RISK ASSESSMENT

ACTIVITY: Avoiding danger from cables & services whilst digging

HAZARDS IDENTIFIED:	ASSOCIATED RISKS:	
Gas pipes Electricity cables Water pipes Sewage pipes Telecommunication cables	Damage to the services Serious injury Fatality Exposure to raw sewage Fire and explosion Risk of burns from explosion Electrocution	

PERSONS AT RISK:
Operatives/ public

SEVERITY RATING:	1 = MINOR	2 = SERIOUS	3 = MAJOR X
LIKELIHOOD RATING (severity X Likelihood) =	1 =LOW	2 = MEDIUM	3 = HIGH X
OVERALL RISK RANKING (severity X Likelihood) 9			

RISK RANKING PRIORITY:	RISK SCORE ACTION
8-9 Unacceptable	(Stop activity until controls are in place)
4-7 Tolerable	(Prioritise and control action as far as practicable)
2-3 Adequate	(look for possible improvement at next review)
1 Acceptable	(No further action required review periodically)

Controls measures:

Planning

(a) When undertaking work that may disturb underground services site management will contact the owners/operators of those services for information about the location and status of the services.

(b) Obtain plans or other suitable information about all underground services in the area when the work is being planned. Those owners and operators should in turn provide any relevant information about the location of services in the work area.

(c) Survey the site to identify the services and other underground structures. Record the location of any services.

(d) Review/assess the planned work to avoid disturbing services where possible.

(e) Employees involved in detecting and identifying services must be competent in the proper use of survey tools and detecting devices as well as reading/interpreting plans.

(f) Anyone who uses a locator should have received thorough training in its use and limitations. Always use detection devices in accordance with the manufacturer's instructions, check and calibrate regularly, and maintain in good working order.

(h) In the case of electricity cables, gas pipes, other pipelines or high-pressure water mains, arrange to keep people well clear of the area until it has been repaired or otherwise made safe by the owner/operator.

Where it is not possible for those undertaking the work to obtain information, as may be the case when emergency work has to be undertaken, the work must be carried out as though there are underground services in the area.

Construction phase

(a) Once services are identified ground marking should be used to mark up the services that have been identified on-site. This allows the workforce to easily locate the position of services, and to take precautions when working nearby.

(b) Provide those doing the work with a written plan, including information about the location and nature of underground services.

(c) Identified services should be carefully exposed and clearly marked. A permit system may be appropriate for particularly hazardous work.

(d) Detect services by digging trial holes.

(e) Make every effort to excavate alongside the service rather than directly above it.

(f) Avoid using hand-held power tools over the service.

(g) Take physical precautions to prevent any tool striking the service.

(h) Where practicable, only use such power tools 500 mm or more away from the indicated line of a service buried in or below a hard surface. Having done so, the service should then be positively located by careful hand digging under the hard surface. Gradually remove the hard surface until the cable is exposed. If the cable is not so exposed, then assume it is embedded within the surface.

(i) Use spades and shovels (preferably those with curved edges) to gently dig around the services. Tools should not be thrown or spiked into the ground, but eased in with gentle foot pressure. Picks, pins or forks may be used with care to free lumps of stone etc, and to break up hard layers of chalk or sandstone. Picks should not be used in soft clay or other soft soils near to underground services.

Safe methods of excavating may also include vacuum excavation, which may incorporate use of water jetting and high-velocity air jets. They can be very effective in congested excavations where mechanical excavation and use of hand tools is difficult. However, they have limitations and will not work on all ground conditions or materials such as concrete.

Once exposed, services may need to be supported and should never be used as handholds or footholds for climbing out of excavations.

Excavation protection

(a) Provide edge protection, fencing and or coverings to prevent anyone falling into the excavation. Also take steps to prevent excavated material falling into the excavation.

(b) Excavations should be properly supported, stepped or battered back to prevent them collapsing.

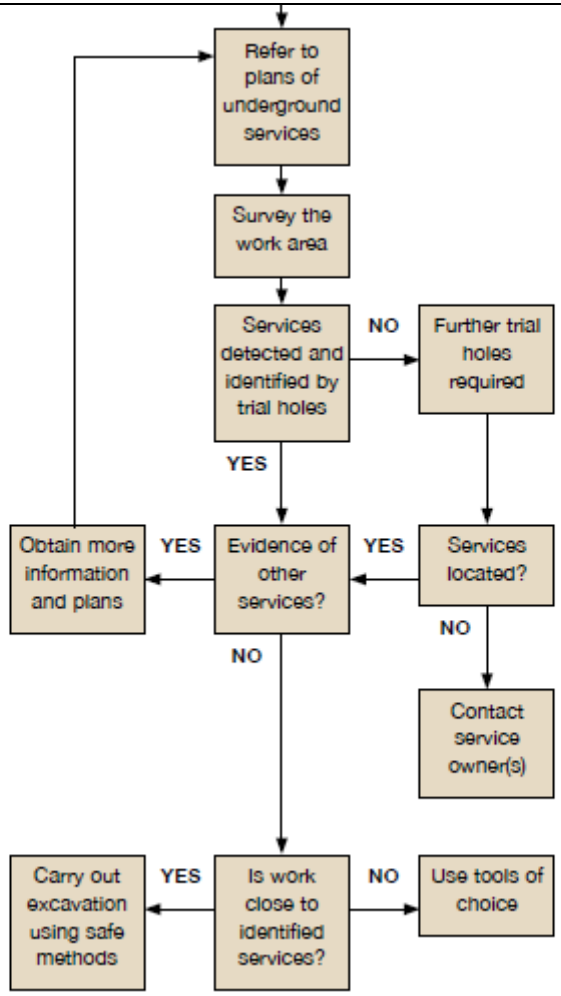
(c) Excavation support may involve the use of shuttering and shoring or a trench box system. Provide a safe means of access into the excavation, such as a secured ladder.

Backfilling

(a) Backfilling of excavations must properly support and protect the underground services. Concrete must not be used to encase services when backfilling.

(b) If an underground service suffers damage during the excavation or subsequent work, inform the owner/operator.

Unless confirmed otherwise, always assume services are live. It is better to assume a cable is live and play it safe than to assume it is dead and potentially put your life and the lives of others at risk.


Refer to plans of underground services
Survey the work area
Services detected and identified by trial holes
NO
Further trial holes required
YES
Obtain more information and plans
YES
Evidence of other services?
YES
Services located?
NO
NO
Contact service owner(s)
Carry out excavation using safe methods
YES
Is work close to identified services?
NO
Use tools of choice

Strictly restricted to trained and authorised personnel only.

						
Head EN 397		Dust Mask FFP3	Boots BS EN 345-1	Gloves BS EN 388	Hearing EN 352-1	Heavy impact Eye protection BS EN Spec 166
YES	YES	YES in dry dusty conditions	YES	YES	Site Specific	YES

REVISED SEVERITY RATING LIKELIHOOD RATING (severity X Likelihood) = 2X3 OVERALL RISK RANKING (severity X Likelihood) = 6	1= MINOR 1=LOW	2= SERIOUS 2= MEDIUM X	3 = MAJOR X 3 = HIGH

ASSESSMENT COMPLETED BY : Neil Gulvin Tech IOSH MCIOB

SIGNED: 

REVIEW DATE: 21/04/2023

DATE:21/04/2022

Briefing register			
Name	Position	signature	Date