



Groundforce Shorco

Excavation Support



Advice on the safeguarding excavations during closure of sites



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Introduction

Due to the current COVID-19 pandemic, temporary site shutdowns are being implemented across the construction industry. It is clearly important that sites are left in a safe condition for the closure period, in particular elements of temporary works. This document is intended to provide guidance to contractors working on sites with open excavations.

Loading of shored excavations is time dependent. It is common place in temporary works design to use short-term soil strength parameters in order to provide a safe, practical and economical solution. Due to site closures, excavations may now be open for significantly longer periods than originally planned, and as such the shoring equipment may now be subject to longer-term load conditions.

In addition to soil parameters changing with time, the suitability of excavation support equipment is often dependent on the method and reliability of any dewatering method. Careful consideration needs to be given prior to altering the dewatering, to ensure that the excavation remains stable.



Prior to site closure

Excavations

Open excavations present a number of hazards to the workers, the public and any adjacent structures/infrastructure. During normal working conditions, the risks can be carefully managed and monitored through the use of safe site practices. However, prior to a site closure, actions should be taken to minimise risk as far as practicable.

Where possible, open excavations should be backfilled, and any shoring equipment removed safely. Where this is not possible, it is imperative that the site is secure during the closure period.

If the excavation is to remain open beyond the designed duration, the contractor should liaise with the temporary works designer (TWD) to confirm whether the excavation will remain stable. For excavations originally designed using short-term soil parameters, the scheme will need to be reassessed by the TWD and remedial measures put in place. Remedial measures may include backfilling (partial/full), ground reduction, construction of berms, additional frames/props and exclusion zones.

If the stability of the excavation is dependent on the continued functionality of any dewatering systems, plans should be put in place to ensure that these are inspected, maintained and operate effectively during a sustained shutdown. Should it not be possible to ensure the ongoing functionality of the dewatering system, the design will need to be reassessed by the TWD and remedial measures may be required.

Edge protection systems should be fully installed and secured in place. Any means of access/egress should be removed to prevent unauthorised entry into the excavation.

The contractor should establish a plan for ongoing inspections of any excavations that will remain open during the closure period. The frequency and scope of any inspections will vary depending on a number of factors e.g. the site conditions, the level of risk, the type of equipment being used. For example, a large city centre excavation adjacent to existing structures/infrastructure will need more regular detailed inspections than a trench box excavation in the middle of an open field. Any inspections should be carried out, and recorded, by a competent person in accordance with the requirements of CDM 2015. Consideration should be given as to how this can be carried out safely (lone working issues etc.).

Site security

Prior to any site closure it is important that the site is made secure to prevent unwanted access. The principal contractor should carry out a perimeter check to make sure that it is not possible to access the site, and that all hoardings are in good order. Periodic checks may be necessary in the event of high winds.

Wherever possible all equipment should be removed from site, or stored in secure containers or buildings. Hired equipment should be returned to the hirer where feasible.

Appropriate security provision should be made for the site, whether staffed or remote.



During the site closure

The Temporary Works Coordinator (TWC) should ensure that when sites are closed, arrangements are in place for the safe monitoring, inspection and security of any open excavations. All inspections should be carried out by a competent person.

Due to the lack of work activity it may be decided that inspections can be undertaken on a longer than usual interval. However, in accordance with the requirements of CDM Regulation (4)(a)(ii), additional checks should be carried out “after any event likely to have affected the strength or stability of the excavation”, such as adverse weather.

Possible items to inspect

- Have there been any major changes in site conditions since the last check? e.g. plant/surcharges adjacent to the excavation, signs of ground movement
- Is there any sign of excessive deflection on either the frames or sheets?
- Is there any signs of accidental damage to supporting components?
- Is there any sign of hydraulic fluid leakage from the ram units?
- Are there any visible signs of ground movement outside the excavation (e.g. large tension cracks, cracking in kerbs pathways and adjacent structures, settlement of ground)?
- Is there any excessive ingress of water?
- Is there any ground falling or seeping into the excavation?
- Are there any signs of base instability (e.g. piping, boil, heave)?
- Are any hanging chains missing or broken?
- Is the edge protection system damaged in any way?

