



**BUS RAPID TRANSIT SYSTEM(BRTS) BLUE LINE PROJECT
(INFRASTRUCTURE DEVELOPMENT)
RESPONSES TO QUERIES RAISED DURING AND SUBSEQUENT TO THE
PRE-BID MEETING HELD ON MARCH 26, 2018**

**RESPONSES TO QUERIES RAISED BY BIDDERS DURING & SUBSEQUENT TO THE PRE-BID
MEETING HELD ON MARCH 26, 2018
BRTS – BLUE LINE BUS OPERATIONS**



**Sindh Mass Transit Authority
Transport & Mass Transit Department
Government of Sindh**



**Public Private Partnership Unit
Finance Department
Government of Sindh**

MARCH 2018



**BUS RAPID TRANSIT SYSTEM(BRTS) BLUE LINE PROJECT
(INFRASTRUCTURE DEVELOPMENT)
RESPONSES TO BIDDERS' QUERIES RAISED DURING AND SUBSEQUENT TO
PRE-BID MEETING HELD ON MARCH 26, 2018**

IMPORTANT NOTICE / DISCLAIMER

This 'RESPONSES TO BIDDERS' QUERIES DURING & SUBSEQUENT TO THE PRE-BID MEETING DOCUMENT' (the **Pre-Bid Queries & Responses Document 2**) is being issued by the Transport and Mass Transit Department, in association with the PPP Unit, Finance Department, Government of Sindh and is further to the 'REQUEST FOR PROPOSAL' (the **RFP**), the 'DRAFT CONCESSION AGREEMENT' circulated earlier dated February 08, 2018 (**RFP Documents**) and the Pre-Bid Queries & Responses Document dated March 21, 2018 as amended by Pre-Bid Queries & Responses Document 2, is being provided to the recipient solely for use in preparing and submitting its Proposal for participation in the competitive bidding process to design, build, finance, operate and transfer, on Public Private Partnership (**PPP**) mode, the Project Corridor, the same being an approximately 10.1 kilometre long dedicated corridor from Gurumandir to Al-Asif Square as more particularly described and indicated in Schedule F (Project Site) of the Draft Concession Agreement, including bridges, culverts and other appurtenances thereto, which shall form part of the Concession Assets and shall be developed in accordance with the Applicable Standards (the **Project**).

Unless expressly specified otherwise, all capitalized terms used herein shall bear the meaning ascribed thereto in the Stage One RFP Documents.

The Proposals will be evaluated by the TFEC constituted in accordance with the Applicable Laws. None of the Government of Sindh entities (including, inter alia, the Transport and Mass Transit Department, Government of Sindh, the PPP Unit, Finance Department, Government of Sindh and the TFEC) nor, in each case, their employees, personnel, agents, consultants, advisors, legal advisors and contractors etc., make any representation (expressed or implied) as to the accuracy or completeness of the information contained herein, or in any other document made available to any person in connection with the tender process for the Project and the same shall have no liability for this Pre-Bid Queries & Responses Document 2 or for any other written or oral communication transmitted to the recipient in the course of the recipient's evaluation of the Project. Neither these entities nor their employees, personnel, agents, consultants, advisors, legal advisors and contractors etc., will be liable in any manner whatsoever to reimburse or compensate the recipient for any costs, fees, damages or expenses incurred by the recipient in evaluating or acting upon this Pre-Bid Queries & Responses Document 2 or otherwise in connection with the Project.

Any Proposal submitted in response to this Pre-Bid Queries & Responses Document 2 by any of the Prospective Bidders shall be upon the full understanding and agreement of any and all terms of this Pre-Bid Queries & Responses Document 2 and such submission shall be deemed as an acceptance to all the terms and conditions stated in the RFP Documents.

Any Bid / response to the RFP Documents submitted by a Bidder shall be construed based on the understanding that the Bidder has done a complete and careful examination of the RFP Documents and has verified all the information received from the GoS (including from its employees, personnel, agents, consultants, advisors and contractors etc.).

