



WORK INSTRUCTIONS FOR ENGINEERS

Compiled by : _____ CCM

Checked by : _____ TYC

Approved by : _____ GSS

**OP-3-43. CHECKLIST FOR STRUTTING
WORKS**

CHECKLIST FOR STRUTTING WORKS

43.0 CHECKLIST FOR STRUTTING WORKS

43.1. PART 1 – BEFORE INSTALLATION

Date:

Reference No:

Pile No:

Records Taken By:

1.0	PRELIMINARIES	Checked by Engineer	Remarks
1.1	Proper access is provided before entering any excavation and the position of this access is noted. <input type="checkbox"/> Ladders, stairways, ramps or other provided access readily accessible from any position in the excavation and in sound conditions.		
1.2	<input type="checkbox"/> No excavated materials are placed at the edge of excavation. <input type="checkbox"/> Machineries used at site are placed away from the excavation.		
1.3	Before installing any bracing members, the following members shall be confirmed to be in good / working conditions: <input type="checkbox"/> Struts, walers, king posts and bolts shall be free from defects <ul style="list-style-type: none"> • No excessive rust • No damage spotted (e.g. twisted) <input type="checkbox"/> Struts, walers and king piles are of adequate size and length as per design. <ul style="list-style-type: none"> • Depth of section: _____ • Flange width: _____ • Web thickness: _____ • Flange thickness: _____ <input type="checkbox"/> King Posts are installed to designed embedment.		
1.4	The sheet piles installed shall be checked for the following: <input type="checkbox"/> Verticality of piles with respect to <ul style="list-style-type: none"> • Longitudinal leaning • Transverse deviation (Sheet pile that leans or deviates beyond the tolerance limit as stated in the Specification shall be noted down by the Engineer under the column "Remarks").		
1.5	Remedial measures to correct the verticality and ensure the contact surface between walers and sheet piles are at 90° shall be checked for its effectiveness. Note: Installation of bracing members shall NOT proceed until the LEAN AND DEVIATION are corrected and verified to be effective by the Engineer.		
	Signature by Engineer		

CHECKLIST FOR STRUTTING WORKS

43.2. PART 2 – PERIODIC INSPECTION

Date:

Reference No :

Pile No:

Records Taken By:

2.0	PERIODIC INSPECTION OF BRACING MEMBERS	Checked by Engineer	Remarks
2.1	Welding details: <input type="checkbox"/> Ensure that sufficient weld length and trough size with good workmanship complying with Drawings and Specifications are practised for the connections of bracing members.		
2.2	The following items shall be checked to ensure the safety of the pit: <input type="checkbox"/> Contact surface between waler and sheet pile shall be at 90°. <input type="checkbox"/> Full contact between waler and sheet pile. <input type="checkbox"/> Struts are at 90° to the waler. <input type="checkbox"/> Struts and all bracing beams shall be adequately supported by king post (ensure that the connection of bracing beam to the king post are rigidly fixed). (Remedial measures shall be proposed and implemented to correct any non-compliance to the above requirements before proceeding to the next stage of works)		
2.3	Bracing members shall also be checked for any sign of distress: <input type="checkbox"/> Buckling <input type="checkbox"/> Weakening of weld <input type="checkbox"/> Settlement / deviation of king post		
2.4	If any bracing members showed signs of distress, immediate measures (e.g. replacement of distressed member / review of design) shall be carried out immediately and the Engineer shall be notified immediately. Note: NO removal / replacement of bracing members are to be carried out without prior approval from the Engineer.		
2.5	If distress is spotted, state the numbers affected and the type of member (e.g. waler, strut, bracing beam or king post).		
2.6	Please state the proposed remedial measures for distressed members suggested by the Contractor for approval by the Engineer (e.g. replacement of members, addition of stiffeners / members, etc). Note: Immediate inspection is required after the remedial measures had been carried out to verify its effectiveness.		
	Signature by Engineer		

Note: This periodic inspection shall be carried out every one (1) week or at a more frequent interval as deem necessary by the Engineer after the installation of bracing members. Completed checklist with Engineer's verification shall be submitted to the Geotechnical Consultant within 24 hours after the inspection had been carried out.