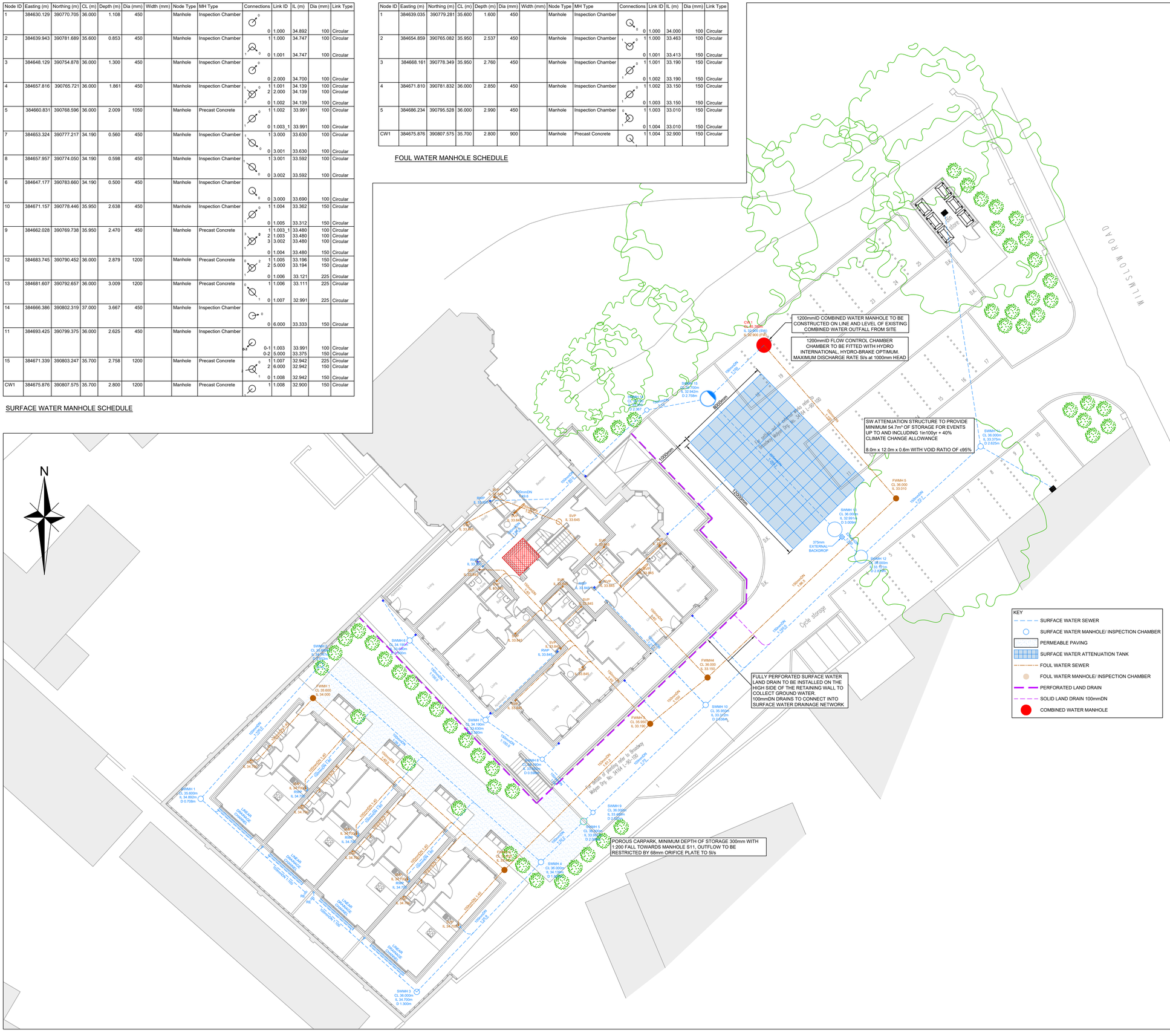
Node ID	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Width (mm)	Node Type	MH Type	Connections	Link ID	IL (m)	Dia (mm)	Link Type
1	384630.129	390770.705	36.000	1.108	450		Manhole	Inspection Chamber	0	1.000	34.892	100	Circular
2	384639.943	390781.689	35.600	0.853	450		Manhole	Inspection Chamber	1 0	1.000 1.001	34.747 34.747	100 100	Circular Circular
3	384648.129	390754.878	36.000	1.300	450		Manhole	Inspection Chamber	0	2.000	34.700	100	Circular
4	384657.816	390765.721	36.000	1.861	450		Manhole	Inspection Chamber	1 2 0	1.001 2.000 1.002	34.139 34.139 34.139	100 100 100	Circular Circular Circular
5	384660.831	390768.596	36.000	2.009	1050		Manhole	Precast Concrete	1 0	1.002 1.003_1	33.991 33.991	100 100	Circular Circular
7	384653.324	390777.217	34.190	0.560	450		Manhole	Inspection Chamber	1 0	3.000 3.001	33.630 33.630	100 100	Circular Circular
8	384657.957	390774.050	34.190	0.598	450		Manhole	Inspection Chamber	1 0	3.001 3.002	33.592 33.592	100 100	Circular Circular
6	384647.177	390783.660	34.190	0.500	450		Manhole	Inspection Chamber	0	3.000	33.690	100	Circular
10	384671.157	390778.446	35.950	2.638	450		Manhole	Inspection Chamber	1 0	1.004 1.005	33.362 33.312	150 150	Circular Circular
9	384662.028	390769.738	35.950	2.470	450		Manhole	Precast Concrete	1 2 3 0	1.003_1 1.003 3.002 1.004	33.480 33.480 33.480 33.480	100 100 100 150	Circular Circular Circular Circular
12	384683.745	390790.452	36.000	2.879	1200		Manhole	Precast Concrete	1 2 0	1.005 5.000 1.006	33.196 33.194 33.121	150 150 225	Circular Circular Circular
13	384681.607	390792.657	36.000	3.009	1200		Manhole	Precast Concrete	1 0	1.006 1.007	33.111 32.991	225 225	Circular Circular
14	384666.386	390802.319	37.000	3.667	450		Manhole	Inspection Chamber	0	6.000	33.333	150	Circular
11	384693.425	390799.375	36.000	2.625	450		Manhole	Inspection Chamber	0-1 0-2	1.003 5.000	33.991 33.375	100 150	Circular Circular
15	384671.339	390803.247	35.700	2.758	1200		Manhole	Precast Concrete	1 2 0	1.007 6.000 1.008	32.942 32.942 32.942	225 150 150	Circular Circular Circular
CW1	384675.876	390807.575	35.700	2.800	1200		Manhole	Precast Concrete	1	1.008	32.900	150	Circular

