



EXISTING FEATU

-  EXISTING SURFACE WATER SEWER AND MANHOLE TO BE RETAINED
 EXISTING SURFACE WATER CULVERT ROUTE
 EXISTING CHANNEL DRAIN
 EXISTING FLOOD/SURFACE/COMBINED WATER DRAIN AND MANHOLE TO BE ABANDONED. CONTRACTOR TO CONFIRM THAT NO LIVE CONNECTIONS REMAIN. PIPE TO BE FULLY REMOVED.
 EXISTING UNKNOWN DRAIN/UTILITY AND MANHOLE WHICH REQUIRES FURTHER INVESTIGATION

— — — — SURFACE WATER DRAIN

- | | |
|--|--|
| <p>RWP •</p>  | <p>RAIN WATER PIPE • REFER TO PUBLIC HEALTH ENGINEERS/ARCHITECTS DRAWINGS FOR DETAILS</p> |
|  | <p>STORM WATER MANHOLE TYPE D
INTERNAL DIMENSIONS 450mm MINIMUM
DEPTH FROM COVER TO SOFFIT OF PIPE UP TO 3m
RESTRICT ACCESS TO Ø350 IF DEPTH FROM COVER TO SOFFIT OF PIPE IS LESS THAN 1m
(MAX PIPE DIAMETER 150mm 450Ø/475Ø)
(MAX PIPE DIAMETER 225mm 600Ø)</p> |
|  | <p>STORM WATER FILTER MANHOLE</p> |
|  | <p>STORM WATER FLOW CONTROL MANHOLE</p> |
|  | <p>SEL ENVIRONMENTAL LTD
DIFFUSER UNIT WITHIN SUB-BASE</p> |
|  | <p>PERMEABLE SURFACE</p> |
|  | <p>STORM WATER SOAKAWAY / ATTENUATION TANK
GL = GROUND LEVEL
TOTL = TOP OF TANK LEVEL
BOTL = BOTTOM OF TANK LEVEL</p> |
| <p>Ø100 SWD 6.48m 1:100</p> | <p>PIPE DETAIL: Ø. LENGTH, GRADIENT,</p> |
| <p>SW MH Ø1.00
CL Ø0.00
SIL Ø0.00
TYPE C MH
CATCHPIT
D400</p> | <p>MANHOLE REFERENCE:
COVER LEVEL,
INVERT LEVEL,
SUMP INVERT LEVEL,
MH TYPE,
CATCHPIT MANHOLE (IF REQUIRED),
COVER GRADE</p> |
|  | <p>FOUL WATER DRAIN</p> |
| <p>FW •</p> | <p>ABOVE GROUND FOUL WATER CONNECTION - REFER TO PUBLIC HEALTH ENGINEERS/ARCHITECTS DRAWINGS FOR DETAILS</p> |
|  | <p>FOUL WATER MANHOLE TYPE D
INTERNAL DIMENSIONS 450mm MINIMUM
DEPTH FROM COVER TO SOFFIT OF PIPE UP TO 3m
RESTRICT ACCESS TO Ø350 IF DEPTH FROM COVER TO SOFFIT OF PIPE IS LESS THAN 1m
(MAX PIPE DIAMETER 150mm)</p> |
|  | <p>SEWAGE TREATMENT PLANT</p> |
| <p>Ø100 FWD 6.48m 1:80</p> | <p>PIPE DETAIL: Ø. LENGTH, GRADIENT,</p> |
| <p>FW MH Ø1.00
CL Ø0.00
IL Ø0.00
TYPE C MH
D400</p> | <p>MANHOLE REFERENCE:
COVER LEVEL,
INVERT LEVEL,
MH TYPE,
COVER GRADE</p> |

<u>Top Site</u>		
The existing brownfield runoff rate, for the 2172m ² area, have been calculated as follows:		
1:1	29.494 mm/hr	17.80 l/s
1:30	72.297 mm/hr	43.62 l/s
1:100	93.663 mm/hr	56.51 l/s
The proposed brownfield runoff rates, will be restricted as follows:		
1:1	11.20 l/s	a decrease on existing of 6.60 l/s
1:30	17.70 l/s	a decrease on existing of 25.92 l/s
1:100+45%cc	17.80 l/s	a decrease on existing of 38.71 l/s

