

# Underground coal mines – identification of returns and hazardous zones

## About this guide

Returns and hazardous zones in underground coal mines have specific requirements when certain plant is used in those areas. This document contains examples of some of the areas where it may be difficult to identify a return or hazardous zone and an indication of where they may be located.

## Returns

A return is an airway that carries air from the mine. There may be some uncertainty about when an airway changes from carrying air into the mine to when it is carrying air out of the mine. The plans A to F below show a range of layouts that indicate where this change occurs:

- A: Longwall installation face
- B: Working longwall face with homotropical maingate belt road
- C: Working longwall face with maingate forcing fan
- D: Five heading development
- E: Pillar extraction – flood ventilation
- F: Pillar extraction – flanking returns

## Hazardous zones

A hazardous zone is defined in the *Work Health and Safety (Mines) Regulation 2014* as:

‘...in an underground coal mine, means each of the following:

- a) any part at the mine in which the concentration of methane in the general body of the air is 1.25% by volume or greater,
- b) a return airway,
- c) any part of an intake airway that is on the return side of such points that are within 100 metres outbye of:
  - i. the most inbye completed line of cut-throughs, or
  - ii. any longwall or shortwall face, but only to the extent that the intake airway is on the intake side of that face (but not if the longwall face is an installation face at which the development of the face, and mining for development coal, have been completed and at which longwall mining has yet to commence).

The plans G to N below show a variety of layouts that indicate the extent of the hazardous zone:

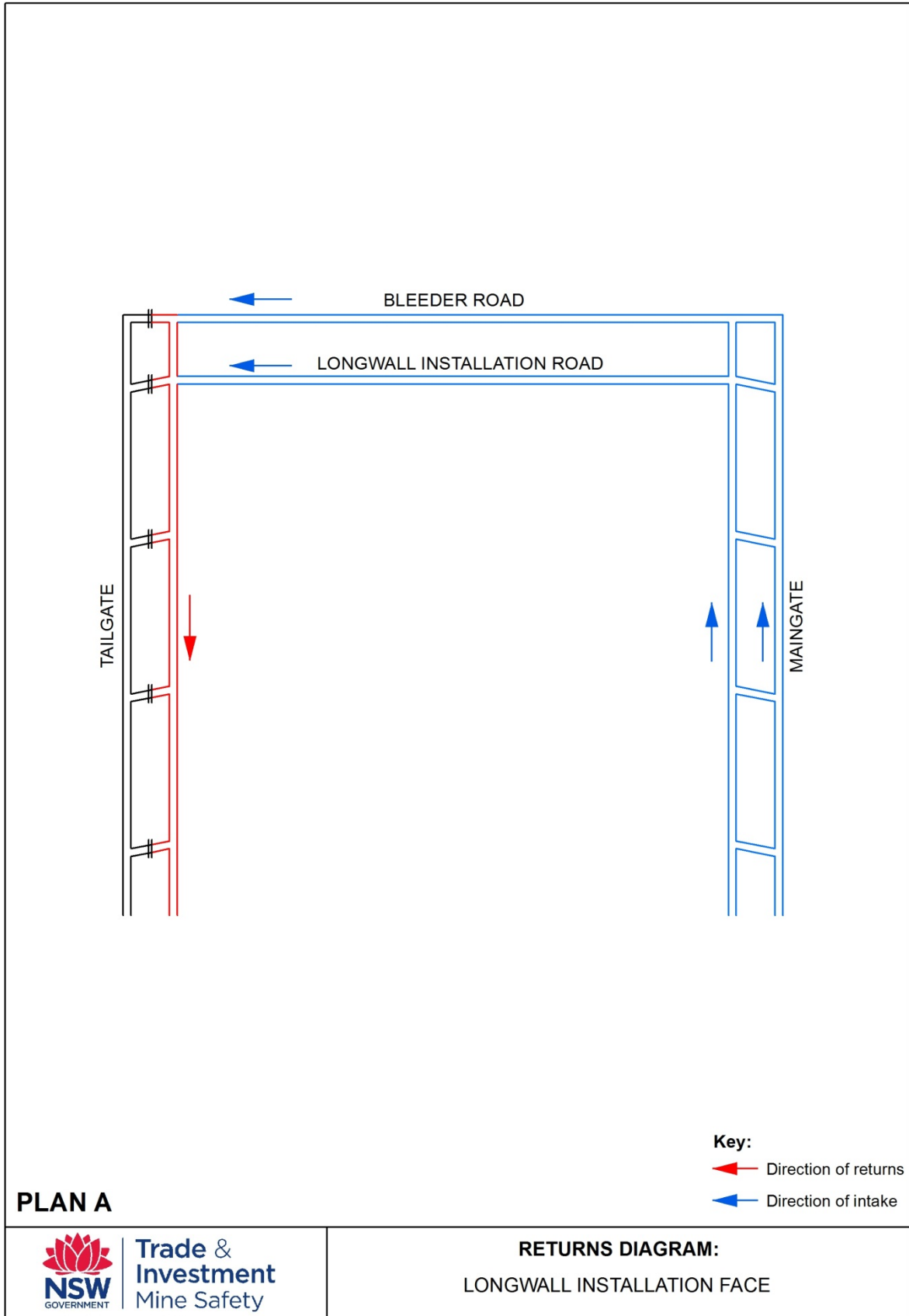
- G: Longwall installation face
- H: Longwall installation face being widened
- I: Working longwall face with maingate forcing fan
- J: Working longwall with stopping outbye the face line
- K: Working longwall face with maingate ventilation intake shaft
- L: Five heading development
- M: Pillar extraction
- N: Development of a side panel

