SURFACE WATER MANHOLE CHAMBER SCHEDULE

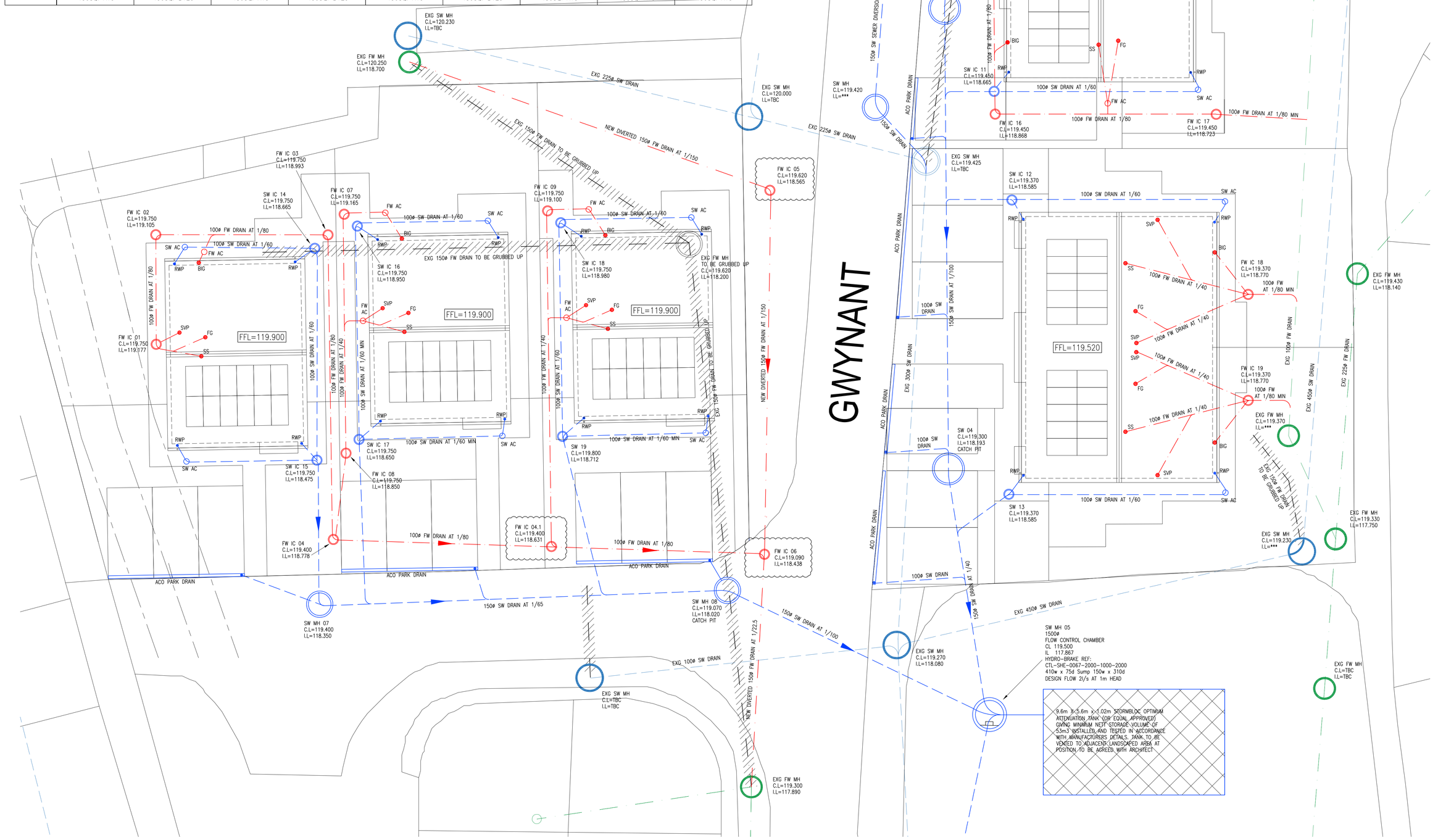
CHAMBER No	SW IC 01	SW MH 02	SW MH 03	SW MH 04	SW MH 05	SW MH 06	SW MH 07	SW MH 08	SW IC 09	SW IC 10
COVER LEVEL (m)	120.050	120.100	119.600	119.300	119.500	119.280	119.400	119.070	120.050	119.450
INVERT LEVEL (m)	119.150	118.700	118.435	118.193	117.867	117.370	118.350	118.020	119.265	118.665
DEPTH (mm)	900	1400	1165	1107	1633	1910	1050	1050	785	582
DIAMETER (mm)	450ø	1200ø	1200ø	1200ø	1200ø	EXG	1200ø	1200ø	450ø	450ø
CONSTRUCTION	WAVIN RANGE 450 INSPECT. CHAMBER	PCC MH RING	PCC MH RING	PCC MH RING	PCC MH RING	EXG	PCC MH RING	PCC MH RING	WAVIN RANGE 450 INSPECT. CHAMBER	WAVIN RANGE 450 INSPECT. CHAMBER
COVER	430SQ. B125	600SQ. B125	600SQ. B125	600SQ. B125	1200x675 B125	EXG	600SQ. D400	600SQ. D400	430SQ. B125	430SQ. B125

