOT RESPONSIBLE FOR REQUIRED WORKS AND/OR DIVERSIONS TO EXISTING AND/OR PROPOSED SERVICES ON SITE.
11. TEMPORARY WORKS BY OTHERS
12. CLIENT / CONTRACTOR TO SEEK PERMISSION FOR ALL WORKS WITHIN PUBLIC LAND OR WITHIN LAND NOT WITHIN THE CLIENTS OWNERSHIP.
13. SEWER POSITIONS SHOWN BASED UPON EDI SURVEY DRAWING. EXACT POSITION TO BE CONFIRMED ONSITE PRIOR TO COmmENCEMENT OF WORKS.
14. EXTERNAL MANHOLES TO HAVE D400 COVERS.
15. ALL UNUSED CONNECTIONS TO BE CAPPED.
16. ALL SETTING OUT OF RWPs/DPs/FGs BY ARCHITECT.
17. ALL ABOVE GROUND DRAINAGE POINTS TO BE INTERNALLY RODDABLE.
18. NO WORKS TO BE UNDERTAKEN WITHIN THE PUBLIC HIGHWAY OR ON ADOPTED SEWERS WITHOUT THE NECESSARY APPROVALS IN PLACE.
19. ALL BELOW-SLAB DRAINAGE TO HAVE CLASS Z CONCRETE SURROUND.
20. FOR ATTENUATION TANK & FLOW CONTROL DETAILS REFER TO SHEAR DESIGN DRAWINGS Z0047-005 & -131 -132.
21. THERMOPLASTIC STRUCTURED WALL SEWER PIPE SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS EN 13476-1 AND WIS 4-35-01 AND BS EN 13476-2 OR BS EN 13476-3. PIPES SHALL BE BSI KITEMARKED OR HAVE THE EQUIVALENT THIRD PARTY CERTIFICATION E.G. OSMA DRAIN FOR PIPES <160mmØ OR OSMA ULTRARIB FOR PIPES >160mmØ.
22. REFER TO THE DRAINAGE CONSTRUCTION DETAILS FOR INFORMATION REGARDING THE RESTRAINT OF THE PROPOSED DRAINAGE NETWORK DURING THE CASTING OF THE PILE CAP TO ENSURE THE PIPES THAT ARE CAST IN PLACE ARE NOT DISPLACED BY THE CONCRETE POUR AND CONTINUE TO COMPLY WITH THE BUILDING REGULATIONS. VITRIFIED CLAY PIPES AND FITTINGS FOR GRAVITY SEWERS SHALL HAVE FLEXIBLE MECHANICAL JOINTS. PIPES SHALL COMPLY WITH THE RELEVANT REQUIREMENTS OF BS EN 295-1 AND BS 65 (SURFACE WATER PIPES ONLY).
23. ALL DRAINAGE WORKS TO BE IN ACCORDANCE WITH LATEST DESIGN AND CONSTRUCTION GUIDANCE. FOR PRIVATE DRAINAGE, ALL WORKS TO BE IN ACCORDANCE WITH CURRENT BUILDING REGULATIONS.
24. SURFACE WATER FLOWS DO NOT EXCEED 5 L/s FOR THE 1 IN 100-YEAR STORM EVENT (WITH A 40% ALLOWANCE FOR CLIMATE CHANGE).
25. SURFACE WATER FLOW RATES INCLUDE 1.5 L/s FROM THE HYDROBRAKE AND 3.4 L/s FROM THE REMAINDER OF THE SITE.
26. HYDROBRAKE REFERENCE: SHE-0056-1500-1100-1500.

NOTES

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KEY

- SITE BOUNDARY
- EXISTING SEWER TO BE FILLED IN OR REMOVED TO WATER AUTHORITY APPROVAL
- PROPOSED SURFACE WATER DRAINAGE
- PROPOSED SURFACE WATER DRAINAGE
- PROPOSED LINEAR DRAINAGE CHANNEL WITH SUMP (ACO HEXDRAIN OSA - A15) (LDC)
- PROPOSED THRESHHOLD DRAIN (LDC)
- PROPOSED RODDING EYE (RE)
- PROPOSED SURFACE WATER DRAINAGE DROP FROM WALL TO BELOW-SLAB (SD)
- PROPOSED FOUL WATER DRAINAGE
- PROPOSED FOUL GULLY AND CONNECTION (FG)
- PROPOSED FOUL DRAINAGE POINT (DP)
- PERMEABLE BLOCK PAVING. MIN. 480mm THK WITH 80mm PAVIORS

PROPOSED SITE FLOW RATES

SURFACE WATER

- HIGH-LEVEL ROOF DRAINAGE DISCHARGING TO ATTENUATION TANK AT LOWER GROUND FLOOR LEVEL AND RESTRICTED VIA HYDROBRAKE: 1.5 L/s FOR THE 1 IN 100-YEAR +40% CLIMATE CHANGE CRITICAL STORM EVENT.
- ALL EXTERNAL AREAS THAT CANNOT DISCHARGE TO ATTENUATION TANK (GROUND FLOOR OR LOWER) ARE TO DISCHARGE FROM SITE AT A MAXIMUM FLOW RATE OF: 3.5 L/s FOR THE 1 IN 100-YEAR +40% CLIMATE CHANGE CRITICAL STORM EVENT.
- THEREFORE TOTAL PEAK FLOW RATE FOR THE 1 IN 100-YEAR +40% CLIMATE CHANGE CRITICAL STORM EVENT IS 5 L/s (VIA MANHOLE S12).

FOUL WATER

- PEAK FOUL FLOW (VIA MANHOLE F7): 4.24 L/s

THE CONTRACTOR HAS CONFIRMED THAT ALL DRAINAGE HAS BEEN CONSTRUCTED IN ACCORDANCE WITH SHEAR DESIGN'S CONSTRUCTION DRAWINGS

REV	DATE	DESCRIPTION	BY	CHK
AB01	17.06.26	AS-BUILT ISSUE	EL	DKK

AMENDMENTS

CLIENT: FUSION MANCHESTER DEVCO LTD

PROJECT: STUDENT ACCOMMODATION
DEANSGATE SOUTH, MANCHESTER

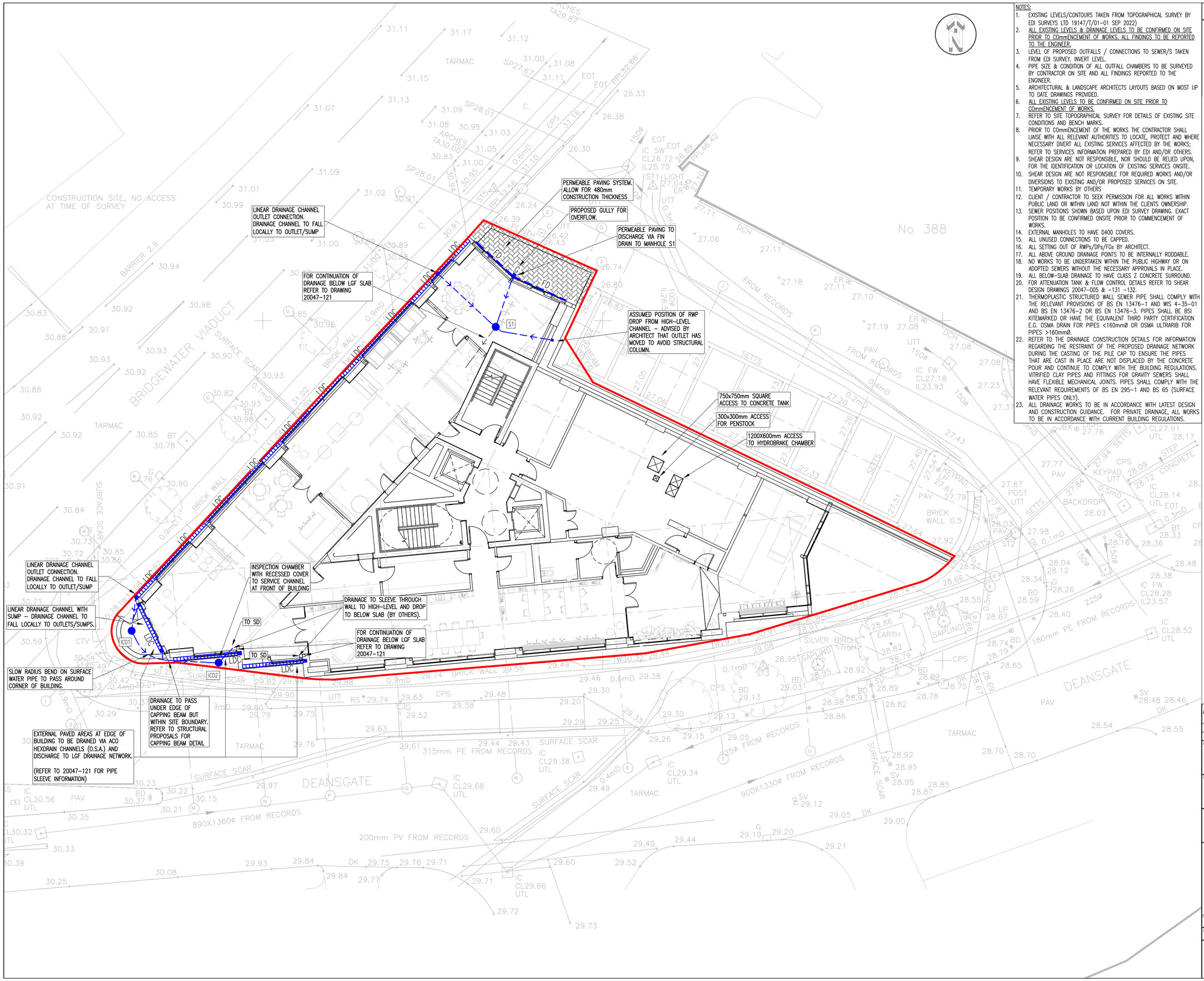
TITLE: DRAINAGE LAYOUT
LOWER GROUND FLOOR

SHEAR design
Consulting Civil and Structural Engineers
7 Ashtree Court - Woodsy Close - Cardiff Gate Business Park - Cardiff - CF23 8RW
Tel: 029 2054 7000 - Fax: 029 2054 7001 - www.shear-design.com - enquiries@shear-design.com

