







## Guidelines – Excavation

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<p><b>PRIOR TO EXCAVATION</b></p>	<p><b>BARRICADE THE AREA</b></p>	<p><b>DISPLAY NOTICES</b></p>
<ul style="list-style-type: none"> <li>Identify the presence of underground installations &amp; take necessary safety precautions.</li> <li>Obtain NOC from service authorities &amp; Roads Department.</li> <li>Ensure that Risk Assessment is done for excavations exceeding 1.2mtrs. &amp; necessary safety precautions taken.</li> <li>Employ cable avoidance tool (CAT) prior to excavating.</li> </ul>	<ul style="list-style-type: none"> <li>Adequately barricade the area to be excavated.</li> <li>Do not stack any material near the edge of any excavation, shaft, pit or opening in the ground.</li> <li>No load or plant or equipment shall be placed near excavation to prevent collapse.</li> <li>Provide sufficient lighting for safe operations</li> </ul>	<ul style="list-style-type: none"> <li>Display adequate warning notices in languages understood by the workers.</li> <li>Provide flashing amber lights if excavation is left open overnight &amp; there is a risk of vehicles passing by.</li> <li>No unauthorized access to be permitted.</li> </ul>
		
<p><b>PPE AND FRESH AIR</b></p>	<p><b>SAFE ACCESS &amp; EGRESS</b></p>	<p><b>SHORING &amp; DEWATERING</b></p>
<ul style="list-style-type: none"> <li>Personal protective clothing &amp; equipment shall be provided to the employees &amp; be worn.</li> <li>Contractor shall provide instruments to test the atmosphere for oxygen deficiency in any excavation.</li> <li>Provide adequate ventilation where there is insufficient movement of air.</li> <li>Ensure that minimum of 19.5% &amp; maximum of 23.5% oxygen level by volume is maintained in the air.</li> <li>Do not allow any person to enter if the air is suspected to be poisonous or asphyxiating.</li> </ul>	<ul style="list-style-type: none"> <li>Provide ladder or steps for safe access &amp; egress.</li> <li>Evacuation plans &amp; procedures must be made known to employees.</li> <li>As per DM Regulations an emergency hoisting facility shall be readily available at shafts more than <b>15 metres</b>. In depth.</li> </ul>	<ul style="list-style-type: none"> <li>If the depth of vertical cut exceeds <b>1.5m</b> provide shoring.</li> <li>Provide shoring if there is a possibility of fall or dislodgement of earth, rock or other material.</li> <li>The angle of repose &amp; design of the supporting system shall be based on depth of cut, soil, loading, system of dewatering, vibrations, traffic etc.</li> <li>Ensure that surface water does not enter the excavated areas &amp; / or water shall not be allowed to accumulate in an excavation.</li> </ul>