CHAMBER No	SW IC 11	SW IC 12	SW IC 13	SW IC 14	SW IC 15	SW IC 16	SW IC 17	SW IC 18	SW IC 19
COVER LEVEL (m)	119.450	119.370	119.370	119.750	119.750	119.750	119.750	119.750	119.800
INVERT LEVEL (m)	118.665	118.585	118.585	118.665	118.475	118.950	118.650	118.980	118.712
DEPTH (mm)	785	785	785	1085	1275	800	1100	770	1088
DIAMETER (mm)	450ø	450ø	450ø	450ø	450ø	450ø	450ø	450ø	450ø
CONSTRUCTION	WAVIN RANGE 450 INSPECT. CHAMBER	WAVIN RANGE 450 INSPECT. CHAMBER	WAVIN RANGE 450 INSPECT. CHAMBER	WAVIN RANGE 450 INSPECT. CHAMBER	WAVIN RANGE 450 INSPECT. CHAMBER REDUCED ACCESS	WAVIN RANGE 450 INSPECT. CHAMBER	WAVIN RANGE 450 INSPECT. CHAMBER	WAVIN RANGE 450 INSPECT. CHAMBER	WAVIN RANGE 450 INSPECT. CHAMBER
COVER	430SQ. B125	430SQ. A15	430SQ. A15	430SQ. A15	300SQ. A15	430SQ. A15	430SQ. A15	430SQ. A15	430SQ. A15