Any Bid / response to the RFP Documents submitted by a Bidder shall be construed based on the understanding that the Bidder acknowledges that prior to the submission of the Bid/Proposal in response to the RFP Documents, the Bidder has, after a complete and careful examination, made an independent



**BUS RAPID TRANSIT SYSTEM(BRTS) BLUE LINE PROJECT
(INFRASTRUCTURE DEVELOPMENT)
RESPONSES TO BIDDERS' QUERIES RAISED DURING AND SUBSEQUENT TO
PRE-BID MEETING HELD ON MARCH 26, 2018**

evaluation of the RFP Documents, scope of the Project, the Project Requirements, the Applicable Standards, the Project Site, existing structures, local conditions, physical qualities of ground, subsoil and geology, traffic volumes and all information provided by the GoS or obtained, procured or gathered otherwise, and has determined to its satisfaction the accuracy or otherwise thereof and the nature and extent of difficulties, risks and hazards as are likely to arise or may be faced by it in the course of performance of its obligations under the Concession Agreement. The GoS (including its employees, personnel, agents, consultants, advisors and contractors etc.) makes no representation whatsoever, express, implicit or otherwise, regarding the accuracy, adequacy, correctness, reliability and/or completeness of any assessment, assumptions, statement or information provided by it and the Bidders shall have no claim whatsoever against the GoS in this regard.

The RFP Documents do not constitute a solicitation to invest, or otherwise participate, in the Project, neither shall it constitute a guarantee on the part of the GoS that a Concession will be awarded.



**BUS RAPID TRANSIT SYSTEM(BRTS) BLUE LINE PROJECT
(INFRASTRUCTURE DEVELOPMENT)
RESPONSES TO BIDDERS' QUERIES RAISED DURING AND SUBSEQUENT TO
PRE-BID MEETING HELD ON MARCH 26, 2018**

**RESPONSES TO QUERIES RAISED BY THE BIDDERS DURING & SUBSEQUENT TO
THE PRE-BID MEETING HELD ON MARCH 26, 2018
IN RESPECT OF THE
REQUEST FOR PROPOSAL ISSUED BY
THE GOVERNMENT OF SINDH
IN RELATION
TO THE
BRTS – BLUE LINE**

INTRODUCTION

The GoS hereby issues this Pre-Bid Queries & Responses Document 2 dated March 29, 2018 for responding to various queries raised by the Bidders during and subsequent to the Pre-Bid Meeting held on March 26, 2018. Notwithstanding anything to the contrary and unless notified otherwise by the GoS, all relevant provisions of the RFP (including Volume 1 and Volume 2) shall stand clarified and amended to the extent required to give effect to the response matters set out in this Pre-Bid Queries & Responses Document 2.

Unless expressly specified otherwise, all capitalized terms used herein shall bear the meaning ascribed thereto in the Glossary of Volume 1 (Instruction to Bidders) of the RFP or, in case of queries related to the Draft Concession Agreement, the meaning ascribed thereto in the Draft Concession Agreement.



**BUS RAPID TRANSIT SYSTEM(BRTS) BLUE LINE PROJECT
(INFRASTRUCTURE DEVELOPMENT)
RESPONSES TO BIDDERS' QUERIES RAISED DURING AND SUBSEQUENT TO
PRE-BID MEETING HELD ON MARCH 26, 2018**

QUERIES RAISED & RESPONSES

PRELIMINARY KEY COMMENTS IN RELATION TO THE DRAFT CONCESSION AGREEMENT				
SR. NO.	SECTION NO.	SECTION	COMMENT	RESPONSE
1.			Just for clarification Major Maintenance is not part of the annuity payment but for the purpose of bid evaluation it will be made part of the annuity. Major Maintenance will be treated as a Capital Expenditure, as this amount will be treated as taxable income for the concessionaire the bidders will also include the additional tax in the annuity payment? Should the concessionaire keep a provision for this maintenance in its accounts?	With reference to response Sr. No. 65 of the Pre-Bid Queries & Responses Document, the bidders are instructed to capitalize the Major Maintenance expenditure and any resulting additional tax implications may be included in the relevant annuity payments. In relation to the SPV's internal accounts, it is recommended that such accounts are in accordance with the accounting practices of Pakistan.
2.			The debt tenor has been fixed. It is suggested that there should be no upward cap in the loan tenor, which will be more favorable for GoS and create precedents for loans of longer tenors.	With reference to response Sr. No. 66 of the Pre-Bid Queries & Responses Document, all the bidders must incorporate a fixed debt tenor of 10 years.
3.			According to our information the consortium that has submitted the unsolicited proposal on BRTS projects is currently engaged as an advisor to GoS on another BOT project. This may result in	In light of the applicable laws, we cannot comment on the information that 'you' have. With regards to any conflict of interest issues, generally, it is highlighted



