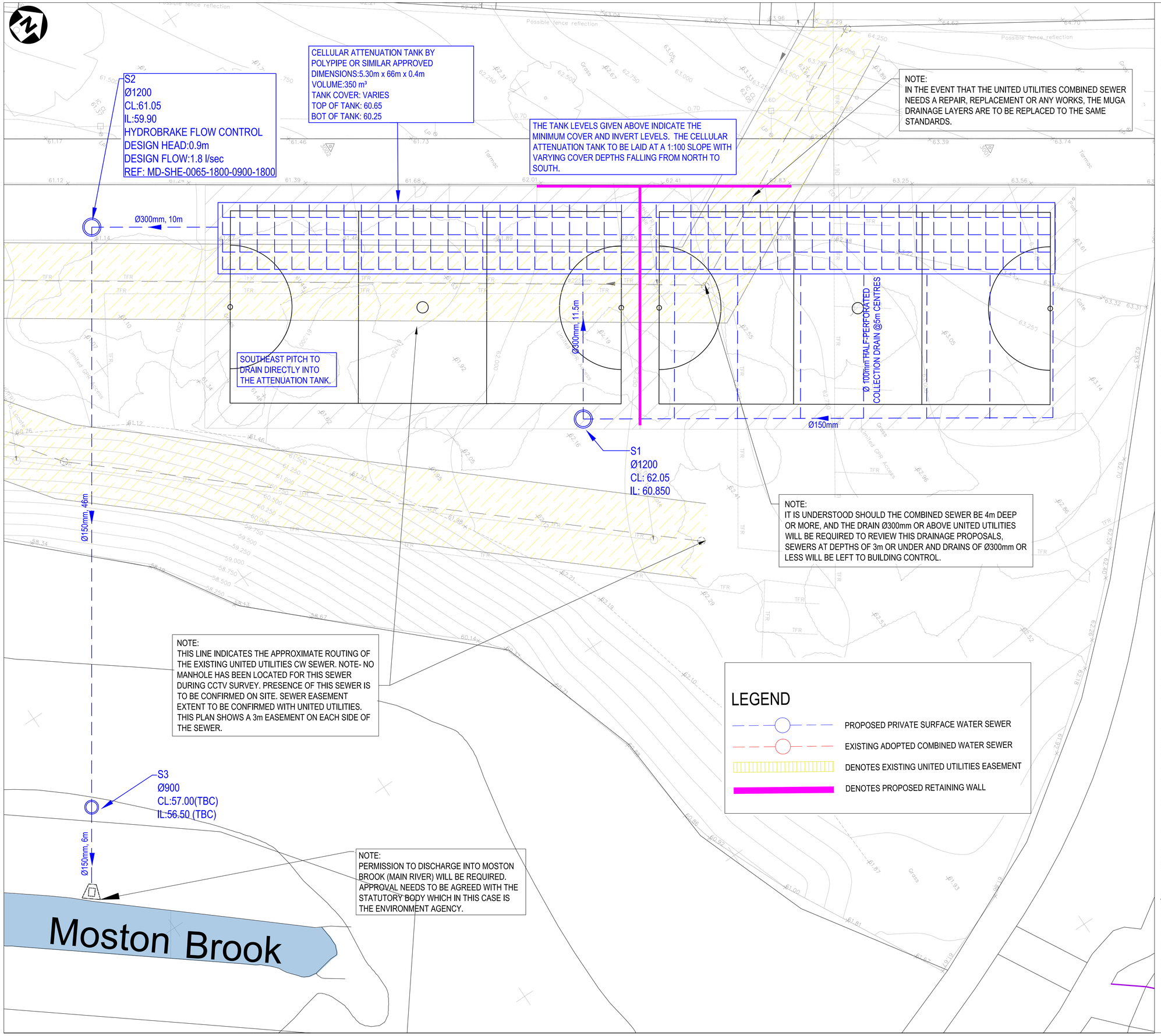

SURFACE WATER DRAINAGE STRATEGY

REFERENCE SHOULD BE MADE TO WML GEOTECHNICAL INFILTRATION TESTING LETTER REPORT, FEBRUARY 2025.