Should there be any cause for concern with the excavation, it is recommended that the following action be taken:-

1. Take photographs of the issue causing concern
2. Contact the TWC and the designer/supplier of the excavation equipment.



Recommencing site activities

When returning to resume work, all excavations will require a thorough formal inspection by a competent person before a general re-entry and work recommencing.

Should it not have been possible to implement remedial measures prior to site closure, it may necessary to carry out those actions prior to general re-entry into the excavation.

Any dewatering systems that were turned off during the site closure should be restarted. Any draw down of water should be carried out gradually, with the excavation and shoring equipment carefully monitored. Equipment that has been fully or partially submerged during the site closure, may have sustained damage (particularly to hydraulic valves/couplers) and great care should be taken when operating these elements. If in doubt about any aspects of excavation stability or integrity of the shoring equipment, please contact the TWD and/or the equipment supplier.

Any access/egress systems should be reinstated.





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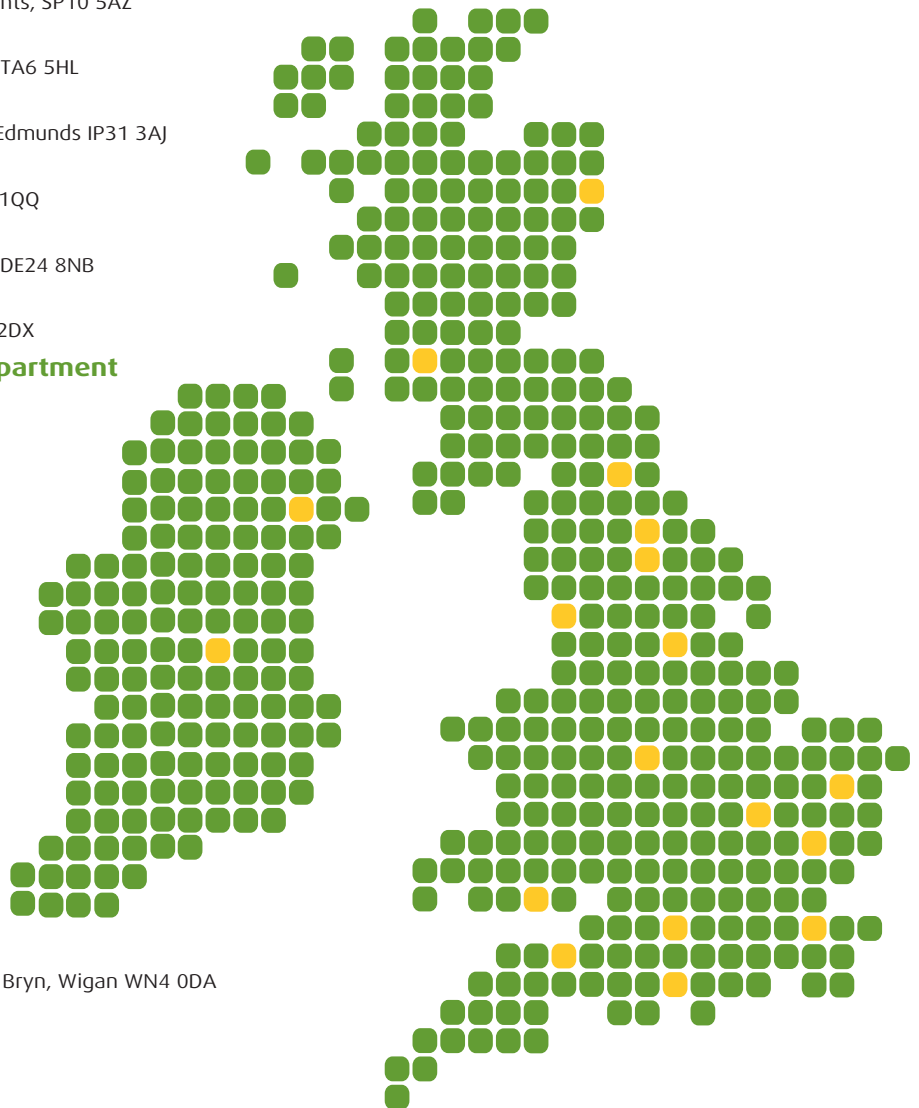
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