**BUS RAPID TRANSIT SYSTEM(BRTS) BLUE LINE PROJECT
(INFRASTRUCTURE DEVELOPMENT)
RESPONSES TO BIDDERS' QUERIES RAISED DURING AND SUBSEQUENT TO
PRE-BID MEETING HELD ON MARCH 26, 2018**

			a conflict of interest. Clarification to this regard along with a representation by GoS that there is no conflict of interest is kindly requested.	that such matters will be dealt with in accordance with the requirements & parameters of the RFP.
4.			We would like to know the exact terms that SMTA has agreed with Karachi Metropolitan corporation & National Highway Authority. The answer given in the previous responses do not provide clarity to the present practical situation on ground.	Since providing Vacant Possession of the Project Site is a Condition Precedent of the Authority, the terms and conditions agreed by SMTA with other entities are confidential and not relevant to the bidders. Please refer to response Sr. No. 22 of Pre-Bid Queries & Responses Document.
5.			We would request SMTA to disclose to all bidders the exact quantum of utility relocation component. This is necessary to ascertain the potential contingencies of cost & time escalation. (A solution for Queries in 5&6 can be worked out after a joint visit).	The exact quantum of the utility relocation cannot be disclosed at this stage. However, it is clarified that it is the obligation of the Authority to relocate all the utilities at its own cost.
6.			We request that the location of depot be finalized as without it the bidders do not have the complete scope of work and hence cannot submit a comprehensive bid.	Please refer to query no. 83 of the Pre-Bid Queries & Responses Document.



**BUS RAPID TRANSIT SYSTEM(BRTS) BLUE LINE PROJECT
(INFRASTRUCTURE DEVELOPMENT)
RESPONSES TO BIDDERS' QUERIES RAISED DURING AND SUBSEQUENT TO
PRE-BID MEETING HELD ON MARCH 26, 2018**

7.			<p>We understand that bus operations are not the scope of this bid but considering that the infrastructure concessionaire's reputation will be at stake we require visibility on the operational aspects of the project. This will also provide comfort to the investors & lenders as they'll more clearly understand how the revenues will be generated for this project.</p>	<p>Please refer to response Sr. No. 31 of the Pre-Bid Queries & Responses Document. In addition, please note that visibility on the operational aspects will be provided at the stage of consultation with the ITS and Bus Operations Consultants.</p> <p>As mentioned in the RFP Documents, the revenues are based on periodic annuity payments and are not linked to Bus Operations and its components.</p>
8.			<p>What are the safeguards for the infrastructure concessionaire in case of conflict/termination with the other two concessionaires?</p>	<p>Although this Concession Agreement shall co-exist with Bus Operator Concessionaire and ITS Concessionaire to the extent mentioned in Section 2.4 of the Draft Concession Agreement, any conflict/termination under any of the other two concession agreements shall not affect the rights and obligations of the Concessionaire under this Agreement.</p>
9.			<p>The current PEC codes required from the EPC Contractor for Electrical & Mechanical works are not relevant as the project scope only</p>	<p>Please refer to Section 2.3.2(e) & (f) of Annexure L of RFP. The project scope comprises of electrical and mechanical works at bus depot and stations including</p>



**BUS RAPID TRANSIT SYSTEM(BRTS) BLUE LINE PROJECT
(INFRASTRUCTURE DEVELOPMENT)
RESPONSES TO BIDDERS' QUERIES RAISED DURING AND SUBSEQUENT TO
PRE-BID MEETING HELD ON MARCH 26, 2018**

			contains Civil works. We request that such codes be omitted from the qualification criteria.	escalators, elevators, generators, PSD doors, water pumps etc. and street lighting along the corridor, hence the codes for electrical and mechanical works will remain valid for eligibility and qualification criteria.
10.			Is the unsolicited proposal submitted to SMTA specifically for the civil works or is it a combination of Civil works & IT infrastructure? If it is a combination then how can this proposal be compared in parts?	The USP in question is in relation to the infrastructure works as delineated in the RFP Documents.
11.			What is included in the scope of work under the head of "Facilities required for operations"?	The bidders may include, inter alia, the construction cost of facilities required for the operations of SPV under the head of "facilities required for operations" as set out in A.2.5 of Annexure C of the RFP.
12.			Why is patrolling and vehicle recovery costs in the scope of the Infrastructure developing Concessionaire? Shouldn't it be part of the vehicle operating company? Operations plan is also necessary to estimate this cost if it is to be borne by the Infrastructure concessionaire.	Please refer to Section 5 (<i>Operations Role</i>) of Annexure L of the RFP. The purpose of patrolling vehicle is included in the scope of the project for security and surveillance of the BRT corridor. Its associated cost shall be included in the respective head.