SURFACE WATER MANHOLE SCHEDULE

Node ID	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Width (mm)	Node Type	MH Type	Connections	Link ID	IL (m)	Dia (mm)	Link Type
1	384639.035	390779.281	35.600	1.600	450		Manhole	Inspection Chamber	0	1.000	34.000	100	Circular
2	384654.859	390765.082	35.950	2.537	450		Manhole	Inspection Chamber	1 0	1.000 1.001	33.463 33.413	100 150	Circular Circular
3	384668.161	390778.349	35.950	2.760	450		Manhole	Inspection Chamber	1 0	1.001 1.002	33.190 33.190	150 150	Circular Circular
4	384671.810	390781.832	36.000	2.850	450		Manhole	Inspection Chamber	1 0	1.002 1.003	33.150 33.150	150 150	Circular Circular
5	384686.234	390795.528	36.000	2.990	450		Manhole	Inspection Chamber	1 0	1.003 1.004	33.010 33.010	150 150	Circular Circular
CW1	384675.876	390807.575	35.700	2.800	900		Manhole	Precast Concrete	1	1.004	32.900	150	Circular

FOUL WATER MANHOLE SCHEDULE



DO NOT SCALE FROM THIS DRAWING

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER HBL DRAWINGS ISSUED FOR THIS PROJECT