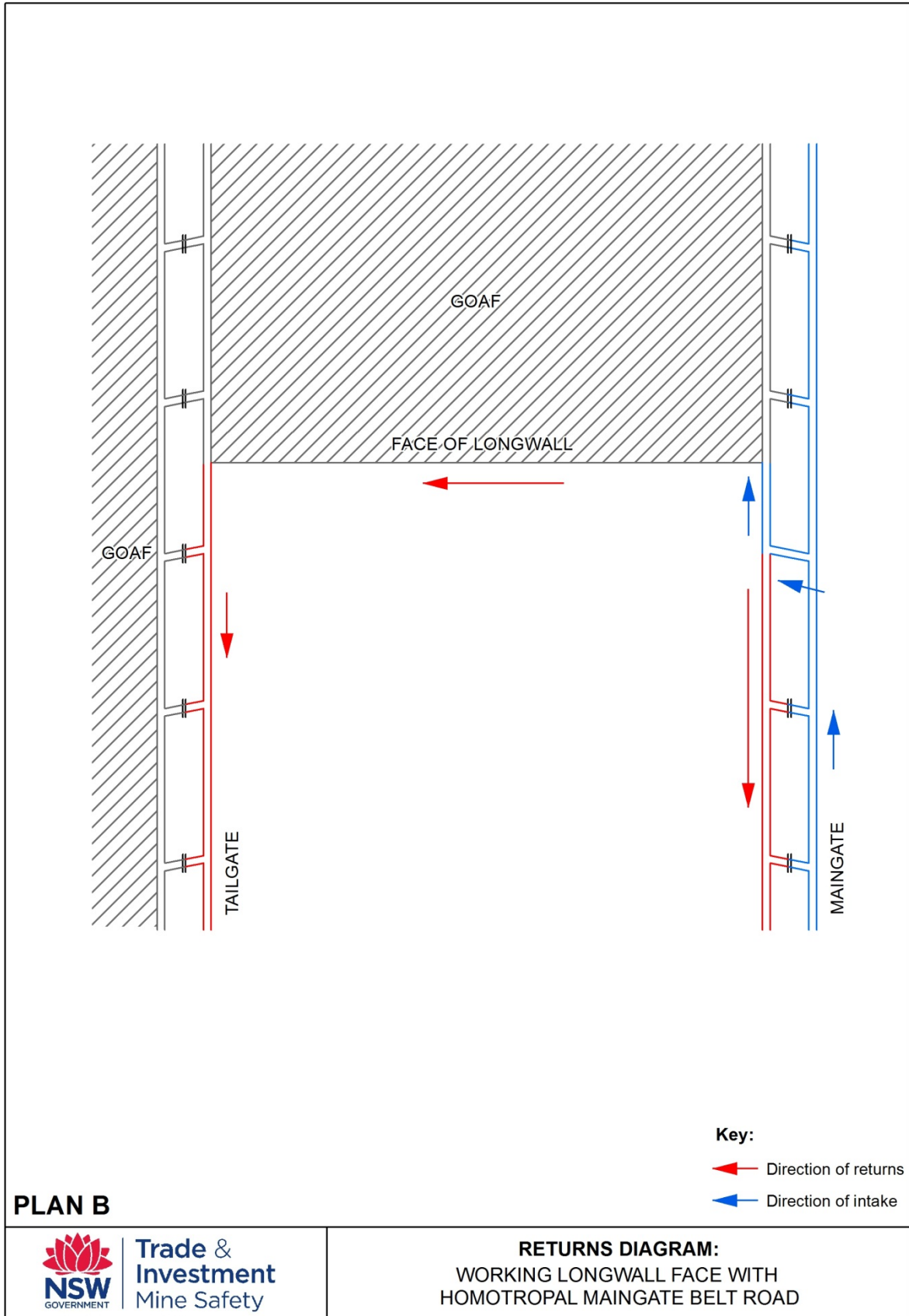


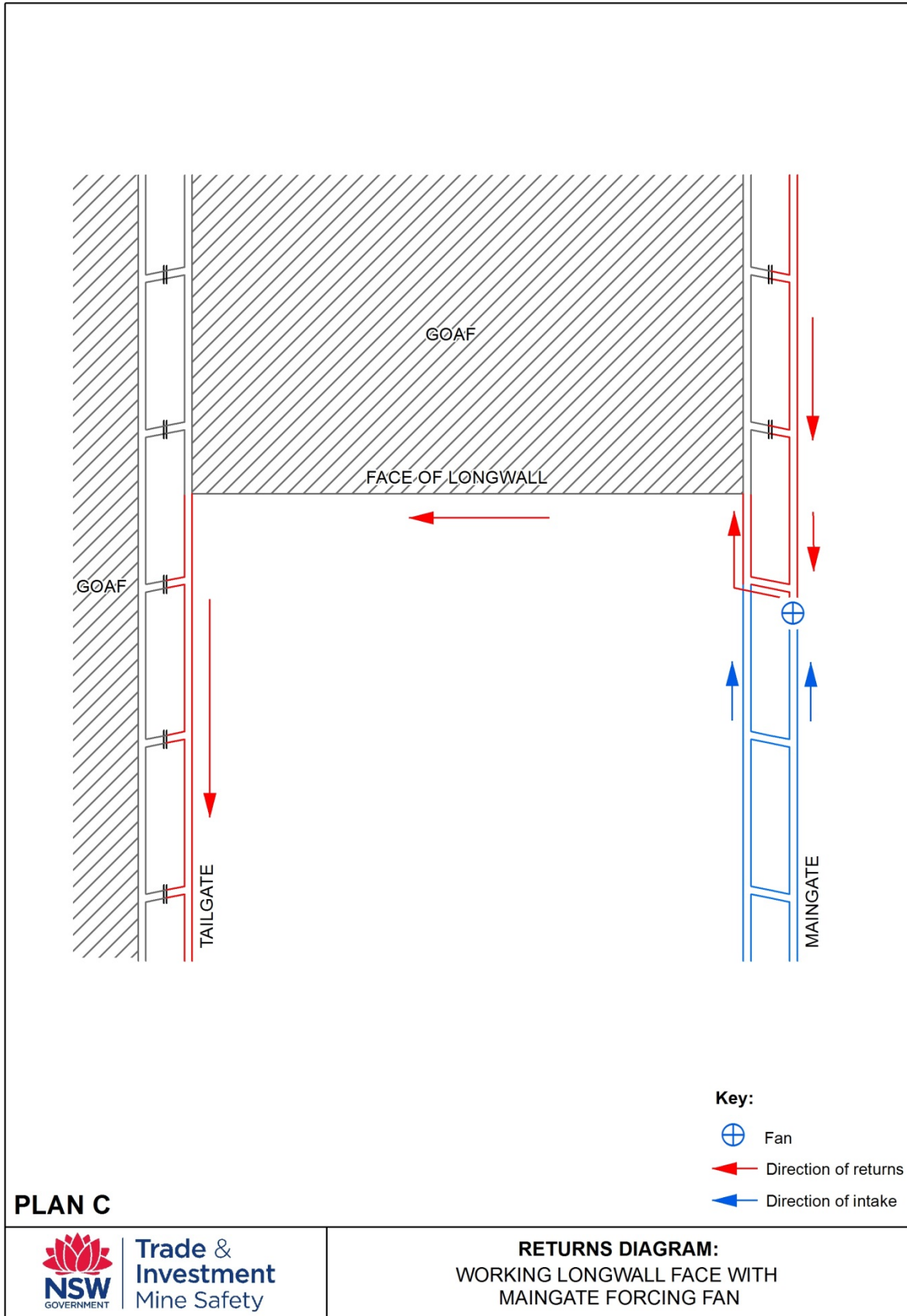
## **Further guidance**

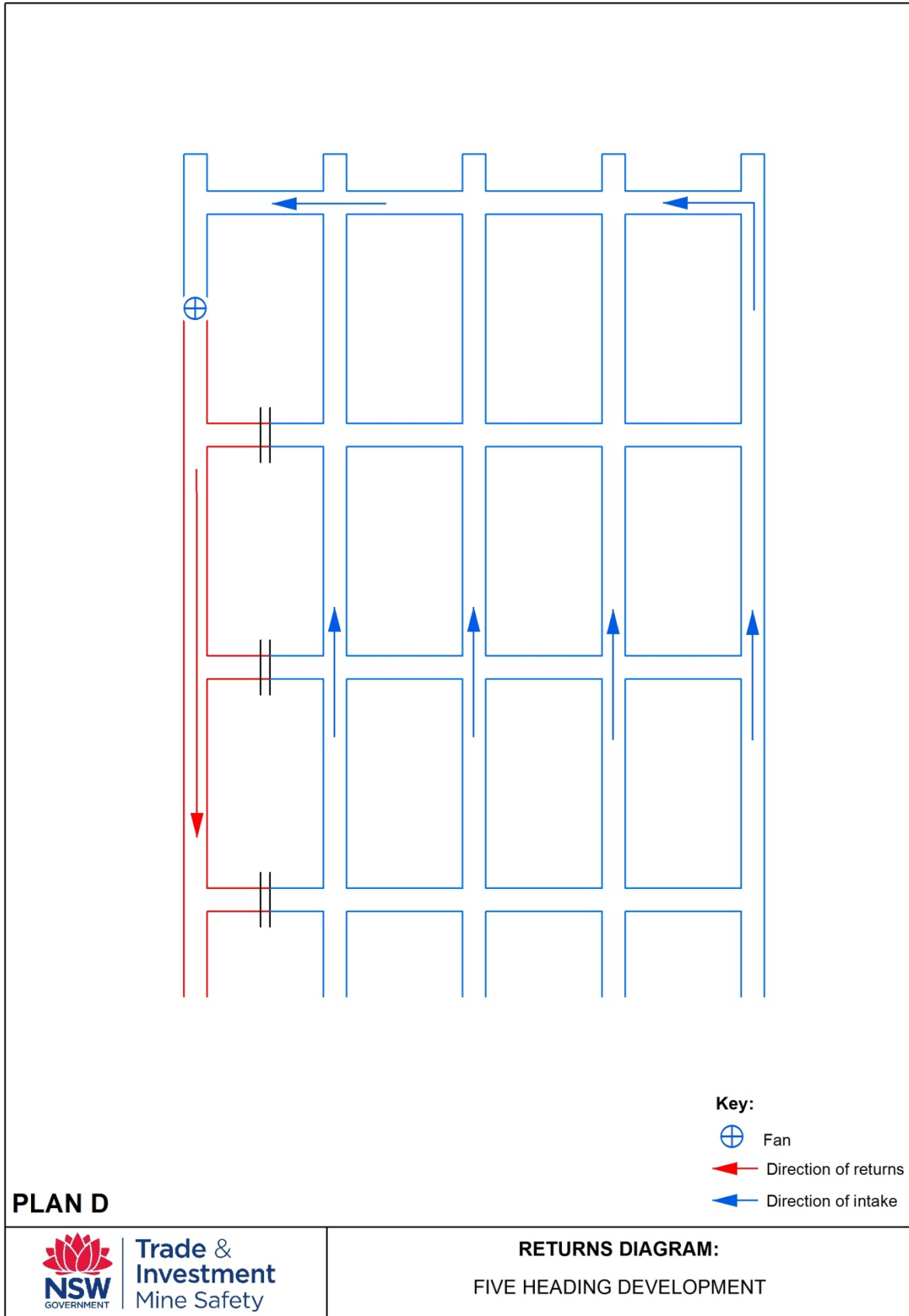
The attached diagrams are an indication only of where the hazardous zones and returns may be located in the particular example. They do not include all aspects of a ventilation system that may be relevant at a particular mine and may impact on the actual location of a return or hazardous zone, such