

**CONSULTANCY SERVICES FOR DESIGN & CONSTRUCTION SUPERVISION OF E-FACILITATION CENTRE  
SOST, TRANSIT ACCOMODATION SOST, BARRACKS FOR CUSTOMS SEPOYS AT SOST AND CUSTOM  
FORENSIC LABORATORY SOST**

**ESTIMATED BILL OF QUANTITIES**

Sr. No.	Description	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
A.	<b>FIELD INVESTIGATIONS</b>				
A1	Mobilization and demobilization of at least one (01) straight rotary/heavy percussion drilling rig at site including setting-up and shifting from one investigation point to another. The equipments should be sufficient enough to complete the work within scheduled time. Minimum permissible diameter of borehole is 450 mm for percussion method and 101 mm for straight rotary method.	L.S.	Job		
A2	Execution of: <i>i) Two (2)</i> boreholes up to a maximum depth of 8 m at G+2F storey structures, <i>ii) Five (5)</i> boreholes up to a maximum depth of 6 m at G+1F storey structures, in overburden soils below NSL or up to rock/boulder strike level, whichever is met earlier, by straight rotary/heavy percussion drilling method including backfilling of boreholes to their original position.	L.M.	36		
A3	Continuous drilling in boulder up to maximum depth of 3 m.	L.M.	10		
A4	Performance of Standard Penetration Tests (SPTs) in boreholes along with collection of SPT/disturbed samples at 1 to 1.5 m depth interval in general, or as necessary, including their labelling, packing, storage & transportation to an approved testing laboratory.	No.	30		
A5	Collection of undisturbed soil samples from boreholes through Shelby/Denison/Pitcher samplers, including their waxing, labelling, packing, storage & transportation to an approved testing laboratory.	No.	5		
A6	Excavation of five (5) testpits up to a maximum depth of 1.5 m and five (5) testpits up to a maximum depth of 3 m in overburden soils below NSL or up to rock strike level, whichever is met earlier, including backfilling of testpits to their original position.	L.M.	22.5		
A7	Performance of field density tests by sand replacement method in testpits generally @ 1 - 2 test/pit at selected horizons, including determination of in-situ bulk & dry density and collection of small disturbed samples in moisture tins for moisture content determination as well as labelling, packing, storage & transportation to an approved testing laboratory.	No.	15		
A8	Collection of bulk soil samples (60 kg for sandy/clayey soils & 120 kg for gravelly soils) from testpits including their labeling, packing, storage & transportation to an approved testing laboratory.	No.	4		
A9	Collection of water samples (if encountered) from boreholes/testpits including their labelling, packing, storage & transportation to an approved testing laboratory.	No.	2		
	<b>Sub-Total A</b>	<b>Rs.</b>			

Establishment of coordinates and ground elevations of all the boreholes & testpits with Total Station are included in the scope of work. The coordinates should be provided with reference to a permanent local bench mark.

All soil samples must be labelled, stored and transported as per ASTM requirements. The area ratio and clearance ratio of the thin walled tube, should be in strict compliance with relevant ASTM standard.

Preferred method of drilling is straight rotary. Heavy Percussion boring will be allowed only in case of presence of excessive cobbles/boulders.

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<b>B.</b>	<b>LABORATORY TESTING</b>			(Rs.)	(Rs.)
B1	Sieve analysis	No.	20		
B2	Hydrometer analysis	No.	5		
B3	Liquid and plastic limits	No.	10		
B4	Bulk density & dry density	No.	5		
B5	Consolidation with Swell Pressure Measurement	No.	3		
B6	Direct Shear	No.	5		
B7	Unconfined Compression (soil sample)	No.	6		
B8	Modified Proctor Compaction Test	No.	4		
B9	3-Point Soaked CBR Test	No.	4		
B10	Sulphate content of soil	No.	3		
B11	Chloride content of soil	No.	3		
B12	Organic matter content of soil	No.	3		
B13	Complete chemical analysis of water samples i/c TDS, Cl, SO4 & pH	No.	2		
<b>Sub- Total B</b>				<b>Rs.</b>	

Name of Laboratory:

**Total (A+B)=**

<b>Rs.</b>	
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