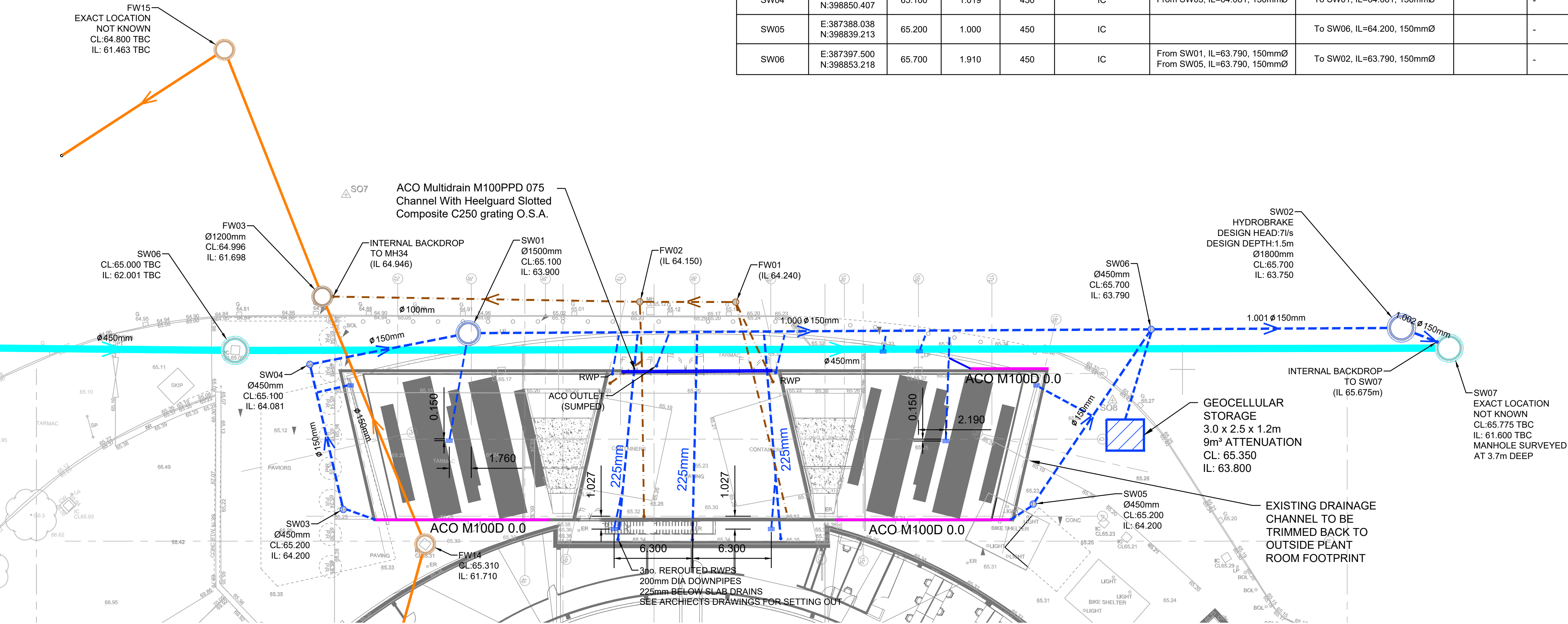




MANHOLE SCHEDULE									
MANHOLE NO.	MANHOLE CO-ORDINATES	COVER LEVEL (m)	DEPTH TO INVERT (m)	MANHOLE SIZE	MANHOLE TYPE	PIPE IN NAME, INVERT LEVEL (m) & DIA	PIPE OUT NAME, INVERT LEVEL (m) & DIA	COVER SIZE (mm) & GRADE	COMMENTS
FW01	E:387364.193 N:398855.403	65.200	0.960	450	IC	From , IL=64.240, 100mmØ From SP1, IL=64.240, 100mmØ	To FW02, IL=64.240, 100mmØ	D400	
FW02	E:387356.506 N:398855.422	65.461	1.311	450	IC	From FW01, IL=64.150, 100mmØ From , IL=64.150, 100mmØ	To SP4, IL=64.150, 100mmØ	D400	
FW03	E:387331.071 N:398855.842	64.996	3.297	1,200	Type-B	From FW14, IL=61.603, 150mmØ	To FW15, IL=61.603, 150mmØ	600 x 600 D400	CONNECTION TO EXISTING FOUL DRAIN LEVEL TO BE CONFIRMED DURING EXCAVATION
SW01	E:387342.771 N:398852.910	65.100	1.200	1,500	Type-B	From Gully 1, IL=64.425, 100mmØ From SW04, IL=63.900, 150mmØ	To SW06, IL=63.900, 150mmØ	600x600 D400	
SW02	E:387417.545 N:398853.331	65.700	1.950	1,800	Hydrobrake Chamber	From SW06, IL=63.750, 150mmØ	To BACKDROP, IL=63.750, 150mmØ	600x600 D400	Hydrobreak Chamber Design Head:7/s Design Depth:1.5m
SW03	E:387332.746 N:398838.776	65.200	1.000	450	IC		To SW04, IL=64.200, 150mmØ		-
SW04	E:387330.073 N:398850.407	65.100	1.019	450	IC	From SW03, IL=64.081, 150mmØ	To SW01, IL=64.081, 150mmØ		-
SW05	E:387388.038 N:398839.213	65.200	1.000	450	IC		To SW06, IL=64.200, 150mmØ		-
SW06	E:387397.500 N:398853.218	65.700	1.910	450	IC	From SW01, IL=63.790, 150mmØ From SW05, IL=63.790, 150mmØ	To SW02, IL=63.790, 150mmØ		-