SW TANK 01.00
ATTENUATION TANK USING CELLULAR
STORAGE DESIGNED FOR 1:100 YEAR
RETURN PERIOD PLUS 45% ADDITIONAL
STORAGE TO ALLOW FOR CLIMATE CHANGE
CL: 53.700-53.390
TOTL: 52.488
BOTL: 51.688
SIZE: 6.0mx9.0m(54.0m²)x0.80m DP
43.200m³ STORAGE
41.040m³ WATER STORAGE (95% VOIDS)
MIN 650mm COVER
TANK REQUIRES VENTILATION
DETAIL S TRC BY MANUFACTURER

FOR CONTINUATION SEE DRAWING 05290-C-0504

1. ALL PIPES TO BE ADOPTED, OR CONNECTING TO STRUCTURAL ENGINEERS DETAILS FOR ALL ASPECTS OF FOUNDATION DESIGN AND

1. ALL PIPES TO BE ADOPTED, OR CONNECTING TO EXISTING SEWERS, AND/OR SITUATED UNDER HIGHWAY SHALL CONFORM TO BS EN 206 B565 (SWNS ONLY), OR CONCRETE PIPES TO BE EN 1918 AND B 8591-1 PART 1, OR THERMOPLASTIC COMPOSITE PIPES TO BS EN 12201-4-35-01 (CLASS BKN300) AND BE CAPABLE OF WITHSTANDING 4000 PSI JETTING PRESSURE. PRIVATE PIPES MAY BE VC OR PLASTIC.
2. ADAPTABLE HIGHWAY WORKS ARE TO BE IN ACCORDANCE WITH LOCAL AUTHORITY DESIGN GUIDANCE.
3. ANY WORKS ASSOCIATED WITH THE HIGHWAY/EXTERNAL WORKS INCLUDING HIGHWAY DRAINAGE, SHALL BE IN ACCORDANCE WITH THE HIGHWAY/EXTERNAL WORKS CONTRACT DOCUMENTS FOR HIGHWAY WORKS, VOL 1 (MCHW), UNLESS OTHERWISE SPECIFIED.
4. FOR CONSTRUCTION DETAILS REFER TO THE RELEVANT MARGAS DRAWING NUMBERS LISTED ON THE DRAWING.
5. ALL ADAPTABLE DRAINAGE WORKS TO BE CONSTRUCTED AS DETAILED IN THE CODE* FOR ADOPTION DESIGN AND CONSTRUCTION GUIDANCE AND THE LOCAL WATER AUTHORITY'S LOCAL PRACTICE.
6. ALL ADAPTABLE SEWERS WITH LESS THAN 120mm of COVER WHEN Laid BENEATH THE ROADS, OR 0.90m of COVER IN OTHER AREAS, SHALL HAVE A MINIMUM COVER OF 150mm IN ALL PLACES WITH EITHER OF THE DETAILS SHOWN ON THE STANDARD DRAWING PROVIDED.
7. ALL DRAINAGE WORKS SHOULD COMMENCE AT THE PROPOSED DOWNSTREAM CONNECTION POINTS AND PROCEEDS UPSTREAM FOLLOWING CONFIRMATION OF THE TI-IN INTERVIEW TO THE ENGINEER. CONNECTIONS TO MANHOLES OR LARGER DRAIN PIPES ETC. SHOULD BE SOFFIT TO SOFFIT UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER. IF THIS IS NOT POSSIBLE INFORM THE ENGINEER IMMEDIATELY.
8. COVER LEVELS SHOWN ARE APPROXIMATE. CONTRACTORS SHALL BE RESPONSIBLE TO FINISH GROUND LEVELS AND FALLS.
9. ROAD GULLY PIPES ARE TO BE 150mm DIA, WITH CONCRETE SURROUND AND FLEXIBLE JOINTS, ALL OTHER UN-REFERENCED PIPES ARE ASSUMED TO BE 100mm.
 - FW MIN GRADIENT - 1 IN 40 (100 DIA) NOT TO BE CONNECTED
 - FW MIN GRADIENT - 1 IN 100 (100 DIA) MIN 1 VC CONNECTED
 - FW MIN GRADIENT - 1 IN 100 (100 DIA) MIN 5 VC CONNECTED
