WORK INSTRUCTIONS FOR ENGINEERS

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OP-3-32. CHECKLIST FOR SUPERVISION OF SHEET PILE INSTALLATION (EXCAVATION WORK)

32. CHECKLIST FOR SUPERVISION OF SHEET PILE INSTALLATION (EXCAVATION WORK)

1.0	**PRELIMINARIES**		
1.1	**GEOTECHNICAL DESK STUDY** – Review of available documents and data of the site and adjacent areas including SI reports, geological maps, topography plan and etc. ❑ Drawings showing the layout of the sheet piles and details of the bracing. ❑ Proposed method statement. ❑ A copy of SI report or selected representative boreholes. ❑ Location of site with respect to geological conditions.		
2.0	**ITEMS TO PREPARE FOR SITE SUPERVISION**		
2.1	❑ Site and Location Plan. ❑ Construction drawings. ❑ Scale, ruler and pull tape. ❑ Compass & Slope Meter (if required). ❑ Photography Equipment (eg. Digital Camera, films, batteries). ❑ Writing Pad and Notes. ❑ Pen, Markers & Spray Paint (if necessary). ❑ Safety equipments (Safety helmets, boots, etc).		
3.0	**SUPERVISION PROCEDURES**		
3.1	Confirm the exact location at site where works are to be carried out.		
3.2	Confirm the Reference Direction of site using Compass with the references on Site Plan / Map.		
3.3	Check/ consult the client / engineer (person in-charge) to understand the works to be carried out. Obtain a verbal briefing on the background of the site, noting down important events and dates.		
3.4	Confirm the sequence of works to ensure: ❑ Proper installation of sheet piles using recommended driving methods (e.g. closure of cofferdam and driving guide). ❑ Completion of works on time – see schedule, check and extrapolate.		
3.5	Confirm the following items are available / in working condition at site: ❑ Sheet piles, struts, king piles, bracing beams & walers o Correct size and length as specified in Drawings. o No defects spotted (e.g. damaged toe sides, head, twisted, etc). o Sufficient numbers for the completion of the works. o Proper storage of piles. ❑ Driving guide of adequate length, fit and robust to ensure minimal movement. ❑ Spacer blocks for leading pile to prevent deviations from line. ❑ Vibro-hammer in working condition. ❑ Boring machine in working condition if preboring is required. ❑ Lifting crane of sufficient capacity and boom length – Bearing capacity check to ensure safety. ❑ Means of transport for excavated materials (No excavated materials are to be placed near to the pit) as surcharge to the sheet pile wall. ❑ Pumps o In good working condition and of adequate capacity. o Provision of spare units to replace any malfunctioned unit immediately. ❑ Welding unit (if necessary).		

3.6	During the progress of the works, ensure that the following are practised at all times: ❑ Proper handling of sheet piles. ❑ No surcharge (excavated materials, excessive loads from machineries, etc) is allowed around the perimeter of the pit. ❑ No water ponding / flooding around the perimeter of the pit for a sustained period of time. ❑ Adequate depth of pre-boring (if specified). ❑ No unsuitable materials are to be used as backfill for the pre-bored holes. ❑ Adequate depth for interlock of sheet piles. ❑ Sheet piles are driven to the correct penetration depth. ❑ Deviations and leaning (transverse or longitudinal) of sheet piles is within tolerance limit. ❑ Construction of struts, waler and bracing beam to Specifications and Drawings in particular the connection with proper contact / seating. ❑ Construction of king pile to Specifications and Drawings and adequate penetration depth is achieved.		
	Signature by Engineer		