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS IN METERS UNLESS OTHERWISE SPECIFIED.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELATED DRAWINGS AND SPECIFICATIONS.
3. THE DRAINAGE CONTRACTOR IS RESPONSIBLE TO MAKING AN APPLICATION TO ANY SEWERAGE UNDERTAKER PRIOR TO CONSTRUCTION OF ANY CONNECTION INTO A PUBLIC MANHOLE.
4. THE ENGINEER IS TO BE NOTIFIED OF ANY DISCREPANCIES TO THE DETAILS SHOWN ON THE DRAINAGE AND ANY UNRECORDED CONNECTIONS NOT SHOWN ON THE DRAWINGS.
5. THE CONTRACTOR IS RESPONSIBLE FOR CHECKING DIMENSIONS AND LEVELS AND FOR CONFIRMING THE GIVEN LEVEL OF OUTFALL INTO PUBLIC SEWER, WATERCOURSE OR OTHER OUTFALL PRIOR TO CONSTRUCTION WORKS COMMENCING.
6. UNTIL TECHNICAL APPROVAL HAS BEEN OBTAINED FROM THE RELEVANT AUTHORITIES ALL DRAWINGS ISSUED ARE AS PRELIMINARY AND NOT FOR CONSTRUCTION. SHOULD THE CONTRACTOR COMMENCE SITE WORK PRIOR TO APPROVAL BEING GIVEN, IT IS ENTIRELY AT THEIR OWN RISK.
7. TO PROTECT THE DRAINAGE SYSTEM FROM CONSTRUCTION SITE DERBIES, THE CONTRACTOR SHALL ENSURE THAT STOPPERS ARE SECURELY PLACED IN ALL CONNECTIONS IMMEDIATELY UPSTREAM OF THE TANK, ONLY TO BE REMOVED ONCE THE FINAL CLEANING OF THE ROADS/ DRAINAGE HAS BEEN COMPLETED.
8. THE DESIGN IS BASED ON THE INFORMATION AVAILABLE ON THE DATE OF ISSUE FROM OTHER PARTIES (E.G. ARCHITECT AND M&E ENGINEER). IT IS SUBJECT TO CHANGE RESULTING FROM UPDATES TO THE AVAILABLE INFORMATION FROM OTHERS.
9. NEW DRAINS AND SEWERS TO BE AS FOLLOWS:
   - 9.1. CONSTRUCTION AND MATERIALS OF PRIVATE SURFACE, FOUL & COMBINED WATER SEWERAGE SYSTEM TO BE IN ACCORDANCE WITH "BUILDING REGULATIONS - APPROVED DOCUMENT H" & "BS EN 752-2017 DRAIN AND SEWER SYSTEMS OUTSIDE BUILDINGS"
   - 9.2. CONSTRUCTION AND MATERIALS OF PUBLIC SURFACE, FOUL & COMBINED WATER SEWERS TO BE IN ACCORDANCE WITH "DESIGN & CONSTRUCTION GUIDANCE, SEWERAGE SECTOR GUIDANCE APPENDIX C" AND IN ACCORDANCE WITH LOCAL SEWERAGE UNDERTAKER
   - 9.3. MINIMUM PIPE SIZE FOR ADOPTABLE SURFACE WATER DRAINAGE IS 150mmDN
     - 9.3.1. 100mmDN AT MIN 1:100 FOR 10 DWELLINGS OR LESS
     - 9.3.2. 150mmDN AT MIN 1:150 FOR GREATER THAN 10 DWELLINGS
   - 9.4. MINIMUM PIPE SIZE FOR ADOPTABLE FOUL WATER DRAINAGE IS 100mmDN
     - 9.4.1. 100mmDN 1:40 WHERE 10 DWELLINGS OR LESS AND NO WC
     - 9.4.2. 100mmDN 1:80 WHERE GREATER THAN 10 DWELLINGS AND AT LEAST 1 WC
   - 9.5. ALL ROAD GULLY PIPEWORK SPURS TO BE 150mmDN UNLESS OTHERWISE SPECIFIED
10. LOAD CLASS SELECTION TO COMPLY WITH BS EN 124.
    - 10.1. LOAD CLASS A15 - AREAS INACCESSIBLE TO MOTOR VEHICLES
    - 10.2. LOAD CLASS B125 - FOOTWAYS, PEDESTRIAN AREAS ETC
    - 10.3. LOAD CLASS D250 - GULLY TOPS IN KERBSIDE CHANNELS OF ROADS
    - 10.4. LOAD CLASS D400 - CARRIAGEWAYS OF ROADS (HEAVY DUTY)
    - 10.5. LOAD CLASS E600 - AREAS IMPOSING HIGH WHEEL LOADS
    - 10.6. LOAD CLASS F900 - AREAS IMPOSING PARTICULARLY HIGH WHEEL LOADS
11. ALL FOUL DRAINS BENEATH BUILDINGS AND FROM SOIL VENT PIPES, GULLIES AND WC CONNECTIONS BE 100mmDN AT A GRADIENT NOT LESS THAN OF 1:40.
