

WORK INSTRUCTIONS FOR ENGINEERS

Compiled by : _____ KCM _____

Checked by : _____ NHB _____

Approved by : _____ TYC _____

**CH-025. CHECKLIST FOR SUPERVISION OF
STONE COLUMN CONSTRUCTION**

CHECKLIST FOR SUPERVISION OF STONE
COLUMN CONSTRUCTION

	CHECKLIST ITEMS	Checked By Engineer	Remarks
	Project No. : _____ Project : _____ Contractor : _____ Date : _____ Supervised by : _____	Tick (✓) if done, or else mark cross (X) if not available at site.	
1.0	LAYOUT		
1.1	The Contractor shall submit full details of the stone column layout including equipment, installation sequence and method statement for stone column installation.	•	
1.2	Diameter = _____ m (normally 0.8m to 1.2m)	•	
1.3	Length = _____ m (as per design length)	•	
1.4	Orientation = rectangular / triangular / hexagonal	•	
1.5	Spacing = _____ m c/c	•	
1.6	Stone size = _____ mm dia (normally 15mm to 35mm for dry method installation; 35mm to 75mm for wet method installation)	•	
1.7	Method of installation = wet / dry	•	
2.0	QUANTITIES OF STONE		
2.1	Volume of stone required = _____ m ³ /column	•	
2.2	Percentage of wastage = _____ % (if any)	•	
2.3	Carry out calibration on the FE loader bucket volume. Volume of bucket = _____ m ³	•	
2.4	Nos. of bucket required = _____ nos./column	•	
3.0	SITE PREPARATION		
3.1	Remove all vegetation, superficial debris or other unsuitable material (any organic matter)	•	
3.2	Construct a platform using cohesionless materials to support construction machinery and to serve as drainage layer.	•	
3.3	Carry out piloting on the platform to check the thickness of blanket in order to fit the abovementioned purposes. Thickness = _____ m (normally required 1.0 m)	•	
3.4	Construct side drains to collect water discharged from borehole and channel it to silt trap before draining out of the site. (applicable for wet method only)	•	
4.0	PRE-INSTALLATION		
4.1	Set out all the column points with labelled peg.	•	
4.2	The computerized device is recording the depth of column being installed and the energy (Ampere) or pressure (bar/psi) used continuously.	•	
4.3	Carry out calibration on the computed depth vs actual depth.	•	
4.4	The bucket must have filter for dry method.	•	
5.0	INSTALLATION		
5.1	Installation sequence follows zig zag pattern and the base machine is located at the untreated zone.	•	

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5.2	Ensure verticality of the vibrator by visual inspection for wet method.	•	
5.3	Make sure a hole of 500mm – 600 mm dia is formed and the stone is compacted in 300mm steps.	•	
5.4	Ensure the required energy/pressure is achieved before start formation of column. (as per termination criteria proposed by specialist)	•	
5.5	Make sure the stone columns are cut off neatly above the platform fill. Any unsuitable material observed shall be removed.	•	
6.0	POST-INSTALLATION		
6.1	Make sure that the stone columns are properly installed to the designated depth and locations. The as-built location of column should not deviate more than 100mm.	•	
6.2	After all stone columns have been installed, carry out piloting again to make sure the cohesionless platform is as per design thickness. (normally 1.0m)	•	
7.0	RECORDS		
7.1	The stone column installation record shall include the location (point/no), length, time start and finish, plot of depth vs time and depth vs energy/pressure.	•	
7.2	Client and engineer representative to sign on field sheet record.	•	
Signature by Engineers or Site Representatives :-		G&P	Contractor Supervisor