

Tender No : 01/CS/2014

Sub. : Supply, Instillation, Commissioning, Facility Construction & Maintenance of Drive-through Container Scanner (Road)

Amplification of construction requirements as requested by some of the prospective bidders

1	Facility building/structure:
(i)	The total requirement (excluding entry & exit roads) shall fit into the plot size of 100 mts. x 50 mts. O&M building needs to be disabled friendly and should have a ladies' toilet. Bidder shall make assessment of various rooms and sizes thereof provided in the schematic layout. Inadequacies and resizing of rooms, if any, shall be brought out in the technical bid.
(ii)	Clear floor height for maintenance areas shall be 5 meters (min) and that for operational areas shall be 3.5 meters (min). Additional requirement to be decided by the bidders based on vehicle movement and maintenance need, etc.
(iii)	Approach roads/pavements meant for container movement shall be designed taking into consideration the loads of the full weight of the trucks loaded by the full containers. Also, the loading taken shall include all live loads, dead loads etc. conforming to the IS/ IRC Codes/MOST specifications.
(iv)	Mono-rails, if required for installation/ maintenance handling of the equipment, of adequate capacity may be provided in relevant areas.
(v)	Service trenches in RCC construction/ hume pipes wherever required should duly consider the load due to movement of truck-trailer.
(vi)	Air-conditioned areas should have false ceiling.
(viii)	GA drawings (including radiation shielding arrangement) as well as perspective plan of the building, based on the schematic layouts provided in the tender, to be provided along with the technical bid.
(ix)	GA drawings shall also enlist all major items contemplated for construction by the bidder in the technical bid.
(x)	Successful bidder shall prepare and submit a design basis report for the facility covering all areas of work i.e. structural, civil, public health services, electrical, mechanical, fire detection & mitigation, air-conditioning & ventilation, security & surveillance, etc.
2	Geo-technical investigation:
	This shall be carried out by the bidder for the entire plot in order to obtain the details of underground strata and to decide on founding level and foundation design.
3	Structural design:
	It shall conform to IS: 456-2000, design loads as per IS: 875 – 1987, seismic design to IS: 1893 – 2002; Part –I & Part IV (Importance factor 1.5 & response reduction factor 3), reinforcement detailing is to be as per IS: 13920, concrete mix design as IS: 10262, water proofing compound as IS: 2645, etc. Structural steel work shall be as per IS: 800 – 2007.
4	Foundation:
	Suitable foundation to be provided based on results of geotechnical investigation. In case of end bearing piles being provided in the facility, one initial load test as test pile and in case of friction pile, initial load on test pile and cyclic load test shall be carried out. Non-destructive testing on the selected plies will need to be carried out as per IS: 14893 – 2001). Foundation on bored cast-in-situ concrete piles (as per IS: 2911 – 2010, Part I)

		will be preferred.
5		Plinth level: It shall be decided by the bidder keeping in view highest flood level, approached roads and drainage conditions, etc. in the area. In any case, the level of the concrete pavement shall be 450 mm above the highest road level or approach road level whichever is higher.
6		Concreting: (i) Minimum grade of concreting for RCC shall be M 30 and for PCC it shall be M 10. (ii) RMC it shall be deployed for mass concreting. For limited quantity concreting, site mixing of concrete will be allowed by deploying of the necessary equipment. All the construction materials will be tested at Government laboratories or at laboratories approved by the department. (iii) Reinforcement - TMT Bars of Fe 500 as per IS: 1786 -2008 of reputed manufacturers like SAIL, RINL, TISCO, etc. Re-rolled material shall not be used. Rebar coating is not essential. (iv) Ordinary Portland cement is preferred.
7		Construction materials/features: (i) River sand and bricks of compressive strength 50 Kg/ cm ² (min.) should be used in the construction works. (ii) All wood work shall be of first class teak wood. Steel doors shall be of 40 mm thick hollow pressed steel with minimum 16 gauge sheet on both sides along with steel frame of 14 gauge thickness. (iii) All aluminum joinery like doors, windows, wall spans, etc. shall be colour anodized of 15 micron thickness. (iv) Water supply lines shall be of heavy duty GI (TATA/Jindal or other reputed make), with two coats of approved paint over a coat of primer. (v) Epoxy paint, wherever required, shall be thickness not less than 260 micron. (vi) False ceiling should be of aluminum in 600 x 600 mm panel size of M/s Hunter Douglas make or approved equivalent. (vii) All rooms shall be provided with adequate furniture, computer table, cupboard, etc. of M/s Godrej or equivalent. Venetian blinds shall also be provided on the windows. (viii) The gate will be MS type having two leaves and supported on hinges, along with necessary locking arrangements. (ix) Rolling shutter should be of aluminum with colour anodisation. (x) Boom barriers shall be sturdy and electrically operated and of approved design. Boom barrier longer than 4 meters shall be in two sections. (xi) All fittings shall be of heavy duty, ISI marked of approved make.
8		Boundary wall/ fencing: Extent of boundary wall has been shown in the schematic layout drawing. It shall be RR wall 2.4 meters high and /or shall be of a design in conformity with similar walls in Port area, if existing. The foundation of boundary wall will be designed by the bidder keeping in view the soil conditions. Micro-piling/ strip footing may be used for foundation. Extent of fencing is also shown in the schematic layout drawing.

9		Cable chambers/Earthing/ Earth pits
		Adequate number of chambers to facilitate installation & maintenance of electrical cables shall be designed and provided. Details of Earthing & earth pits (separately for electrical & electronics equipment) shall be worked out and constructed.
10		Signage:
	(i)	Necessary marking/Signs have to be done by paint on the concrete surface and the same shall be maintained during the maintenance period.
	(ii)	Radiation exclusion zones need to be clearly identified and fenced.
11		Water supply:
		Underground sump (capacity ~ 10 KL) and overhead tank (capacity ~ 3 KL) with necessary piping, valves pump, level switch, etc. shall be provided.
12		Fire-water ring main:
		It shall be supported on seismically designed pedestals. Fire detection system shall have smoke/ heat sensors.
13		Sewage:
		A septic tank, soak pit to cater to 50 personnel and necessitating cleaning once in two years shall be designed and constructed.
14		Quality assurance, inspection & testing:
	(i)	Method statements for each major construction activities shall be submitted prior to commencement of the works.
	(ii)	Quality control procedures for each major construction activities shall also be submitted prior to commencement of works.
	(iii)	Reports of material testing, inspections & tests carried out during construction phase shall be submitted as the work progresses.
	(iv)	Complete documentation, `as-built` drawings, inspection & test reports, etc. shall also be submitted at the end of the construction.
15		Dummy run:
		Dummy run of truck-trailer loaded with 40' container shall be taken before locating various structures, including gates, in the Facility.
16		Landscaping:
		It shall be carried out in vacant areas of the plot.
17		Drawings & documents:
		Successful bidder shall provide all construction drawings along with quantities (4 copies) both before starting construction and as built drawings along with quantities after construction. The drawings & documents shall also be provided in soft copy.
18		Schedule of activities:
		Bidder shall prepare and submit along with the technical bid a bar-chart/ PERT chart indicating time duration for all major activities (including clearances from regulatory / statutory bodies).