Causes:
The immediate cause was that inadequate fixings on a section of the nosing to the platform canopy allowed the wind to get behind the nosing subsequently causing it to work free thus presenting a risk of failure and detachment and consequently presenting a risk to the operational railway.

Root and Underlying Causes

**Design:** The design included the fixing detail for the permanent condition but not the temporary condition. This resulted in insufficient information being made available for the authors of the WPP, TBS and ITP.

**Procedure:** The WPP and associated TBS did not include the fixing detail for the nosing in its temporary condition nor in its permanent condition. The requirement for lining and levelling to achieve Costain CRE and Network Rail approval of sections of nosing [and therefore the need to not install all of the fixings] was also missing. This lack of detail resulted in no direction for those installing the nosing and consequently the nosing was installed without an adequate number of fixings.

**Procedure and maintenance management:** The ITP did not include a condition relating to the fixing detail for the nosing in its temporary condition. The ITP was concerned only with the assurance of the nosing in its permanent condition as against the design specification. This lack of detail resulted in no direction for those checking the nosing as it was being installed i.e. there were no arrangements for the assurance of safety of the permanent works in the interim [temporary] condition.

**Procedure:** The incomplete canopy was not considered as ‘temporary works’ and therefore did not receive regular inspections. It is not known when the nosing began to work loose.

**Organisation and compatible goals:** delays in the programme made it too tight for the track & platforms to the Entered into Service (EIS) and completion of the works was restricted by works being carried out by other contractors on the track bed.

**Procedure:** The risk of high winds on the temporary installation was not identified in the WPP. Though the Project alerted the personnel to the forecast for high winds, the nosing was not considered because it had not been identified as ‘vulnerable’.

**Procedure:** There was a failure to identify Platform 7 temporary condition as part of the snagging [DOWL] regime. Platforms 8 and 9 were incorrectly rated as an Amber on the DOWL RAG-rating (Red, Amber and Green). Had the platforms been correctly Red-rated then EIS could (procedurally) not have occurred until all identified defects were adequately dealt with i.e. trains would not have been permitted to operate.