DRAWN:	CHECKED:	DATE:	SCALE:
TU	SJM	DECEMBER 2020	1:100 @ A1

SHEAR DESIGN REF:	DRAWING NUMBER:	REVISION:
20047	20047-121	AB01

STATUS: AB



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KEY

- SITE BOUNDARY
- PROPOSED SURFACE WATER DRAINAGE
- LDC — PRPOSED LINEAR DRAINAGE CHANNEL WITH SUMP (ACO HEXDRAIN OSA - A15)
- FD — PROPOSED FIN DRAIN
- G — PROPOSED GULLY AND CONNECTION
- PERMEABLE BLOCK PAVING WITH MIN. 480mm THK WITH 80mm PAVIORS

THE CONTRACTOR HAS CONFIRMED THAT ALL DRAINAGE HAS BEEN CONSTRUCTED IN ACCORDANCE WITH SHEAR DESIGN'S CONSTRUCTION DRAWINGS

REV	DATE	DESCRIPTION	BY	CHK
AMENDMENTS				
AB01	17.06.26	AS-BUILT ISSUE	EL	DKK

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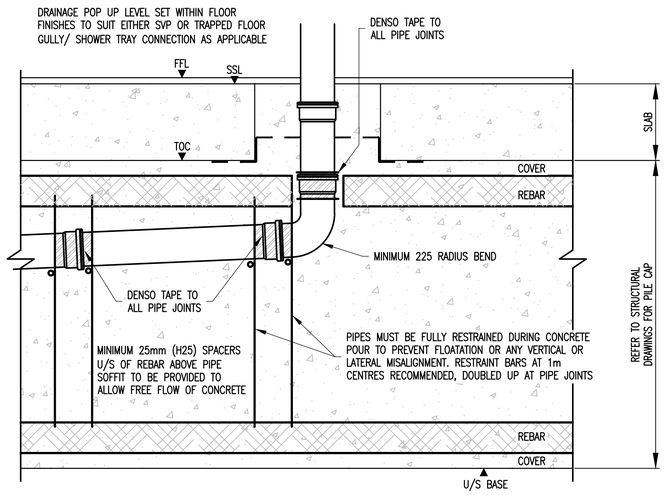
PROJECT: STUDENT ACCOMMODATION
DEANSGATE SOUTH, MANCHESTER

TITLE: DRAINAGE LAYOUT
GROUND FLOOR

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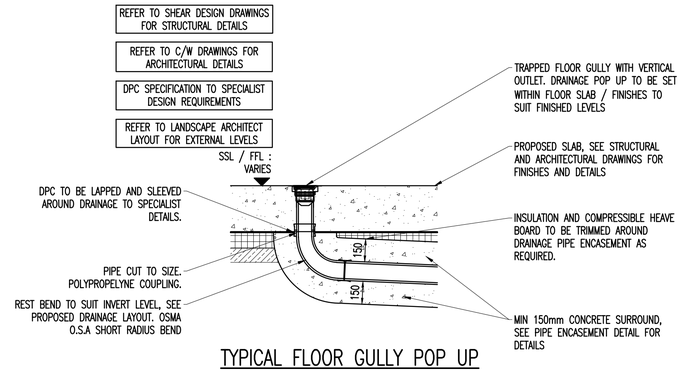
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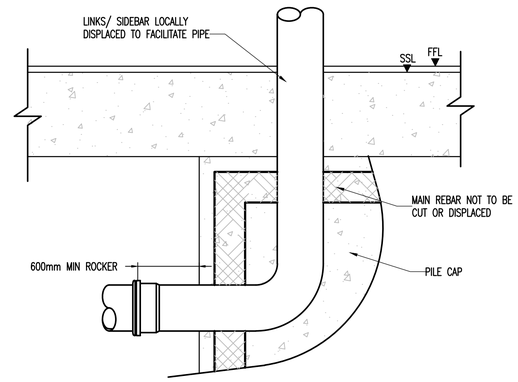


TYPICAL DRANAGE POP-UP DETAIL IN PILE CAP

SCALE 1:10

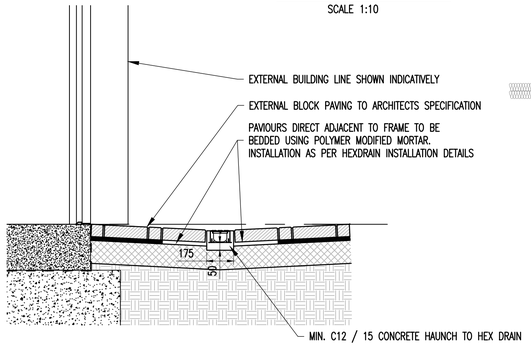


TYPICAL FLOOR GULLY POP UP THROUGH SLAB DETAIL



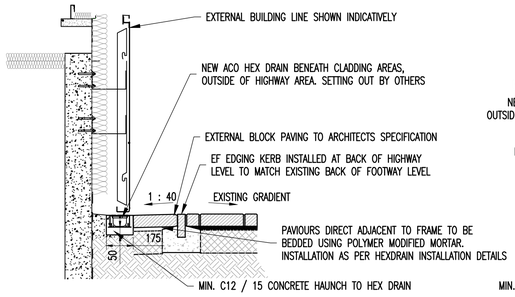
PIPE REST BEND NEAR EDGE OF PILECAP

SCALE 1:10



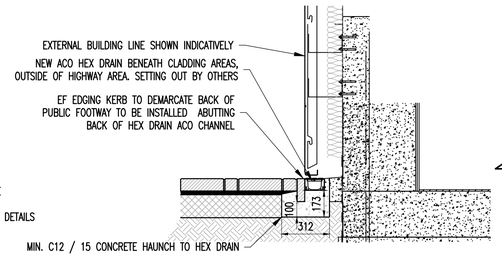
ACO CHANNEL DETAIL AT REAR ENTRANCE

SCALE 1:20



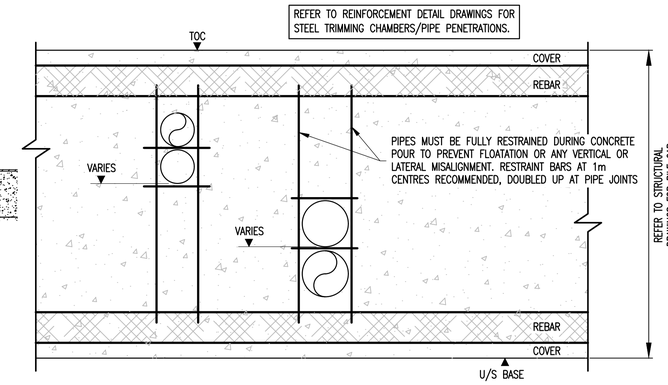
ACO CHANNEL DETAIL AT SOUTHERN BUILDING WHERE SET BACK FROM BACK OF FOOTWAY

SCALE 1:20



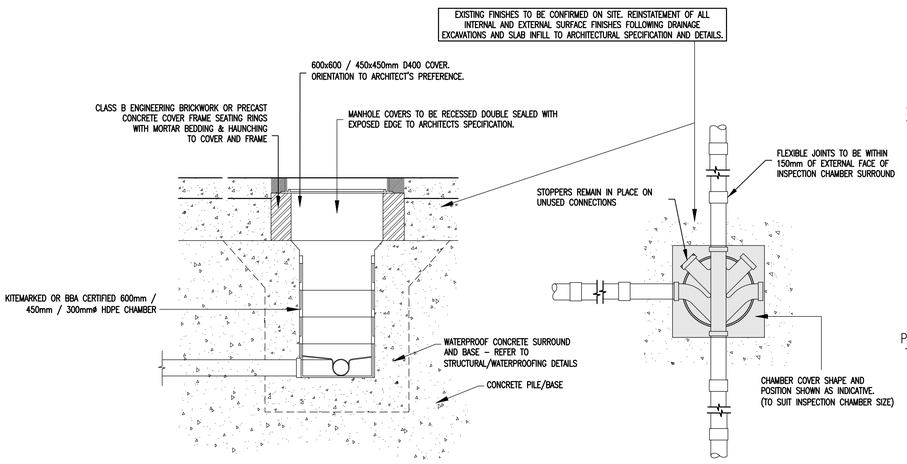
ACO CHANNEL DETAIL NORTHERN BUILDING EDGE DETAIL

SCALE 1:20



TYPICAL SECTION SHOWING KEY DRAINAGE INSTALLATION ZONE WITH DEEP RC FOUNDATIONS

SCALE 1:10

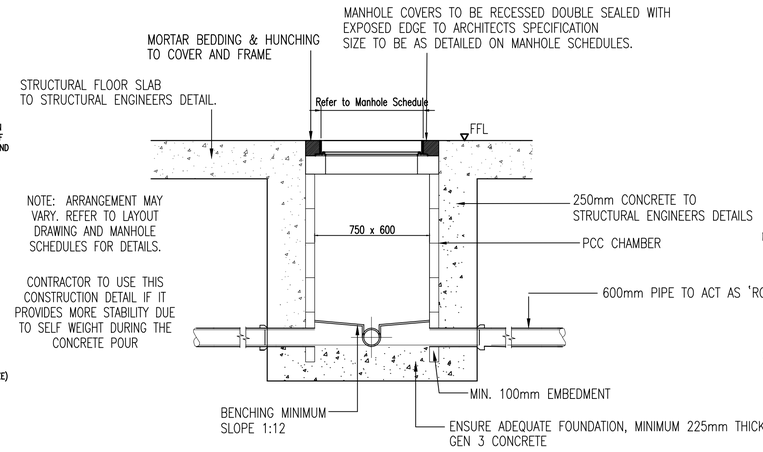


SECTION THROUGH INTERNAL INSPECTION CHAMBER

(SCALE 1:20 @ A1)

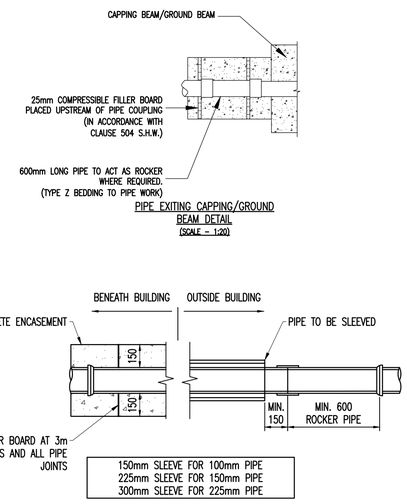
PLAN OF INTERNAL INSPECTION CHAMBER

(SCALE 1:20 @ A1)