as the existence of additional intake shafts or simultaneous development of an adjacent longwall. The diagrams do not address whether a hazardous zone may be present within the meaning of paragraph (a) of the definition above.

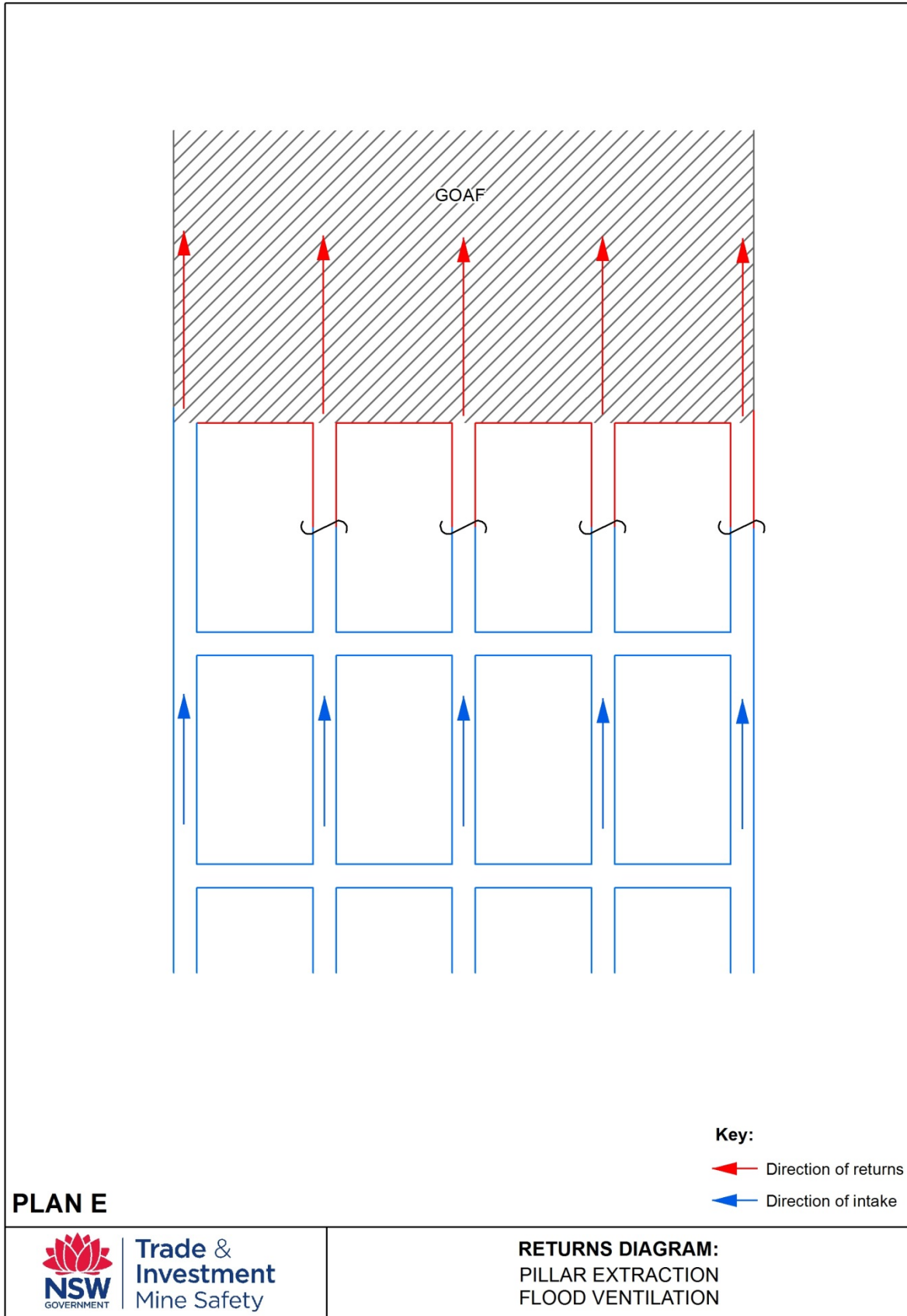
To obtain further information, contact the closest office of NSW Trade & Investment to speak with a mining safety inspector or officer, or phone the main office (02) 4931 6666.

