



INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
MATERIALS MANAGEMENT DIVISION

Powai, Mumbai 400076.

Ref No.(1000057378)

(Rfx No. 6100003130)

**Technical Specifications : Consultancy Services – Phase 1 & 2 for
Mumbai Port**

Sr. No	Item Description	Detailed Technical Specification	Technical Compliance (Yes / No)	Additional Information (if any)
1	Consulting Services-Phase 1			
1.1	Consulting Services-Phase 1.1	Investigation for Phase 1. Detailed Scope of Work as per Annexure		
1.2	Consulting Services-Phase 1.2	Investigation, assisting in Design, drawings preparation, PMC for Improvement of Road from 9 VD junction to 18 ID, from Grey Gate to 1 ID and from 9 VD to 12 B Detailed Scope of Work as per Annexure		
1.3	Consulting Services-Phase 1.3	Investigation, assisting in Design, drawings preparation, PMC for Improvement of existing storage areas inside Docks. 12B and BPS Detailed Scope of Work as per Annexure		
1.4	Consulting Services-Phase 1.4	Investigation, assisting in Design, drawings preparation, PMC for Improvement of Road outside docks from Sewri to Mahul Toll Naka RCCP Detailed Scope of Work as per Annexure		
2	Consulting Services-Phase 2			
2.1	Consulting Services-Phase 2.1	Investigation, bore holes, plate load test (Haji bundar, Hay bundar, Golden yard, Daurkahan), trail pits CBR, Traffic survey		

		Detailed Scope of Work as per Annexure		
2.2	Consulting Services-Phase 2.2	Investigation, assisting in Design, drawings preparation, PMC for Improvement of Road from OGPD – 9 VD Detailed Scope of Work as per Annexure		
2.3	Consulting Services-Phase 2.3	Investigation, assisting in Design, drawings preparation, PMC for Improvement of Road from 12B – 10 ID Detailed Scope of Work as per Annexure		
2.4	Consulting Services-Phase 2.4	Investigation, assisting in Design, drawings preparation, PMC for Improvement of Road from Blue Gate to New Hamallage Building Detailed Scope of Work as per Annexure		
2.5	Consulting Services-Phase 2.5	Investigation, assisting in Design, drawings preparation, PMC for Improvement of Road Outside Docks from NTOB to Sewri Junction Detailed Scope of Work as per Annexure		
2.6	Consulting Services-Phase 2.6	Investigation, assisting in Design, drawings preparation, PMC for Upgradation/modernisation of Toll plazas along with development of roadside Amenities Detailed Scope of Work as per Annexure		
2.7	Consulting Services-Phase 2.7	Investigation, assisting in Design, drawings preparation, PMC for Improvement of storage areas outside docks (Haji Bunder, Hay Bunder Golden Yard etc.) Detailed Scope of Work as per Annexure		
2.8	Consulting Services-Phase 2.8	Investigation, assisting in Design, drawings preparation, PMC for Improvement of road infrastructure at Darukhana area Detailed Scope of Work as per Annexure		
2.9	Consulting Services-Phase 2.9	The design and project management consultant for the upgradation of Kharoo creek minor bridge. Detailed Scope of Work as per Annexure		

INDIAN INSTITUTE OF TECHNOLOGY BOMBAY

DEPARTMENT OF CIVIL ENGINEERING

ANNEXURE

PR: 1000057378

Description: Consultancy Services

Statement of Work (SOW) for External Services in Consultancy Project

1. Title of the SOW: Carrying out Detailed Design of Entire Port Traffic Infrastructure Including the Roads, Yards and Wharves inside the Docks (Phase-1 Soil Investigation and Axle load Survey) Including Main Road outside Docks – 7 km including junctions
2. Working Area: Mumbai Port Authority, New Dock Rd, Indira Docks, Mumbai Port Trust, Mazagaon, Mumbai, Maharashtra 400001
3. Duration (whichever is later):
 - a. 3 (three) years or
 - b. From commencement of the actual construction of the work and remain in force till the completion of the road infrastructure contract work and issue of certificate to the contractor.
4. Scope of the Work:
 - a. Day-to-day execution of work, maintenance of records, vetting of bills as per Joint Measurements records maintained at site.
 - b. Inspection, review and approval of procurement of various materials by Contractor.
 - c. Construction, supervision for monitoring and control of the works progress compliance to environmental, social, gender, health, SEA/SH and safety standards as per guidelines issued to mitigate air pollution or any other pollution on site as applicable.
 - d. Execution, supervision and monitoring of quality control of the work progress.
 - e. Ensuring timely completion of project work.
 - f. Ensuring total compliance in-line with the approved designs, plans, drawings, BOQs (Bill of Quantities), technical specifications and various other requirements contained in the respective contracts by the Contractor(s).
 - g. Approval of quality control test reports and take necessary steps for improvement, if required.
 - h. Providing technical support to the contractor for liaising with various government departments / user departments/traffic and utility providers, with assistance from Mumbai Port Authority (MbPA).
 - i. Vetting and recommendation of RA bills.
 - j. Vetting and recommendation of variations and excess extra items.
 - k. Day to Day Project Management and maintenance of site records and correspondence.
 - l. To perform the function as '**Engineer-in-Charge**' as enumerated in the Works Contract with Contractors and other agencies
 - m. Preparation of monthly progress reports and making presentations during progress review meetings.
 - n. Preparation and submission of replies to audit/vigilance queries/other regulatory bodies related to work execution and quality control.
 - o. Approval of any extension of contractual time limits.