THE PROPOSED DEVELOPMENT IS UNDERSTOOD TO COMPRISE TWO NEW MULTI USE GAME AREA (MUGA) SITUATED ON A CURRENTLY GREENFIELD POCKET OF LAND BETWEEN THE EXISTING COLLEGE BUILDING AND CA PUMP PARK.

THE PROPOSED DEVELOPMENT IS TO BE DRAINED VIA SURFACE WATER DRAINAGE SYSTEMS.

THE SURFACE WATER DRAINAGE PROPOSALS HAVE BEEN DESIGNED IN ACCORDANCE WITH BS EN 752 AND THE BUILDING REGULATIONS APPROVED DOCUMENT H (2010), WHICH INDICATES THE FOLLOWING HIERARCHY FOR THE DISPOSAL OF SURFACE WATER DRAINAGE FROM DEVELOPMENT SITES:-

1. DISCHARGE VIA INFILTRATION;
2. DISCHARGE TO WATERCOURSE;
3. DISCHARGE TO SEWER.

THESE OPTIONS ARE DISCUSSED IN FURTHER DETAIL BELOW.

SURFACE WATER DISCHARGE VIA INFILTRATION

THE WML GEOTECHNICAL LETTER REPORT, FEBRUARY 2025 INDICATES THAT GROUND CONDITIONS AT THE SITE COMPRISE MIXED SANDY CLAY AND GRANULAR MADE GROUND, WHICH CAN BE CONDUCIVE TO THE USE OF INFILTRATION TECHNIQUES.

HOWEVER,THE WATER LEVEL IN THE INFILTRATION PIT DID NOT DROP BELOW 25% OF THE INITIAL HEAD DURING THE TEST DURATION. AS A RESULT AN APPROXIMATE COEFFICIENT OF PERMEABILITY OF 4.2X10 -6M/SEC WAS ESTIMATED BASED ON EXTRAPOLATION OF THE OBSERVED INFILTRATION RATE.

GIVEN THE ABOVE IT IS CONSIDERED THAT THE USE OF CONCENTRATED SOAKAWAYS ARE NOT SUITABLE FOR THIS DEVELOPMENT HOWEVER PERMEABLE PAVING CAN BE USED FOR THE DRAINING OF NEW EXTERNAL HARDSTANDING, PARTIALLY INFILTRATING WITH AN OVERFLOW CONVEYING SURFACE WATER TO AN OUTFALL.

SURFACE WATER DISCHARGE VIA WATERCOURSE

IT IS UNDERSTOOD THAT THE NEAREST WATERCOUSE IS MOSTON BROOK LOCATED APPROXIMATELY 40m SOUTHEAST OF THE PROPOSED DEVELOPMENT.

GIVEN THE ABOVE, IT IS PROPOSED TO DISCHARGE ALL SURFACE WATER OVERFLOW FROM THIS SITE TO MOSTON BROOK AT GREENFIELD RATE.

SURFACE WATER DISCHARGE VIA PUBLIC SEWER

GIVEN THAT DISPOSAL OF SURFACE WATER VIA A CONNECTION TO THE ADJACENT WATERCOURSE APPEARS TO BE FEASIBLE, A CONNECTION TO THE PUBLIC SEWER NETWORK WON'T BE REQUIRED AT THIS TIME.

A REVIEW OF A SERVICES SURVEY UNDERTAKEN BY GEOMATIC SURVEYS LTD, FEBRUARY 2025 INDICATE THE PRESENCE OF TWO COMBINED SEWER LOCATED WITHIN THE SITE, RUNNING FROM THE NORTH TO SOUTH SEEMINGLY SERVING THE NEARBY RESIDENTIAL STREET, WHICH WILL BE DIVERTED.

SURFACE WATER DRAINAGE PROPOSALS

GIVEN THE ABOVE, THE PROPOSALS OUTLINED ON THIS DRAWING INTEND TO DISPOSE OF ALL SURFACE WATER RUNOFF FROM THE NEW DEVELOPMENT VIA A NEW CONNECTION TO MOSTON BROOK WATERCOURSE.

THE NEW MUGA SPORTS PITCH IS TO BE LOCATED ON AN EXISTING AREA OF UNUSED LAND AND IS THEREFORE CLASSIFIED AS GREENFIELD.

IT IS UNDERSTOOD THAT LLFA POLICY IS FOR ALL NEW DEVELOPMENTS TO DISCHARGE AT PRE-DEVELOPMENT (GREENFIELD) RUNOFF RATES WHERE PRACTICAL.

