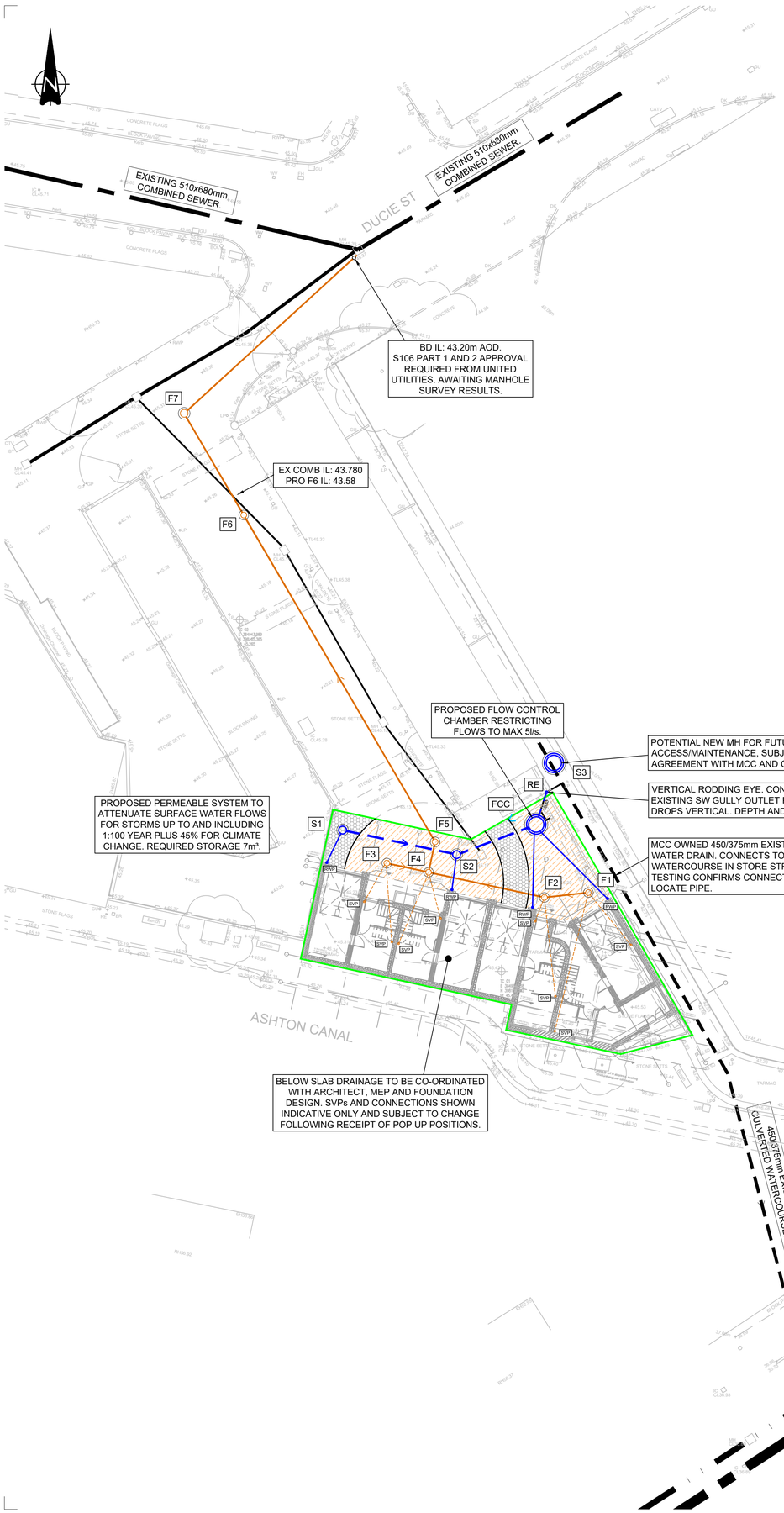


MANHOLE SCHEDULE

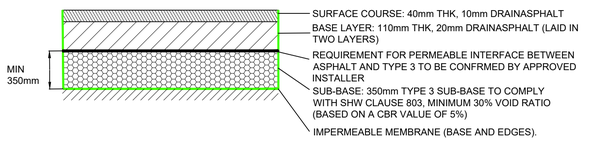
MH REF	CL (mAOD)	IL (mAOD)	DEPTH TO SOFFIT (m)	DS PIPE DIA (m)	MH DIA (mm)	MH TYPE	COVER SIZE (mm)	COVER CLASS	RECESSED	RESTRICTED ACCESS	BACK DROP	COMMENTS	EASTING	NORTHING
SURFACE WATER														
S1	45.150	43.800	1.20	0.150	600	PPIC	600X600	D400	N	N	N	NON ENTRY	TBC	TBC
S2	45.150	43.709	1.29	0.150	600	PPIC	600X600	D400	N	N	N	NON ENTRY	TBC	TBC
FCC	45.150	43.650	1.40	0.100	1200	PCC	600X600	D400	N	N	N	FLOW CONTROL CHAMBER	TBC	TBC
S3	43.000	41.500	1.13	0.375	1200	PCC	600X600	D400	N	N	N		TBC	TBC
FOUL WATER														
F1	45.150	44.570	0.43	0.15	450	PPIC	450X450	D400	N	N	N	NON ENTRY	TBC	TBC
F2	45.150	44.520	0.48	0.15	450	PPIC	450X450	D400	N	N	N	NON ENTRY	TBC	TBC
F3	45.150	44.550	0.45	0.15	450	PPIC	450X450	D400	N	N	N	NON ENTRY	TBC	TBC
F4	45.150	44.400	0.60	0.15	450	PPIC	450X450	D400	N	N	N	NON ENTRY	TBC	TBC