- p. Stopping and/or termination of the Contract for Works.
- q. To plan the entire construction activity including approach and methodology for smooth implementation of the Project to ensure that these are satisfactory with reference to the technical requirements, project implementation schedule including tender packaging and environmental aspect as well as safety of work, personnel and the public.
- r. To scrutinise the Contractors' detailed work programme, suggest modifications, if any, in the work programme and recommend the same for approval of the employer.
- s. To scrutinise contractor's superintendence, personnel and suggest modifications, if any
- t. To scrutinise method statements proposed by the Contractors for carrying out the works to ensure that these are satisfactory with reference to the technical requirements, project implementation schedule and environmental aspects as well as safety of works, personnel and the public.
- u. To scrutinise and approve the Contractors working drawings and drawings for temporary works as required for execution and certify 'as executed drawings' for each component furnished by the contractor.
- v. To prepare a Revised Cost Estimate (RCE). If the expenditure on a project exceeds the Sanctioned Estimate (SE) by the MbPA/ Govt. for it by more than 10%. The revised estimate is required to contain the following analysis
 - i. Variation between RCE & SE for each sub-head of SE.
 - ii. Break up of each variation into:
 - 1. Change in the scope of work (variation in quantities or quality).
 - 2. Additional items of work.
 - 3. Increase in the prices of labour and material.
 - 4. An explanation for each variation.
- w. The work is open for inspection by Chief Technical Examiner (CTE) of the Central Vigilance Commission (CVC). The consultant furnishes adequate information to the MbPA for a satisfactory reply to their observations.
- x. Any other Analysis as required for obtaining MbPA/ Govt. approval. In case any dispute between the MbPA and the contractor is referred to arbitration under the Indian Arbitration Act; the consultant shall assist the MbPA in drafting replies to the Contractors claims.
- y. Maintain a permanent record of all measurements for the quantities of work to be paid for and the results of all tests carried out to monitor the quality of work.
- z. The Progress Reports shall contain details of all meetings, decisions taken therein, mobilization of resources (Consultants and the Contractors), physical and financial progress and the projected progress for the forthcoming periods. The Report should clearly bring out the delays, if any reasons for such delay(s) and the recommendations for corrective measures. The Report shall also contain the performance data for Contractor's plant and equipment.
- aa. Assistance in Preparation of O&M Manual.
- bb. Site visits at batching plant(s) to check the quality of all materials.
- cc. Approval of mix designs and test reports of source materials submitted by contractor(s).
- dd. Providing Good for Construction drawings during execution of works.
- ee. Carrying out balance design / remedial design as required during execution of work.
- ff. To verify site surveys/topographic surveys etc.
- gg. The design and project management consultant for the upgradation of Kharoo creek minor bridge

The following works will be undertaken in phases as listed below: -

Sr.	Brief Description of Work	Location
1	*Improvement of Road from 9 VD junction to 18 ID, from Grey Gate to 1 ID and from 9 VD to 12 B	Roads inside Docks
2	*Improvement of Road from OGPD – 9 VD	Roads inside Docks
3	*Improvement of Road from 12B – 10 ID	Roads inside Docks
4	*Improvement of Road from Blue Gate to New Hamallage Building	Roads inside Docks
5	*Improvement of existing storage areas inside Docks	Storage Area inside Docks
6	*Improvement of wharves inside Docks	Wharves inside Docks
7	*Improvement of Road Outside Docks from NTOB to Sewri Junction	Roads outside Docks
8	*Improvement of Road outside docks from Sewri to Mahul Toll Naka	Roads outside Docks
9	*Upgradation /modernization of Toll plazas along with development of roadside amenities	Roads outside Docks
10	*Improvement of storage areas outside docks (Haji Bunder, Hay Bunder Golden Yard etc.)	Roads outside Docks
11	*Improvement of road infrastructure in Darukhana area	Roads outside Docks
12	*Any other road/ storage yard/ wharf improvement works as required for port cargo evacuation improvement	Inside/outside docks

