

Safety Alert

'GAWK' SCREENS CAUSE STEEL SAFETY BARRIERS TO BLOW OVER IN STRONG WINDS

INCIDENT

Recently two steel safety barrier installations were blown over in strong winds. The temporary barriers had been fitted with Sight Restriction or 'Gawk' Screens and wind loadings created an overturning moment sufficient to blow the barriers over. One system rolled onto the road and the other into the worksite. No serious injuries resulted.

Sight Restriction or 'Gawk Screens' have been fitted to concrete barriers over a number of years to prevent drivers looking at the works and running into preceding vehicles. They also serve on high speed roads to prevent objects which may be dropped from passing vehicles striking workers on site and debris from the worksite accidentally encroaching on the travelled way.

The manufacturers of the steel barriers involved offer an accessory for the system which they call a 'Fence Panel'. The intended purpose of this panel is as a debris fence. **These panels are not specifically designed to accommodate shade cloth for use as a 'Gawk' Screen because of the wind loading.**



View of barriers and screens after the incident with added shade cloth

Concrete barriers which have been fitted with screens are much heavier and better able to resist the overturning moments created by strong winds. Concrete barriers weigh about 700 Kg / metre compared to steel barriers at around 100 kg / metre. 'Gawk Screens' need to be designed by appropriately qualified engineers taking into account the requirements of AS3845 including the affect of wind loading on barrier stability and vehicle impact on the screens and resulting crash performance of the barriers.

Additionally temporary safety barriers are not fitted with 'Gawk Screens' during crash testing which may affect their performance under vehicle impact if vehicle roll on impact is not considered..

REQUIREMENTS OF THE WORKSITE SAFETY TRAFFIC MANAGEMENT CODE OF PRACTICE (WS-TM Code)

The WS-TM Code Section 61, Sight Restriction Screens details the following requirements:

- (1) Where safety barriers are used on heavily trafficked roads (generally volumes higher than 20,000 vpd). It is suggested that sight restriction screens be erected. These are designed to 'hide' activities from road users to avoid distracting them. Screens should generally be constructed using a mesh fabric.
- (2) Where it is proposed to erect a sight restriction screen. Consideration should be given to the following –
 - (a) the effect of a screen on the stopping sight distance along the road (e.g. roads with small radius curves)
 - (b) *the stability of a screen under all conditions at the workplace*
 - (c) *the effect of the height of a screen on the stability of the safety barrier*
 - (d) Section 2.3.13: Attachments of AS/NZS 3845 – 1999.

RECOMMENDED ACTIONS

Screens or panels should not be fitted to temporary safety barriers unless they have been designed by appropriately qualified engineers for the application, taking into account the expectations of the WS-TM Code and AS/NZS 3845.

Wind Loadings should be considered as part of the design particularly where lighter and un-anchored barrier systems are involved.

THIS SAFETY ALERT SHOULD BE COMMUNICATED TO ALL RELEVANT CONTRACTORS