F5	45.150	44.100	0.90	0.15	450	PPIC	450X450	D400	N	N	N	NON ENTRY	TBC	TBC
F6	45.200	43.580	1.47	0.15	450	PPIC	450X450	D400	N	Y	N	NON ENTRY	TBC	TBC
F7	45.300	43.430	1.72	0.15	450	PPIC	450X450	D400	N	Y	N	NON ENTRY	TBC	TBC

NON ENTRY - REDUCER CAP REQUIRED AND FITTED TO SHAFT, PPIC - POLYPROPYLENE INSPECTION CHAMBER, CP - CATCH PIT TYPE, PCC - PRECAST CONCRETE.

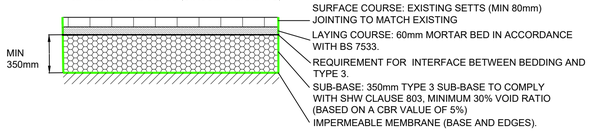
THE PERMEABLE PAVING IS AN INTEGRAL PART OF THE SURFACE WATER SYSTEM. THE 350mm SUB-BASE (TYPE 3 AT 30% VOID RATIO) IS REQUIRED TO ATTENUATION WATER IN STORM EVENTS. A POSITIVE CONNECTION TO THE PIPE NETWORK VIA THE PERFORATED PIPES IS ESSENTIAL OF THE SYSTEM TO WORK.

CONSTRUCTION SPECIFICATION

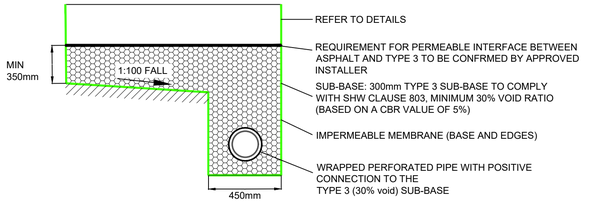
P01 - PERMEABLE TARMAC CONSTRUCTION



P02 - REINSTATE SETTS (CIRCULAR BANDING)



PERMEABLE CONSTRUCTION PIPE SURROUND DETAIL



GENERAL NOTES:

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.
2. ALL ADOPTABLE DRAINAGE WORKS INCLUDING WORKS TO EXISTING PUBLIC SEWERS TO BE UNDERTAKEN IN ACCORDANCE WITH "SEWERS FOR ADOPTION 7th EDITION" AND "CIVIL ENGINEERING SPECIFICATION FOR THE WATER INDUSTRY 7th EDITION" AND CONSTRUCTED TO THE RELEVANT STATUTORY UNDERTAKERS DETAILS.
3. ALL PRIVATE DRAINAGE WORKS TO BE IN ACCORDANCE WITH "CIVIL ENGINEERING SPECIFICATION FOR THE WATER INDUSTRY 7th EDITION", BS EN 752 2017 'DRAIN AND SEWER SYSTEMS OUTSIDE BUILDINGS' AND THE BUILDING REGULATIONS APPROVED 'DOCUMENT H'.
4. DO NOT SCALE THIS DRAWING. ANY AMBIGUITIES, OMISSIONS AND ERRORS ON DRAWINGS SHALL BE BROUGHT TO THE ENGINEERS ATTENTION IMMEDIATELY. ALL DIMENSIONS MUST BE CHECKED / VERIFIED ON SITE.
5. DESIGN BASED ON TOPOGRAPHICAL SURVEY AND INFORMATION AVAILABLE AT THE TIME OF THE DESIGN.
6. OUTFALL CONNECTION(S) SUBJECT TO AGREEMENT WITH THE APPROVING AUTHORITY.
7. ALL DIMENSIONS ARE IN METRES AND LEVELS IN METRES ABOVE ORDNANCE DATUM UNLESS OTHERWISE NOTED.
8. COVER LEVELS, GULLY POSITIONS, AND BUILDINGS LOCATION ARE APPROXIMATE AND SHALL BE CONFIRMED BY ARCHITECT/ LANDSCAPE ARCHITECT. CONTRACTOR TO ALLOW FOR ADJUSTMENT TO SUIT AGREED POSITIONS AND FINISHED LEVELS, AND CONFIRM ALL COVER LEVELS ON SITE.
9. ALL BELOW SLAB DRAINAGE CONNECTIONS SHOWN TO THE PENETRATION POSITIONS ARE INDICATIVE ONLY. REFER TO DIMENSIONED LOCATIONS AND DIAMETERS ON ARCHITECT'S GROUND FLOOR SETTING-OUT PLANS.
10. ALL UNDERGROUND FOUL DRAINAGE SHOULD BE SUITABLY VENTED AT OR NEAR TO THE HEAD OF RUNS.
11. ALL ACCESS FITTINGS, STACKS, RWP'S AND GULLIES TO BE RODDABLE. ALL TO HAVE LOW LEVEL RODDING ACCESS PLATES UNLESS AN ALTERNATIVE MEANS OF ACCESS IS AGREED. ACCESS POINT TO BE ABOVE ANY GROUND FLOOR CONNECTED APPLIANCE SPILL LEVEL.
12. LARGE ACCESS FITTING REQUIRED ABOVE GROUND WHERE GREATER THAN 12M UP TO 22M TO A JUNCTION. SMALL ACCESS FITTING REQUIRED UP TO 12M TO A JUNCTION.
13. ALL GULLY AND CHANNEL DRAIN OUTLETS AND TERMINATION POINTS TO BE TRAPPED AND RODDABLE. INTERNAL GULLIES AND CHANNEL DRAINS TO BE SPECIFIED BY OTHERS.
14. WHERE NO WC'S ARE CONNECTED UPSTREAM, UNDERSLAB FW DRAINAGE TO BE LAID AT 1:40 MIN. AFTER THE CONNECTION OF AT LEAST 1NO WC, A MIN. FALL OF 1:80 APPLIES.
15. ALL CONNECTIONS FROM POP-UPS TO BE LAID AT A CONSTANT GRADIENT TO JUNCTION/ INSPECTION CHAMBER/ MANHOLE UNLESS NOTED OTHERWISE. ANY ISSUES RELATING TO CLASHES WITH FOUNDATIONS ARE TO BE FORWARDED TO THE ENGINEER, ALLOWING SUFFICIENT TIME FOR AN ALTERNATIVE SOLUTION TO BE PROPOSED.
16. INVERT LEVELS AT MANHOLES/ INSPECTION CHAMBERS TO BE USED TO SET OUT PIPEWORK. PIPE GRADIENTS ARE SHOWN INDICATIVELY ONLY.
17. ALL PIPE DIAMETERS GIVEN ARE NOMINAL INTERNAL PIPE DIAMETERS.
18. ALL SEWERS, UNLESS AGREED OTHERWISE STATED, SHALL BE:
    - 100mm to 300mm DIA TO BE VITRIFIED CLAY.
    - 375mm DIA AND GREATER TO BE CLASS 120 CONCRETE PIPES.
19. AS AN ALTERNATIVE THE CONTRACTOR MAY USE AN APPROVED UNPLASTICISED POLYVINYL CHLORIDE (PVCU) WITH APPROVAL FROM THE ENGINEER.
20. SEWER PIPES TO BE LAID IN MAXIMUM 3 METRE LENGTHS UNLESS THERE IS A SPECIFIC OPERATIONAL NEED TO LAY LONGER LENGTHS.
21. THE FIRST PIPE OUT OF MANHOLES TO BE AS SHORT AS PRACTICABLE SO AS TO PROVIDE A FLEXIBLE JOINT AS CLOSE AS POSSIBLE TO THE OUTSIDE FACE OF THE CONCRETE SURROUND AND CONNECTED TO A LENGTH OF ROCKER PIPE.
22. ALL NEW CONNECTIONS INTO EXISTING MANHOLES (OR INTO EXISTING SEWERS) TO BE 'SOFFITS LEVEL' UNLESS OTHERWISE NOTED.
23. ALL ADOPTABLE DRAINAGE PIPES WILL REQUIRE A MINIMUM OF 1200mm COVER, IN ACCORDANCE WITH SEWERAGE UNDERTAKERS REQUIREMENTS. WHERE THIS IS NOT ACHIEVED, IT WILL BE NECESSARY TO AGREE THE BED AND SURROUND DETAIL.
24. ALL PRIVATE DRAINAGE PIPES WITH A COVER OF LESS THAN 600mm IN NON-TRAFFICKED AREAS AND LESS THAN 1200mm IN TRAFFICKED AREAS TO BE BEDDED AND SURROUNDED IN CONCRETE (CLASS Z). COMPRESSIBLE MATERIAL SHALL BE PROVIDED AT EVERY PIPE JOINT. WHERE COVER EXCEEDS THIS DEPTH, PIPES ARE TYPICALLY BEDDED AND SURROUNDED IN CLASS S. REFER TO PIPE EMBEDMENT DETAILS DRAWING FOR SPECIFIC TYPES.
25. WHERE DRAINAGE PIPES ARE LESS THAN 300mm BELOW THE UNDERSIDE OF THE GROUND FLOOR SLAB, CONCRETE ENCASEMENT IS REQUIRED (CLASS Z). COMPRESSIBLE JOINTS ARE TO BE PROVIDED AT EVERY PIPE JOINT WITHIN THE CONCRETE.
26. WHERE PIPES ARE MORE THAN 300mm BELOW THE UNDERSIDE OF THE SLAB, CLASS S BEDDING IS ACCEPTABLE.
27. SULPHATE RESISTANT CEMENT (C20-DC2) AND PRECAST CONCRETE PRODUCTS MUST BE USED OR A LABORATORY REPORT PROVIDED TO PROVE THAT SUCH PRECAUTIONS ARE NOT REQUIRED.
28. WHERE FOUL SEWERS RUN ABOVE SURFACE SEWERS, CONCRETE PROTECTION MAY BE REQUIRED AT CROSSOVERS TO PREVENT ANY POTENTIAL CONTAMINATION.
29. ALL CONNECTIONS PASSING THROUGH BASES OR EDGE BEAMS TO BE IN SEALED SLEEVES. ALTERNATIVELY CONNECTIONS MAY BE CAST-IN WITH FLEXIBLE JOINTS NOT GREATER THAN 150MM FROM FACE OF CONCRETE.
30. THE CHAMBER SIZE OF MANHOLES WITH MORE THAN ONE CONNECTION MAY NEED TO BE INCREASED TO ACCOMMODATE THE CONNECTIONS AND BENDS.
31. ALL MANHOLE COVERS IN BLOCK/SLAB AND EXTERNAL PAVING AREAS TO HAVE RECESSED COVERS OF THE APPROPRIATE GRADE TO ACCEPT ARCHITECT'S PAVING PROPOSAL.
32. UNLESS NOTED OTHERWISE IN THE MANHOLE SCHEDULE, ALL MANHOLE, GULLY AND CHANNEL COVERS (IRONWORK) SHOULD BE THE FOLLOWING SPECIFICATION:
    - B125 LOAD CLASS IN PEDESTRIAN AREAS
    - D400 LOAD CLASS IN VEHICULAR AREAS.
33. ALL PROPRIETARY PRODUCTS TO BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURERS REQUIREMENTS, INSTRUCTIONS AND RECOMMENDATIONS.
34. ALL PROPOSED PIPEWORK TO BE 150mm DIAMETER UNLESS NOTED OTHERWISE.

