

HYDERABAD SOUTHERN BYPASS ROAD

SOIL & MATERIAL INVESTIGATIONS

BILL OF QUANTITIES

BILL NO. 1

Sr. No.	Description	Unit	Qty	Rate (Rs)	Amount (Rs)
A	SAMPLING FROM ROAD ALIGNMENT / PROPOSED BORROW AREAS				
1	Mobilization and Demobilization	LS			
2	Excavation of pits in natural ground up to a depth of 1.5 meters along road alignment.	No.	53		
3	Collection of composite samples (at least 60 kg.) from excavated pits including their labeling, packing, storage and transportation to an approved testing laboratory	No.	53		
4	Excavation of pits in natural ground up to a depth of 1.5 meters for Borrow Areas @ five (05) km. interval on both sides of road alignment at a distance of up to two (02) Km.	No.	10		
5	Collection of composite samples (at least 60 kg.) from excavated pits including their labeling, packing, storage and transportation to an approved testing laboratory	No.	10		
6	Collection of water samples including their labeling, packing, storage and transportation to an approved testing laboratory.	No.	10		
				LS	
Sub-Total:A					
Sr. No.	Description	Unit	Qty	Rate (Rs)	Amount (Rs)
B	LABORATORY TESTING				
1	Sieve Analysis. AASHTO T 27	No.	63		
3	Atterberg Limits. AASHTO T 89-90	No.	32		
4	Modified AASHTO Test. AASHTO T 180	No.	32		
5	3 Point CBR Test. AASHTO T 193	No.	63		
6	Determination of Sulphate Content. (or any other related Standard) BS 812 Part 118	No.	15		
7	Determination of Chloride Content. (or any other related Standard) BS 812 Part 117	No.	15		
8	Determination of Organic Matter. AASHTO T 21	No.	15		
9	Complete Chemical Analysis of water Samples including TDS, SO ⁴ , Cl, and pH Value. ASTM D 5907 (or any other related Standard)	No.	10		

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BILL NO. 1

10	Complete Report Writing	LS			
					Sub-Total:B
					Total (A+B)

- All samples shall be stored, transported and tested as per ASTM/AASHTO Standards.
- The Contractor shall be responsible for taking permission from relevent authorities for working along the alignment and in proposed borrow areas.

HYDERABAD SOUTHERN BYPASS ROAD**SOIL & MATERIAL INVESTIGATIONS****BILL NO. 2**

Sr. No.	Description	Unit	Qty	Rate (Rs)	Amount (Rs)
A	AGGREGATE BASE COURSE / SUBBASE SAMPLING				
1	Collection of coarse and fine aggregates including Stone Dust from nearby five (05) quarry/crusher sites with their labeling, packing, storage and transportation to an approved testing laboratory	No.	05		
Sub-Total:C					
Sr. No.	Description	Unit	Qty	Rate (Rs)	Amount (Rs)
B	LABORATORY TESTING (Aggregate Base / Subbase)				
1	Sieve Analysis. AASHTO T 27	No.	05		
2	Los Angeles Abrasion AASHTO T 96	No.	05		
4	Soundness Test AASHTO T 104	No.	05		
5	3 Point CBR Test. AASHTO T 193	No.	05		
6	Sand Equivalent (Stone Dust) AASHTO T 176	No.	05		
7	Flaky Elongated Particles ASTM D 4791	No.	05		
Sub-Total:D					
Total (C+D)					

- All samples shall be stored, transported and tested as per ASTM/AASHTO Standards.
- The Contractor shall be responsible for taking permission from relevant authorities for working in the area.
- Report writing for this bill is deemed to be included in Bill No. 1.

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SOIL & MATERIAL INVESTIGATIONS

BILL NO. 3

Sr. No.	Description	Unit	Qty	Rate (Rs)	Amount (Rs)
A	COLLECTION OF ASPHALT AND CONCRETE AGGREGATE SAMPLES				
1	Collection of coarse and fine aggregates including Sand and Stone Dust from nearby five (05) quarry/crusher sites with their labeling, packing, storage and transportation to an approved testing laboratory	No.	20		
Sub-Total:E					
Sr. No.	Description	Unit	Qty	Rate (Rs)	Amount (Rs)
B	LABORATORY TESTING (Aggregate/Sand/Stone Dust)				
B-1	Coarse Aggregate				
1	Sieve Analysis. AASHTO T 27	No.	10		
2	Los Angeles Abrasion AASHTO T 96	No.	05		
4	Soundness Test AASHTO T 104	No.	05		
5	Specific Gravity & Absorption. AASHTO T 85	No.	05		
6	Flaky Elongated Particles ASTM D 4791	No.	05		
7	Coating and Stripping Test (For Asphalt Aggregate) AASHTO T 182	No.	05		
8	Petrographic Analysis (For Concrete)	No.	05		
B-2	Fine Aggregate (Stone Dust)				
1	Sieve Analysis AASHTO T 27	No.	05		
2	Specific Gravity & Absorption. AASHTO T 84	No.	05		
3	Sand Equivalent AASHTO T 176	No.	05		
4	Atterberg Limits AASHTO T 89-90	No.	05		
B-3	Sand for Concrete				
1	Sieve Analysis AASHTO T 27	No.	05		
2	Specific Gravity & Absorption. AASHTO T 84	No.	05		
3	Sand Equivalent AASHTO T 176	No.	05		
4	Organic Impurities AASHTO T 21	No.	05		
5	Soluble Chlorides and Sulphates BS 812 Part 117 & 118	No.	05		

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BILL NO. 3

	(or any other Relative Standard)				
					Sub-Total:F
					Total (E+F)
					Total (A+B+C+D+E+F)

- All samples shall be stored, transported and tested as per ASTM/AASHTO Standards.
- The Contractor shall be responsible for taking permission (if required) from relevent authorities for working in the area.
- Report writing for this bill is deemed to be included in Bill No. 1.