

Ground Investigations

Background

Ensuring the health, safety and wellbeing of workers is key. Ground Investigation typically involves many activities across multiple temporary sites and the incidents that have occurred are wide ranging with various root causes. Multiple parties are involved (employer, designers, contractors and sub-contractors) and all participants can play a role in improving the health & safety of future investigations both individually and collectively with an improved common purpose and clarity of roles & responsibilities. Working alongside other organisations such as the British Drilling Association (BDA), to include new standards being developed will strengthen the common intent and any raising the bar documents.

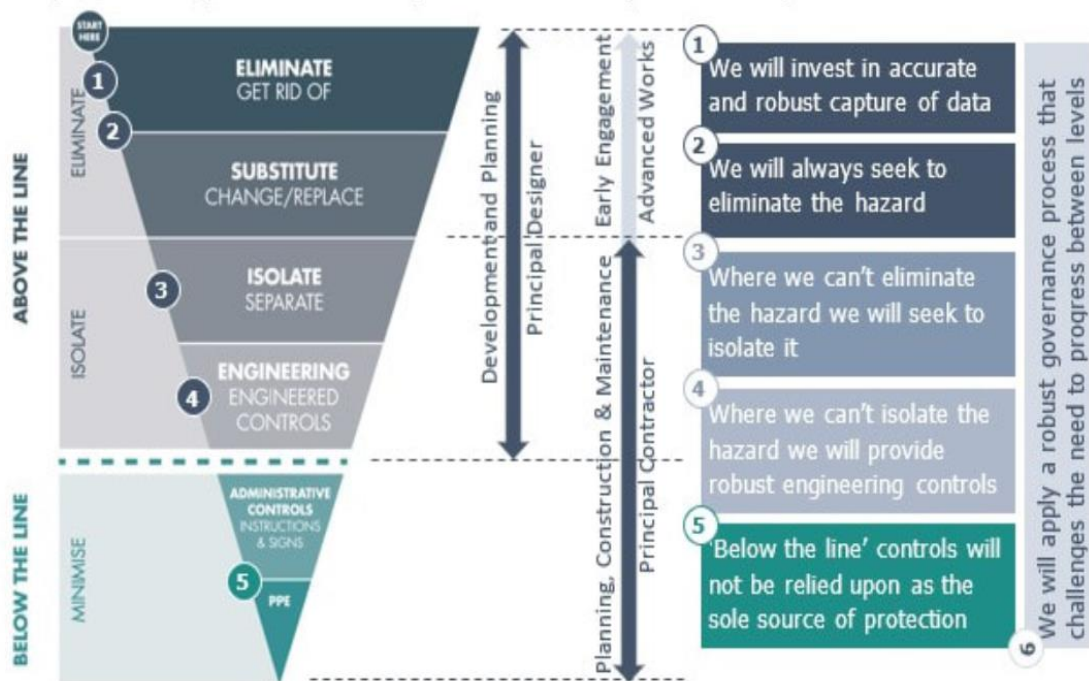
Vision

To eliminate and/or reduce the incidences of Accidents/Incidents on Highways England projects and to lead the development and implementation of a common standard for Ground Investigation works, including other developments and standards from across the industry. With a particular focus on the identification of current issues and root cause evaluations.

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

Overview

As a supplier community we have agreed to adopt the following approach as a **common standard**following the principles of prevention and adopting a hierarchy of controls as described below, commencing from the earliest consideration of the design process. Creation of a Raising the Bar guidance for this subject. *This will require a review and update of all current processes and procedures.*



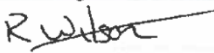


The principles of this approach are:

1. **We will always seek to identify and eliminate the hazard** and ensure that field investigations are only undertaken where necessary to address specific needs from design and the ground model thereby contributing to efficiency of work and sustainability. We will use lessons learned and industry inputs to identify hazards and take an evidence-based approach to elimination and mitigation. This will include actions that could be taken to minimise the scope of intrusive investigation (that are more likely to cause injury) such as developing robust ground model maximising the use of digital sources at an early stage and using a phased investigation approach, so that boreholes are targeted and are only carried out when they are really necessary.
2. In the planning of ground investigation works in the field **we will adopt the principle of substitution** by using mechanised rather than manual approaches where possible and swapping relatively higher hazard activity such as intrusive techniques for less hazardous such as non-intrusive techniques. This will include the promotion of alternatives to intrusive methods such as geophysics.
3. **We will isolate the hazard by restricting access to areas of risk** so that site staff are isolated from equipment that may cause injury. This will include actions that could be taken to procure, specify and utilise safer modern equipment which provide separation from moving parts and automatic shutdown features etc.
4. Where we can't isolate the hazard, **we will provide robust engineering controls** that physically prevent any people, plant or equipment coming into contact with the ground investigation hazard
5. **Signs, instructions and PPE will not be relied upon as the sole source of protection** - in the event that a greater level of control cannot be achieved, the measures to be put in place to provide protection (e.g goal posts, markings, coloured cones, permits to dig, methods of work, etc) will be signed off by a Senior Representative for the Principal Contractor [to be defined in organisational processes/procedures] each and every time this is required (not for a project or section of works as a whole), to confirm their understanding of the risks and that all other mitigation measures have been considered and exhausted.
6. **We will apply a robust governance process** that challenges the need to progress between levels in the hierarchy of control and document decisions taken - applying robust leadership off-site and on-site to provide positive support and hold people to account where a higher level of control isn't applied. This information will also be used to learn lessons for future projects. This will include measures to provide clarity on roles and responsibilities between parties to address the potential for gaps or overlaps. It will also consider measures that could be taken in each phase of an investigation from planning, design, procurement, field work and close out.

Additional Documentation/Detailed Guidance

- <https://www.ags.org.uk/publications/?type=guidance&q=ground%20investigation>.
- <https://www.standardsforhighways.co.uk/dmrb/search/ff5ed991-71ed-4ff2-9800-094e18cd1c4c>.

Document Approval Record

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