



ATTENUATION TANK SCHEDULE							
REF.	MANUFACTURER & TYPE	MIN. STORAGE VOLUME (m³)	LENGTH (m)	DIAMETER (m)	DOWNSTREAM INVERT LEVEL (m)	APPROX. GRADIENT	COMMENTS
S1-ATTEN 1	TUBOSIDER SINGLE STORE	32.6	28.850	1.200 Ø	62.525	1:385	500mm DEEP SUMP TO BE FABRICATED AT INLET AND OUTLET ENDS OF TANK (S1-AC1 & S1-AC2)
S1-ATTEN 2	TUBOSIDER SINGLE STORE	127.0	24.204 2.400	1.800 Ø x 2no. LEGS 1.400 Ø - <i>Stub for flow control</i>	61.325	1:355	PIPES JOINED TO FORM DOUBLE RUN FLOW CONTROL TO BE SITED IN SEPARATE 1.40m Ø LEG AT DOWNSTREAM END 500mm SUMP TO BE FITTED AT INLET (S1-AC3) AND FLOW CONTROL(S1-AC5)
F2-ATTEN 1	SPEL TANKSTOR	25.0	10.200	1.800 Ø	61.200	HORIZONTAL	TO SUIT 20,780m³ BACKWASH FROM POOL FILTERS AS AGREED WITH FT. LEISURE, ALLOWANCE FOR +17% DUE TO NATURE OF BACKWASH PROCESS
REFER TO DRAWINGS LP44107-RAM-B01-XX-DR-D-51101 AND 51102 FOR LOCATIONS OF ATTENUATION TANKS AND ACCESS PROVISIONS ATTENUATION TANKS TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. HIGH LEVEL ALARM REQUIRED. VENTING REQUIREMENTS TO MANUFACTURER'S RECOMMENDATIONS. VENT PIPE LOCATIONS TO BE CONFIRMED BY ARCHITECT							
AS PER GUIDANCE FROM MANUFACTURER, STANDARD TUBOSIDER BACKFILL MATERIAL CAN BE REPLACED WITH AN MOT TYPE 1 MATERIAL., HOWEVER IT IS IMPORTANT TO NOTE THAT: - TANK BED MUST BE LIMITED TO A GRANULAR MATERIAL EQUAL OR LESS THAN 20mm - TANK SURROUND TO BE A GRADED GRANULAR MATERIAL 70mm AND LESS. GRANULAR MATERIAL LARGER THAN 70mm ARE NOT TO BE USED							

ATTENUATION TANK ACCESS POINT SCHEDULE										
REF.	COVER LEVEL (m)	TANK INVERT LEVEL (m)	SUMP REQUIRED	SUMP DEPTH (m)	DEPTH TO INVERT (m)	ACCESS SHAFT DIAMETER (mm)	MIN COVER CLEAR OPENING (mm)	MIN COVER LOADING	CO-ORDINATES (mm) EASTING, NORTHING	COMMENTS
S1-AC1	65.025	62.600	Y	0.500	2.925	1200Ø	600 x 600	D400	384422061, 401702918	
S1-AC2	64.975	62.525	Y	0.500	2.950	1200Ø	600 x 600	D400	384406442, 401680103	
S1-AC3	65.000	61.400	Y	0.500	4.100	900Ø	600 x 600	C250	384437543, 401638797	COVER TO HAVE SEALING PLATE BELOW WARNING OF DEEP CHAMBER
S1-AC4	64.575	61.325		-	3.250	900Ø	600 x 600	D400	384453722, 401623299	COVER TO HAVE SEALING PLATE BELOW WARNING OF DEEP CHAMBER
S1-AC5-FC	64.500	61.325	Y	0.500	3.675	1400Ø	1200 x 675	D400	384454770, 401620634	FLOW CONTROL TO BE INSTALLED IN CHAMBER WITH BY-PASS/DRAIN-DOWN POINT REQUIRED COVER TO HAVE SEALING PLATE BELOW WARNING OF DEEP CHAMBER
F2-AC1	64.350	61.200		-	3.150	900Ø	750 x 750	D400	384467596, 401612653	ACCESS POINT TO HAVE POOL BACKWASH TELEMETRY INSTALLED. REFER TO POOL SPECIALIST FOR REQUIREMENTS
F2-AC2-FC	64.150	61.200		-	2.950	900Ø	750 x 750	D400	384467596, 401612653	FLOW CONTROL TO BE INSTALLED IN CHAMBER WITH BY-PASS/DRAIN-DOWN POINT REQUIRED