- GENERAL NOTES**
- DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATIONS, ENGINEERS, ARCHITECTS & SERVICES DRAWINGS, INCLUDING APPROVED BUILDERS WORK DRAWINGS. CONTRACTOR TO NOTIFY ENGINEER OF DISCREPANCIES BETWEEN STRUCTURAL DRAWINGS AND SPECIFICATIONS OR OTHER DRAWINGS.
 - ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
 - THE POSITION, SIZE AND LEVELS OF ALL EXISTING DRAINS ARE TO BE CONFIRMED ON SITE PRIOR TO THE COMMENCEMENT OF THE WORKS AND ANY DISCREPANCIES REPORTED IMMEDIATELY TO THE ENGINEER.
 - DO NOT SCALE FROM THIS DRAWING, WORK TO DIMENSIONS OR CO-ORDINATES PROVIDED. ALL LEVELS ARE IN METRES AND ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS OTHERWISE NOTED. ANY AMBIGUITIES, OMISSIONS AND ERRORS ON DRAWINGS, SHALL BE BROUGHT TO THE ENGINEERS ATTENTION IMMEDIATELY.

- EXISTING FOUL DRAINAGE
PROPOSED FOUL DRAINAGE
EXISTING SURFACE WATER
PROPOSED SURFACE WATER
CHANNEL DRAIN

C4	22.08.22	TP	PB	FOR CONSTRUCTION
C3	17.12.21	JF	PB	FOR CONSTRUCTION
C2	04.11.21	JF	PB	FOR CONSTRUCTION
C1	04.11.21	JF	PB	PLANT ROOM LAYOUT UPDATED
P7	17.08.21	JF	PB	PLANT ROOM LAYOUT UPDATED
P6	20.04.21	JF	PB	PLANT ROOM LAYOUT UPDATED
P5	20.04.21	JF	PB	STAGE 4-5 COMMENTS
P4	05.03.21	PB	PB	STAGE 4 COMMENTS
P3	17.02.21	PB	PB	STAGE 4 COMMENTS
P2	22.12.20	PB	PB	FOR PRICING
P1	10.11.20	PB	PB	PRELIMINARY ISSUE
No	DATE	DRAWN	REV'D ENG.	AMENDMENT

STATUS	PURPOSE OF ISSUE
A	FOR CONSTRUCTION

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RIDGE

CLIENT
ISG Ltd.