12. ALL FOUL CONNECTIONS TO BE FULLY TRAPPED AND EACH FOUL CONNECTION TO A BRANCH DRAIN TO HAVE FULL RODDING ACCESS (E.G. LOW-LEVEL RODDING ACCESS).
13. RAINWATER DOWN PIPES ARE TO CONNECT TO A DRAIN VIA A REST BEND.
14. WHERE DRAINAGE IS COMBINED A 'P' TRAP MUST BE PROVIDED ABOVE PROPOSED FLOOR SLAB LEVEL.
15. MINIMUM DEPTH OF COVER TO THE CROWN OF GRAVITY PIPES WITHOUT PROTECTION SHOULD BE AS FOLLOWS (IN ACCORDANCE WITH "DESIGN & CONSTRUCTION GUIDANCE, SEWERAGE SECTOR GUIDANCE APPENDIX C")
    - 15.1. 350mm - DOMESTIC GARDENS AND PATHWAYS WITHOUT ANY POSSIBILITY OF VEHICULAR ACCESS
    - 15.2. 500mm - DOMESTIC DRIVEWAYS, PARKING AREAS AND YARDS WITH HEIGHT RESTRICTIONS TO PREVENT ENTRY BY VEHICLES WITH A GROSS WEIGHT IN EXCESS OF 7.5 TONNES.
    - 15.3. 900mm - DOMESTIC DRIVEWAYS, PARKING AREAS AND NARROW STREETS WITH LIMITED ACCESS FOR VEHICLES WITH A GROSS WEIGHT IN EXCESS OF 7.5 TONNES.
    - 15.4. 900mm - AGRICULTURAL LAND & PUBLIC OPEN SPACE.
    - 15.5. 1200mm - HIGHWAYS AND PARKING AREAS WITH UNRESTRICTED ACCESS TO VEHICLE WITH A GROSS WEIGHT IN EXCESS OF 7.5 TONNES.
16. BACKFILL TO DRAINAGE TRENCHES UNDER CARRIAGEWAYS TO BE TYPE 1 SUB-BASE MATERIAL, ELSEWHERE BACKFILL TO BE FREE DRAINING READILY AVAILABLE COMPACTABLE MATERIAL FREE FROM RUBBISH, ORGANIC MATTER, FROZEN SOIL, CLAY LUMPS AND LARGE STONES. TO BE COMPACTED IN LAYERS NOT EXCEEDING 250mm THICK
17. A FLEXIBLE JOINT SHALL BE PROVIDED AS CLOSE AS IS FEASIBLE TO THE OUTSIDE FACE OF ANY STRUCTURE INTO WHICH A PIPE IS BUILT, COMPATIBLE WITH THE SATISFACTORY COMPLETION AND SUBSEQUENT MOVEMENTS OF THE JOINT. LENGTH OF THE NEXT PIPE (ROCKER PIPE) IS TO BE IN ACCORDANCE WITH THE TABLE BELOW
    - 17.1. 150-600mmDN - 600mm LONG ROCKER PIPE
    - 17.2. 601-750mmDN - 1000mm LONG ROCKER PIPE
    - 17.3. 751mmDN AND ABOVE - 1250mm LONG ROCKER PIPE
18. PIPE CROSSOVERS TO HAVE MINIMUM OF 300mm CLEARANCE BETWEEN OUTSIDE TOP OF THE LOWER PIPE AND OUTSIDE BOTTOM OF THE UPPER PIPE. WHERE THIS CANNOT BE ACHIEVED A SEPARATION, CONCRETE SURROUND IS TO BE FORMED WHICH WILL EXTEND NOT LESS THE 1000mm EACH SIDE OF THE CROSSING POINT, THE EXTENT OF THE CONCRETE SHOULD BE WITHIN 150mm OF A FLEXIBLE PIPE JOINT. THE CONCRETE SPECIFICATION SHOULD BE IN ACCORDANCE WITH THE STANDARD DETAILS FOR PIPE BED AND SURROUND AS ISSUED BY THE ENGINEER.
19. CONCRETE MIXES INDICATED ON THIS DRAWING ARE DESIGNATED MIXES CONFORMING TO BS 8500-1:2006. ALL CONCRETE TO BE SULPHATE RESISTANT. CONTRACTOR SHOULD ALLOWANCE FOR CARRYING OUT TESTING ONSITE TO CONFIRM SULPHATE LEVEL CLASSIFICATION.
20. ALL PRIVATE MANHOLES AND INSPECTION CHAMBERS TO BE CONSTRUCTED IN ACCORDANCE WITH "BUILDING REGULATIONS - APPROVED DOCUMENT H" & "BS EN 752:2017 DRAIN AND SEWER SYSTEMS OUTSIDE BUILDINGS"
21. ALL MANHOLES AND INSPECTION CHAMBERS TO BE ADOPTED TO BE CONSTRUCTED IN ACCORDANCE WITH "IN ACCORDANCE WITH "DESIGN & CONSTRUCTION GUIDANCE, SEWERAGE SECTOR GUIDANCE APPENDIX C" AND IN ACCORDANCE WITH LOCAL SEWERAGE UNDERTAKER.
22. CCTV SURVEY OF ALL THE DRAINAGE SHOULD BE CARRIED OUT ON COMPLETION OF THE BUILDING WORKS AND PASSED ON TO THE CLIENT.