GIVEN THE ABOVE A GREENFIELD RUNOFF CALCULATION HAS BEEN UNDERTAKEN USING MICRODRAINAGE SOFTWARE WHICH CONCLUDED THE FOLLOWING PRE-DEVELOPMENT RUNOFF RATES;

- 1:1 YEAR - 0.6 l/s
- 1:30 YEAR - 1.4 l/s
- 1:100 YEAR - 1.8 l/s

THE DRAINAGE PROPOSALS OUTLINED ON THIS DRAWING INTEND TO DISCHARGE ALL SURFACE WATER RUNOFF AT THE ABOVE FLOW RATES FOR ALL STORMS UP TO AND INCLUDING THE CRITICAL 100 YEAR EVENT PLUS 45% CLIMATE CHANGE ALLOWANCE.

IT IS PROPOSED TO COLLECT SURFACE WATER VIA THE POROUS MUGA SURFACE, FILTERED THROUGH THE BASE AND SUB-BASE MATERIALS, INTO PERFORATED PIPES AND DISCHARGE VIA A CONNECTION TO MOSTON BROOK.

A BELOW GROUND CELLULAR ATTENUATION SYSTEM AND A HYDROBRAKE FLOW CONTROL CHAMBER HAVE BEEN INCORPORATED WITHIN THE NEW BELOW GROUND DRAINAGE NETWORK TO STORE AND RESTRICT OVERFLOW SURFACE WATER RUNOFF FROM THE NEW DEVELOPMENT AS NOTED ABOVE.

NEW AREAS OF EXTERNAL PAVING ARE TO BE CONSTRUCTED USING PERMEABLE SURFACING WHICH WILL CAPTURE AND DISCHARGE SURFACE WATER RUNOFF DIRECTLY TO THE SUB-STRATA.

MAINTENANCE STRATEGY

IT IS UNDERSTOOD THAT THE NEW DRAINAGE NETWORK WILL BE PRIVATELY OWNED AND MAINTAINED BY THE CLIENT OR AN APPOINTED MAINTENANCE COMPANY ON THEIR BEHALF AND WILL NOT BE OFFERED UP FOR ADOPTION BY UNITED UTILITIES.

THE PROPOSED DRAINAGE SYSTEM HAS BEEN DESIGNED IN ACCORDANCE WITH THE CURRENT STANDARDS AND GUIDELINES TO ACHIEVE A MINIMUM SELF-CLEANSING VELOCITY, HOWEVER EXCESSIVE DEBRIS IN THE SYSTEM COULD STILL RESULT IN LOSS OF PERFORMANCE.

THE PROPOSED DRAINAGE DESIGN WILL CONSISTS OF TRADITIONAL MANHOLES, AND PIPES AS WELL PERFORATED PIPES.

IT IS PROPOSED TO CHECK THE UNDERGROUND DRAINAGE SYSTEM AND LIFT MANHOLE/INSPECTION CHAMBER COVERS TO ENSURE THAT THE PIPEWORK ASSOCIATED WITH EACH CHAMBER IS OPERATING CORRECTLY TWICE YEARLY AND ENSURE DRAINAGE CHANNELS ARE FREE FROM DEBRIS.

ANY PROBLEMS ENCOUNTERED SHOULD BE INVESTIGATED BY CCTV SURVEY IF REQUIRED AND ANY REMEDIAL WORKS NECESSARY CARRIED OUT IN A TIMELY MANNER.

IT IS RECOMMENDED THAT THE BIANNUAL INSPECTIONS TAKE PLACE IN SPRING AND AUTUMN.

ATTENUATION HAS BEEN PROVIDED IN THE FORM OF A BELOW GROUND STORAGE/SOAKAWAY CRATE SYSTEM. A RECOMMENDED MAINTENANCE SCHEDULE, CHECKLIST AND A PREFERRED CLEANING PROCEDURE SHOULD BE INCLUDED FROM THE SUPPLIER IN THE O&M MANUAL HOWEVER IT IS ANTICIPATED THAT THIS SHOULD INCLUDE TWICE YEARLY CHECKING THAT THE UPSTREAM MANHOLES ARE FREE FROM DEBRIS AND ENSURE THAT NO SEDIMENT IS BEING PASSED INTO THE STORAGE CRATES.

