

Soak Away Design Report		
1	Reference No:	4/25/2403/OF1
2	Proposed Development:	CHANGE OF USE OF LAND TO DOMESTIC GARDEN; THE DEMOLITION OF EXISTING OUTBUILDINGS; AND THE CONSTRUCTION OF A GENERAL PURPOSE/STORAGE BUILDING & WORKSHOP, RETENTION OF EXISTING POLYTUNNEL, & CREATION OF INTERNAL ACCESS TRACK
3	Location:	LAND TO THE NORTH WEST OF POOLSIDE, HAVERIGG
4	Description:	DESIGN JUSTIFICATION OF A ROOF WATER SOAKAWAY SYSTEM FOR THE ABOVE APPLICATION, USING STANDARD SOAKAWAY (SUDS) EQUIPMENT.
5	System Overview:	DRAINAGE SYSTEM: 110 mm GRAVITY PIPE → SEDIMENT TRAP → PLASTIC CRATE SOAKAWAY. DESIGN BASIS: UK DESIGN ASSUMPTIONS USING BRE 365 INFILTRATION TESTING, DESIGN TO UK BUILDING REGULATION PART H DRAINAGE.
6	Equipment Specification:	AS PER BUILDING REGULATION PART H: DRAINAGE
6.1	Pipework	110mm UPVC UNDERGROUND DRAINAGE PIPE TO STANDARD: BS EN 1401. MINIMUM GRADIENT 1:60. PUSH-FIT RUBBER RING JOINTS.
6.2	Sediment Trap / Silt Chamber	2 OFF SILT CHAMBERS LOCATED AT NW & NE CORNERS OF BUILDINGS EACH RESPONSIBLE FOR ~ 50 M3 WATER RUN OFF. SILT BUCKET CAPACITY 25-40 LITRES. ACCESS COVER 300mm. INLET / OUTLET SIZE 100mm.

6.3	Plastic Soakaway Crate System	RAINSMART 65 TONNE HEAVY TRIPLE SOAKAWAY (OR EQUIVILENT). DIMENSIONS 1000x600x600mm. 1M3 CAPACITY PER INSTALLED SYSTEM. 6 OFF CRATES REQUIRED.																																										
	6.4	Geotextile Membrane	NON-WOVEN PERMEABLE GEOTEXTILE. WRAP ENTIRE CRATE STRUCTURE. MINIMUM OVERLAP:300mm.																																									
7	Excavation Requirements	EXCAVATION DIMENSIONS 4.6x2.6x1.2m INCLUDING BEDDING LAYER AND COVER SOIL. TEST EXCAVATION TO BE COMPLETED TO GUAGE ANY BEDROCK DEPTH.																																										
8	Installation Distances	SOAKAWAY MINIMUM DISTANCE FROM BUILDING: 5m. MINIMUM DISTAND FROM BOUNDARY: 2.5m. SOAKAWAY BASE 1m ABOVE GROUNDWATER TABLE. LOCATION AS PER SITE PLAN.																																										
9	Infiltration Test (BRE 365)	<table border="1"> <thead> <tr> <th colspan="6">BRE365 Infiltration Test Results</th> </tr> <tr> <th colspan="6">Poolside Haverigg</th> </tr> <tr> <th>Test No. 3</th> <th>Start Level</th> <th>End Level</th> <th>Drop (m)</th> <th>Time (s)</th> <th>Infiltration Rate I (m/s)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0.75</td> <td>0.25</td> <td>0.5</td> <td>1800</td> <td>0.000278</td> </tr> <tr> <td>2</td> <td>0.75</td> <td>0.25</td> <td>0.5</td> <td>2300</td> <td>0.000218</td> </tr> <tr> <td>3</td> <td>0.75</td> <td>0.25</td> <td>0.5</td> <td>1960</td> <td>0.000256</td> </tr> <tr> <td colspan="4">Average Infiltration Rate (m/s)</td> <td colspan="2">0.000257</td> </tr> </tbody> </table> <p>TEST SHOWS A GOOD LEVEL OF SOIL INFILTRATION OF 2.57×10^{-5}. STANDARD DESIGN PRINCIPLES CAN BE FOLLOWED.</p>	BRE365 Infiltration Test Results						Poolside Haverigg						Test No. 3	Start Level	End Level	Drop (m)	Time (s)	Infiltration Rate I (m/s)	1	0.75	0.25	0.5	1800	0.000278	2	0.75	0.25	0.5	2300	0.000218	3	0.75	0.25	0.5	1960	0.000256	Average Infiltration Rate (m/s)				0.000257	
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10	Design Assumptions	ROOF CATCHEMNT AREA (A): 120 m ² RUN-OFF COEFFICIENT (C): 1.0 (IMPERMEABLE) DESIGN RAINFALL INTENSITY: 50 mm/hr STORM DURATION: 1 HOUR																																										
11	Volume Calculation	RAINFALL DEPTH = 50 mm = 0.05 m RUN-OFF VOLUME V = A × RAINFALL DEPTH $V = 120 \times 0.05 = 6.0 \text{ m}^3$ TOTAL STORMWATER VOLUME = 6.0 m ³																																										

12	Required Maintenance	SILT TRAPS TO BE CHECKED / CLEARED QUARTERLY BY OCCUPIER.
13	Submission Summary	ROOF AREA: 120m ² DESIGN RUN-OFF VOLUME: 6.0m ³ SUDS SYSTEM: PLASTIC CRATE IFILTRATION SYSTEM. TOTAL STORAGE VOLUME: APPROX. 6.4m ³ PIPEWORK: 110mm uPVC PIPE SEDIMENT CONTROL: 25-40ltr SILT TRAP CHAMBER 2 OFF)

Declaration

Name: Ethan King Beng

Signature:

Date: March 2026