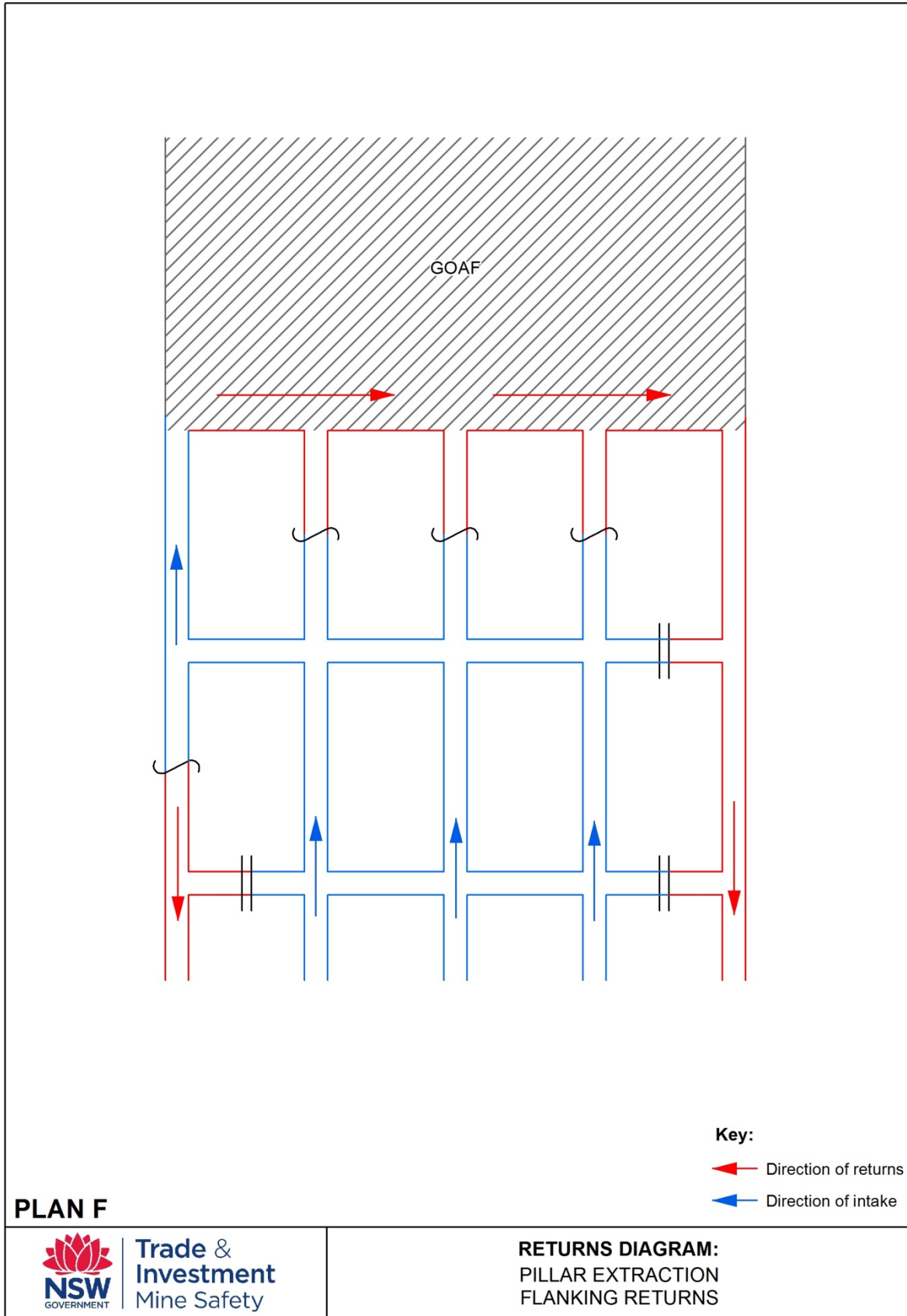




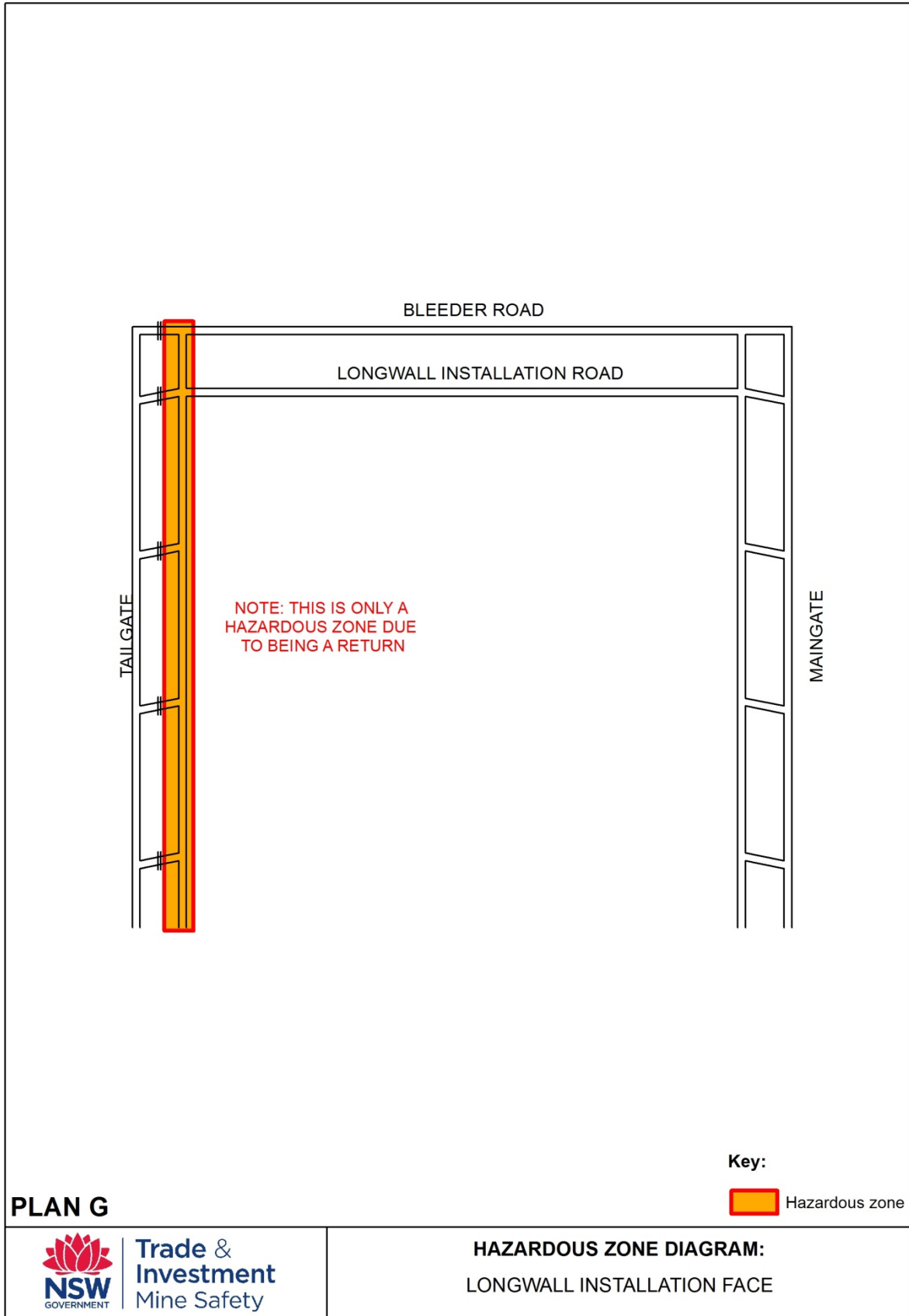