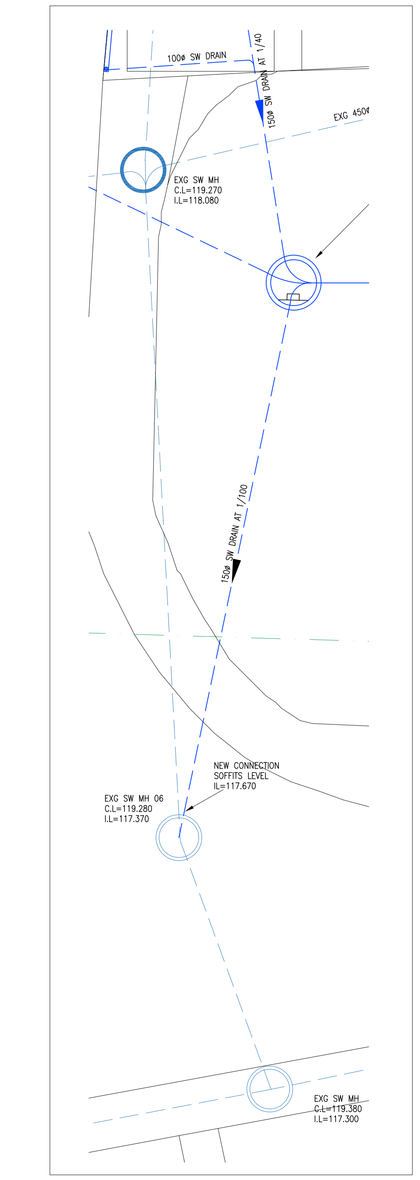
FOUL WATER MANHOLE CHAMBER SCHEDULE

CHAMBER No	FW IC 01	FW IC 02	FW IC 03	FW IC 04	FW MH 05	FW MH 06	FW IC 07	FW IC 08	FW IC 09	FW IC 10
COVER LEVEL (m)	119.750	119.750	119.750	119.400	119.620	119.090	119.750	119.750	119.750	120.050
INVERT LEVEL (m)	119.177	119.105	118.993	118.778	118.565	118.438	119.165	118.850	119.100	119.468
DEPTH (mm)	573	645	757	622	1055	652	1050	585	650	582
DIAMETER (mm)	450ø	450ø	450ø	450ø	450ø	450ø			450ø	450ø
CONSTRUCTION	WAVIN RANGE 450 INSPECT. CHAMBER	WAVIN RANGE 450 INSPECT. CHAMBER	WAVIN RANGE 450 INSPECT. CHAMBER	WAVIN RANGE 450 INSPECT. CHAMBER	WAVIN RANGE 450 INSPECT. CHAMBER	WAVIN RANGE 450 INSPECT. CHAMBER	WAVIN RANGE 450 INSPECT. CHAMBER	WAVIN RANGE 450 INSPECT. CHAMBER	WAVIN RANGE 450 INSPECT. CHAMBER	WAVIN RANGE 450 INSPECT. CHAMBER
COVER	430SQ. A15	430SQ. A15	430SQ. A15	430SQ. A15	430SQ. B125	430SQ. B125	430SQ. B125	430SQ. B125	430SQ. A15	430SQ. A15

CHAMBER No	FW IC 11	FW IC 12	FW IC 13	FW IC 14	FW MH 15	FW MH 16	FW IC 17	FW IC 18	FW IC 19
COVER LEVEL (m)	120.050	120.050	120.050	119.450	119.450	119.450	119.450	119.370	119.370
INVERT LEVEL (m)	119.323	119.468	119.323	118.868	118.723	118.868	118.723	118.770	118.770
DEPTH (mm)	727	582	727	582	727	582	727	600	600
DIAMETER (mm)	450ø	450ø	450ø	450ø	450ø	450ø	450ø	450ø	450ø
CONSTRUCTION	WAVIN RANGE 450 INSPECT. CHAMBER	WAVIN RANGE 450 INSPECT. CHAMBER	WAVIN RANGE 450 INSPECT. CHAMBER	WAVIN RANGE 450 INSPECT. CHAMBER	WAVIN RANGE 450 INSPECT. CHAMBER	WAVIN RANGE 450 INSPECT. CHAMBER	WAVIN RANGE 450 INSPECT. CHAMBER	WAVIN RANGE 450 INSPECT. CHAMBER	WAVIN RANGE 450 INSPECT. CHAMBER
COVER	430SQ. A15	430SQ. B125	430SQ. A15	430SQ. B125	430SQ. A15	430SQ. B125	430SQ. A15	430SQ. A15	430SQ. A15



SEE ADJACENT PLAN SHOWING OUTFALL



EXTRACT OF OUTFALL

DRAINAGE NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.

2. DO NOT SCALE FROM THIS DRAWING. ALL DETAILS AND DIMENSIONS ARE TO BE CHECKED BY THE CONTRACTOR/FABRICATOR PRIOR TO COMMENCEMENT OF CONSTRUCTION/FABRICATION. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER.

3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.

4. ANY EXISTING DIMENSIONS NOTED ON THIS DRAWING ARE TO BE CHECKED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS.

5. FOR FINAL SETTING OUT INFORMATION RELATING TO WALL POSITIONS REFER TO ARCHITECTS DRAWINGS.

6. ALL WORKS TO BE CARRIED OUT IN STRICT ACCORDANCE WITH THE ENGINEERS SPECIFICATIONS, RELEVANT BRITISH STANDARDS AND WHERE APPLICABLE LOCAL AUTHORITIES REQUIREMENTS.

