



## I001-007 Performing excavation works

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# Performing excavation works

Location RWE Generation NL  
Department RWE GES Safety  
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### Document Information

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1.3	01-09-2022	M. Meesters	S. Potter	Manager Health, Safety and Security - R. Kamst

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### Revisions compared to previous version

- Added various hazards and risks
- Added various control measures

### Purpose of instruction

To control the specific work risks during the performance of earthworks

### Related documents

Type of document	Title	Code
Input	WCM procedure	P001
Input	Work permit instruction	I001
Input	CROW 400 and 500 guideline	

## Safety, health & environment

**Hazard**

Working in and with the soil, such as during excavation work, the laying of cables and pipes, foundation work, road reconstruction, etc., may entail certain risks. One risk is exposure to a variety of hazardous substances, such as asbestos, PAHs (polycyclic aromatic hydrocarbons) and heavy metals. The water bottom may also be polluted. A further risk is posed by pressurised pipes and electric cables, which may be damaged during excavation work and cause serious injury or electrocution. With deeper trenches or pits there is a risk of being buried by walls caving in or collapsing.

**Warning**

During excavation work, certain precautions must be taken to eliminate or adequately control the risks arising from the above hazards. To this end, the right authorities and managers must be contacted and a report made. The work areas should be clearly cordoned off to avoid the risk of falling.

## Explanation

The excavation work permit is part of the work permit system and instruction **I001 work permits**. RWE works in accordance with the Dutch CROW guidelines for the performance of excavation work.

Excavation work always requires the permission from the **Site Manager** appointed by the Plant Manager.

Anyone who will be carrying out mechanical excavation work is legally obliged to report this to the Land Registry in advance, regardless of how deep the excavation will be or whether it will be carried out on own land.

After the excavation notification (notification of the KLIC cable and pipeline information centre) you will receive information about the location of underground cables and pipelines. Cable and pipeline information must be available on site when excavation work takes place.

For an area of 500 x 500 metres or less, one excavation notification suffices. For larger areas, you can submit multiple notifications or opt for a section report.

## Application for excavation works

- In the preparation of a work order involving excavation work, the Planner coordinates the working method with the Site Manager. The chosen section or the location and method of excavation must be recorded in writing. The Site Manager supplies an up-to-date site plan on the basis of which an excavation plan can be drawn up.
- The Site Manager, together with the Planner, examines the chosen section on the site plans, checks for objects, cables and pipes etc., in the soil, and takes the necessary precautions. The Site Manager also checks the data about the soil quality and whether there are any risks present in this respect. In case of doubt, the Environment department can be contacted.
- If the excavation work is to be carried out within 5 metres of a utility pipe (power, gas, sewer, water, telephone etc.) a representative of the owner/manager must be present .
- If there is any doubt with regard to the risks of the objects in the ground, further consultation must take place with a sufficiently expert party (person/department/institute).
- The Site Manager ensures that the mandatory **notification of the KLIC cable and pipeline information centre** is made (by the Contractor). This obligation therefore also applies to excavation work on the own site.
- The Contractor supplies an **excavation plan including drawing** approved by the Site Manager and has the Planner add this to the excavation permit. These documents must be present on site during performance of the earthworks.

## Requirements for planning and performance

- Exploratory trenches are only dug manually and in accordance with CROW guidelines.
- Regulations regarding digging wells and trenches must be observed.
- For cable or pipe sections, a maximum depth of 40 centimetres may be dug by machine. If it is necessary to dig deeper, the depth of the cables or pipes must be determined first.
- If cables or pipelines are found that are not on the drawing, this must be reported immediately to the Site Manager, who will have the relevant cables or pipelines measured out.

- If polluted/suspicious soil is found during the excavation work that was not foreseen in the preparation based on the data about the soil quality, the work must be interrupted immediately and this must be reported to the Issuer and the Site Manager. If urgent action is required due to emergencies/leaks, the control measures must be recorded with a TRA to exclude risks to safety and health (applying or changing work method and/or PPE).
- If broken cables or pipes are found, the Holder and the Site Manager must jointly take additional control measures immediately.
- The excavation/work area must be cordoned off in accordance with instruction **I112 - barriers, markings and lines**.
- In each case, an expert must determine and, if necessary, calculate the necessary anti-collapse measures in advance, taking into account any expected unfavourable influences.
  - Ground water level, through rain, frost, thaw and leakages;
  - Heavy overloading in the vicinity of the pit/trench, for example by heavy excavation equipment or storage of soil and/or material;
  - Vibrations caused by (heavy) road traffic, (excavating) machines, piling.
- Slopes and earth-retaining structures must be checked daily and, after interruption due to bad weather, repaired if necessary.
- Excavation work deeper than 1.2 metres is considered a confined space, and the relevant conditions must also be met (see instruction **I001 -001 Confined space**). Include sufficient and adequate escape routes and the use of safe voltage tools (50V AC, 120V DC) in the preparations.
- The width of the trench must be suitable for the work to be carried out.
- Afterwards, the drawing is handed in by the Holder to the Issuer together with the work permit.

## Terminology & Abbreviations

Acronym/term	Definition
KLIC	Cable and pipeline information centre
KLIC notification	Legally required advance excavation notification for machine digging
CROW	Dutch acronym, guideline for careful earthmoving from initiative to use phase.
CROW- 400	Werken in en met verontreinigde bodem ( Working in and with contaminated soil)
CROW- 500	Schade voorkomen aan kabels en leidingen (Preventing damage to cables and pipes)