SUSPENDED INTERNAL CHAMBER

NTS



TYPICAL DRAINAGE PIPE ENCASEMENT / SURROUND DETAIL

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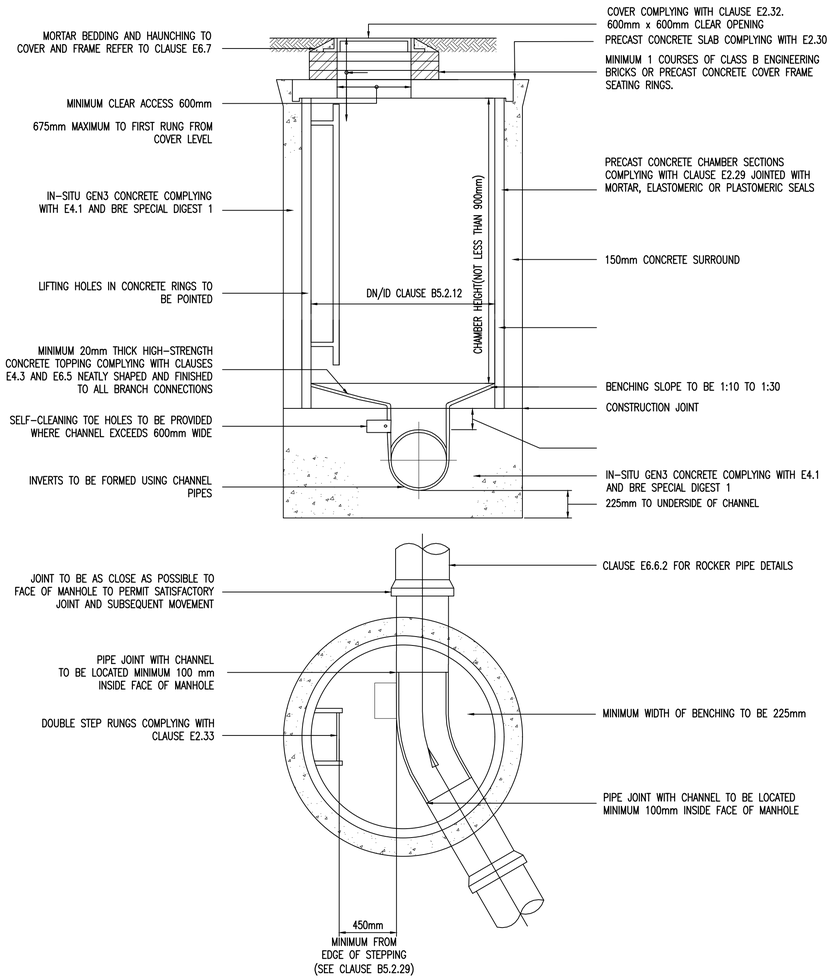
TITLE: SUBSTRUCTURE DRAINAGE CONSTRUCTION DETAILS SHEET 1

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DRAWN:	CHECKED:	DATE:	SCALE:
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SHEAR DESIGN REF:	DRAWING NUMBER:	REVISION:
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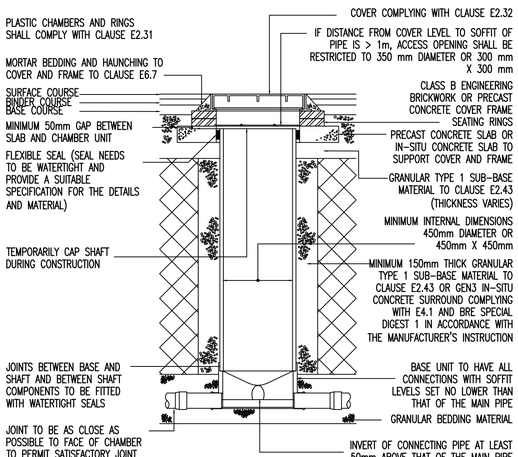
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TYPICAL MANHOLE DETAIL – TYPE B

DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE 3m TO 6m

SCALE 1:25



NOTES

-WHERE THE ACCESS CHAMBER IS IN THE HIGHWAY THE HIGHWAY AUTHORITY CAN HAVE SPECIFIC REQUIREMENTS.
-MAXIMUM DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE IN AREAS SUBJECT TO VEHICLE LOADING 3 M, NON-ENTRY.
-PLASTIC CHAMBERS AND RINGS SHALL COMPLY WITH BS EN 13598-1 AND BS EN 13598-2 OR HAVE EQUIVALENT INDEPENDENT APPROVAL.

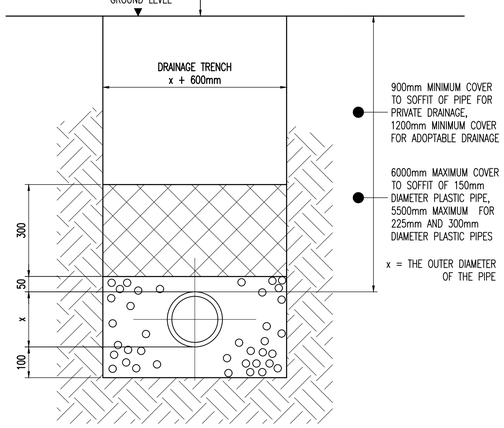
TYPICAL INSPECTION CHAMBER DETAIL – TYPE D (FLEXIBLE)

DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE UP TO 3m

FLEXIBLE MATERIAL CONSTRUCTION FOR USE IN AREAS SUBJECT TO VEHICLE LOADING

FOR SURFACE FINISH TO DRAINAGE EXCAVATION REFER TO EXTERNAL WORKS PLAN AND THEN RELEVANT HIGHWAY/LANDSCAPING DETAILS. NOTE THAT REINSTATEMENT FOR WORKS IN EXISTING ADOPTED HIGHWAYS ARE TO BE AGREED BY THE CONTRACTOR WITH THE RELEVANT HIGHWAY AUTHORITY.

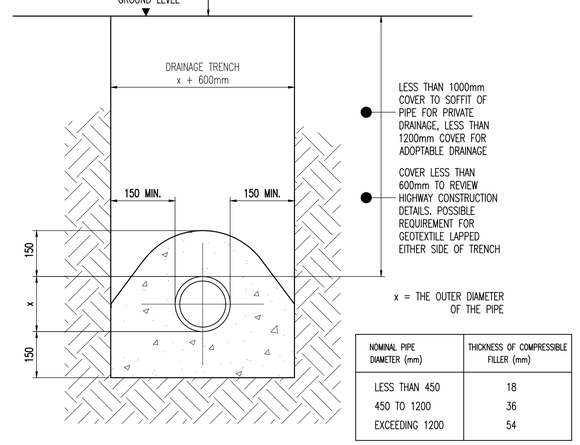
PIPE DIAMETER (mm)	B.S. 882 COARSE AGGREGATE (TABLE 4)	
	GRADED AGGREGATE RANGES (mm)	SINGLE SIZED AGGREGATE SIZES (mm)
NOT EXCEEDING 140		10
EXCEEDING 140 BUT NOT EXCEEDING 400	20 TO 5 OR 14 TO 5	10, 14 OR 20
EXCEEDING 400	14 TO 5, 20 TO 5 OR 40 TO 5	10, 14, 20 OR 40



NOTE: CLASS 'S' BEDDING FOR USE WITH ALL ADOPTABLE DRAINAGE WITH COVER TO SOFFIT OF PIPE GREATER THAN 1200mm. PRIVATE DRAINAGE WITHIN LANDSCAPED AND OTHER NON-TRAFFICKED AREAS WITH COVER GREATER THAN 1000mm TO THE PIPE SOFFIT MAY USE PIPE BEDDING CLASS 'T'

CLASS 'S' PIPE BEDDING

FOR SURFACE FINISH TO DRAINAGE EXCAVATION REFER TO EXTERNAL WORKS PLAN AND THEN RELEVANT HIGHWAY DETAILS. NOTE THAT REINSTATEMENT FOR WORKS IN EXISTING ADOPTED HIGHWAYS ARE TO BE AGREED BY THE CONTRACTOR WITH THE RELEVANT HIGHWAY AUTHORITY.

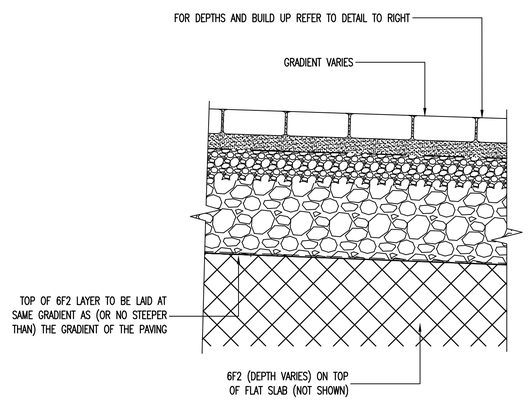


NOMINAL PIPE DIAMETER (mm)	THICKNESS OF COMPRESSIBLE FILLER (mm)
LESS THAN 450	18
450 TO 1200	36
EXCEEDING 1200	54

ST4 CONCRETE WITH COMPRESSIBLE FILLER BOARD AT 3m MAXIMUM CENTRES AND ALL PIPE JOINTS. FILLER BOARD SHALL CONSIST OF BITUMEN IMPREGNATED INSULATION BOARD TO B.S. 1142, B.S. EN 120 AND B.S. EN 317. THICKNESS OF COMPRESSIBLE BOARD AS TABLE ABOVE

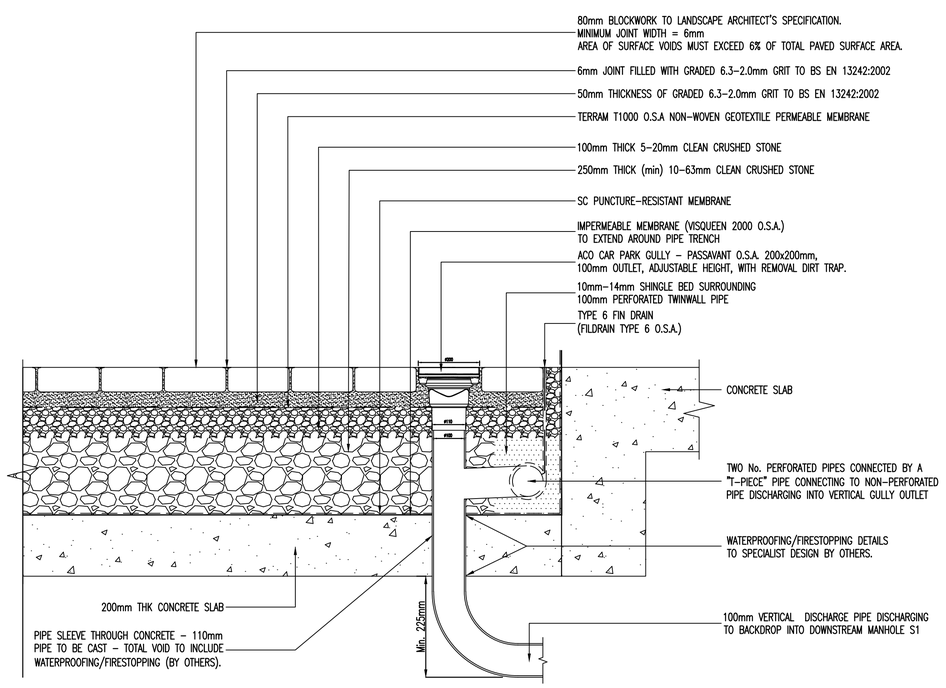
NOTE: CLASS 'Z' BEDDING FOR USE WITH ALL ADOPTABLE DRAINAGE WITH COVER TO SOFFIT OF PIPE LESS THAN 1200mm.