**BUS RAPID TRANSIT SYSTEM(BRTS) BLUE LINE PROJECT
(INFRASTRUCTURE DEVELOPMENT)
RESPONSES TO BIDDERS' QUERIES RAISED DURING AND SUBSEQUENT TO
PRE-BID MEETING HELD ON MARCH 26, 2018**

				However, vehicle recovery cost has not been included in the scope.
13.			Operational plan & traffic study is necessary to accurately estimate the life of the infrastructure, thereby estimating the initial Project cost, O&M cost and all other related costs.	The operational plan will be ascertained with the preferred bidder at the time of detailed design stage. However, in relation to the BRT Corridor, traffic study done by JICA may be referred. The design life of various infrastructure components is provided in the RFP.
14.	10.5.1	Price Escalation: What will be the Escalable items other than steel, cement, bitumen, diesel, labor as substantial component of construction cost shall be used in Bus Stations and Bus Depot Items.	There are so many other finishing items in statino & Bus Deport which are not covered in Escalable items, Secondly there must be some crieteria for the imported goods (PSDs, Lifts, Escalators, Generators etc.) where USD involves in purchasing.	All bidders are instructed to incorporate such costs and risks in their bids.
15.	7		We recommend to reconsider this observation since such a High Strength is not used in any similar Projects of Pakistan and even in Middle East. Transom and Pile Caps are Flexure members where use of high Strength Concrete will not be beneficial for any concrete saving. Similarly 8 ksi Concrete PSC Girder will not	The specified concrete strengths is 8.0 ksi for Girders, 6.0 ksi for Pile caps & Transom, 4.0 ksi for Deck Slab & Diaphragms, and 3.0 ksi for Barriers, Kerbs. For the Girders, the required concrete strength is governed by the end



**BUS RAPID TRANSIT SYSTEM(BRTS) BLUE LINE PROJECT
(INFRASTRUCTURE DEVELOPMENT)
RESPONSES TO BIDDERS' QUERIES RAISED DURING AND SUBSEQUENT TO
PRE-BID MEETING HELD ON MARCH 26, 2018**

			give any benefit in Girder depth. Hence in our opinion the use of high grade in normal span bridges is nor cost effective rather very expensive proposition.	zone design and use of 8 ksi concrete provides adequate margin of safety.
16.	ANNEXURE A – PARA 1		Please look into it again, and change the registration year with PEC from 2017 to 2018.	Agreed.
17.	Page 109,C		Assumed Rainfall is too high it should not be more than 3 to 4 inches.	After analyzing large rainfall data set for Karachi from 1981 to 2017 excluding the outliers, it works out to be 3.789 for 10 years return period. Please consider this for the drainage design.
18.	Page 110, 3.1 & 3.5		In order to achieve the uniformity at Bidding stage, Minimum required specs of major essential items in Bus Stations and Bus Depot should be mentioned.	Please refer to Schedule A and B of the Draft Concession Agreement. Please note that all the items listed in the schedules are indicative based on draft concept design, however any variation / changes during detailed design stage due to concept changes or façade treatment may change finishing items. The above must be considered as tentative / approximate sample for reference only at bidding stage.
19.			We are of the opinion that two standby generators will be a costly option. Station lights will partially be ON during day time also, while	Not agreed.



**BUS RAPID TRANSIT SYSTEM(BRTS) BLUE LINE PROJECT
(INFRASTRUCTURE DEVELOPMENT)
RESPONSES TO BIDDERS' QUERIES RAISED DURING AND SUBSEQUENT TO
PRE-BID MEETING HELD ON MARCH 26, 2018**

			street lighting load is a small portion of the total load. The difference in day time and night time load will not be so much as to require two generators. It is recommended that one standby generator may serve both day and night time load.	
20.			Pad mounted transformer at each station is being considered. However feeding each station from separate 11kV nearest feeder will have many issues such as voltage drop, load shedding and breakdown. Having one or two separate dedicated feeders looping all the pad mounted transformers with 11kV MV cable will ensure the continuous supply without load shedding, breakdown and voltage drop issues.	Agreed, bidders may consider dedicated feeder line considering the advantages of no load shedding, no break down and no voltage drop.
21.	2.6.12(B)		In this query it has been pointed out that the Design stage will come after the financial close hence Design documents cannot be submitted at bidding stage, Please review.	Agreed, design drawings are not required but methodology for undertaking the various design tasks should be elaborated with supporting drawings / documents, if any.
22.			It is suggested that apart from linear space rest of the Bus Station Construction should be restricted for two docks.	Not agreed.