7. PRIOR TO COMMENCEMENT OF THE WORKS THE CONTRACTOR SHALL:-

A) CONFIRM THE LOCATION AND LEVEL OF THE PROPOSED DRAINAGE OUTFALLS AND REPORT ANY DISCREPANCIES TO THE ENGINEER.

B) CARRY OUT AN INTERNAL SURVEY OF THE OUTFALL CHAMBERS AND PROVIDE DETAILS DIMENSIONED SKETCHES OF EACH FOR THE ENGINEERS CONSIDERATION.

8. ALL PIPES BUILT INTO THE MANHOLE INVERTS SHALL BE INSTALLED WITH SOFFITS LEVEL.

9. INVERT LEVELS SHOWN ARE APPROXIMATE AND SHALL BE ADJUSTED ON SITE BY THE CONTRACTOR TO SUIT THE FINAL LEVELS. THE CONTRACTOR SHALL PROVIDE WRITTEN CONFIRMATION OF THE FINISHED COVER AND INVERT LEVELS OF ALL MANHOLES.

10. THE CONTRACTOR SHALL CONTROL ACCURATE LINE AND LEVEL OF PIPE LAYING BY USE OF AN OPTICAL LASER.

11. THE CONTRACTOR SHALL PROTECT THE PIPELINE FROM TEMPORARY CONSTRUCTION LOADS WHICH MAY BE IN EXCESS OF THE SERVICE LOADS.

12. PIPEWORK AND PIPE BEDDING SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS EXCEPT WHERE NOTED OTHERWISE CLAYWARE PIPES AND FITTINGS TO BSEN2295 – 100 AND 150mm DIAMETER HEPWORTH SUPERSLEVE ON CLASS S BED – ALL DRAINS UNLESS REDUCED COVER–SEE NOTE 13.

13. PIPEWORK WITH LESS THAN 600MM COVER FROM FINISHED LEVEL BENEATH LANDSCAPED AREAS AND 1.2m BENEATH ACCESS ROAD/PARKING BAYS SHALL BE PROTECTED WITH A 150MM C20/20 CONCRETE SURROUND. FLEXIBLE JOINTS SHALL BE MAINTAINED AT EACH PIPE JOINT BY THE USE OF COMPRESSIVE SHEET CUT TO FIT THE PIPE PROFILE.

14. TRENCHES IN AREAS RECEIVING VEHICULAR LOADING SHALL BE BACKFILLED WITH IMPORTED GRANULAR FILL OR SELECTED TYPE B MATERIAL FROM SITE.

15. TRENCHES WITHIN 1 METRE OF LOAD BEARING WALLS SHOULD BE FILLED WITH CONCRETE AT LEAST TO THE LEVEL OF THE UNDERSIDE OF THE FOUNDATION. WHERE THE DISTANCE IS MORE THAN 1M FROM THE WALL, THE CONCRETE FILL SHOULD BE TO A LEVEL BELOW THE UNDERSIDE OF THE FOUNDATION EQUAL TO THE DISTANCE FROM THE WALL TO THE NEARSIDE OF THE TRENCH LESS 150MM.

16. SOFT SPOTS IN THE TRENCH FORMATION SHALL BE REMOVED AND REPLACED WITH GRANULAR BEDDING UNLESS INSTRUCTED OTHERWISE.

17. UNLESS NOTED OTHERWISE MANHOLE COVERS, CHANNEL GRATINGS AND ROAD GRATINGS SHALL BE DUCTILE IRON TO BSEN 124 BLACK COATED AS FOLLOWS: –
ROADS CLASS D400
LANDSCAPED AREAS CLASS A15

18. MANHOLE COVERS SHALL HAVE A BADGE TO INDICATE FOUL OR STORM WATER.

19. TWO SETS OF MANHOLE LIFTING KEYS SHALL BE HANDED OVER TO THE CLIENT ON COMPLETION OF THE WORKS.

20. THE CONTRACTOR SHALL REGULATE EXISTING COVERS AND FRAMES TO THE PROPOSED LEVELS INDICATED.

21. LATERAL CONNECTIONS IN BETWEEN MANHOLE RUNS SHALL BE FORMED BY USING PURPOSE MADE JUNCTION FITTINGS. BEND FITTINGS SHALL BE PROVIDED WHERE APPROPRIATE TO DIRECT THE FLOW INTO MAIN RUNS.