FLOW RESTRICTION HAS BEEN ACHIEVED THROUGH THE INCORPORATION OF A HYDROBRAKE FLOW CONTROL UNIT. A RECOMMENDED MAINTENANCE SCHEDULE, CHECKLIST AND A PREFERRED CLEANING PROCEDURE SHOULD BE INCLUDED FROM THE SPECIALIST SUPPLIER IN THE O&M MANUAL HOWEVER IT IS ANTICIPATED THAT THIS SHOULD INCLUDE TWICE YEARLY CHECKING THAT THE UPSTREAM MANHOLES ARE FREE FROM DEBRIS AND THE UNIT IS OPERATING CORRECTLY.

LASTLY, PERMEABLE PAVING CONSTRUCTION HAS BEEN INCORPORATED WITHIN THE DRAINAGE PROPOSALS FOR THIS SITE. IT IS PROPOSED TO CHECK AND CLEAN THE PERMEABLE SURFACES REGULARLY TO ENSURE THAT SURFACE WATER RUNOFF IS NOT PREVENTED FROM DRAINING INTO THE SUB-BASE LAYER, ESPECIALLY DURING THE AUTUMN PERIOD WHERE A BUILD-UP LEAVES COULD OCCUR AND RESULT IN A LOSS OF PERFORMANCE.

DRAINAGE NOTES

THE EXISTING DRAINAGE ARRANGEMENT SHOWN ON THIS DRAWING IS INDICATIVE ONLY BASED UPON THE SERVICES SURVEY UNDERTAKEN BY GEOMATIC SURVEYS LTD.

IT IS THE CONTRACTORS RESPONSIBILITY TO CONFIRM THE EXACT LOCATION, DEPTH AND CONDITION OF ALL EXISTING SITE DRAINAGE UPON FIRST SITE ESTABLISHMENT AND PRIOR TO CONSTRUCTION OF ANY DRAINAGE ELEMENTS.

ANY AND ALL DISCREPANCIES SHOULD BE REPORTED TO THE ENGINEER IMMEDIATELY.

THE PROPOSED DRAINAGE ARRANGEMENT / INFORMATION SHOWN ON THIS DRAWING IS INDICATIVE ONLY AND IS SUBJECT TO APPROVAL BY THE LOCAL PLANNING AUTHORITY & UNITED UTILITIES.

GENERAL NOTES

DO NOT SCALE FROM THIS DRAWING WORK TO FIGURED DIMENSIONS ONLY.

NO DEVIATION FROM THE DETAILS SHOWN ON THIS DRAWING IS ALLOWED WITHOUT PRIOR PERMISSION IN WRITING.

ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL ARCHITECTS, ENGINEERS AND SPECIALISTS DRAWINGS AND THE SPECIFICATION.

THE CONTRACTOR SHALL INCORPORATE ALL THE REQUIREMENTS OF THE PRE-TENDER STAGE HEALTH AND SAFETY PLAN.

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH WML DRAINAGE DETAIL DRAWINGS FOR DETAILS OF MATERIALS AND WORKMANSHIP REFER TO THE SPECIFICATION.

THE CONTRACTOR IS RESPONSIBLE FOR CHECKING INVERT LEVELS AND POSITIONS OF ALL EXISTING DRAINS, SEWERS. INSPECTION CHAMBERS AND MANHOLES SHOWN ON THIS DRAWING IMMEDIATELY ON SITE ESTABLISHMENT. ANY DISCREPANCIES MUST BE REPORTED TO WML CONSULTING IMMEDIATELY.

WHERE THE NEW SITE DRAINAGE CONNECTS IN TO EXISTING MANHOLES IN CARRIAGEWAYS AND/OR EXISTING ADOPTED SEWERS, THE CONTRACTOR IS RESPONSIBLE FOR ALL LIAISON WITH THE RELEVANT STATUTORY UNDERTAKER AND LOCAL AUTHORITY WITH REGARD TO ROAD CLOSURES, TRAFFIC MANAGEMENT, PERMITS TO WORK, SUBMISSION OF CONTRACTORS METHOD STATEMENTS AND RISK ASSESSMENTS AND OTHER DOCUMENTATION AND CORRESPONDENCE ASSOCIATED WITH THE SITE STAGE (PART 2) ELEMENT OF THE WORKS.