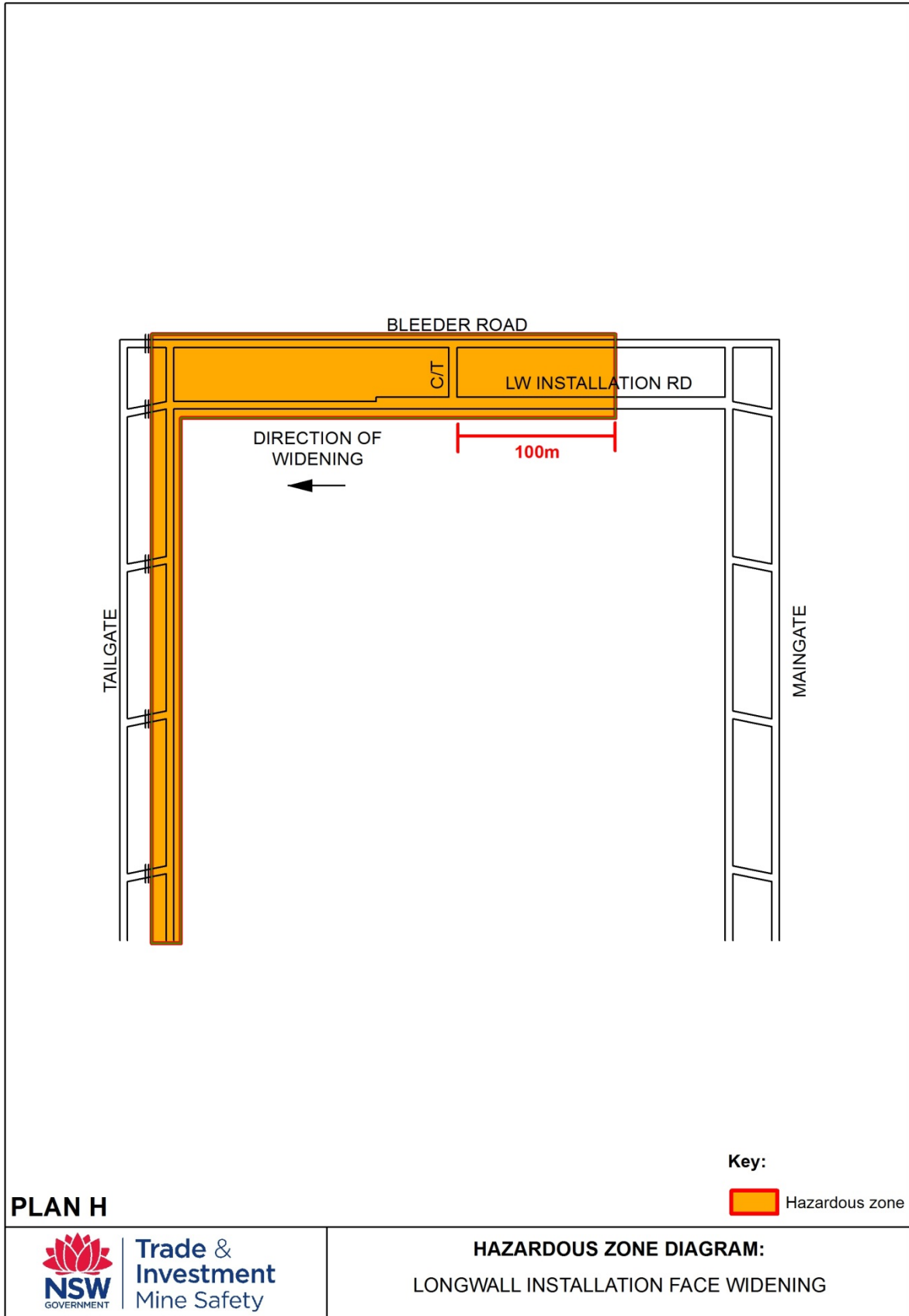


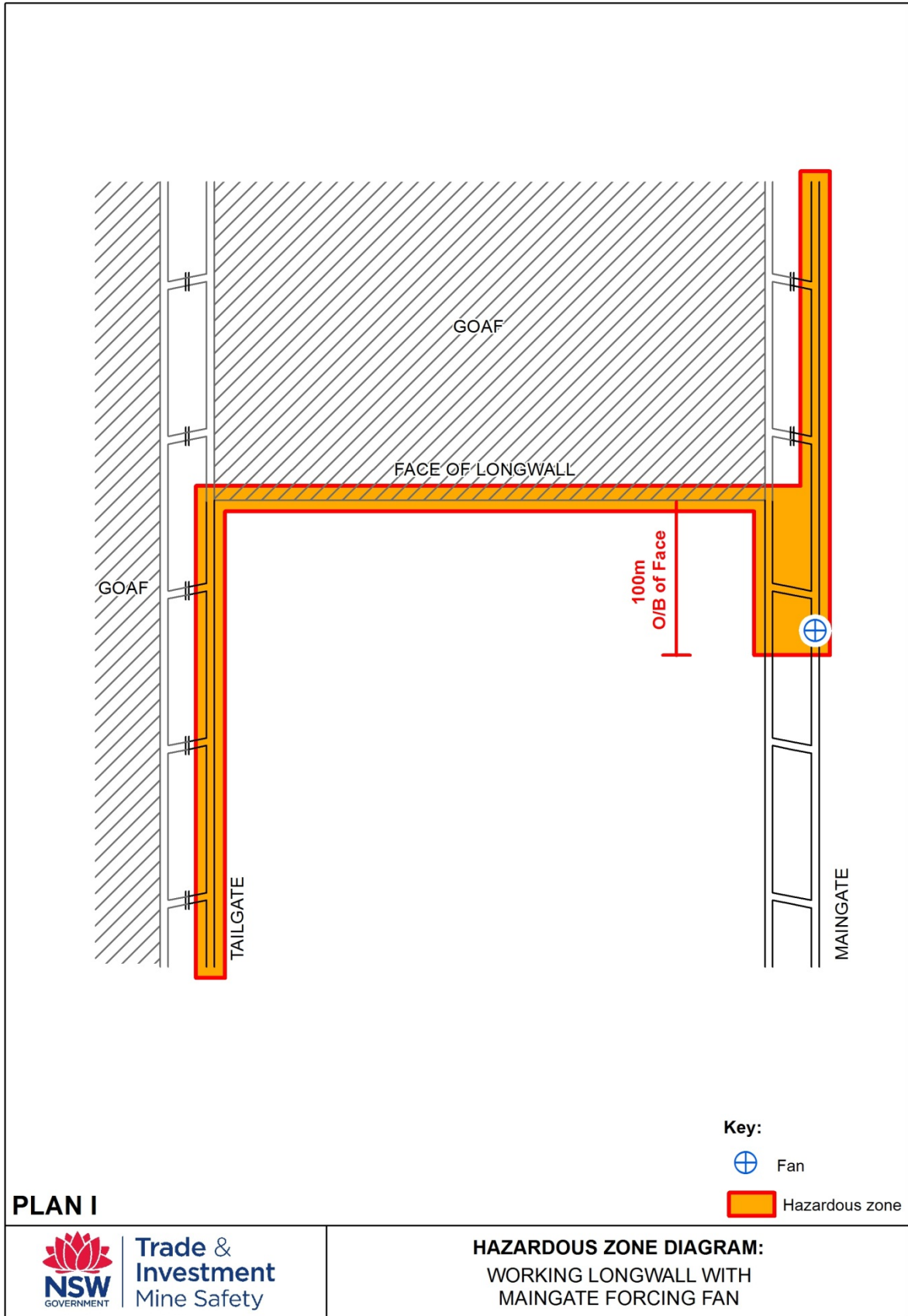