**BUS RAPID TRANSIT SYSTEM(BRTS) BLUE LINE PROJECT
(INFRASTRUCTURE DEVELOPMENT)
RESPONSES TO BIDDERS' QUERIES RAISED DURING AND SUBSEQUENT TO
PRE-BID MEETING HELD ON MARCH 26, 2018**

23.	<p>iii) Architect Must hold Masters degree in Architecture, registered in PCATP as Professional Architect with at-least 15 years overall experience out of which 10 years relevant design experience</p>	<p>It is uncommon to find Architects with Masters in Architecture. Hence, optional B Arch. Qualification should be introduced with increased years of experience.</p>	<p>Agreed. Architect with bachelor's degree in Architecture, registered in PCATP as Professional Architect with at-least 20 years overall experience out of which 15 years relevant design experience shall be considered:</p> <p>20 or more years' experience (01 Marks)</p> <p><20 > 15 years' experience (0.5 Marks)</p>
24.	<p>v) Electrical Engineer Must hold Masters degree in Electrical, registered in PEC as Professional Engineer with at-least 20 years overall experience out of which 15 years relevant design experience</p>	<p>Master's Degree for this position is uncommon. Hence, optional B.E. Qualification should be introduced with increased years of experience.</p>	<p>Agreed. Electrical Engineer with bachelor's degree in Electrical, registered in PEC as Professional Engineer with at-least 25 years overall experience out of which 15 years relevant design experience shall be considered:</p> <p>25 or more years' experience (01 Marks)</p> <p><25 > 15 years' experience (0.5 Marks)</p> <p>The above comment is also applicable to Mechanical Engineer:</p> <p>Mechanical Engineer with bachelor's degree in Mechanical, registered in PEC as Professional Engineer with at-least 25 years</p>



**BUS RAPID TRANSIT SYSTEM(BRTS) BLUE LINE PROJECT
(INFRASTRUCTURE DEVELOPMENT)
RESPONSES TO BIDDERS' QUERIES RAISED DURING AND SUBSEQUENT TO
PRE-BID MEETING HELD ON MARCH 26, 2018**

				<p>overall experience out of which 15 years relevant design experience shall be considered:</p> <p>25 or more years' experience (01 Marks)</p> <p><25 > 15 years' experience (0.5 Marks)</p>
25.			We understand that the O&M of Bus Stations and Bus Depot is not in the scope of the Concessionaire please confirm.	The understanding is correct.
26.			Delay in signing of concession agreement due to very reason of vacant possession or any other reason related to the obligations of GoS is exposed to inflation/devaluation of rupee and will resultantly increase the project cost. What is the mechanism of relief payments due to such delays?	<p>With regards to the delay in signing of the Concession Agreement due to Vacant Possession, it is to be noted that the obligation to provide vacant possession will trigger once the Concession Agreement has been signed.</p> <p>Bidders may incorporate such risks and costs in their bid.</p>
27.			Delay after the signing of concession agreement due to signing to project license agreement/any other condition precedent related to GoS any necessary for financial close which also may	Bidders may incorporate such risks and costs in their bid.



**BUS RAPID TRANSIT SYSTEM(BRTS) BLUE LINE PROJECT
(INFRASTRUCTURE DEVELOPMENT)
RESPONSES TO BIDDERS' QUERIES RAISED DURING AND SUBSEQUENT TO
PRE-BID MEETING HELD ON MARCH 26, 2018**