KEY:

SITE BOUNDARY TBC

EXISTING COMBINED UU SEWER

EXISTING CULVERTED WATERCOURSE

EXISTING PRIVATE COMBINED DRAIN

EXISTING SURFACE WATER DRAIN (MCC OWNED)

PROPOSED SURFACE PERFORATED PIPE (150mmØ) AND CHAMBER

PROPOSED FOUL WATER PIPE (150mmØ) AND CHAMBER

P01- PROPOSED PERMEABLE TARMAC

P02- PROPOSED SETT REINSTATEMENT

PROPOSED RAIN WATER PIPE AND 150mm CONNECTION

RWP

PROPOSED SOIL VENT PIPE AND 150mm CONNECTION

SVP

DESIGN PHILOSOPHY

SURFACE WATER DESIGN
THE DESIGN PROVIDES CAPACITY UP TO THE 100 YEAR 45% CLIMATE CHANGE EVENT.

SW FLOW RATE: MAX 5L/S

APPROXIMATE STORAGE REQUIREMENT: 7m³

OUTFALL: 900mmØ CULVERTED WATERCOURSE IN STORE STREET VIA EXISTING SITE CONNECTION (AGREED WITH MANCHESTER LLFA AND UU)

POLLUTION TREATMENT: PERMEABLE SURFACING

SUSTAINABLE DRAINAGE: PERMEABLE SURFACING

INFILTRATION IS NOT FEASIBLE.

PROPOSED STRATEGY

EXTERNAL AREA TO BE PERMEABLE TARMAC OR SIMILAR TO ALLOW FOR ATTENUATION WITIN THE SUB BASE LAYER.

BASE OF PERMEABLE BUILD UP TO FALL TOWARDS PIPE SURROUND DETAIL.

PAVEMENT SYSTEM TO BE WRAPPED IN IMPERMEABLE MEMBRANE WITH WRAPPED PERMEABLE PIPEWORK.

FLOW CONTROL CHAMBER PROVIDED PRIOR TO DISCHARGING OFF SITE.

HYDRO-BRAKE OR SIMILAR TO BE PROVIDED TO RESTRICT FLOWS.

RAIN WATER CONNECTION FROM PROPOSED BUILDING TO BE CONNECTED TO SURFACE WATER SYSTEM.

FOUL WATER DESIGN

FW PEAK FLOW RATE: TBC.

OUTFALL: COMBINED SEWER IN DUCIE STREET (TO BE AGREED WITH UU)

Rev	Date	Description	By	Check	App.
P02	28.04.23	STAGE 3	CD	JAP	JAP
P01	17.12.21	FOR INFORMATION	CD	PM	PM

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Client: VICTOR (M1) LTD

Project: PARADISE MEWS

Office: MANCHESTER

Discipline: CIVILS

Title: DRAINAGE LAYOUT

Scale @ A1: 1:200

Status: STAGE 3

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Originator	Job Number	Discipline	Building/Zone
CCL	1-21074	C	XX
Type	Level	Drawing No.	Revision
DR	XX	92500	P02