22. THE CONTRACTOR SHALL SERVE ALL STATUTORY NOTICES AND OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITY FOR WORKS IN EXISTING PUBLIC HIGHWAYS AND FOR CONNECTIONS TO PUBLIC SEWERS.

23. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO LIAISE WITH THE HIGHWAY AND SEWERAGE AUTHORITIES FOR WORK APPROVALS, INTERIM INSPECTION, SNAGGING AND FINAL INSPECTIONS OF THEIR WORK.

24. THE CONTRACTOR SHALL CONFIRM THE LOCATION OF ALL EXISTING STATUTORY UNDERTAKERS APPARATUS AND SERVICE CONNECTIONS ADJACENT TO AND CROSSING THE WORKS BY TRIAL PITS PRIOR TO COMMENCING MACHINE DIG.

25. AT THE CONCLUSION OF THE WORKS THE CONTRACTOR SHALL PROVIDE A MARKED UP DRAWING TO RECORD ANY AS BUILT VARIATIONS NOT SHOWN ON THE DRAWINGS.

26. REDUNDANT MANHOLES TO BE REMOVED AND BACKFILLED WITH SUITABLE GRANULAR MATERIAL COMPACTED IN 200mm LAYERS.

POROUS PAVING SPECIFICATION

40MM DRAIN ASPHALT POROUS SURFACE COURSE
60MM DRAIN ASPHALT POROUS BINDER COURSE
MINIMUM 300MM TYPE "3" UN-BOUND MIXTURE ALL TO SPECIALIST SUPPLIERS DESIGN/SPECIFICATION FOR CAR PARK LOADING

GRANULAR UNBOUND MIXTURE IS TO BE USED IT SHOULD CONSIST OF A PERMEABLE AGGREGATE MIXTURE WITH PROPERTIES SIMILAR TO A CLAUSE 805 TYPE 3 (OPEN GRADED) UNBOUND MIXTURE. IT SHOULD BE SPREAD TO AS EVEN A PROFILE AS POSSIBLE AND COMPACTED BY A DEADWEIGHT ROLLER WEIGHING NOT LESS THAN 8 TONNES OR A VIBRATING ROLLER OF SIMILAR COMPACTIVE EFFORT. THE ROLLER SHOULD HAVE A SIMILAR CHARACTER TO THAT USED FOR HARDCORE.

KEY

DENOTES PERMEABLE PAVING/TARMAC OVER 300mm TYPE 3 STONE (30% POROSITY) ON GEOTEXTILE MEMBRANE

PROPOSED SURFACE WATER DRAIN/SEWER

PROPOSED FOUL WATER DRAIN/SEWER

EXISTING SURFACE WATER SEWER

EXISTING FOUL WATER SEWER

REV	DATE	DESCRIPTION	BY
c	X	FW 05 & 06 CHANGED TO PPIC. FW IC 4.1 ADDED	SJM
B	21/06/19	UPDATED FOLLOWING SAB COMMENTS. FINAL SURFACE RUN OFF RATE REDUCED CLOSER TO GREENFIELD RATE AND STORAGE TANK INCREASED TO SUIT. OTHER MINOR REVISIONS AS CLOUDED	SJM
A	12/03/19	SCHEME REDESIGNED/REDRAWN FOLLOWING REMOVAL	SJM

Status: **FOR CONSTRUCTION**

DRAWING TITLE: PROPOSED SURFACE WATER DRAINAGE SITES1 & 2	PROJECT TITLE: PLAS MADOC (GWYNANT)
ARCHITECT: JDA ARCHITECTS	CLIENT: FORWORKS
DATE: AUG 18 / DRAWN BY: SJM / CHECKED BY: SPM	
SCALE: 1/100 AT A0 / JOB No: 18–068 / DRG. No: D10 / REV: B	

MDA Wirral Ltd
Consulting Civil & Structural Engineers
Egerton House 2 Tower Road Birkenhead CH41 1FN
tel 0151 650 6900 fax 0151 650 6951