			increase the project cost, thereby a mechanism needs to be explained for such delays.	
28.			We are not satisfied with the reply/clarification regarding USP received by the department. We are still of this opinion that acceptance of this USP is not proper & legal as the project has been initiated by the Mass Transit Department long ago. A detailed study was also carried out by JAICA. Bahria Town also submitted his proposal to GoS for Consideration. The USP may therefore be withdrawn to provide opportunity to bidders for fair & transparent competition.	Please refer to response Sr. No. 101 of Pre-Bid Queries & Responses Document.
29.			Kindly clarify is there any requirement that all BRT station and Pedestrian crossing would be centrally air-conditioned.	No.
30.			It is mentioned in RFP that infra structure design would be capable of converting BRT in LRT. However all standard and design criteria mentioned in RFP is comply for BRT. Kindly revisit the design criteria. For infrastructure design LRT design criteria is govern factor. Also specify the LRT specification and design standard which would be use in LRT system.	Please refer to TCRP Report 90 for geometric design criteria as mentioned in RFP Documents. This report gives BRT implementation guidelines and design criteria based on BRT convertible to LRT on Page 3-27.



**BUS RAPID TRANSIT SYSTEM(BRTS) BLUE LINE PROJECT
(INFRASTRUCTURE DEVELOPMENT)
RESPONSES TO BIDDERS' QUERIES RAISED DURING AND SUBSEQUENT TO
PRE-BID MEETING HELD ON MARCH 26, 2018**

				TCRP Report 155 also mentioned in RFP and DCA is to be adopted for LRT system design.
31.			What about the fueling system of LRT. It would be electric or thermal system. Kindly clarify.	Electrical – Third rail system
32.			What about design speed and design vehicle in case of LRT.	Design Speed = 80 kph (Note: TCRP Report 90 geometric design criteria given in RFP covers the design speed from 50kph to 80 kph) Rolling Stock = High capacity metro system with 6 cars per train
33.			Kindly specify the minimum clear height for Underpass U turn.	5.5m
34.			Kindly specify the location of Bus Depot. Location is important for assessment of infrastructure quantities specially earth work.	Please refer to response Sr. No. 83 of the Pre-Bid Queries & Responses Document. However, for the purposes of assessment of infrastructure quantities, flat terrain shall be considered.



**BUS RAPID TRANSIT SYSTEM(BRTS) BLUE LINE PROJECT
(INFRASTRUCTURE DEVELOPMENT)
RESPONSES TO BIDDERS' QUERIES RAISED DURING AND SUBSEQUENT TO
PRE-BID MEETING HELD ON MARCH 26, 2018**

35.			Considering queries of second pre bid meeting time line of bid submission may be extend to at least one week.	Not agreed.
36.			What facilities are to be provided for Bus Depot & its planning etc.	The bus depot shall comprise of the following facilities: 1) Administration Building with command and control room 2) Driver's rest area 3) Cafeteria 4) Masjid 5) Locker Room and Public Toilets 6) Fuel Station, underground fuel reservoir with allied facilities 7) Maintenance and repair sheds with workshops for wheel balancing, etc. 8) Washing and service area 9) Storage area for miscellaneous equipment



**BUS RAPID TRANSIT SYSTEM(BRTS) BLUE LINE PROJECT
(INFRASTRUCTURE DEVELOPMENT)
RESPONSES TO BIDDERS' QUERIES RAISED DURING AND SUBSEQUENT TO
PRE-BID MEETING HELD ON MARCH 26, 2018**

				<p>10) Bus parking area for 80 – 18.3m long articulated buses with future provision for 20 additional buses. An area should also be reserved for future parking of feeder buses of 12.2m length.</p> <p>11) Car parking area adjacent to administration building for staff</p> <p>12) Gate Structure and boundary wall</p>
37.			Procurement of lifts and escalators can be from China manufactured European brands?	Agreed, the reputable and approved European, American or Japanese brands manufactured and origin from China will be acceptable.



**BUS RAPID TRANSIT SYSTEM(BRTS) BLUE LINE PROJECT
(INFRASTRUCTURE DEVELOPMENT)
RESPONSES TO BIDDERS' QUERIES RAISED DURING AND SUBSEQUENT TO
PRE-BID MEETING HELD ON MARCH 26, 2018**

