

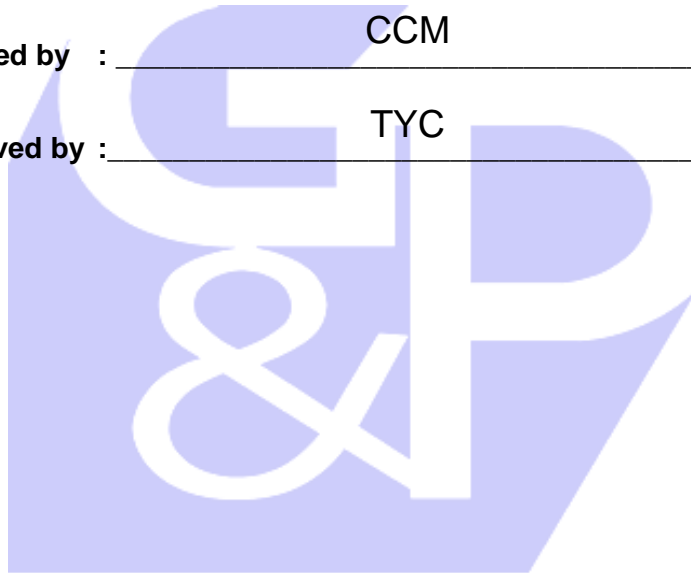


WORK INSTRUCTIONS FOR ENGINEERS

Compiled by : _____ TSK

Checked by : _____ CCM

Approved by : _____ TYC



OP-3-52. CHECKLIST FOR ROCK TOE

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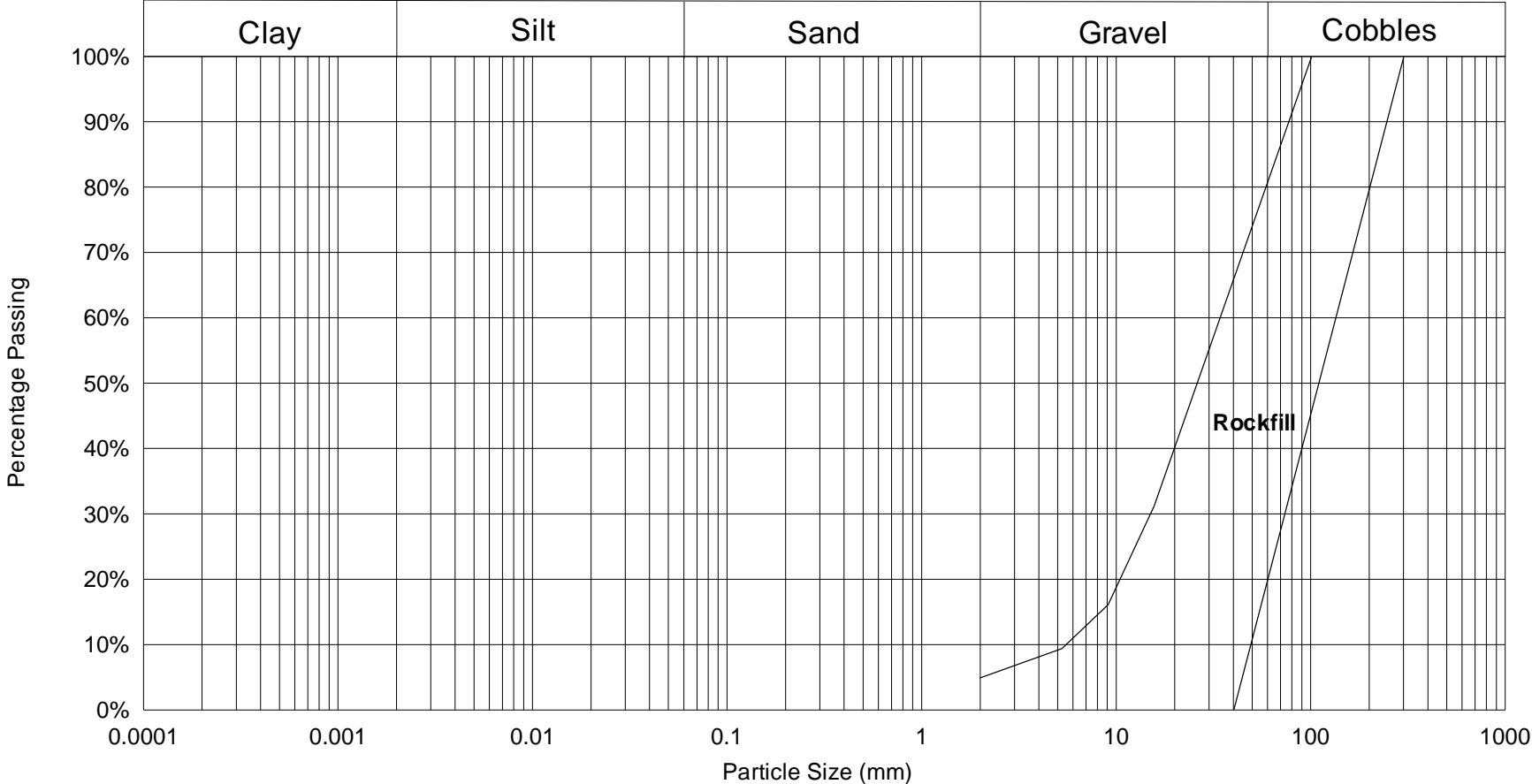
52. CHECKLIST FOR ROCK TOE