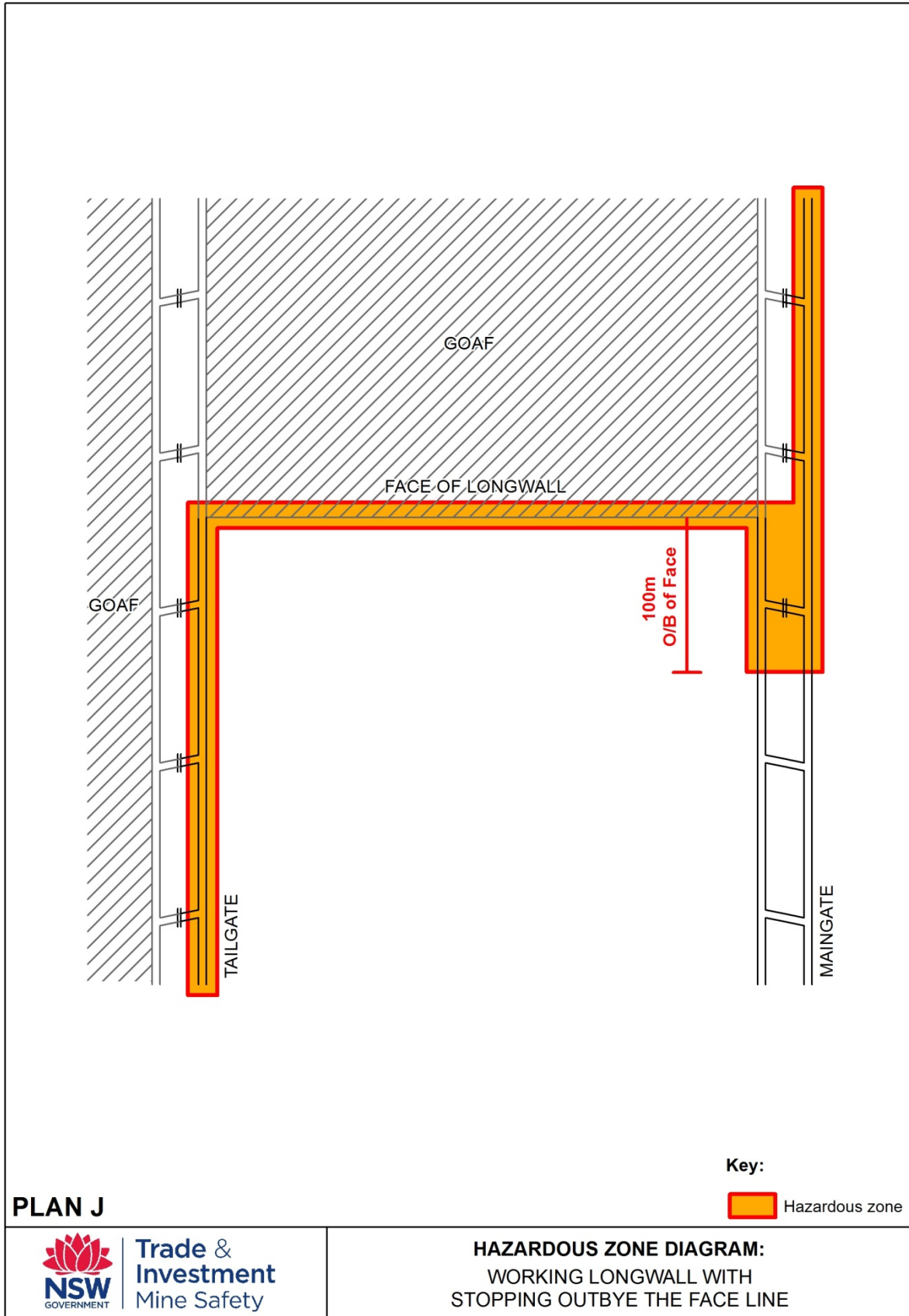


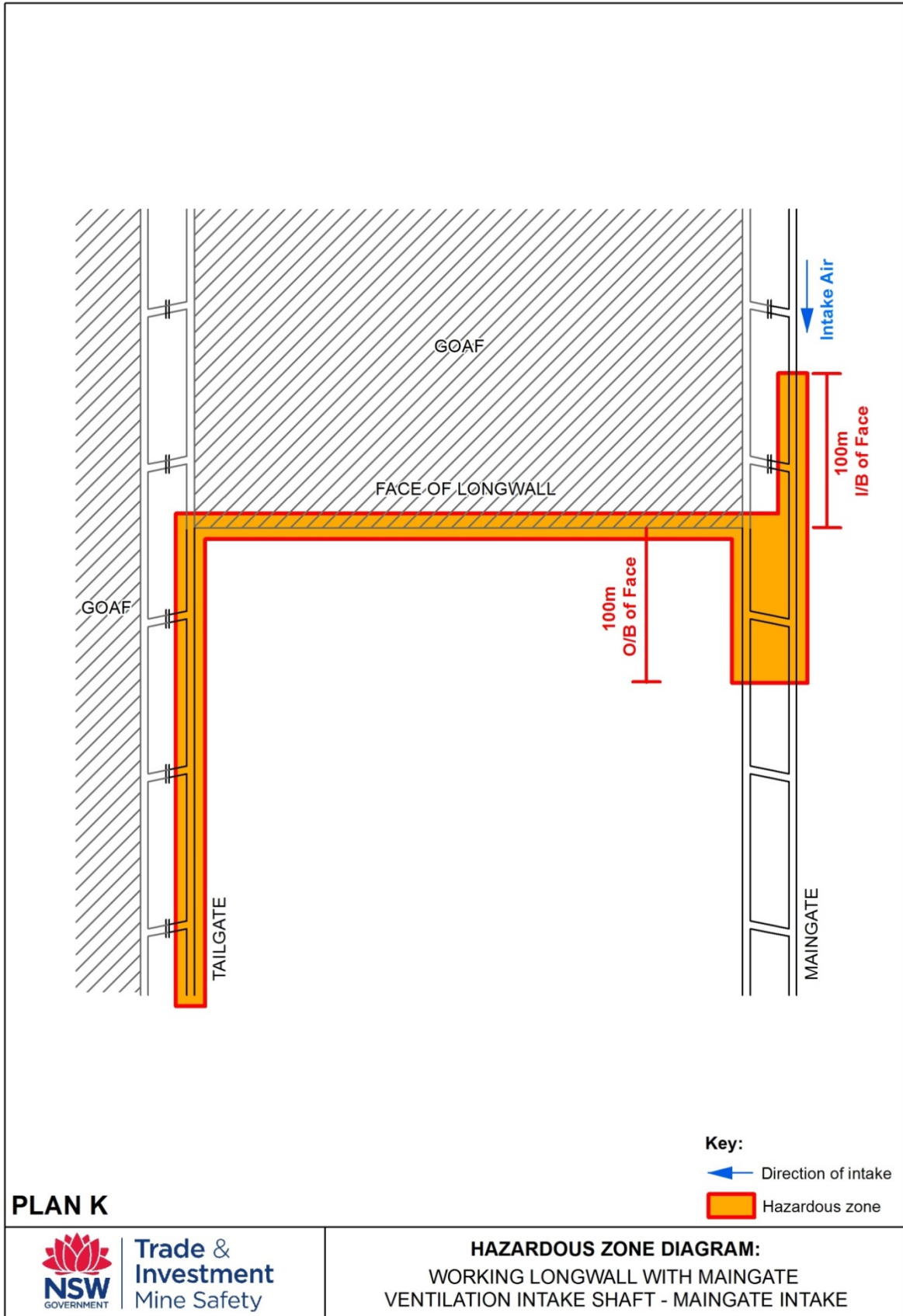