BUS RAPID TRANSIT SYSTEM - BLUE LINE KARACHI**BUS STATIONS**

Sample of Key Finishes for Interior Design Items of Bus Stations (For Reference Only)		
Sr.No.	Item Description	Remarks
1	Steel Structure complete in all respects as per the satisfaction of Consultant / Engineer in charge.	Station roof & elevations
2	Polyurethane Paint with Zinc Phosphate Primer	On Steel Structure
3	Insulated Aluzinc roof sandwich panel Min. 0.7mm thick top skin+ Min. 50mm thick PU Insulation + 0.5mm thick bottom skin with complete accessories in all aspects as per details by PEMB supplier.	Station Roof
4	Un Polished/ Torched Granite tiles of approved shade.	Station Flooring
5	Tactile tiles	Station Flooring
6	Anti-skid / Semi-Gloss Porcelain tiles (Best Quality Imported)	Ticketing room
7	Ceramics tiles (325mm x 250mm as approved by the Engineer Best Quality Imported)	Wash Rooms
8	Non-Slip multilayered Epoxy Floor Coating System	Optional on exposed Girders
9	CC interlocking pavers min. 60mm	External Floor
10	Aluminum false ceiling comprising of Min. 300MM wide & Min. 0.7mm perforated thick strip (Imported or approved equivalent) complete as shown on the drawings and specifications.	Station's Ceiling
11	Water proofing with torch applied membrane 4mm thick aluminum foiled complete in all respect.	At joints steel structure where able applicable.
12	Hand Railing Stainless steel (S.S) railing	Glass Protection
13	Benches Fabricated with M.S Powder coated framing with wooden seat.	Inside Station
14	Fabrication of Ticketing Booth with Steel Structure.	At Split Type otherwise pedestrian bridge
15	Providing and Placing of Data Equipment Cabin.	At Split Type otherwise pedestrian bridge
16	Stainless Steel Railing at MBS Station 1.2m High (Turn Stile Area).	Turn Stile Area inside station
17	Rubber Guard with Diamond Grade Reflective strips for platform nose.	At platform
18	Plastic Emulsion Paint	Exposed walls
19	Aluminum composite panel fire rated cladding Imported.	Columns & Skirting
20	Providing & fixing curtain walls- providing and fixing of aluminum 4-way structural curtain wall system (Double Glazed Glass)	Elevation
21	Roof Water Proofing.	To avoid leakages
22	Signages for Bus Station.	Inside station
23	Providing & fixing Aluminum louver minimum 25mm thick with epoxy powder coating of approved color & shade as directed by the Engineer.	Elevation
24	Cement/ Smart board Cladding	Elevation

Note: All the above mentioned items are indicative based on draft concept design, however any variation/changes during detailed design stage due to façade treatment may change finishing items. The above must be considered as tentative/approximate sample for reference only at bidding stage.

BUS RAPID TRANSIT SYSTEM - BLUE LINE KARACHI**BUS DEPOT**

Sample of Key Finishes for Interior Design Items of Bus Depot (For Reference Only)		
Sr.No.	Item Description	Remarks
1	Marble Tile 600mmx600mm And Nosing	Flooring
2	Hardened Concrete Floor With Anti Slip Groove	Flooring
3	Imported Matt Porcelain Tiles 600mmx600mm	Flooring & Dado
4	Imported Anti-Skid Ceramic Tiles 300mmx300mm	Flooring & Dado
5	Imported Anti-Skid Ceramic Tiles 600mmx600mm	Flooring & Dado
6	Counter Top Granite	Where able applicable
7	Hardened Concrete Floor	Flooring
8	Water Proofing Tiles (Insulated)	Roof Floor
9	Porcelain Tile 100mm High	Skirting
10	Marble Tiles 100mm High	Skirting
11	Imported Ceramic Tiles 100 Mm High	Skirting
12	Plastic Emulsion Paint	Walls
13	Textured Color Crete Finish	External walls
14	Distemper On Ceiling	Exposed Ceilings
15	Aluminum False Ceiling Tiles 600mmx600mm	Where able applicable
16	Gypsum False Ceiling	Where able applicable
17	Polyurethane Paint With Zinc Phosphate Primer Including Surface Preparation With Sand Blasting	On Steel Structure
18	Providing & Fixing In Position To Proper Camber And Grade CC Interlocking Pavers Min. 60mm Thick	External works
19	Cement/ Smart Board Cladding	Where able applicable
20	Epoxy Coatings	On Steel Structure
21	Steel Structure	Maintenance Sheds, etc.
22	C.C. Jali	Partition misc.
23	Aluminum Composite Panel Fire Rated	In facade
24	Weather Shield Paint	Where applicable on external facade

Note: All the above mentioned items are indicative based on draft concept design, however any variation/changes during detailed design stage due to façade treatment may change finishing items. The above must be considered as tentative/approximate sample for reference only at bidding stage.