- D1  ACCESS TO ATTENUATION FOR MAINTENANCE
- D2  MAINTENANCE OF POOL BACKWASH TANK

OIL SEPARATOR SCHEDULE												
REF.	MANUFACTURER & TYPE	DESIGNATION	COVER LEVEL (m)	OIL CAPACITY	SILT CAPACITY	OVERALL LENGTH (m)	OVERALL DIAMETER (m)	UNIT INVERT LEVEL (m)	INLET INVERT/ DIA (m/ mm)	OUTLET INVERT/ DIA (m/ mm)	MIN COVER CLEAR OPENING	COVER LOADING
OS-1	SPEL STORMCEPTOR CLASS 1 BY-PASS or equal approved	NSB4	64.450	60 LITRES	400 LITRES	1.860	1.225 Ø	61.150	62.500 / 225	62.450 / 225	750mm Ø	D400
OIL SEPARATOR TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS VENT PIPE REQUIRED - FINAL LOCATION TO SUIT LANDSCAPE ARCHITECT HIGH-LEVEL OIL ALARM REQUIRED, WITH CONTROL LINK TO BMS SEPARATOR TO BE INSTALLED WITH CONCRETE SURROUND												

CHANNEL DRAIN SCHEDULE					
REF.	MANUFACTURER & TYPE	DESIGNATION	TYPICAL LOCATION	COVER LOADING AND TYPE	OUTLET DIA
DC-1	ACO MULTIDRAIN	M100D 0.0	THRESHOLD DRAINS	D400 HEELSAFE GRATING	150
DC-2	ACO MULTIDRAIN	M150D 20.0	CAR-PARK / ROADS	D400 HEELSAFE GRATING	150
DC-3	ACO MULTIDRAIN	M150D 10.0	EXTERNAL PAVING	D400 HEELSAFE GRATING	150
DC-4	ACO MULTIDRAIN	SLIMLINE	EXISTING MUGA	INTEGRAL SLOT	100
ALL CHANNELS HAVE BEEN DESIGNED FOR A DESIGN RAINFALL INTENSITY OF 70.50mm/hr (1in5yr EVENT, WITH A RISK CATEGORY 3. ALL OUTLETS TO BEFITTED WITH SUMPS AND RODDABLE TRAPS. GRATING SPECIFICATION TO SUIT ARCHITECT'S DETAILS REFER TO DRAWINGS FOR EXACT LOCATIONS, QUANTITIES AND EXTENTS					

S1-AC5-FC: STORM WATER VORTEX FLOW CONTROL SCHEDULE			
MANUFACTURER: MOSBAEK		DESIGN FLOW: 60 L/s DESIGN HEAD: 1.80m	
UNIT TYPE: CEV 600		OUTLET PIPE DIA: DN375 SUMP DEPTH: 500mm	
DEPTH (m)	FLOW RATE (l/s)	DEPTH (m)	FLOW RATE (l/s)
0.100	9.065	1.100	46.902
0.200	22.753	1.200	48.988
0.300	33.363	1.300	50.989
0.400	39.531	1.400	52.915
0.500	44.005	1.500	54.771
0.600	43.620	1.600	56.567
0.700	37.413	1.700	58.308
0.800	39.996	1.800	60.000
0.900	42.424	1.900	61.644
1.000	44.721	2.000	63.245
THE BELOW GROUND DRAINAGE SYSTEM HAS BEEN SIZED BASED ON THE HEAD/DISCHARGE RELATIONSHIP FOR THE MOSBAEK FLOW CONTROL UNIT WITH THE ABOVE PARAMETERS. SHOULD ANOTHER TYPE/MANUFACTURER OF THE FLOW CONTROL DEVICE BE SPECIFIED THEN THE VOLUME OF THE BELOW GROUND ATTENUATION TANK AND ASSOCIATED PIPE SIZES WILL BE INCORRECT AND MAY REQUIRE RE-DESIGNING			

F2-AC2-FC: POOL BACKWASH VORTEX FLOW CONTROL SCHEDULE			
MANUFACTURER: HYDROBRAKE OPTIMUM		DESIGN FLOW: 3 l/s DESIGN HEAD: 1.80m	
UNIT REF: CHE-0068-3000-1800-3000		OUTLET PIPE DIA: DN150 NO SUMP REQUIRED	
DEPTH (m)	FLOW RATE (l/s)	DEPTH (m)	FLOW RATE (l/s)
0.100	1.464	1.000	2.253
0.200	1.497	1.100	2.360
0.300	1.250	1.200	2.463
0.400	1.439	1.300	2.561
0.500	1.605	1.400	2.656
0.600	1.755	1.500	2.747
0.700	1.892	1.600	2.835
0.800	2.020	1.700	2.921
0.900	2.139	1.800	3.004
ALL FLOW CONTROL DEVICES HAVE BEEN SIZED TO REDUCE UPSTREAM STORAGE VOLUMES. THE BELOW GROUND DRAINAGE SYSTEM HAS BEEN SIZED BASED ON THE HEAD/DISCHARGE RELATIONSHIP FOR THE HYDRO-BRAKE® OPTIMUM AS SPECIFIED ABOVE			
IN THIS INSTANCE, THE DISCHARGE RATE FROM THE POOL BACKWASH TANK DOES NOT HAVE A DIRECT RELATIONSHIP WITH THE ATTENUATION SIZE. THEREFORE, SHOULD ANOTHER TYPE/MANUFACTURER OF THE FLOW CONTROL DEVICE BE PROCURED, PLEASE ENSURE IT DOES NOT EXCEED THE MAX DESIGN FLOW/DESIGN HEAD PARAMETERS NOTED ABOVE			
FOR FUTURE MAINTENANCE/REPLACEMENT REQUIREMENTS, THE UNIT MUST NOT EXCEED COVER CLEAR OPENING OR TANK SHAFT DIAMETER			