 - SW MIN GRADIENT - 1 IN 100 (150 DIA)
 - SW MIN GRADIENT - 1 IN 150 (150 DIA)
10. ALL GULLIES SHALL BE FITTED WITH GRADE D400 OR D600 GRATE FRAMES TO BS EN124, UNLESS OTHERWISE STATED.
11. IN ORDER TO MAINTAIN THE SATISFACTORY FUNCTIONING OF SURFACE WATER SEWERS, ALL ROAD AND YARD GULLIES ARE TO BE "TRAPPED".
12. ALL NON ADAPTABLE LATERALS BENEATH THE HIGHWAY SHALL BE BACK FILLED WITH A TYPE 1 GRANULAR FILL TO A MINIMUM OF 150 (MCHW) APPROVED BY THE ENGINEER.
13. ALL PRIVATE DRAINAGE TO BE IN ACCORDANCE WITH THE BUILDING REGULATIONS APPROVED DOCUMENT PART-H, AND TO THE SATISFACTION OF THE BUILDING CONTROL OFFICER.
14. WHERE DRAINS PASS THROUGH FOUNDATIONS OR EXISTING BUILDINGS, THE DRAINAGE SHALL BE PROVIDED TO FORM A ROCKER PIPE IN ACCORDANCE WITH THE STANDARD DETAIL PROVIDED.
15. SHALLOW PRIVATE DRAINS MAY REQUIRE PROTECTION USING CLASS Z* CONCRETE SURROUND OR PAVING SLABS BRIDGING THE TRENCH SUBJECT TO THE N.H.BC INSPECTORS REQUIREMENTS.
16. WHERE DRAINAGE RUNS PASS CLOSE TO BUILDINGS OR THEIR INVERT LEVELS ARE BELOW FOUNDATION LEVEL, THEN THE TRENCHES ARE TO BE BACK FILLED IN ACCORDANCE WITH THE STANDARD DETAIL PROVIDED.
17. ALL STRUCTURAL ENGINEERS DETAILS FOR ALL ASPECTS OF FOUNDATION DESIGN AND CONSTRUCTION.
18. THE CONTRACTOR IS TO KEEP A RECORD OF ANY VARIATIONS MADE ON SITE INCLUDING THE RELOCATION OF SEWERS OR DRAINS, SO THAT AN AS CONSTRUCTED DRAWING CAN BE PREPARED UPON COMPLETION OF THE WORK.
19. THE CONTRACTOR SHOULD CHECK ALL DIMENSIONS ON SITE. NO DIMENSIONS ARE TO BE SCALED FROM THESE DRAWINGS.
20. IT IS THE CONTRACTOR'S/SUBCONTRACTORS RESPONSIBILITY TO ENSURE COMPLIANCE WITH THE CURRENT BUILDING REGULATIONS AND CODES OF PRACTICE.
21. STUB CONNECTIONS TO ADAPTABLE MANHOLES SHALL BE MADE FROM VITRIFIED CLAY AND CONSIST OF TWO ROCKER PIPES LAID AT THE SAME GRADIENT AS THE UP OR DOWNSTREAM PIPE.
22. ALL DOWNPIPES ARE TO BE SEALED, IE CONNECTED DIRECTLY TO THE STORMWATER DRAIN. ACCESS POINTS TO BE PROVIDED 1m ABOVE GROUND LEVEL OR LESS FOR ROADS AND 1m ABOVE FFL FOR INTERNAL RWPS.
23. ALL DOWNPIPES ARE TO BE CONNECTED TO DOWN PIPE GULLIES PRIOR TO CONNECTING TO THE STORMWATER DRAIN. ACCESS POINTS TO BE PROVIDED 1m ABOVE FFL FOR INTERNAL RWPS, UNLESS OTHERWISE NOTED OR SIMILAR. APPROVED CHANNEL DRAINS TO BE AC CUL DRAIN WITH A15 GRATE OR TO BE AC CUL DRAIN, C250 IN CAR PARKS AND D400 IN CARRIAGESWAYS. SLOTTED CHANNEL TO BE USED FOR AREAS WITH FALLS <1:15 MESH GRATING TO BE USED WHERE FALLS >1:15.