CLASS 'Z' PIPE BEDDING



PERMEABLE PAVING DRAINAGE (SLOPED AREA – EASTERN ENTRANCE)

(SCALE 1:10)



PERMEABLE PAVING DRAINAGE & FIN DRAIN DETAIL (COURTYARD – NORTH OF SITE)

(SCALE 1:10)

NOTES

GENERAL

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE. ALL LEVELS ARE IN METRES UNLESS NOTED OTHERWISE.
2. ALL LEVELS RELATE TO ORDNANCE DATUM UNLESS NOTED OTHERWISE.
3. DO NOT SCALE FROM THIS DRAWING. USE FIGURED DIMENSIONS ONLY.
4. ANY DISCREPANCIES TO BE REPORTED IMMEDIATELY TO THE ENGINEER.
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THE CONTRACTOR HAS CONFIRMED THAT ALL DRAINAGE HAS BEEN CONSTRUCTED IN ACCORDANCE WITH SHEAR DESIGN'S CONSTRUCTION DRAWINGS

REV	DATE	DESCRIPTION	BY	CHK
AB01	17.06.26	AS-BUILT ISSUE	EL	DKK

AMENDMENTS

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PROJECT: STUDENT ACCOMMODATION DEANSGATE SOUTH, MANCHESTER

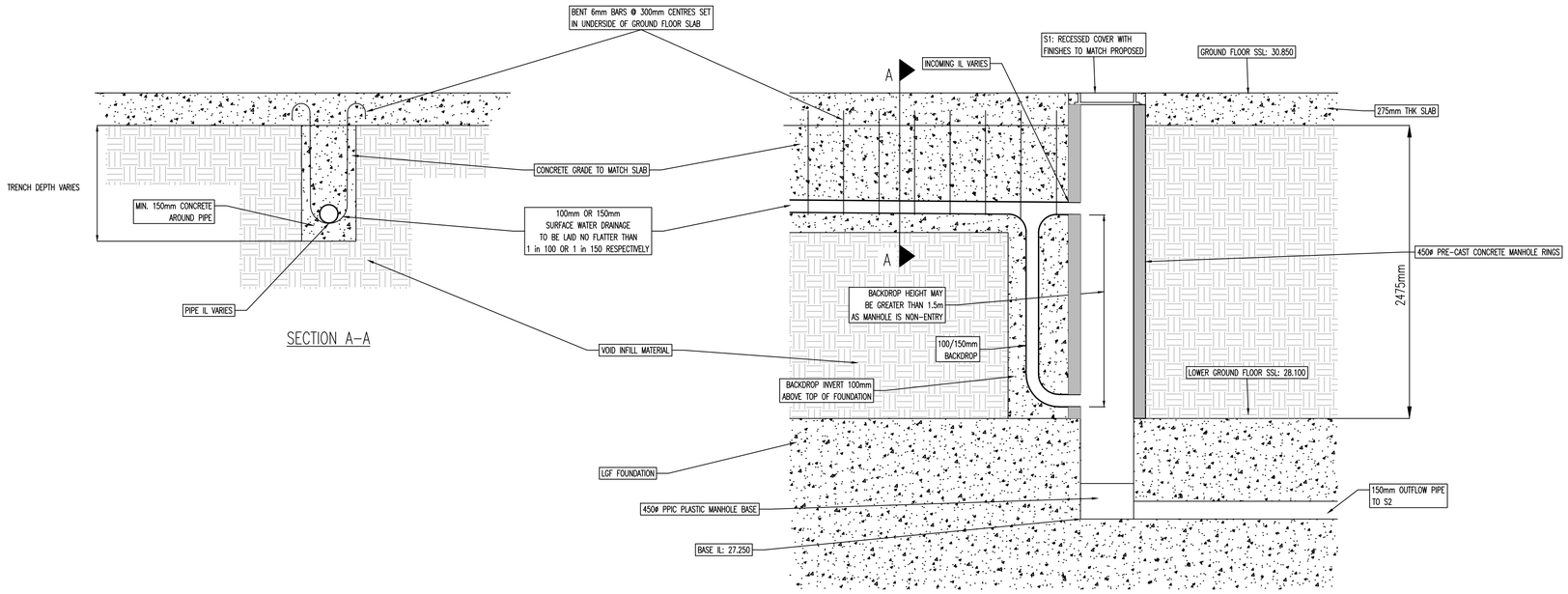
TITLE: SUBSTRUCTURE DRAINAGE CONSTRUCTION DETAILS SHEET 2

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SHEAR DESIGN REF:	DRAWING NUMBER:	REVISION:
20047	20047-132	AB01

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INSPECTION CHAMBER S1 CONSTRUCTION DETAIL

NOTES

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REV	DATE	DESCRIPTION	BY	CHK
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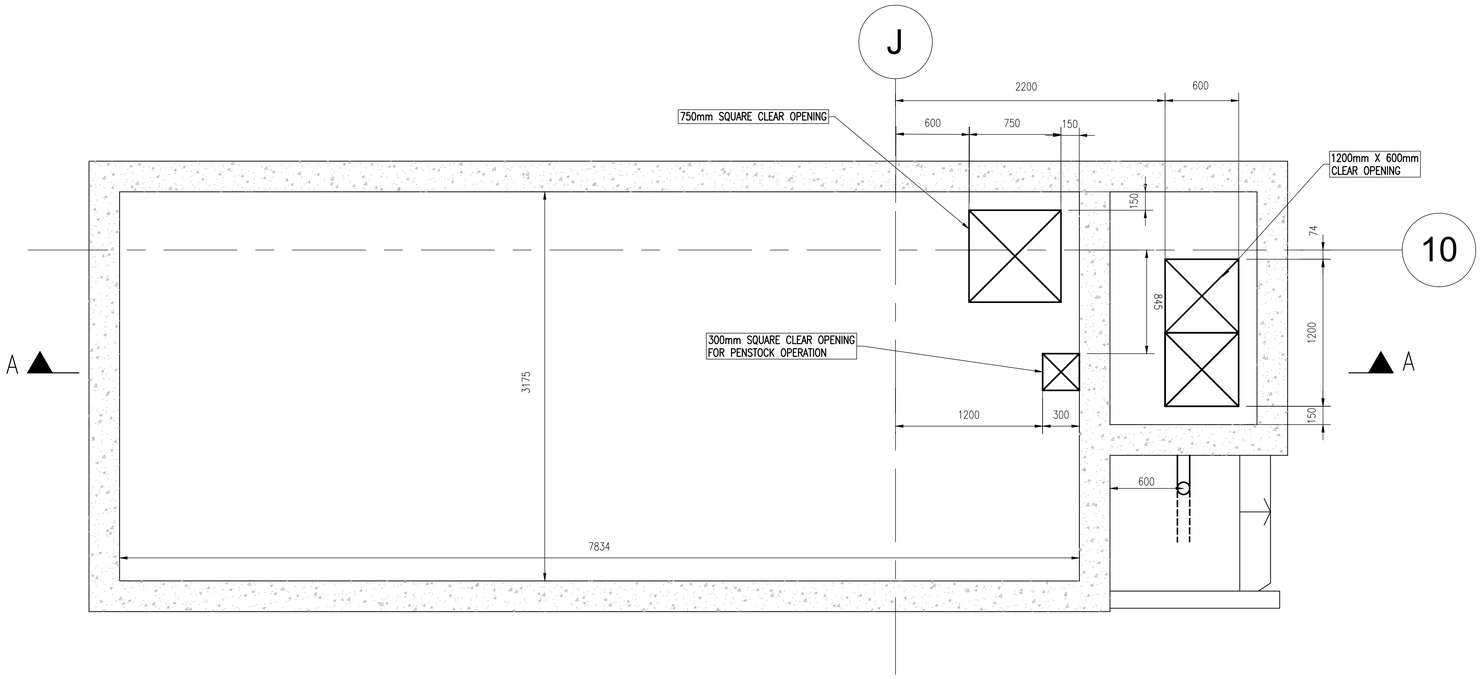
PROJECT: STUDENT ACCOMMODATION
DEANSGATE SOUTH, MANCHESTER

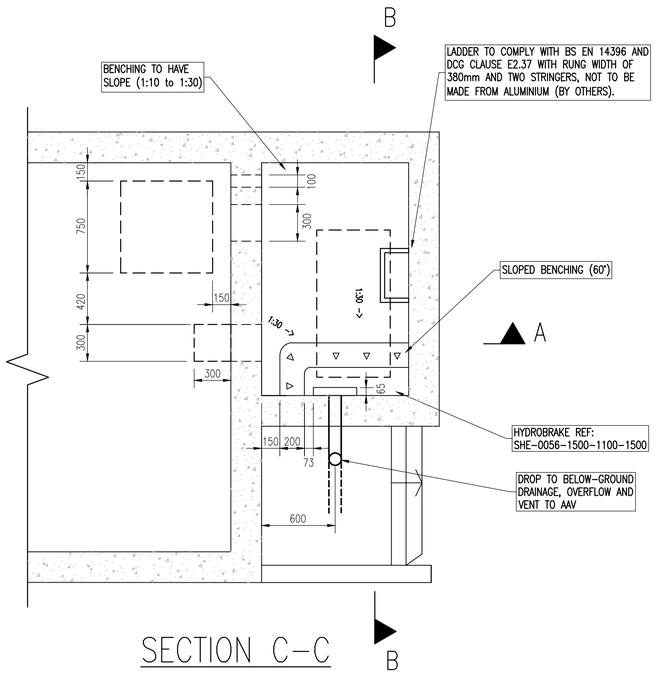
TITLE: SUBSTRUCTURE DRAINAGE CONSTRUCTION DETAILS SHEET 3

SHEAR design
Consulting Civil and Structural Engineers
7 Ashtree Court - Woodsy Close - Cardiff Gate Business Park - Cardiff - CF23 8RW
Tel: 029 2054 7000 - Fax: 029 2054 7001 - www.shear-design.com - enquiries@shear-design.com

