

**Name of work: Detailed Geotechnical Investigation and Report for Nagpur Metro Rail System
in Nagpur**

BILL OF QUANTITIES

ITEM NO.	DESCRIPTION	QTY.	UNIT	Estimated Rates	Estimated Amount
A	FIELD WORK				
1	Vertical Boring 150mm dia. through all kinds of soils and weathered/soft rock with adequate / suitable equipment for depths measured below existing ground level including mobilization, setting up boring rig, demobilization the same (CR<=20%).				
	From 0 – 20m	5000	RMT.	780	3900000
2	Drilling NX size through Hard Rock using diamond bit (CR >20%) upto 30m depth.	375	Mtr.	930	348750
3	Collecting undisturbed soil samples in 100mm dia. 450mm long thin walled tube sampler at every 3m interval or at change of strata whichever occurs earlier from boreholes and sealing the container.	1350	No.	200	270000
4	Conducting standard penetration tests as per IS: 2131-1981 at 3m interval or at change of strata and collecting the disturbed sample. Packaging and labeling the same.	1380	No.	160	220800
B	LABORATORY TESTS				
1	Grain size analysis				
	(a) Hydrometer analysis	900	No.	120	108000.00
	(b) Sieve analysis	1800	No.	55	99,000
2	Bulk and dry density and moisture content on UD samples.	1350	No.	72	97200
3	Specific gravity of soil.	1350	No.	80	1,08,000/-
4	Chemical analysis of soil giving contents of sulphates, chlorides, pH value, etc.	370	No.	390	1,44,300/-
5	Atterbergs limits	2700	No.	90	2,43,000/-
6	Consolidation test on clay samples giving relevant information as per IS: 2720 – XV –1986.	370	No.	180	66,600/-
7	Collection of water samples and testing the same for pH value, sulphates, chlorides etc.	370	No.	610	2,25,700/-
8	Direct shear test	370	No.	365	1,35,050/-
9	Triaxial compressive strength test giving full test results including mohr circle, stress – strain curve etc.				

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	Triaxial compressive strength test giving full test results including mohr circle, stress – strain curve etc.				
	a) Un-consolidation undrained test.	200	No.	175	35,000/-
	b) Consolidation drained or undrained triaxial test on clay samples giving relevant information as per IS: 2720 – XI/XII –1986.	200	No.	125	25,000/-
	Unconfined compressive strength test on clay soil samples as per IS: 2720 – X - 1973	370	No.	70	25,900/-
	Testing of hard rock for Crushing strength, Density, Water Absorption Test and rock cutting etc.	200	No.	195	39,000/-
	Preparation and submission of final report in four copies giving recommendations for type of foundation, analysis of borelogs & tests results along with SBC values.	1	Per Job	1000000	1000000/-
Total Amount				Rs. 7091300	
Quoted % Below (-)/Above(+)		In Figures			
		In Words			
Quoted Amount		In Figures			
		In Words			