ROCKER PIPES TO BE PROVIDED AT ALL CONCRETE CASED INTERFACES.

PROVIDE ADEQUATE PROTECTION TO MAINTAIN MINIMUM COVER TO DRAINS DURING THE CONSTRUCTION PERIOD.

COVER LEVELS ON THIS DRAWING ARE APPROXIMATE AND INDICATIVE ONLY ARCHITECT TO CONFIRM COVER LEVELS TO ALL MANHOLES AND GULLIES PRIOR TO CONSTRUCTION.

THE LAYOUT OF DRAINAGE ON THIS DRAWING IS INDICATIVE ONLY ARCHITECT TO CONFIRM EXACT LOCATION OF MANHOLES AND GULLIES.

ALL COVERS AND RODDING ACCESS POINTS TO BE SEALED AND SCREWED TIGHT.

ALL INTERNAL MANHOLE COVERS TO BE DOUBLE SEALED, LOCKABLE AND RECESSED TO ACCEPT FLOOR FINISHES WHERE APPLICABLE.

SETTING OUT OF ALL INTERNAL GULLY/PLUMBING CONNECTIONS TO BE CO-ORDINATED BETWEEN THE SERVICE ENGINEERS AND THE ARCHITECT.

ALL SURFACE WATER CONNECTIONS TO BE 100mm DIAMETER AT MINIMUM FALLS OF 1:80 UNLESS NOTED OTHERWISE.

ALL CONNECTIONS TO BE MADE IN ACCORDANCE WITH STANDARD DETAIL DRAWINGS.

ALL PIPEWORK TO BE INSTALLED WITH SOFFITS LEVEL (E.G. AT CHANGES IN PIPE SIZE) U.N.O.

FOR DETAILS OF GREASE TRAP/MACERATOR REQUIREMENTS ASSOCIATED WITH KITCHENS REFER TO SERVICE ENGINEER.

ON COMPLETION OF DRAINAGE WORKS, THE NEW DRAINAGE SYSTEM IS TO BE THOROUGHLY CLEANED AND A CCTV SURVEY CARRIED OUT TO CONFIRM NO CONSTRUCTION DEBRIS OR BLOCKAGES REMAIN.

CONNECTIONS TO CARRIER DRAINS ARE TO BE 'Y' JUNCTIONS.

ALL PRIVATE DRAINAGE IS TO COMPLY WITH BS EN 752 AND BUILDING REGS. PART H.

PIPE GRADIENTS ARE INDICATIVE MINIMUMS.

MANHOLES:

ALL PROPOSED NEW MANHOLES TO BE PRECAST RING MANHOLES TYPE B UNLESS NOTED OTHERWISE. INTERNAL DIAMETERS OF MANHOLES TO BE 1050mm WHERE DEPTH TO PIPE SOFFIT IS LESS THAN 1.5m, AND 1200mm Ø ELSEWHERE UNLESS NOTED OTHERWISE.

MANHOLE COVERS:

CARRIAGEWAYS GENERAL - EN124 CLASS D400
CARRIAGEWAYS WITHIN 0.5m OF KERB - EN124 CLASS C250
SLOW MOVING HGV [38t] - EN 124 CLASS B125 SLOW MOVING GLV [10t] - EN 124 CLASS B125 SLOW MOVING PRIVATE CARS - EN124 CLASS B125.

INTERNAL - JONES OF OSWESTRY - SUPRASTEEL DOUBLE SEALED WITH NEOPRENE GASKET AND COVER GREASE OR SIMILAR APPROVED.

REFER TO ARCHITECTS DRAWINGS FOR DETAILS OF ANY MANHOLE COVERS WHICH REQUIRE INSET PANELS.

SUBJECT TO APPROVAL FROM LOCAL PLANNING AUTHORITY & UNITED UTILITIES

PRELIMINARY ISSUE

Rev.	Amendment	Date	By	Chkd
P01	PRELIMINARY ISSUE.	11.04.25	CM	JH

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MANCHESTER COMMUNICATION ACADEMY, MUGA

ARCH/CLIENT
LANCASTER MALONEY MARTIN LTD.

Title
PROPOSED DRAINAGE GA

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