PROJECT
MANCHESTER VELODROME
REFURBISHMENT

DRAFTER
PB

ENGINEER
PB

TITLE
EXISTING AND PROPOSED
DRAINAGE IN VICINITY OF
PLANT ROOM

SCALE
1:200

SHEET
A1

DRAWING No
VEL-SHD-00-ZZ-DR-C-0102

REV
C4

GENERAL NOTES

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- ALL PRIVATE DRAINAGE PIPES TO BE LAID IN TRENCHES BEDDED CLASS 'B' ON SINGLE SIZED AGGREGATE AND BACKFILLED WITH APPROVED SELECTED FILL (40mm DOWN) REUSED FROM EXCAVATED MATERIAL. UNDER BUILDINGS AND WHERE COVER TO INVERT IS LESS THAN 1200mm UNDER TRAFFICKED AREAS PIPES TO BE CAST IN CONCRETE (CLASS Z BEDDING). CLASS 'S' BED AND SURROUND MAY BE REQUIRED FOR SEWERS TO BE ADOPTED. REFER TO SPECIFIC DRAWINGS FOR FURTHER INFORMATION.
- SELECTED BACKFILL MATERIAL SHALL CONSIST OF UNIFORM EXCAVATED MATERIAL, FREE FROM STONES LARGER THAN 40mm, CLAY LUMPS LARGER THAN 75mm, TREE ROOTS, CONTAMINATED MATERIAL. SELECTED BACKFILL MATERIAL IS TO BE PLACED IN LAYERS NOT EXCEEDING 150mm THICKNESS. THE MATERIAL SHALL BE COMPACTED TO ACHIEVE NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED IN LABORATORY COMPACTION TESTS. SUFFICIENT TESTING SHALL BE CARRIED OUT, BY THE CONTRACTOR, TO DEMONSTRATE THIS IS ACHIEVED (NUMBER AND FREQUENCY OF TESTING TO BE AGREED WITH SHD). WHERE THE MOISTURE CONTENT OF THE MATERIAL PROHIBITS COMPLIANCE WITH THE ABOVE 6P1 OR SIMILAR IMPORTED MATERIAL SHALL BE USED.
- CONCRETE PROTECTION TO PIPEWORK IS TO BE PROVIDED AS FOLLOWS:
 - ALL PIPEWORK WITHIN PEDESTRIAN/SOFT AREAS WITH LESS THAN 600mm COVER.
 - ALL PIPEWORK SUBJECT TO VEHICULAR OVERRUN WITH LESS THAN 1.2m COVER.
- ALL PIPEWORK WITHIN MANHOLES ARE TO BE LAID SOFFIT TO SOFFIT (U.N.O.). ALL CHAMBER INVERT LEVELS ARE FOR THE OUTGOING PIPE LEVELS. BACKDROP PIPEWORK SHALL BE CONNECTED AT SOFFIT TO SOFFIT WITH THE RODDING ACCESS LEVEL SPECIFIED.
- ALL DRAINS TO BE LAID ACCURATELY TO LINE AND LEVEL IN STRICT ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.

DRAINAGE NOTES

- THE CONTRACTOR SHALL ALLOW FOR THE PROTECTION, TEMPORARY AND PERMANENT SUPPORT AND DIVERSION WORKS AS NECESSARY, TO ALL EXISTING SERVICES TO THE SATISFACTION OF THE PUBLIC UTILITIES.
- THE CONTRACTOR SHALL ALLOW FOR DEALING WITH SURFACE WATER RUN-OFF INTO EXCAVATIONS AND FROM GROUNDWATER BY MEANS OF SUMPS, PUMPING AND DE-WATERING AS APPROPRIATE, IN ORDER TO KEEP THE EXCAVATION AS REASONABLY DRY AS POSSIBLE DURING THE CONSTRUCTION OF THE WORKS.
- ALL PRIVATE DRAINAGE WITHIN THE SITE IS TO COMPLY WITH THE REQUIREMENTS OF BSEN752 AND BUILDING REGULATIONS PART H.

