

### Final draft guidance for draft guidance published for drilling in waste on landfill sites

As a member of the Engineering Sub-Group of the Environment Agency's Landfill Regulation Group, MJCA have been part of the team involved in the preparation of guidance for drilling in waste on landfill sites. The final draft guidance document was circulated in May 2014 and comprises text agreed with Environment Agency technical staff and members of the Engineering Sub-Group. A copy of the final draft guidance may be found by following the link on our news page [Guidance for drilling in waste on landfill sites](#). Once hosting arrangements for the guidance have been made it will be finalised and appropriately badged. It is not expected that there will be any changes to the text of the guidance during finalisation.

The document provides guidance on planning a landfill drilling project, a zonal approach for drilling to minimise the risk of damage to the liner, design of borehole installations and retro-drilling, Construction Quality Assurance supervision and verification reporting of the drilling works as well as consideration of the health and safety issues involved.

The guidance states that the zonal drilling approach should be used for all holes drilled into waste at landfill sites and details best practice. The three risk based zones recommended by the guidance are summarised below:

- **Zone 1 (The Low Risk Zone)** – where the depth to the drilling target is well above the predicted base of the waste. The predicted base of waste is determined including an aspect of risk assessment of the quality of available survey data. In this zone drilling can proceed confidently without the need to confirm the position of the drill bit or to recover material. In this zone standard drilling operations are considered to be acceptable e.g. advancement in 3m increments. The guidance also states that spike wells for landfill gas may be installed in Zone 1 and continuous flight auger techniques may be used.
- **Zone 2 (The Intermediate Risk Zone)** – on approaching the base of the landfill drilling increments should be reduced to 300mm. Within this zone the drilling operator should be sensitive to changes in the drilling environment such as increase in torque or vibration of the drill string. As a guide it is considered that Zone 2 will be from a minimum of 2m above the predicted base of the waste to 1m above the predicted base of the waste. The guidance recommends that in Zone 2 arisings are inspected at each drilling increment.
- **Zone 3 (The High Risk Zone)** – drilling should be advanced in small increments where the distance is related to the accuracy of the drilling method and should be less than those used in Zone 2 and less than the thickness of the drainage gravel layer if present. As the base is approached increments should be reduced to reflect risks and the accuracy of available information. At this stage the drilling operator should be highly sensitive to changes to the drilling environment. Arisings should be checked carefully when removed. The guidance states that Zone 3 should be from a minimum of 1m above the predicted base of waste.