

## Place on your Safety Notice Board and discuss at the next Toolbox or Daily Prestart

This is a briefing on a specific risk (Excavation Trenching and Essential Services) in relation to QLD WHS regulations 2013 and OFSC Audit criteria H7 Excavation. Workers involved with these activities are involved in high risk construction activities that PCBUs have to manage to meet their WHS compliance obligations. NOTE Refer to your State or Territory Code of Practice applicable to the hazard that you are undertaking for more precise information.

**So please be mindful and remember work health and safety implementation is everyone's responsibility.**

QLD WHS Regulation 2011 – Excavation – Trenching – Essential Services	Optional - PCBU or Worker Action for meeting compliance
<p>A SWMS is available for all excavation work that includes the use of powered mobile plant that has commenced or is about to commence. Work Health and Safety Regulation 2011 s.291 and s.299</p>	<p>Excavation and trenching is classed as a high risk construction work. This activity and its associated control measures should be identified in the Project Risk Assessment before construction work on site commences.</p>
<p>The risks to health and safety associated with any excavation work have been identified and managed, including the risk of a person:</p> <ul style="list-style-type: none"> <li>• falling into the excavation</li> <li>• being trapped by the collapse of an excavation</li> <li>• working in an excavation being struck by a falling object</li> <li>• working in an excavation being exposed to an airborne contaminant.</li> </ul> <p>Work Health and Safety Regulation 2011 s.305</p>	<p>Has fencing, edge protection or a barrier with signage been installed whilst the excavation is not being used?</p> <p>Does your emergency response plan consider first responder requirements and that means not just calling triple 000.</p> <p>Are suitable exclusion zones in place to ensure and stop objects entering into the excavated area?</p> <p>Airborne contaminants include dust generated from surrounding area and CO2 emissions from generators being used in or around the trenching / excavated area.</p>
<p>For trenches 1.5m or more deep, the work area has been, so far as is reasonably practicable, secured from unauthorised access, including inadvertent entry. Work Health and Safety Regulation 2011 s.306</p>	<p>Signage and appropriate barriers are erected to stop unwanted entry into a trench or excavation.</p>
<p>For trenches 1.5m or more deep, the sides of the trench have been adequately supported by one of the following:</p> <ul style="list-style-type: none"> <li>• shoring by shielding or other comparable means</li> <li>• benching</li> <li>• battering, or</li> <li>• written advice, which complies with the regulations, from a geotechnical engineer that all sides of the trench are safe from collapse has been obtained.</li> </ul> <p>Work Health and Safety Regulation 2011 s.306</p>	<p>Management of geo tech and soil inrush destabilisation needs to consider benching battering or shoring box processes including initial geo tech and ongoing daily reviews by a competent person to the environmental conditions of that day, which maybe are promoting changes to the surrounding soil conditions.</p>
<p>The risks to health and safety associated with any essential services at the workplace have been identified and managed. Work Health and Safety Regulation 2011 s.315</p>	<p>Seek out initial Dial before you Dig information, as built documentation and information from the property / land owner.</p> <p>If still unsure engage a service location provider who can mark out and map potential services and then pot hole to confirm location especially where there are pressurised gas distribution mains or piping, chemical, fuel, or refrigerate lines and energised underground electrical equipment.</p>
<p>A SWMS is available for all work that has commenced or is about to commence that involves work on or near:</p> <ul style="list-style-type: none"> <li>• pressurised gas distribution mains or piping</li> <li>• chemical, fuel, or refrigerate lines</li> <li>• energised electrical installations or services.</li> </ul> <p>Work Health and Safety Regulation 2011 s.291 and s.299</p>	<p>These hazards are considered to be high risk work and their associated control measures should be identified in the Project Risk Assessment before construction work on site commences.</p> <p>Dial before you Dig information, should provide good advice, can be subjective if working within an existing industrial area or brown field site where land owners have put in services and have no historical as built documentation and information.</p>
<p>Current underground essential services information is available for inspection for all areas where excavation work is being carried out and for all adjacent areas. Work Health and Safety Regulation 2011 s.304</p>	<p>Upon receiving advice place location and services maps in site induction area and refer to them as part of the site specific induction training.</p>
<p>Workers carrying out excavation work have been provided with the current underground essential services information. Work Health and Safety Regulation 2011 s.304</p>	<p>Ensure that all information relating to underground services are provided at the time of engaging the subcontractor and refer to them as part of the agenda for the daily pre start.</p>



