Unit 9 Windmill Ind Est
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HI-SPEC ENGINEERING LTD
ENGINEERING DESIGN SERVICES

Job No:	2954	Calc No:	1
Engineer:	G Cooke	Checked:	P Mathar
Date:	25.02.19	Date:	25.02.19

Title: RAMS Board - H&S Notice Board Overturning
Temporary Works Calculations

RAMS Board

Width	1710	mm
Height	1370	mm
Unit Weight	0.47	kN
Ballast Weight	1.5	kN
Frontage Area	2.3427	m^2
Base Width	900	mm
Height to Centre of Sign	1535	mm

Overturning wind speed with Anchors

Fixing design capacity	6	kN	Each

4No. M8 Hilti HUS Screw Anchor with 60mm Embedment into Conc. Slab

Moment required to overturn sign	9.6	kNm
Force in centre of board required to overturn sign.	6.254072	kN
Factor of Safety	1	(unfactored values)
Design Pressure	2.6696	kN/m^2
Drag Co-Efficient of Board	2	
Wind Speed	32.99612	m/s
	119	**km/h** (74mph)

Overturning wind speed with ballast

Moment required to overturn sign	0.675	kNm
Force in centre of board required to overturn sign.	0.439739	kN
Factor of Safety	1	(unfactored values)
Design Pressure	0.187706	kN/m^2
Drag Co-Efficient of Board	2	

Wind Speed	8.749417	m/s	
	31	**km/h**	(19mph)
Overturning wind speed with no ballast			
Moment required to overturn sign	0.2115	kNm	
Force in centre of board required to overturn sign.	0.137785	kN	
Factor of Safety	1	(unfactored values)	
Design Pressure	0.058815	kN/m^2	
Drag Co-Efficient of Board	2		
Wind Speed	4.89759	m/s	
	18	**km/h**	(11mph)