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EL	DK	SEP 2024	AS SHOWN @ A1

SHEAR DESIGN REF:	DRAWING NUMBER:	REVISION:
20047	20047-133	AB01
		STATUS: AB





SECTION C-C

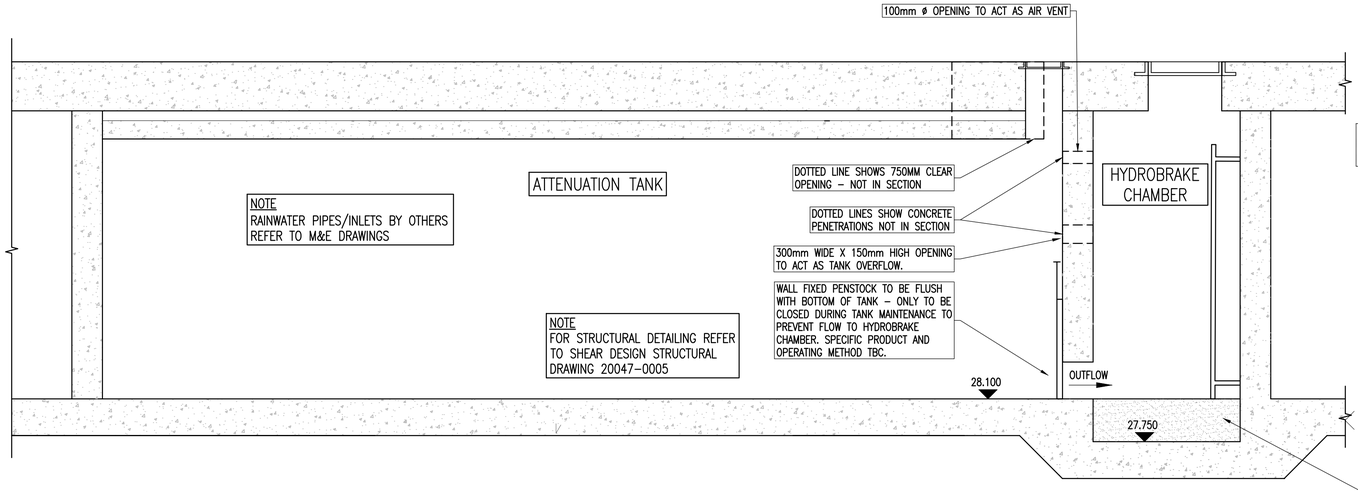
NOTES

GENERAL

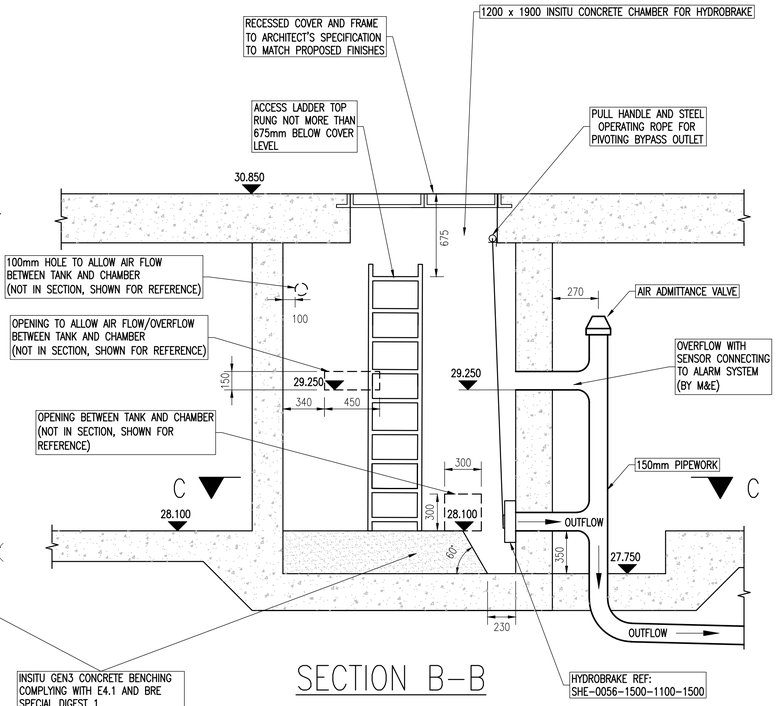
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE. ALL LEVELS ARE IN METRES UNLESS NOTED OTHERWISE.
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HYDROBRAKE NOTES

1. HYDROBRAKE DIMENSIONS GIVEN IN THE DRAWING ACROSS ARE CORRECT AT THE TIME OF WRITING AND ARE BASED ON THE INFORMATION PROVIDED BY THE HYDRO INTERNATIONAL WEBSITE.
2. CARE SHOULD BE TAKEN TO ENSURE THAT THE CORRECT HYDROBRAKE IS ORDERED, BASED ON THE GIVEN HEAD/FLOW RELATIONSHIP (1.10m & 1.5 l/s). IF IN DOUBT PLEASE ASK THE CIVIL ENGINEER FOR CONFIRMATION.
3. ALL HYDROBRAKE ORDERS SHOULD BE VERIFIED WITH THE CIVIL ENGINEER PRIOR TO ORDERING.
4. IF A DIFFERENT FLOW CONTROL DEVICE OR SUPPLIER IS TO BE USED THEN THIS SHOULD BE VERIFIED WITH THE CIVIL ENGINEER PRIOR TO CONSTRUCTION AND/OR ORDERING OF MATERIALS TO ENSURE THAT THE DRAINAGE SYSTEM STILL FUNCTIONS CORRECTLY



SECTION A-A



SECTION B-B

THE CONTRACTOR HAS CONFIRMED THAT ALL DRAINAGE HAS BEEN CONSTRUCTED IN ACCORDANCE WITH SHEAR DESIGN'S CONSTRUCTION DRAWINGS

REV	DATE	DESCRIPTION	BY	CHK
AMENDMENTS				
AB01	17.06.26	AS-BUILT ISSUE	EL	DKK

CLIENT: FUSION MANCHESTER DEVCO LTD

PROJECT: STUDENT ACCOMMODATION
DEANSGATE SOUTH, MANCHESTER

TITLE: SURFACE WATER DETENTION TANK AND FLOW CONTROL CHAMBER

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20047	20047-135	AB01

STATUS: AB

INTERNAL SURFACE WATER MANHOLE SCHEDULE

MH ID	EASTING (m)	NORTHING (m)	CL (m)	IL (m)	PIPE ø (mm)	DEPTH (m)	MH ø (mm)	MH TYPE	COVER TYPE
S1	383293.706	397439.636	30.850	29.500 27.250	150 150	3.600	450	INTERNAL PCC	RECESSED DOUBLE SEALED LOCKABLE
S2	383290.156	397434.830	28.100	26.950 26.950	150 150	1.150	450	INTERNAL PPIC	RECESSED DOUBLE SEALED LOCKABLE
S3	383291.522	397433.599	28.100	26.900 26.900	150 150	1.200	300	INTERNAL PPIC	RECESSED DOUBLE SEALED LOCKABLE
S4	383305.009	397427.108	28.100	26.800 26.850 26.800	150 150 150	1.300	450	INTERNAL PPIC	RECESSED DOUBLE SEALED LOCKABLE
S5	383313.418	397427.740	28.050	26.910	150	1.200	450	EXTERNAL PPIC	RECESSED DOUBLE SEALED LOCKABLE
S6	383304.050	397423.170	28.025	26.770 26.770	150 150	1.255	450	INTERNAL PPIC	RECESSED DOUBLE SEALED LOCKABLE
S7 (FC)	383304.170	397430.550	30.850	28.050 28.050	150 150	2.800	BESPOKE SIZE SEE DRAWINGS	INTERNAL PPIC	RECESSED DOUBLE SEALED LOCKABLE
S8	383302.148	397426.339	28.100	27.100 27.100	150 150	1.000	450	INTERNAL PPIC	RECESSED DOUBLE SEALED LOCKABLE
S9	383288.688	397425.090	28.100	26.950 26.950	150 150	1.150	450	INTERNAL PPIC	RECESSED DOUBLE SEALED LOCKABLE
S10	383289.006	397421.660	28.100	26.620 26.670 26.670 26.620	150 NRV 150 NRV 150 150	1.460	450	INTERNAL PPIC	RECESSED DOUBLE SEALED LOCKABLE
S11	383280.745	397422.626	28.100	27.250	150	0.850	450	INTERNAL PPIC	RECESSED DOUBLE SEALED LOCKABLE
S12	383289.248	397419.060	29.750	26.600 26.600	NRV 150 150	3.150	600	TYPE B	D400 RECESSED

EXTERNAL SURFACE WATER MANHOLE SCHEDULE

MH ID	EASTING (m)	NORTHING (m)	CL (m)	IL (m)	PIPE ø (mm)	DEPTH (m)	MH ø (mm)	MH TYPE	COVER TYPE
IC01	383272.282	397421.755	30.890	29.600	150	1.290	450	TYPE D	D400 RECESSED
IC02	383277.404	397419.882	30.080	29.540	150	0.540	450	TYPE D	D400 RECESSED