REV.	DATE	DRAWN	DESCRIPTION	CHKD	APPRD
C06	MAR'21	AP	REFERENCES UPDATED, SCHEDULES ADDED	AP	ALS
C05	MAR'21	AP	BELOW GROUND FW PIPES 100mm TO 150mm	AP	ALS
C04	MAR'21	AP	DRAINAGE LAYOUT REVISED	AP	ALS
C03	DEC'20	AP	TOWNHOUSE & TANK DESIGN AMENDED	AP	ALS
C02	DEC'20	AP	MINOR AMENDMENTS TO RWP AND SVP'S	AP	ALS
C01	JUL'20	HM	ISSUED FOR CONSTRUCTION	ALS	ALS
T1	SEP'19	AP	INTERNAL DRAINAGE LAYOUT REVISED	ALS	ALS
T0	SEP'19	HM	ISSUED FOR TENDER	ALS	ALS

STATUS DESCRIPTION: APPROVED — STATUS: A1

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PROJECT
PROPOSED RESIDENTIAL DEVELOPMENT
THE LIMES, DIDSBURY

DRAWING TITLE
PROPOSED DRAINAGE PLAN

CLIENT
PROPERTY ALLIANCE GROUP

HBL REF.	DATE	SCALE(S)	
6633	JULY 2019	1:150	A1
DRAWN: A.PRINCE	CHECKED: AP	APPROVED: ALS	

DRAWING No.: 6633-HBL-XX-XX-DR-D-0301 — REV.: C06

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