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OFSC Audit Criteria Reference H 7 – Excavation	Optional - PCBU or Worker Action for meeting compliance
H7.1 - The risks associated with the excavation are identified, assessed and controlled in accordance with the Hierarchy of Control	Project Risk Assessment (PRA) is conducted before construction work is commenced on site, this includes the whole of project lifecycle.  Ongoing and regular review of the PRA needs to be conducted by the PM team to ensure the stated control measures are still applicable and not just generic.
H7.2 - The system ensures that the risks associated with adjacent building structures/materials/foundations have been identified, assessed and controlled.	When digging in and around structures and adjacent areas ensure qualified engineer has review locations and formally signed to verify that operational work is safe for workers.
H7.3 - Safe systems of work have been developed for all above ground and underground services taking into account: <ul style="list-style-type: none"> <li>• identification and location of services;</li> <li>• management of works adjacent to services; and</li> <li>• any necessary liaison with the asset owner.</li> </ul>	Location maps are developed all existing and newly constructed services are marked on plans and these are then defined in the construction area by flags signage makers etc.
H7.4 - The system ensures there is a drawing/plan/permit for the excavation detailing the nature of the works to be undertaken and the method used to prevent ground collapse.	Initial design risk assessment considers the impact of excavations outside and within the project site perimeters and a qualified engineer verify the potential impacting nature of such construction work.
H7.5 - The system ensures that where shoring systems or other documented methods are utilised, they are: <ul style="list-style-type: none"> <li>• designed by a qualified engineer;</li> <li>• detailed on up-to-date drawings/plans;</li> <li>• installed by competent persons and verified as correctly installed prior to use in accordance with the drawing/plan; and</li> <li>• authorised and signed off by a qualified engineer where changes to the design or installed system are made.</li> </ul>	Shoring and boxing systems are designed to applicable Australian Standard AS 4744.1 so as to accommodate soil dynamic and compressive loads.  Installed as per manufacturer’s instructions and qualified engineers plans by trained and competent workers.  Reviewed by a qualified engineer when there are changes to the installed shoring / boxing system.
H7.6 - The system ensures that the excavation is regularly inspected by a competent person to monitor the effectiveness of controls in accordance with the drawing/plan/permit.	A daily inspection is conducted by a “competent person – competent as determined by the company” to verify that the existing control measures are still applicable to the work being conduct in and around the excavation or trench.
H7.7 - The system ensures that any potential falls into the excavation have been controlled.	Engineered edge protection or barrier systems including signage are in installed and checked on a daily basis
H7.8 - The system ensures that mobile plant working in and around the excavation has been controlled	Applicable exclusion zones for powered mobile plant are implemented or workers are removed out of the excavation.
H7.9 - The system ensures that emergency procedures are established for the excavation.	PRA is conducted before project commences and identifies that there is an emergency response requirement for this high risk construction activity and project personnel on site including subcontractors are trained to understand their responsibilities and actions if an emergency event occurs.

**Common Issues for PCBUs to consider when Excavating and Trenching**

1. Not enough safe access and egress points for workers to gain easy access to their work location.
2. Escape ladders are not placed every 9m and are not of appropriate design.
3. No daily check conducted of the excavation by a competent person for potential soil movement, displacement and fauna entrapment.
4. PTW system are for a 1 month timeframe - too long and too many variable over this timeframe – ideally one week only then a new PTW issued.
5. Powered mobile plant working to close to an excavation – consider - vibration – weight and size – spotter required.
6. Spoil is piled to close to the edge of the excavation – bearing weight impacting on sides of excavation especially after a rain event.
7. The emergency response plan only states ring triple 000 and does not even identify first responder actions if an engulfment occurs.
8. What training is required for project personnel as well as those subcontractor who are having to work in excavations the majority of the time?