*** Improvement/Upgradation and all the other works/infrastructure as per relevant IRC/MoRTH standards**

5. Roles and responsibilities of IITB: Coordinate with the External Service Provider (ESP) for carrying out the scope of work as mentioned above.
6. Role and responsibilities of ESP: The role and responsibilities of ESP is to conduct site investigations and day-to-day supervision of the approved projects. ESP will deploy the following personnel for day-to-day supervision of works for carrying out the scope of work as mentioned above.
 - a. Team Leader cum Project Manager
 - b. Resident Engineer – Civil Engineering
 - c. Pavement Engineer
 - d. QA/QC Engineer
 - e. Quantity Surveyor
 - f. Safety Expert
 - g. Any other staff/Engineer as per site requirement
7. Deliverables, milestones, timelines:
 - a. As per scope mentioned above
 - b. The services by the external consultant shall commence from commencement of the actual construction of the work and remain in force till the completion of the road infrastructure contract work and issue of certificate to the contractor.

The parties acknowledge that the scope of work and budget may increase if any other improvement works are included in future. Applicable tax as prescribed by the government of India from time to time is to be paid additionally.

8. External Services with break-up, Milestones and Payment Schedule*

2 phases & 10 milestones (as per column wise). (A) Phase 1: 5 payment milestones. (B) Phase 2: 5 payment milestones.

Sr.	Name of Work	Scope	Investigation		Design & drawings	PMC		TOTAL
	Phase 1 work		On signing of agreement (50%)	On completion of Investigation (50%)	On submission of drawings & estimate	On Mobilization on advance (20%)	After receiving payment to IIT by MbPA on pro rata basis (80%)	
1	Improvement of Road from 9 VD junction to 18 ID, from Grey Gate to 1 ID and from 9 VD to 12 B	Investigation, assisting in Design, drawings preparation, PMC			1%	2%	10%	
2	Improvement of existing storage areas inside Docks.							
3	12B and BPS				2%	2%	7%	
	Improvement of Road outside docks from Sewri to Mahul Toll Naka				2%	2%	10%	
4	RCCP							
	Investigation for Phase 1		1%	1%				
	Total for Phase 1		1%	1%	5%	6%	27%	40%
	Phase 2 Work							
1	Improvement of Road from OGPD – 9 VD	Investigation, assisting in Design, drawings			1%	1%	2%	
2	Improvement of Road from 12B – 10 ID				1%	1%	1%	

3	Improvement of Road from Blue Gate to New Hamallage Building	preparation, PMC			1%	1%	2%	
4	Improvement of Road Outside Docks from NTOB to Sewri Junction				2%	2%	10%	
5	Upgradation/modernization of Toll plazas along with development of roadside amenities				2%	2%	2%	
6	Improvement of storage areas outside docks (Haji Bunder, Hay Bunder Golden Yard etc.)				1%	2%	10%	
7	Improvement of road infrastructure in Darukhana area				1%	1%	5%	
8	The design and project management consultant for the upgradation of Kharoo creek minor bridge				1%	1%	5%	
	Investigation, bore holes, plate load test (Haji bunder, Hay bunder, Golden yard, Daurkahan), trail pits CBR, Traffic survey		1%	1%				
	Total for Phase 2		1%	1%	10%	11%	37%	60%
	Cost Excluding GST (Phase 1 + Phase 2)							100%

*Both parties acknowledge phase 2 works budget may increase plus phase 3 works may be included in future. Fees would be increased as per work.
No maintenance.

9. Review Period of Progress Project: As per project requirements

10. Additional Terms & Conditions:

- a. ESP shall ensure the maintenance of confidentiality regarding the execution of the Work during and after The Work is completed.
- b. All information provided to ESP and indicated "confidential" shall
 - i. be received in strict confidence,
 - ii. be used only for the purposes of this Agreement, and
 - iii. not be disclosed by ESP, its agents or employees without the prior written consent of IITB.
- c. All the data collected/ title to products generated during The Work shall be the exclusive ownership and property of IITB and cannot be used, copied, reproduced or exhibited in any way by ESP without written consent from IITB.
- d. The final design / data for all items part of The Work will be the property and the ownership of IITB. ESP shall not submit any drawing or any document/ materials related to The Work to any third party without the prior explicit written consent of IITB.
- e. If any Intellectual Property (IP) is developed during The Work, such IP shall belong to IITB solely.
- f. This agreement shall come into force on Effective Date and shall be in force for a period of Two and half years.
- g. If ESP defaults in fulfilling the contractual obligations and fails to remedy such default within four (4) weeks from receipt of notice in writing from IITB, then IITB may terminate this agreement without further notice to ESP.
- h. On the termination of this agreement for any reason whatsoever or on demand by IITB, for any other reason ESP agrees to return to IITB any data/ information supplied by IITB for The Work.
- i. On the termination of this agreement for any reason whatsoever ESP shall not for the period of one (1) year conduct Work for any third Party on similar project.