24. GULLY AND CHANNEL DRAIN POSITIONS ARE LIABLE TO AMENDMENT WHEN THE DESIGN LEVELS HAVE BEEN DETERMINED.
25. MODULAR GEOCELLULAR STORAGE/SOAKAWAY SYSTEM CONFORM TO CIRIA C793 THE SUDS MANUAL, C680 STRUCTURAL DESIGN OF MODULAR GEOCELLULAR STORAGE TANKS & C698 SITE DESIGN OF MODULAR GEOCELLULAR STORAGE TANKS. THE MANUFACTURER SHOULD PROVIDE A COMPLETE SET OF INDEPENDENT TEST RESULTS FOR A PROPOSED DESIGN, INCLUDING, AS A MINIMUM, STRESS/STRAIN CURVES FOR VERTICAL AND LATERAL COMPRESSION, AND CREEP TESTS. THE RESULTS MUST BE SUSTAINED FOR 28 DAYS. A CERTIFICATE IS NOT INDEPENDENT TEST DATA.
26. INFILTRATION BASIN/BASIN/LANDFILL POND/POND SYSTEM TO CONFORM TO CIRIA C793 THE SUDS MANUAL C686 SITE HANDBOOK FOR THE CONSTRUCTION OF INFILTRATION BASINS.
27. ALL REDUNDANT DRAINAGE TO BE ABANDONED. THE CONTRACTOR HAS SATISFIED HIMSELF THAT NO CONNECTIONS REMAIN LIVE. REDUNDANT DRAINAGE TO BE GRUBBED OUT.
28. ALL BELOW GRADE CONCRETE TO ACCORD WITH BS5528:1997/SULPHATE CLASS TBA.
29. IF ANY SUB SOIL DRAINAGE SYSTEMS ARE UNCOVERED DURING THE WORKS CONTACT THE ENGINEER FOR INSTRUCTIONS. GENERALLY SUB SOIL DRAINS AFFECTED ARE TO BE DIVERTED AND NEW WORK PROVIDED TO BRIDGE THEM INTO THE SURFACE WATER DRAINAGE SYSTEM. PIPE DIAMETERS AND GRADIENTS ARE TO BE MAINTAINED.
30. BEFORE COMMENCING CONSTRUCTION THE CONTRACTOR MUST BE SATISFIED THAT ALL OF EXISTING SEWERS TO WHICH CONNECTIONS ARE MADE. IN ADDITION THE CONTRACTOR MUST BE SATISFIED THAT ALL EXISTING SEWERS TO WHICH CONNECTIONS ARE PROPOSED. ADDITIONAL SUPRMANHOLE CONNECTIONS ARE TO BE MADE WITH THE RELEVANT AUTHORITY AGENCY. ANY DISCREPANCIES ARE TO BE NOTIFIED TO THE ENGINEER IMMEDIATELY, PRIOR TO CONSTRUCTION.
31. ROAD REINSTATEMENTS ARE TO BE TO THE HIGHWAY AUTHORITY APPROVAL.
32. NO PRIVATE AREAS ARE TO DRAIN ONTO ADAPTABLE AREAS AND VICE VERSA.

P03	27/02/24	JLM	UPDATED TO SUIT COMMENTS
P02	23/02/24	BLB	UPDATED TO SUIT COMMENTS
P01	07/02/24	BLB	FIRST ISSUE
REV	DATE	BY	DESCRIPTION

PRELIMINARY



MORTIMERS FARM
MORTIMERS LANE, FAIR OAK

DRAWING TITLE
PROPOSED DRAINAGE LAYOUT
SHEET 1 OF 2

DRAWING NO.				REV.	
02590-C-0503				P03	
SCALE	DATE	DRAWN	CHECKED	SHT.	
1:200	07/02/2024	SB	SF	A1	
This drawing is © copyright Marbas Group Limited. No unauthorised reproduction of any kind is permitted					

This drawing is © copyright Marbas Group Limited.
No unauthorised reproduction of any kind is permitted