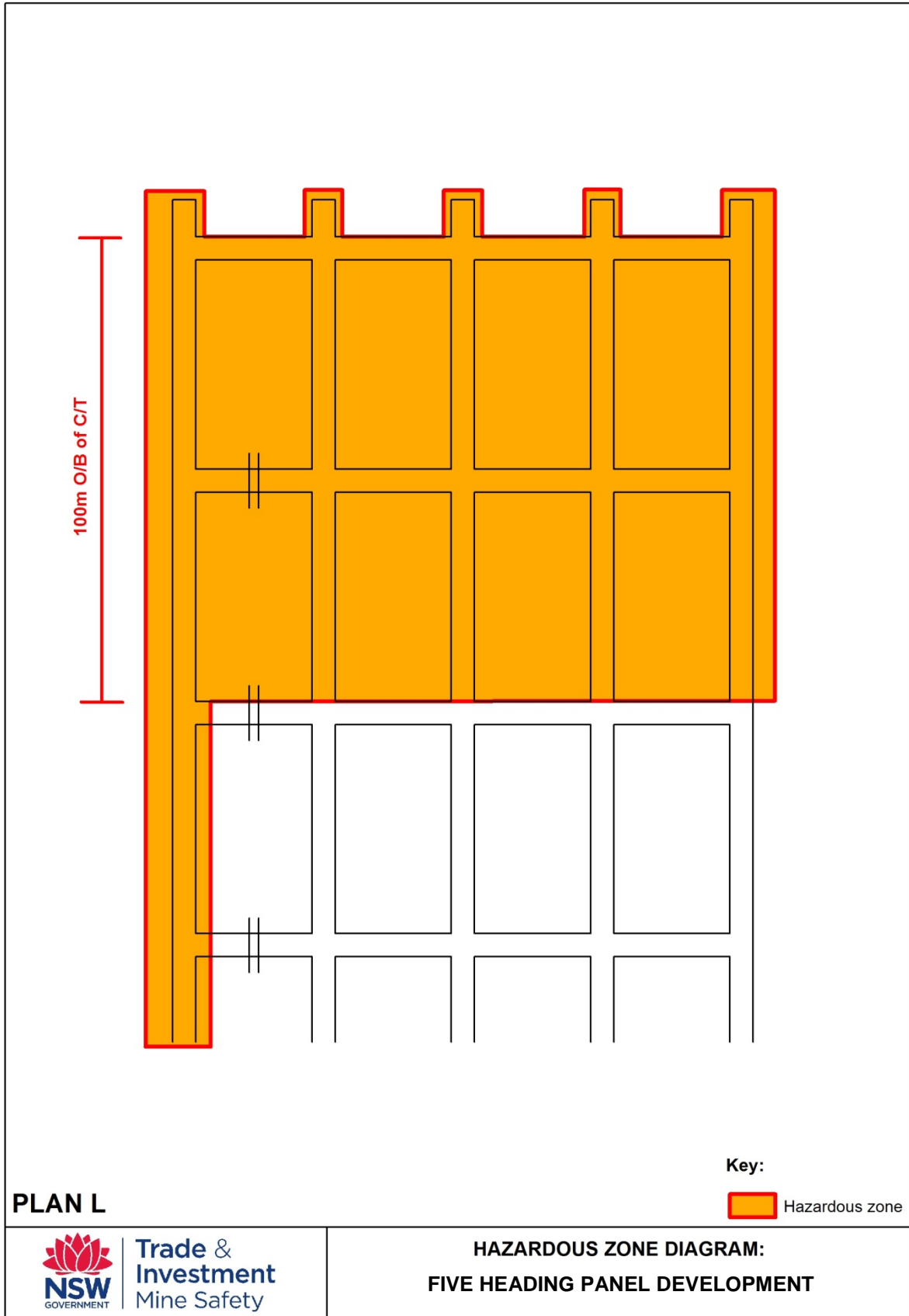


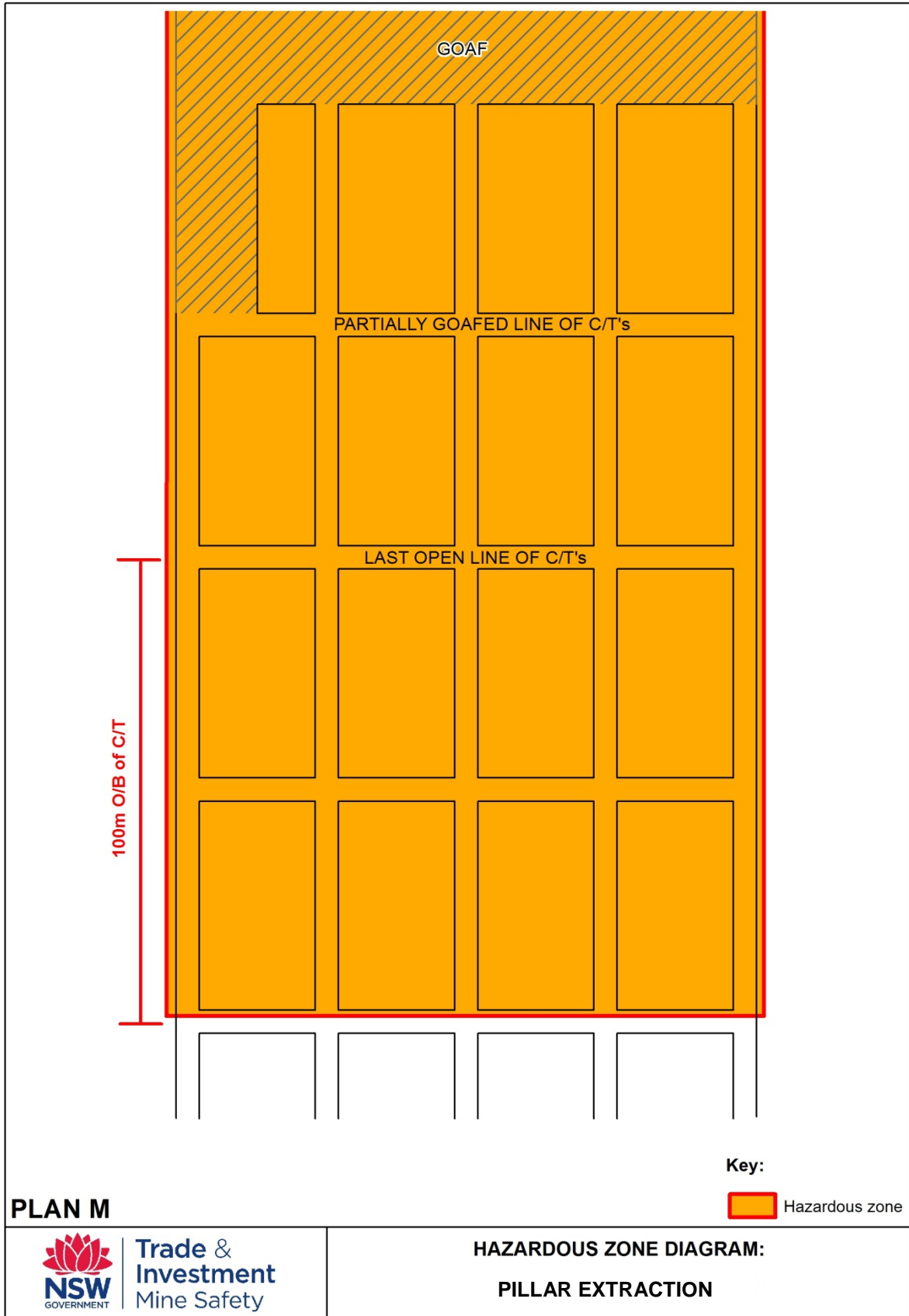