FOUL WATER MANHOLE SCHEDULE

MH ID	EASTING (m)	NORTHING (m)	CL (m)	IL (m)	PIPE ø (mm)	DEPTH (m)	MH ø (mm)	MH TYPE	COVER TYPE
F1	383290.405	397433.748	28.100	27.200	150	0.900	450	INTERNAL	RECESSED DOUBLE SEALED LOCKABLE
F2	383291.938	397432.955	28.100	27.170 27.170	150 150	0.930	300	INTERNAL	RECESSED DOUBLE SEALED LOCKABLE
F3	383299.261	397429.431	28.100	27.050 27.050	150 150	1.050	450	INTERNAL	RECESSED DOUBLE SEALED LOCKABLE
F4	383298.828	397426.784	28.100	27.000 27.000	150 150	1.100	450	INTERNAL	RECESSED DOUBLE SEALED LOCKABLE
F5	383286.469	397425.648	28.100	27.000	150	1.100	450	INTERNAL	RECESSED DOUBLE SEALED LOCKABLE
F6	383289.955	397425.961	28.100	26.450 26.500 26.450	150 150 150	1.650	450	INTERNAL	RECESSED DOUBLE SEALED LOCKABLE
F7	383290.581	397419.184	29.700	26.250 26.250	NRV 150 150	3.450	600	TYPE B	D400 RECESSED

NOTES

GENERAL

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NOTES:

1. EXISTING LEVELS/CONTOURS TAKEN FROM TOPOGRAPHICAL SURVEY BY EDI SURVEYS LTD 19147/T/01-01 SEP 2022)
2. ALL EXISTING LEVELS & DRAINAGE LEVELS TO BE CONFIRMED ON SITE PRIOR TO COmmENCEMENT OF WORKS. ALL FINDINGS TO BE REPORTED TO THE ENGINEER.
3. LEVEL OF PROPOSED OUTFALLS / CONNECTIONS TO SEWER/S TAKEN FROM EDI SURVEY. INVERT LEVEL.
4. PIPE SIZE & CONDITION OF ALL OUTFALL CHAMBERS TO BE SURVEYED BY CONTRACTOR ON SITE AND ALL FINDINGS REPORTED TO THE ENGINEER.
5. ARCHITECTURAL & LANDSCAPE ARCHITECTS LAYOUTS BASED ON MOST UP TO DATE DRAWINGS PROVIDED.
6. ALL EXISTING LEVELS TO BE CONFIRMED ON SITE PRIOR TO COmmENCEMENT OF WORKS.
7. REFER TO SITE TOPOGRAPHICAL SURVEY FOR DETAILS OF EXISTING SITE CONDITIONS AND BENCH MARKS.
8. PRIOR TO COmmENCEMENT OF THE WORKS THE CONTRACTOR SHALL LIAISE WITH ALL RELEVANT AUTHORITIES TO LOCATE, PROTECT AND WHERE NECESSARY DIVERT ALL EXISTING SERVICES AFFECTED BY THE WORKS; REFER TO SERVICES INFORMATION PREPARED BY EDI AND/OR OTHERS.
9. SHEAR DESIGN ARE NOT RESPONSIBLE, NOR SHOULD BE RELIED UPON, FOR THE IDENTIFICATION OR LOCATION OF EXISTING SERVICES ONSITE.
10. SHEAR DESIGN ARE NOT RESPONSIBLE FOR REQUIRED WORKS AND/OR DIVERSIONS TO EXISTING AND/OR PROPOSED SERVICES ON SITE.
11. TEMPORARY WORKS BY OTHERS
12. CLIENT / CONTRACTOR TO SEEK PERMISSION FOR ALL WORKS WITHIN PUBLIC LAND OR WITHIN LAND NOT WITHIN THE CLIENTS OWNERSHIP.
13. SEWER POSITIONS SHOWN BASED UPON EDI SURVEY DRAWING. EXACT POSITION TO BE CONFIRMED ONSITE PRIOR TO COmmENCEMENT OF WORKS.
14. EXTERNAL MANHOLES TO HAVE D400 COVERS.
15. ALL UNUSED CONNECTIONS TO BE CAPPED.
16. ALL SETTING OUT OF RWPs/DPs/FGs BY ARCHITECT.
17. ALL ABOVE GROUND DRAINAGE POINTS TO BE INTERNALLY RODDABLE.
18. NO WORKS TO BE UNDERTAKEN WITHIN THE PUBLIC HIGHWAY OR ON ADOPTED SEWERS WITHOUT THE NECESSARY APPROVALS IN PLACE.
19. ALL BELOW-SLAB DRAINAGE TO HAVE CLASS Z CONCRETE SURROUND.
20. FOR ATTENUATION TANK & FLOW CONTROL DETAILS REFER TO SHEAR DESIGN DRAWINGS 20047-005 & -131 -132.
21. THERMOPLASTIC STRUCTURED WALL SEWER PIPE SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS EN 13476-1 AND WIS 4-35-01 AND BS EN 13476-2 OR BS EN 13476-3. PIPES SHALL BE BSI KITEMARKED OR HAVE THE EQUIVALENT THIRD PARTY CERTIFICATION E.G. OSMA DRAIN FOR PIPES <160mmØ OR OSMA ULTRARIB FOR PIPES >160mmØ.
22. REFER TO THE DRAINAGE CONSTRUCTION DETAILS FOR INFORMATION REGARDING THE RESTRAINT OF THE PROPOSED DRAINAGE NETWORK DURING THE CASTING OF THE PILE CAP TO ENSURE THE PIPES THAT ARE CAST IN PLACE ARE NOT DISPLACED BY THE CONCRETE POUR AND CONTINUE TO COMPLY WITH THE BUILDING REGULATIONS. VITRIFIED CLAY PIPES AND FITTINGS FOR GRAVITY SEWERS SHALL HAVE FLEXIBLE MECHANICAL JOINTS. PIPES SHALL COMPLY WITH THE RELEVANT REQUIREMENTS OF BS EN 295-1 AND BS 65 (SURFACE WATER PIPES ONLY).
23. ALL DRAINAGE WORKS TO BE IN ACCORDANCE WITH LATEST DESIGN AND CONSTRUCTION GUIDANCE. FOR PRIVATE DRAINAGE, ALL WORKS TO BE IN ACCORDANCE WITH CURRENT BUILDING REGULATIONS.
24. "NRV" INDICATES NON-RETURN VALVE ON END OF PIPE AS IT ENTERS THE CHAMBER TO PREVENT BACKFLUSHING/SURCHARGING OF DRAINAGE.

THE CONTRACTOR HAS CONFIRMED THAT ALL DRAINAGE HAS BEEN CONSTRUCTED IN ACCORDANCE WITH SHEAR DESIGN'S CONSTRUCTION DRAWINGS

REV	DATE	DESCRIPTION	BY	CHK
AMENDMENTS				
AB01	17.06.26	AS-BUILT ISSUE	EL	DKK

CLIENT:
FUSION MANCHESTER DEVCO LTD

PROJECT:
STUDENT ACCOMMODATION
DEANSGATE SOUTH, MANCHESTER

TITLE:
FOUL & SURFACE WATER
MAHNOLE SCHEDULES

SHEAR design
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20047	20047-138	AB01
		STATUS: AB

