

Excavation Standard

AGL-HSE-STD-007.8

The scope of this standard applies to all excavation and wall penetration activities carried out at AGL controlled sites.

The reference numbers given to minimum controls provide a direct linkage between this standard and the Risk and Control Matrix. The Excavation Methodology AGL-HSE-SDM-007.8 provides further explanation of how to achieve the minimum controls.

The underlined minimum controls below have been identified as being critical controls.

RCM Ref	Minimum Controls
Risk Assessment for Excavation Activities	
<u>7.8.1.1</u>	<u>For all identified excavation activities a risk assessment must be completed which considers the risk of excavation collapse or subsidence to determine the method of excavation.</u>
Permit to Work	
<u>7.8.1.2</u>	<u>A Permit to Work must be issued prior to carrying out excavation activities in accordance with the AGL Permit to Work Standard (AGL-HSE-STD-004.2).</u>
Environmental Permits, Licenses and other Authorisations	
7.8.1.3	During the planning stages of excavation activities, the required environmental permits, licenses and/or authorisations must be obtained by the Leader arranging the work.
Adjacent Structures	
7.8.1.4	Excavated areas that are below the level of the footing of any structure (including retaining walls), which could affect the stability of the structure, must be assessed by a competent person and secured by a suitable ground support system.
Identifying Services	
<u>7.8.1.5</u>	<u>Prior to commencing excavation activities, the most recent underground essential services information must be obtained for the excavation area and the areas adjacent to the excavation.</u>
<u>7.8.1.6</u>	<u>When carrying out excavation activities near power lines the location of any overhead power lines must be identified, and based on the identified voltage “No Go Zones” and spotters must be established in accordance with relevant legislation.</u>
7.8.1.7	Site Survey Plans or information retrieved directly from the relevant state/territory “Dial Before You Dig” organisation must be used to confirm the presence of essential services within the excavation area or areas adjacent to the excavation.
7.8.1.8	The movement of essential services throughout excavation activities must be documented on relevant site documentation and notified to relevant external authority(ies).
Establishing Exclusion Zones	

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<u>7.8.1.9</u>	<u>Work areas where the excavated area has a depth of at least 1.5 metres must be secured from unauthorised access.</u>
Managing Excavation Activities	
<u>7.8.1.10</u>	<p><u>Prior to excavation activities commencing, controls must be implemented to prevent a person from:</u></p> <ul style="list-style-type: none"> • <u>Falling into an excavation;</u> • <u>Being trapped by the collapse of an excavation;</u> • <u>Being struck by a falling object while working in an excavation; or</u> • <u>Being exposed to an excessive amount of airborne contaminant (e.g. dust) while working in an excavation.</u>
Managing Excavation Plant and Equipment	
<u>7.8.1.11</u>	<u>Excavation plant and equipment must only be operated within the manufacturer's specifications.</u>
<u>7.8.1.12</u>	<u>The operator must not leave the excavation plant and equipment controls while the motor is running or when there is a load within or fitted to an attachment.</u>
7.8.1.13	Where there is multiple excavation plant and equipment at the AGL controlled site and/or a working radius overlap is/or may be present, a system to prevent collision must be in place.
Managing Excavated Materials and Loads	
7.8.1.14	The storage of excavated materials or any other heavy loads must not be located in the 'zone of influence' of an excavation unless the ground support system installed has been designed by a suitably qualified person.
<u>7.8.1.15</u>	<u>Excavated materials or loads must never be positioned directly above the operator's compartment or personnel.</u>
Managing Excavation Access and Egress	
7.8.1.16	If work is required to be carried out within an excavation, a safe means for access and egress must be established.
Managing Atmospheric Conditions within Excavated Areas	
7.8.1.17	The risk of atmospheric contamination through a build-up of gases and fumes must be controlled in excavation activities.
Managing Water Ingress	
7.8.1.18	Personnel must not work during inclement weather or where there is a high risk of water entering the excavated area at unsafe rates.
Managing Specific Excavation Methods	
7.8.1.19	The specifically selected support system for excavation methods must be in accordance with the requirements of relevant legislation, Australian Standards, and Codes of Practice.
Trenching	

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7.8.1.20	<p><i>If a trench is at least 1.5 metres deep, all sides of the trench must be adequately supported by one or more of the following (unless written advice is received from a geotechnical engineer that all sides of the trench are safe from collapse):</i></p> <ul style="list-style-type: none"> • <i>Shoring by shielding or other comparable means (e.g. boxing);</i> • <i>Benching; and</i> • <i>Battering.</i>
7.8.1.21	Support systems must be removed in a safe manner that protects workers from ground collapse, structural collapse or being struck by structural members.
Tunnelling	
7.8.1.22	Tunnel construction must include pre-construction engineering investigation of the ground.
7.8.1.23	Design and construction of tunnels must be in accordance with the requirements of relevant legislation, Australian Standards, and Codes of Practice.
Shafts	
7.8.1.24	Design and construction of shafts must be in accordance with the requirements of relevant legislation, Australian Standards and Codes of Practice.
7.8.1.25	Design and construction advice must be obtained from a competent person (e.g. civil engineer) before excavation and installation of a shaft.
7.8.1.26	Access to shaft openings must be controlled by using a secure cover that is lockable and accessible only by a designated person.
Drill and Blast for Excavations	
7.8.1.27	If explosives are to be stored, used, and handled for tunnel construction the activities must be licensed under the applicable legislation.
Management of Wall Penetration	
7.8.1.28	In situations where there is doubt of concealed services in a work location a physical services search must be undertaken using service locating instruments.
7.8.1.29	Prior to commencing drilling, cutting or penetrating walls or other surfaces the relevant Asbestos Register must be checked to identify the presence of asbestos containing materials.
Training and Competency	
7.8.1.30	<p><i>All excavation activities involving the use of plant and equipment are to be undertaken by personnel with the relevant level of training or competency for that item of plant or equipment.</i></p> <p><i>Personnel must also hold a current license for that item of plant or equipment where required by legislation.</i></p>

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