

WORK INSTRUCTIONS FOR ENGINEERS

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**CH-013. CHECKLIST FOR SUPERVISION OF
SHEET PILE INSTALLATION (EXCAVATION
WORK)**

13. 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. <ul style="list-style-type: none"> <input type="checkbox"/> Drawings showing the layout of the sheet piles and details of the bracing. <input type="checkbox"/> Proposed method statement. <input type="checkbox"/> A copy of SI report or selected representative boreholes. <input type="checkbox"/> Location of site with respect to geological conditions. 		
2.0	ITEMS TO PREPARE FOR SITE SUPERVISION		
2.1	<ul style="list-style-type: none"> <input type="checkbox"/> Site and Location Plan. <input type="checkbox"/> Construction drawings. <input type="checkbox"/> Scale, ruler and pull tape. <input type="checkbox"/> Compass & Slope Meter (if required). <input type="checkbox"/> Photography Equipment (eg. Digital Camera, films, batteries). <input type="checkbox"/> Writing Pad and Notes. <input type="checkbox"/> Pen, Markers & Spray Paint (if necessary). <input type="checkbox"/> 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 <u>Compass</u> with the references on <u>Site Plan / Map</u> .		
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: <ul style="list-style-type: none"> <input type="checkbox"/> Proper installation of sheet piles using recommended driving methods (e.g. closure of cofferdam and driving guide). <input type="checkbox"/> Completion of works on time – see schedule, check and extrapolate. 		

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3.5	<p>Confirm the following items are available / in working condition at site:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Sheet piles, struts, king piles, bracing beams & walers <ul style="list-style-type: none"> ○ Correct size and length as specified in Drawings. ○ No defects spotted (e.g. damaged toe sides, head, twisted, etc). ○ Sufficient numbers for the completion of the works. ○ Proper storage of piles. <input type="checkbox"/> Driving guide of adequate length, fit and robust to ensure minimal movement. <input type="checkbox"/> Spacer blocks for leading pile to prevent deviations from line. <input type="checkbox"/> Vibro-hammer in working condition. <input type="checkbox"/> Boring machine in working condition if preboring is required. <input type="checkbox"/> Lifting crane of sufficient capacity and boom length – Bearing capacity check to ensure safety. <input type="checkbox"/> Means of transport for excavated materials (No excavated materials are to be placed near to the pit) as surcharge to the sheet pile wall. <input type="checkbox"/> Pumps <ul style="list-style-type: none"> ○ In good working condition and of adequate capacity. ○ Provision of spare units to replace any malfunctioned unit immediately. <input type="checkbox"/> Welding unit (if necessary). 		
3.6	<p>During the progress of the works, ensure that the following are practised at all times:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Proper handling of sheet piles. <input type="checkbox"/> No surcharge (excavated materials, excessive loads from machineries, etc) is allowed around the perimeter of the pit. <input type="checkbox"/> No water ponding / flooding around the perimeter of the pit for a sustained period of time. <input type="checkbox"/> Adequate depth of pre-boring (if specified). <input type="checkbox"/> No unsuitable materials are to be used as backfill for the pre-bored holes. <input type="checkbox"/> Adequate depth for interlock of sheet piles. <input type="checkbox"/> Sheet piles are driven to the correct penetration depth. <input type="checkbox"/> Deviations and leaning (transverse or longitudinal) of sheet piles is within tolerance limit. <input type="checkbox"/> Construction of struts, waler and bracing beam to Specifications and Drawings in particular the connection with proper contact / seating. <input type="checkbox"/> Construction of king pile to Specifications and Drawings and adequate penetration depth is achieved. 		
	Signature by Engineer		