- ANY GRADIENTS OF DRAINS INDICATED ARE INDICATIVE ONLY AND THE CONTRACTOR SHALL INSTALL THE DRAINS TO THE SPECIFIED LEVELS SHOWN FOR EACH MANHOLE (U.N.O.). CATCHPIT INVERT LEVELS ARE FOR THE OUTGOING PIPE WITH THE SUMP LEVEL SPECIFIED SEPARATELY.
- CO-ORDINATE SETTING OUT INFORMATION FOR MANHOLES IS TO THE INTERSECTION OF THE DRAINS AND NOT THE CENTRE OF THE MANHOLE.
- COVER LEVELS OF THE MANHOLES ARE PROVISIONAL AND SUBJECT TO ADJUSTMENT ON SITE TO SUIT THE FINISHED GROUND LEVELS. ALL EXTERNAL WORKS CONSTRUCTION AREAS TO BE AS LOCATED BY THE ARCHITECT.
- MANHOLE COVERS AND FRAMES ARE TO BE IN ACCORDANCE WITH BSEN124 AND THE FOLLOWING:
 - VEHICULAR AREAS: CLASS D400 (E600 IN VULNERABLE SERVICE YARD LOCATIONS), DOUBLE TRIANGULAR, 150mm DEEP DUCTILE IRON COVER AND FRAME WITH THREE POINT COVER SEATING, BADGED FW OR SW FOR FOUL OR SURFACE WATER DRAINAGE.
 - PEDESTRIAN AREAS: CLASS B125, 100mm DEEP, BADGED FW OR SW FOR FOUL OR SURFACE WATER DRAINAGE.
- POSITIONS AND SIZES OF ABOVE GROUND FOUL AND SURFACE WATER DRAINAGE CONNECTIONS ARE TO BE CONFIRMED PRIOR TO CONSTRUCTION WITH THE ARCHITECT & M&E ENGINEER.
- GULLY GRATINGS AND STEEL CHANNEL COVERS ARE TO BE IN ACCORDANCE WITH BSEN124 AS FOLLOWS:
 - AREAS SUBJECT TO VEHICULAR OVERRUN: CLASS D400 MINIMUM.
 - AREAS NOT SUBJECT TO REGULAR VEHICLE OVERRUN (ADJACENT TO KERBS ETC): CLASS C250.
 - GULLY GRATINGS ADJACENT TO KERBS SHALL BE HINGED ON THE SIDE OF THE TRAFFIC DIRECTION (LEFT HAND SIDE).
- ALL BRICKWORK IN CONNECTION WITH DRAINAGE IS TO BE SOLID CLASS B ENGINEERING BRICK TO BS3921.
- ALL PRECAST CONCRETE PIPES, CHAMBER PRODUCTS AND ROAD GULLIES SHALL BE TO BS5911 AND BE KITEMARKED.
- ALL DRAINAGE INSITU CONCRETE SHALL BE GEN3 (U.N.O.).
- ALL INSITU AND CONCRETE PRODUCTS SHALL COMPLY WITH THE REQUIREMENTS FOR SULPHATE EXPOSURE IN ACCORDANCE WITH BRE SPECIAL DIGEST 1. CONCRETE IN AGGRESSIVE GROUND (2001) PART 1: TABLE 2.
- UPON COMPLETION OF THE WORKS THE CONTRACTOR SHALL CLEAN ALL DRAINAGE BY JETTING, REMOVING ALL DEBRIS FROM SITE. NO DEBRIS SHALL BE PERMITTED TO ENTER THE EXISTING DRAINAGE SYSTEM.
- CONSTRUCTION JOINTS IN CONCRETE SURROUND MUST NOT BE WITHIN 150mm OF CHAMBER/SHAFT RING JOINTS.
- ROCKER PIPES TO BE SURROUNDED WITH CONCRETE LOCATED 150mm MINIMUM 200mm MAXIMUM FROM THE FIRST FLEXIBLE JOINT TO THE MANHOLE WALL.
- SOFT SPOTS IN THE TRENCH FORMATION SHALL BE REMOVED AND REPLACED WITH GRANULAR BEDDING UNLESS INSTRUCTED OTHERWISE.
- 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.
- IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO LIAISE WITH BUILDING CONTROL FOR APPROVALS, INTERIM INSPECTION, SNAGGING AND FINAL INSPECTIONS OF THEIR WORK.
- 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.
- 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.

- THE DRAINAGE SYSTEM IS NOT DESIGNED TO ACCEPT UNTREATED EFFLUENT FROM A COMMERCIAL KITCHEN CONTAINING GREASE AND OILS. REMOVAL OF GREASE AND OIL SHOULD BE MADE AT SOURCE USING A FLOOR MOUNTED ABOVE GROUND GREASE REMOVAL SYSTEM. IT IS RECOMMENDED THAT A MECHANICAL GREASE REMOVAL SYSTEM BE EMPLOYED FOR THIS PURPOSE NOT A PASSIVE SYSTEM.
- PIPEWORK TO BE OF THE FOLLOWING MANUFACTURER: 100 / 150 / 225MM DIAMETER HEPWORTH SUPERSLEEVE VITRIFIED CLAY PIPES (40KN/mm CRUSHING STRENGTH), 300mm + TO BE CONCRETE CLASS M. ALTERNATIVELY 'POLYSEWER' UPVC DRAINAGE SYSTEM BY POLYPIPE WHEN INSTALLED IN LINE WITH THE MANUFACTURERS RECOMMENDATIONS. FILTER DRAINAGE TO BE PERFORATED HDPE.
- ALL RWP, WPC & GULLY CONNECTIONS TO BE 100mm DIA UNO & ARE RODDABLE AT LOCATIONS ABOVE GROUND LEVEL.
- ALL INSPECTION CHAMBERS WITH A DEPTH GREATER THAN 1.2m TO HAVE A 350mm DIAMETER REDUCING PLATE LOCATED BENEATH COVER AND FRAME TO PREVENT ACCESS.