NON-RETURN VALVE SCHEDULE			
MANHOLE REF	DRAINAGE SYSTEM	MANUFACTURER & TYPE	TYPE
F1-10-NRV	FOUL WATER (No WCs)	ALTHON WASTOP	WASTOP 150
F2-1-NRV	POOL BACKWASH	ALTHON WASTOP	WASTOP 150 SS/316
S1-9-NRV	SURFACE WATER	ALTHON WASTOP	WASTOP 225
ALL NON-RETURN VALVES TO BE INSTALLED AS PER MANUFACTURER'S REQUIREMENTS ALL NON-RETURN VALVES TO BE FITTED ON UPSTREAM END OF PIPE U.N.O (I.E. MANHOLE INLET)			

FINAL DESIGN ISSUE DRAWING NOTES

THE FINAL DESIGN ISSUE OF THIS DRAWING INCORPORATES REVISIONS AND CHANGES MADE TO THE CONSTRUCTION ISSUE DRAWING BASED ON INFORMATION RECEIVED BY OTHERS.

IT SHOULD BE NOTED THAT RAMBOLL DID NOT HAVE A PERMANENT SITE PRESENCE DURING THE CONSTRUCTION PERIOD TO VERIFY THAT THE BUILDING AND LANDSCAPING AREA WERE CONSTRUCTED IN ACCORDANCE WITH THIS DRAWING.

FOR CONFIRMATION OF AS-BUILT CONSTRUCTION DETAILS (INCLUDING DIMENSIONS AND DETAILS INDICATED ON THIS DRAWING) REFERENCE SHOULD BE MADE TO DOCUMENTATION AND INFORMATION PROVIDED BY THE MAIN CONTRACTOR, INCLUDING AS-BUILT SUB-CONTRACTOR INFORMATION FOR SUB CONTRACTOR DESIGNED ITEMS.

THESE NOTES ARE BASED ON THE USE OF EXPERIENCED AND COMPETENT CONTRACTORS CARRYING OUT THE WORK USING AN APPROVED SAFE METHOD OF WORKING

KEY TO HEALTH AND SAFETY SYMBOLS

-  INDICATES A RESIDUAL RISK REQUIRING A COMPULSORY ACTION
-  INDICATES A RESIDUAL RISK FOR INFORMATION
-  INDICATES A RESIDUAL RISK REQUIRING A PROHIBITIVE ACTION
-  INDICATES A RESIDUAL RISK AS A WARNING

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- Notes
- DO NOT SCALE FROM THIS DRAWING.
 - ALL DIMENSIONS ARE MILLIMETRES U.N.O.
 - ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM U.N.O.
 - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.
 - PCC = PRE CAST CONCRETE
PPIC = POLYPROPYLENE INSPECTION CHAMBER
BD = BACKDROP
 - BRANCH CONNECTIONS OF DN150 OR LESS TO DISCHARGE INTO MAIN CHANNEL AT HALF PIPE LEVEL
 - BRANCH CONNECTIONS GREATER THAN DN150 TO BE SET LEVEL WITH SOFFIT OF MAIN DRAIN
 - MANHOLE CO-ORDINATES ARE REFERENCED TO CENTER OF MANHOLE
 - COVER LEVELS ARE APPROXIMATE AND SUBJECT TO CHANGE TO SUIT FINAL SITE LEVELS
 - MANHOLE TYPE BASED ON SEWER SECTOR GUIDANCE (SSG - FORMERLY SEWERS FOR ADOPTION)
 - REFER TO DRAWINGS RAM-ZZZ-XX-DR-D-51010, 51011 & 51012 FOR DETAILS OF EXISTING DRAINAGE TO BE REMOVED
 - REFER TO DRAWINGS RAM-B01-XX-DR-D-51101 & 51102 FOR PROPOSED DRAINAGE GA
 - REFER TO DRAWINGS RAMB01-XX-DR-D-51200 FOR PROPOSED MANHOLE SCHEDULES
 - REFER TO DRAWING SERIES RAM-B01-XX-DR-D-51400 FOR TYPICAL BELOW GROUND DRAINAGE DETAILS

F01	FINAL DESIGN INTENT	06/07 2023	SG GS	NM
Rev	Description	Date	By Chk	App

FINAL DESIGN INTENT

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PROPOSED DRAINAGE
SCHEDULES
SHEET 2

Project No:	Scale (@A1):	Drawn:	Date:
1620005164	NTS	SG	MAY 21
Drawing No:		Rev:	
LP44107-RAM-B01-XX-DR-D-51201		F01	