

Safe Working with Plant

Background

Plant and machinery is systematically used in the maintenance and improvement of the highway network. This plant makes operations safer, faster, and more efficient. It also introduces secondary risks to those who operate, work around, or have the potential to be affected by it.

Data suggests that plant person interface injuries are relatively uncommon. However, due to the power, weight and hardness of plant, compared with the fragility of the human body, when they do occur the consequences are often serious.

Increasing investment in roads, standardisation of products and methods, improved collaboration between organisations and developments in technology all offer opportunities to increase the HSW benefits we can derive from the use of plant as well as opportunities to eliminate harm caused by plant.

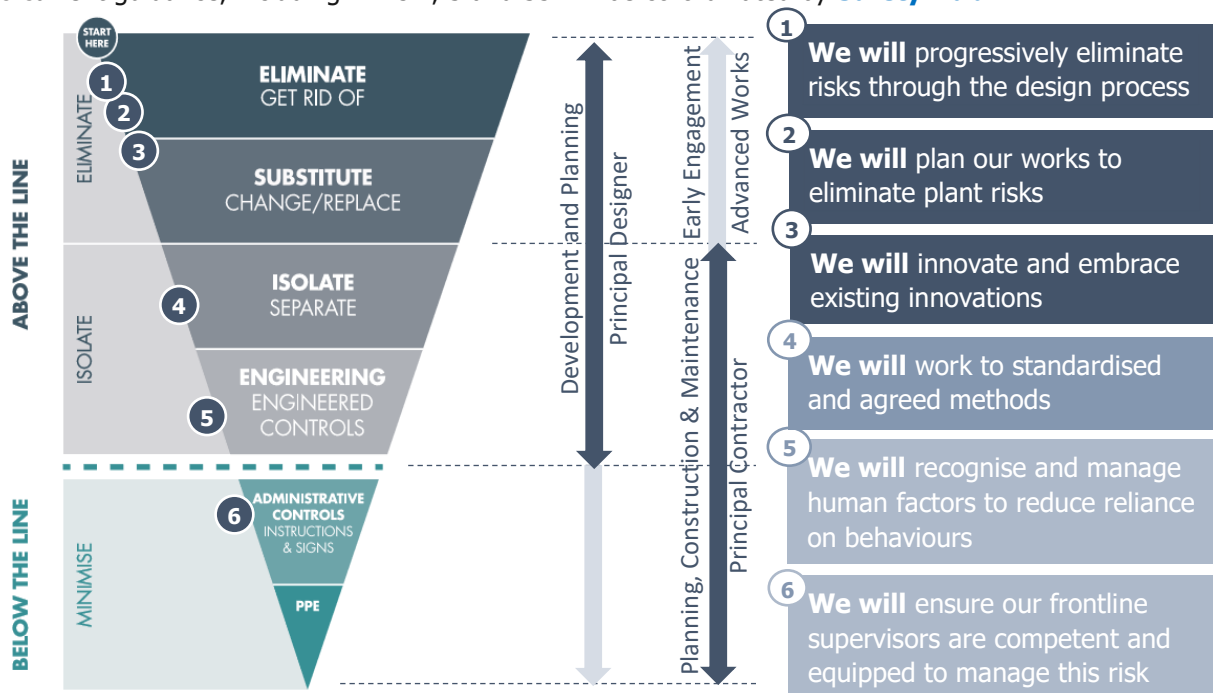
Vision

To maximise the benefits and eliminate the harm associated with deployment of plant.

Principles of Approach to be Adopted (including Application of Hierarchy of Control)

Overview

As a supplier community we have agreed to adopt the following approach as a **common standard**, following the General Principles of Prevention and adopting a hierarchy of controls as described below, commencing from the earliest consideration of the design process. Necessary updates to current guidance, including RTBs 1, 3 and 35 will be co-ordinated by **Safety Hub**.



The principles of this approach are:

- 1. We will progressively eliminate plant risks through the design process** by adopting the Safety by Design Common Intent Document. Design Risk Assessments will be informed by Raising the Bar (RtB) guidance document B1 and will **eliminate** risk wherever possible. During Roads Period 2, we will evolve this guidance to a digital catalogue of plant which informs consideration of vehicle tracking, slewing radiuses, working space requirements and access routes when risk assessing designs. Mitigation measures will be validated using digital rehearsals. Additionally, our

specifications for testing and inspection will prioritise state-of-the-art capability in plant automation to reduce the number of people required on site through **substitution** with technology.




2. **We will plan our works to eliminate plant risks** by considering both production activities (e.g. excavation) and enabling activities (e.g. access, deliveries, refuelling). We will:
 - o Plan our sites to ensure safe access, segregation of activities, and loading and offloading of plant in accordance with RtB B35 to **eliminate** interface risks and **isolate** key activities;
 - o Plan site activities in line with RtB B3 to **eliminate** PPI risks and **isolate** people and plant.
 - o Select appropriate plant in accordance with RtB B1 to **substitute** less safe plant;
3. **We will innovate and embrace existing innovations.** Over the long term we will adopt and embrace Modern Methods of Construction and specifically the Connected and Autonomous Plant Roadmap to **substitute** at-risk people, activity and risk with technology solutions. In the shorter term, we will work with the Construction Plant Hire Association and Construction Equipment Association to raise collective awareness and adoption of available innovative plant capability.
4. **We will work to standardised and agreed methods** which will be defined and kept up to date in RtB B1, B3 and B35. Our default will be physical segregation to **isolate** the risk. Where people are required to unavoidably enter the "risk zone" as defined in RtB B3, this will be subject to approval by a manager of appropriate seniority (Managing/Sector/Operations Director or equivalent Level).
5. **We will recognise and manage human factors** by consistently adopting available **engineering controls** and ergonomic designs to reduce our reliance on human behaviour. Controls for common adoption will be detailed in RtB B1 and will include the capability to:
 - o Visually or automatically detect people in the plant working zone (e.g. enhanced visibility cabs, cameras or detectors)
 - o OEM approved automated safe response modes (e.g. automatic braking or slew restriction);
 - o Automate activities which currently require people to work in the vicinity of plant (e.g. setting out or automated compaction testing).

To manage the residual risk of reliance on safe behaviours we will adopt a consistent approach to PPI training and require all frontline supervisors to undergo behavioural safety training.
6. **We will ensure our frontline supervisors (FLS) are competent and equipped to manage this risk** by adopting the behavioural and **administrative controls** within the Supervision Common Intent and RtB B29, and that:
 - o Frontline Supervisors do not operate plant and carry out their FLS role at the same time.
 - o All FLS will be assessed for their competency which will include a requirement to be qualified to SSSTS and NVQL3 (Gold Card).
 - o Following contract induction, an additional FLS induction will be carried out, where the roles & responsibilities are communicated, including those relating to management of PPI.

Additional Documentation/Detailed Guidance

- Highways England’s [Home Safe and Well Strategy 2019](#)
- Raising the Bar B1 – Plant and Equipment
- Raising the Bar B3 – Plant Person Interface
- Raising the Bar B29 - Supervision
- Raising the Bar B35 – Loading and Unloading Plant
- [Connected and Autonomous Plant Roadmap to 2035](#)

Document Approval Record

	Name	Signed	Dated
Working Group Chair	Richard Stuart		17/11/2020
SCSLG Chair	Phil Clifton		
HE Sponsor	Mark Byard		17/11/2020