Surface Water Inspection Chamber Photo Report

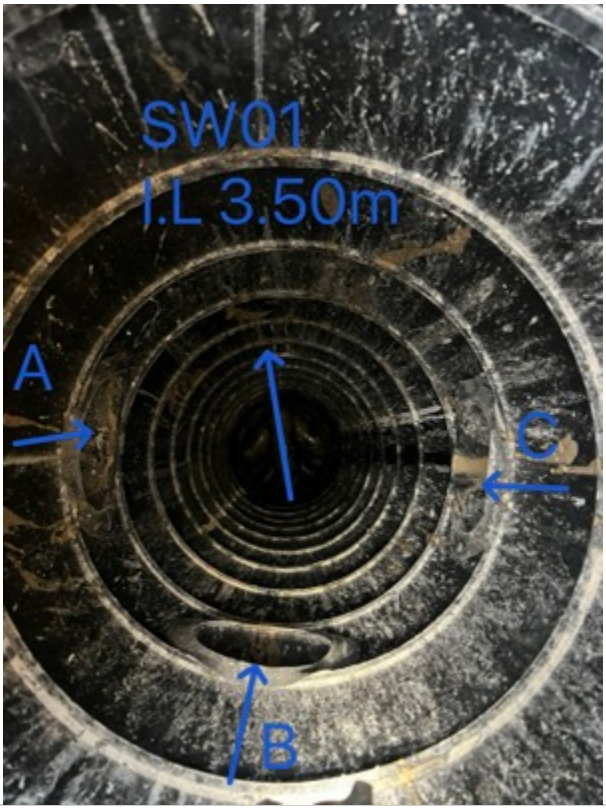
DOMIS FUSION

Sunday, 31 May 2026

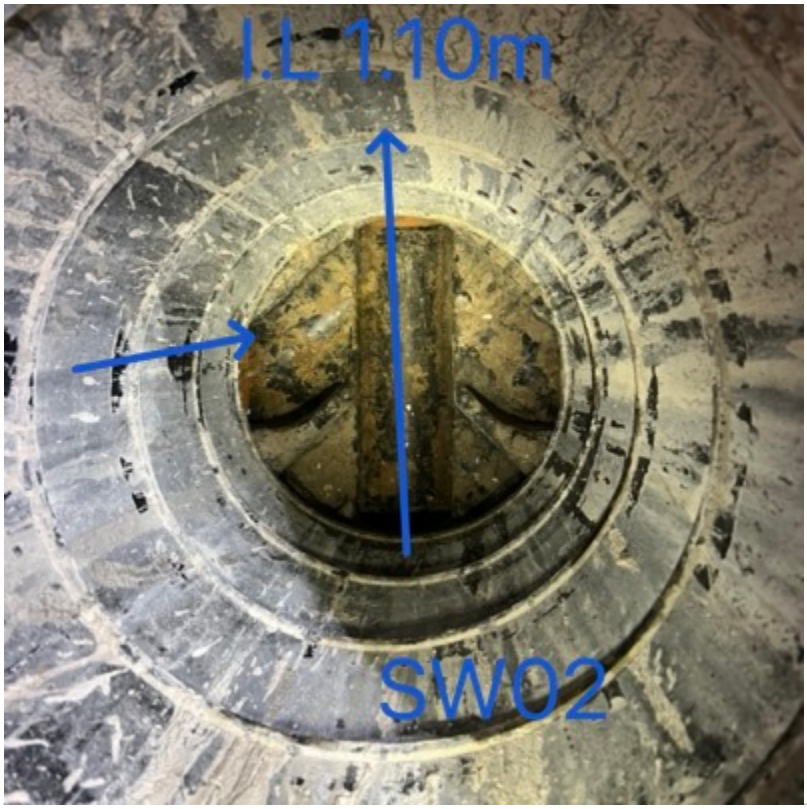
Prepared For Domis Construction

Shaun Percy

Unriva Ltd



S1



S2



S3



S4



S5



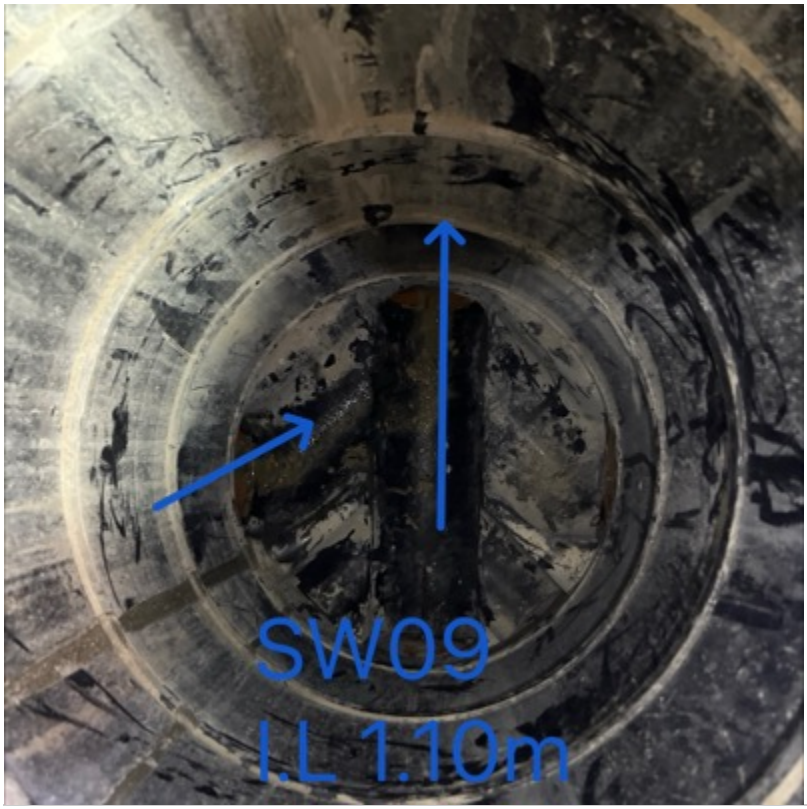
S6



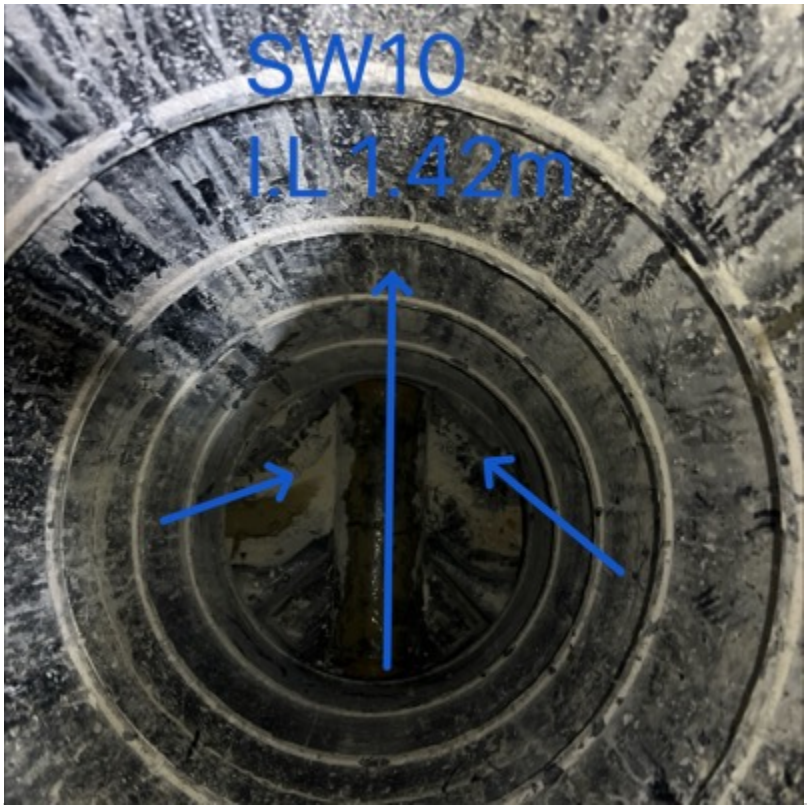
S7 Hydrobrake Manhole



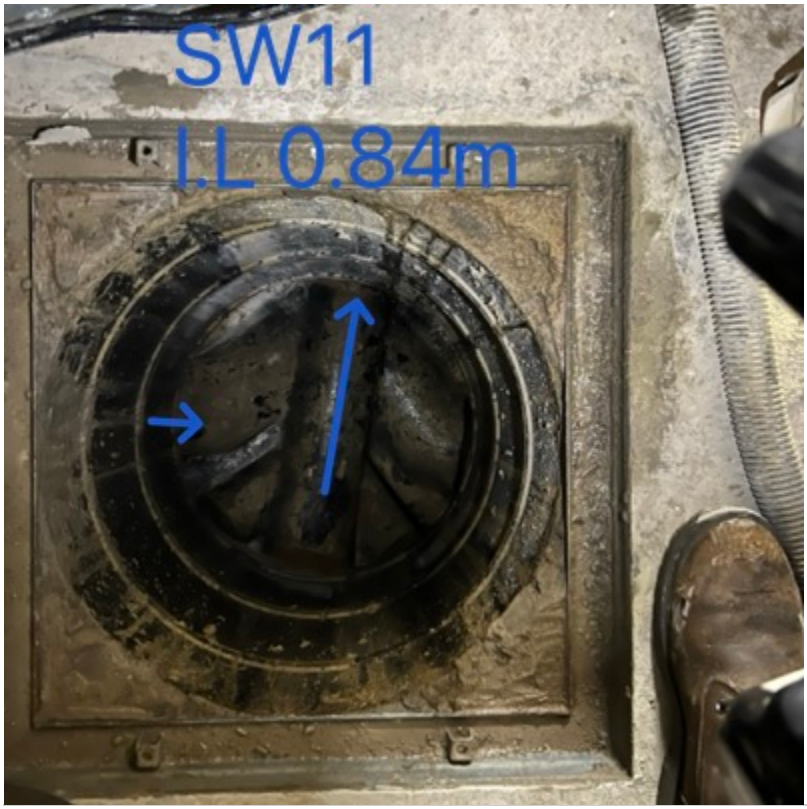
S8



S9



S10



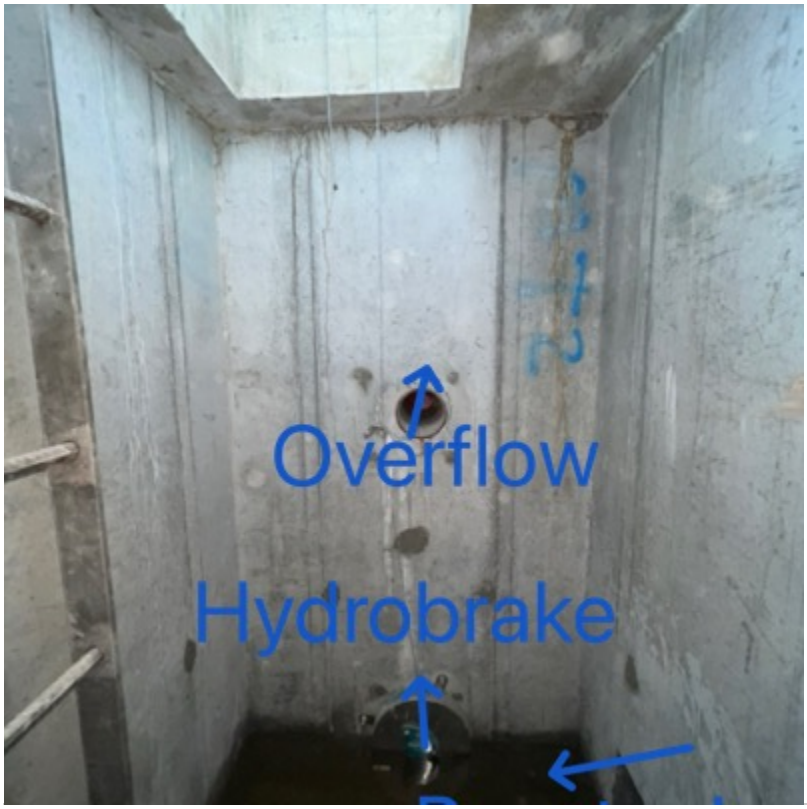
S11



Hydrobrake



Penstock Open



S7 Hyrdobrake Manhole



Penstock Valve



Attenuation Tank



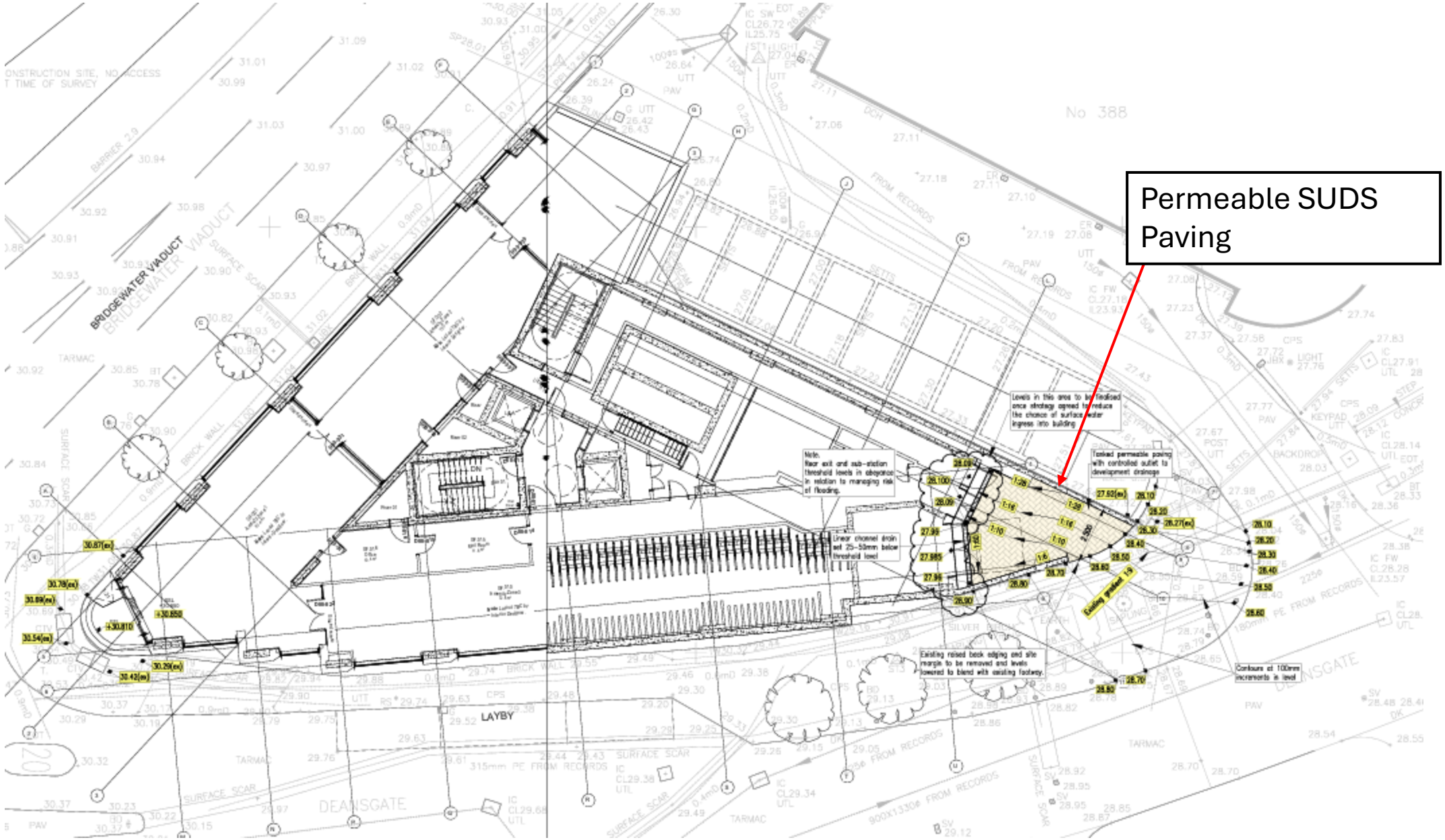
Attenuation Tank

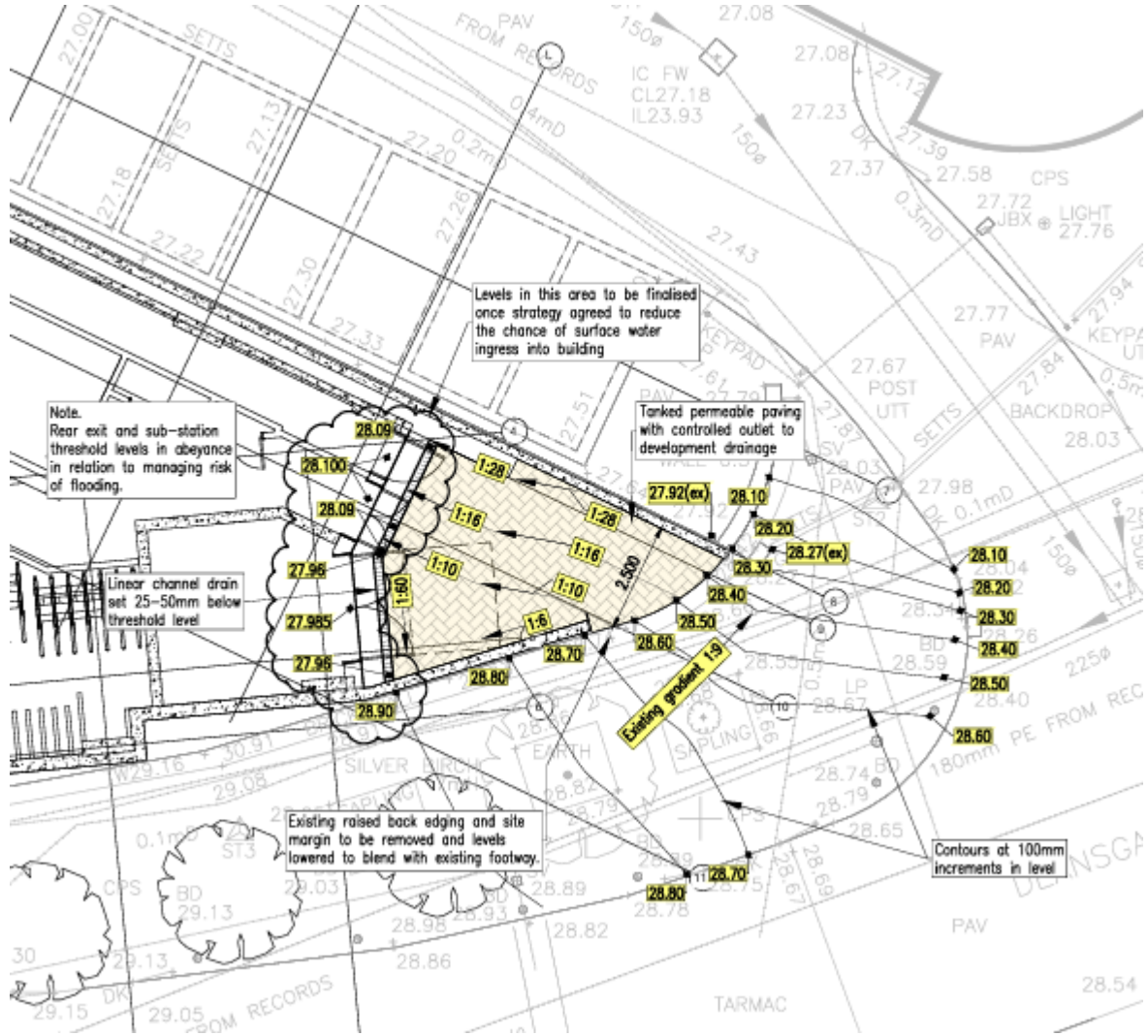


Attenuation Tank



Attenuation Tank


Permeable SUDS Paving
BRIDGEWATER VIADUCT
LAYBY
DEANSGATE
No 388
Levels in this area to be finalised once strategy agreed to reduce the chance of surface water ingress into building
Note. Rear exit and sub-station threshold levels in absence in relation to managing risk of flooding.
Linear channel drain set 25-50mm below threshold level
Tanked permeable paving with controlled outlet to development drainage
Existing raised back edging and site margin to be removed and levels lowered to blend with existing footway.
Contours at 100mm increments as level
Existing gradient 1:9


Levels in this area to be finalised once strategy agreed to reduce the chance of surface water ingress into building
Note.
Rear exit and sub-station threshold levels in abeyance in relation to managing risk of flooding.
Tanked permeable paving with controlled outlet to development drainage
Linear channel drain set 25-50mm below threshold level
Existing raised back edging and site margin to be removed and levels lowered to blend with existing footway.
Contours at 100mm increments in level
Existing gradient 1:9
1:28
1:16
1:10
1:60
1:6
2.500
27.92(ex)
28.27(ex)
28.09
28.100
27.96
27.985
28.10
28.20
28.30
28.40
28.50
28.60
28.70
28.80
28.90
TARMAC
PAV
SETTS
CPS
BACKDROP
EARTH
SILVER BIRCH

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Contract No:	**20047.D150**
Date:	**OCTOBER 2024**
By:	**EL**

DEANSGATE, MANCHESTER

20047.D150

SuDS OPERATION AND MAINTENANCE PLAN

DOCUMENT INDEX SHEET

Contract: Deansgate **Project No: 20047**

Title
1.0 Maintenance Summary **2.0** Maintenance Table

Date	Detail of Revision	Rev No
DATE	**First Issue**	**-**

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Date of Issue:	**22nd OCTOBER 2024**		

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1.0 Maintenance Summary

For a diagram showing the layout of the SuDS features on the site, refer to drawing 20047-121 & -122 Proposed Drainage Layouts.

Information relating to the maintenance requirements of the SuDS features can be found in the maintenance table overleaf.