NO.	CHECKLIST ITEMS	Checked By Engineer (*)	Remarks
1.0	PROJECT Project Name : _____ Project No.: _____ SUBCONTRACTOR Contractor _____		
2.0	METHOD STATEMENT FROM CONTRACTOR PRIOR TO THE ROCK TOE CONSTRUCTION		
2.1	Submission of details of proposed method statement at least 30 days before the commencement of rockfill.	(Yes / No)	
2.2	Minimum six (6) representative tests shall be conducted to ensure that the approved rockfill fulfils the following requirements: <ul style="list-style-type: none"> • Size of the largest particle $\leq 300\text{mm}$ • Percentage of fines less than 2mm $\leq 5\%$ • No organic content • Specific gravity > 2.6 • Particle size distribution of rock fill within the rockfill envelop as shown in the specification 		
3.0	ROCK TOE CONSTRUCTION		
3.1	Rock fill properties check		
3.1.1	Rocks transported from approved / designated quarry?	(Yes / No)	
3.1.2	Grade of rock = _____ (at least of Grade II)		
3.1.3	Maximum size of particles = _____ mm (Maximum of 300 mm)		
3.2	Foundation Treatment Below Rockfill		
3.2.1	SEAMS AND OTHER DEFECTS BELOW GENERAL LEVEL OF THE FOUNDATIONS ARE EXCAVATED AND FILLED WITH FREE DRAINING GRANULAR MATERIALS.	(Yes / No)	
3.2.2	WHERE THE FOUNDATION ROCK IN AREAS OTHER THAN MODERATELY WEATHERED TO FRESH ROCK, SUCH ROCK IS COVERED WITH 300MM THICK LAYERS OF FREE DRAINING GRANULAR MATERIALS.	(Yes / No)	
3.2.3	FINAL CLEANUP IS DONE WITH APPROVED LIGHT MECHANICAL TRACKED EQUIPMENT OR OTHER APPROVED METHODS.	(Yes / No)	
3.3	PLACING ROCKFILL IN EMBANKMENT		
3.3.1	Rockfill is placed and spread to approximately horizontal surface.	(Yes / No)	
3.3.2	Thickness of each layer after compaction = _____ mm (Maximum of 500mm)		
3.3.3	Rockfill is carried out to the required thickness.		

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3.4	Compaction		
3.4.1	Requirement for Vibrating roller <ul style="list-style-type: none"> • Static mass of roller in operating condition, transmitted to the ground through the surface of the drum shall not be less than 10 tonne. • Centrifugal force generated by the vibrating part of the roller shall not be less than 240kN at the maximum frequency permitted by the manufacturer for the continuous operation of the roller. 	(Yes / No)	
		(Yes / No)	
3.4.2	Rockfill Rolling Trial		
3.4.2.1	Request for several series of rolling trials made on a test area of approximately 100 m ² .		
3.4.2.2	Measure the elevation of selected points in the test area before rolling and after each pass of the vibrating rollers.		
3.4.3	Minimum number of six (6) passes of the vibrating roller for each layer of compaction.		
3.4.4	Is the operation of the vibrating rollers, including frequency of vibration and speed of travel according to the rolling trial and as directed?	(Yes / No)	
3.4.5	Is the power of the tractors sufficient to pull the rollers at the speed directed by engineer?	(Yes / No)	
3.4.6	Is the surface of the rollers free from adhering materials?	(Yes / No)	
4.0	GEOTEXTILE FILTER / SEPARATOR		
4.1	Ensure careful laying and compaction of rock toe to avoid damage to the geotextile.		
4.2	Replacement / Repair of geotextile with an overlap of not less than 1.0m (if any).		
	Signature by Engineer		

Important note: It should be recognized that each site has unique characteristics. Therefore, this specification requires modification to address the foundation requirements of a specific project wherever necessary.



APPENDIX 1 : ROCKFILL GRADING ENVELOPE