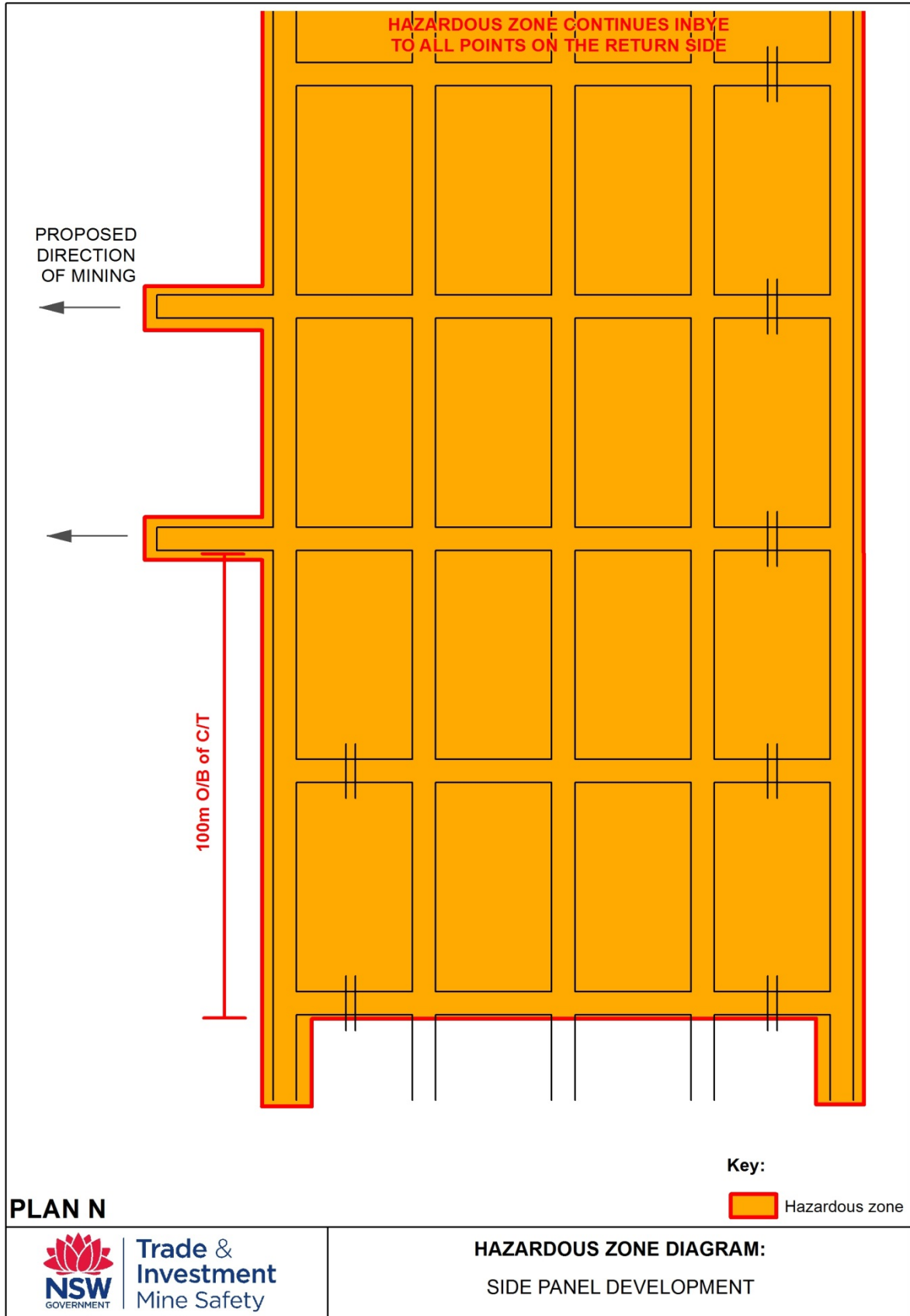














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