The ongoing maintenance of the SuDS features on this site are be the responsibility of the site owner, who are to appoint a management company as part of their overall maintenance strategy.

It should be noted that the list of maintenance activities included herein is not exhaustive and that there may be additional activities required. Where any conflict exists between information provided in this document and with the manufacturer's/supplier's instructions, the instructions of the manufacturer/supplier should take precedence.

2.0 Maintenance Table

Drainage Feature	Maintenance Action Required	Frequency
Manholes, Pipework, Inspection Chambers and Flow Control Devices	Inspect, remove silt and check free flow.	Annually
	Repair physical damage.	As necessary
	In the event of water backing up in the manhole/inspection chamber rod/jet downstream pipework until clear. If problem persists then undertake drainage CCTV survey of affected pipework to check for damage and repair as necessary.	As necessary
Gullies	Remove litter, debris and weeds from catchment surface.	As necessary
	Inspection of sump sediment level via grating.	As required
	Repair physical damage.	As necessary
	Remove debris from covers/gully pots by hand or by jetting.	As necessary
	Inspect inlet catchpits and assess general condition and possible build-up of silt, litter or debris and remove where required.	As required
Attenuation Tanks	Remove debris from upstream catchment surface.	Monthly
	Inspect and identify any areas not operating correctly remedial action to be implemented as required.	Monthly (First 3 months)
	Inspect and identify any areas not operating correctly remedial action to be implemented as required.	Yearly (After first 3 months)
	Inspect all inlets, outlets, vents and overflows to ensure all are working to design intentions.	Yearly
	Remove sediment from pre-treatment surfaces.	Yearly (Or as required)
	Survey inside of tank for sediment build up and remove if necessary.	Every 5 years (Or as required)
	Repair/rehabilitate inlets, outlets and vents.	As required

Drainage Feature	Maintenance Action Required	Frequency
Linear Drainage Channels	Check covers and gratings are fitted securely and are in good condition.	Quarterly
	Inspect, remove silt and check free flow.	Annually
	Repair physical damage.	As necessary
Permeable Paving	Visually inspect for ponding following heavy rainfall	Yearly/As necessary
	Brush/vacuum joints. Replace any lost material to prevent ponding	As necessary/Yearly
	Replace damaged blocks/replace any rutting	As necessary
	Weed control – weedkiller	As necessary
	Note: replacement/repair of any aspect of permeable paving should be done in accordance with the manufacturer's specification/instructions	
All SuDS Features	Any additional maintenance activities as advised by the provider/manufacturer	As required/necessary