



BRIGHT PLAN CIVILS

Project No: D1990
Project Name: Lidsey Road, Woodgate
Sheet No: 1

BASIN LINER HYDROSTATIC UPLIFT ANALYSIS FOR SOFT CONSTRUCTION (@BED LEVEL)

Level Data:

Ground Level = 9.5 m
Depth to Groundwater = 0.25 m
Invert of Basin = 7.85 m
Level of Liner = 6 m

Depth between
groundwater & Liner = 3.25 m

Hydrostatic Uplift = 32.40 kN/m²

Factor of Safety = 1.2

Min' downward force required = 38.88 kN/m²

Thickness of surfacing layers above Liner:

Topsoil = 150 mm
Clay = 1600 mm
Sand = 100 mm
TOTAL = 1850 mm

DMRB, CD 350 (Highway Structures, for Dead loads = 1.32)

Densities:

Top Soil = 15.7 kN/m³
Clay = 22 kN/m³
Sand = 14 kN/m³

Weight of Topsoil = 2.36 kN/m²
Weight of Clay = 35.20 kN/m²
Weight of Sand = 1.40 kN/m²

Downward force of layers over liner = 38.96 kN/m²

Make-up over Liner OK

Anchor Trench:

	Width	Height	Total Length	
Dimension =	0	0	0	Weight of Clay = 0.00 kN
Pond area = 0 m ²				
(Base exl sides)				

Total min downward force required over pond area = 0 kN

Total downwards force over pond area from layers over liner = 0 kN

Total downward force from anchor trenches = 0.00 kN

Total resisting force = 0.00 kN

Design Sufficient