Package Title: Construction of Tunneling Works including Testing and Commissioning for Double Line High Speed Railway using Tunnel Boring Machine (TBM) and New Austrian Tunneling Method (NATM)

between Mumbai Underground Station at Bandra-Kurla Complex (MAHSR Km. 0.773) and Shilphata (MAHSR Km. 21.150) in the State of Maharashtra for the Project for Construction of Mumbai-Ahmedabad High Speed Rail.

Package No : MAHSR-C-2

## Response to Bid Queries – 4

Sl. No	Document	Page no / Clause No.	Provisions as Per-Bidding Documents/Subject/Title/Item as mentioned by the Bidder	Bidder Query	Employer's Reply
1	Part 2 Section VI-1 General Specifications Division 04000 Works Administration	Page 95 of 100	Appendix 04000-1 Schedule of Interface, Coordination and Cooperation with Other Parties Chapter 3 Interface Table for Design, Supply and Installation Items Table 4, Item No. 3	It is stipulated that "Table 4: Interface Table between C-2 and C-3 and P-1(A)  Handing over of part working area between 3 km21m150 and NH-4 to C-3, P-1(A), for construction of foundation and substructure of viaduct before item No.1.  "Please provide the area requirement and location of foundation. We believe that such design information will be issued as Addendum of the Bidding Documents soon.	Refer Addendum No. 6 Item No. 1.
2	Part 2 Section VI-3, 2. TBM Drawings, No. TD-JIC-IC1- TDC-B01-UST- NTU-10500000 to 10530000	Page 55 to 58 of 182	General Arrangement for Equipment Room (1) to (4) "Request for details of Equipment Room segments"	<ul> <li>i) There are no drawings showing the connection detail for the joint between the equipment room steel segment and the main tunnel segments. Please provide such details</li> <li>ii) There are no drawings showing the structure details of the end wall for equipment rooms, but the drawings imply that they should be by steel segments. Please provide such details.</li> <li>iii) There are no steel segment drawings for main tunnel at (Type B), (TDS) and (Type A&amp;B). Please provide them.</li> </ul>	<ul><li>i) Refer Addendum No. 6     Item No. 1.</li><li>ii) &amp; iii) Refer Addendum No.     2 Item No. 1.</li></ul>
3	Part 1 Section IV Bidding Forms 2.7 Work Items Bills of Quantities Miscellaneous Schedule of Dayworks and Provisional Sums	Pages 90 to 97 of 159  Pages 18 to 89 of 159	Revised BOQ	We refer to Addendum Nos. 2 and 3 which were issued on 10 July 2019 and 29 July 2019 respectively.  A total of 1226 drawings were either revised or issued new as follows:  1. REVISED drawings – 177 (from 139 + 38)  2. NEW drawings – 1049 (from 1048 + 1)  In view of the above drawings which may have impacted the previous BOQ, please issue us the latest revised BOQ for our pricing soonest possible.	Refer Addendum No.4 Item No. 1

Date: 09 - Sep - 2019

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4	Addendum No. 3, Items 72 & 75		Design of support of utilities above and below MIDC road to be paid under Provisional Sum	We refer to Items 72 and 75 of Addendum No. 3 issued on 29 July 2019.	Bidder's understanding correct.	is
	Item 72 Part 2 Section VI-1.	Clause 7, Item (e)		1. In Item 72, revised Clause 7(e) stipulates " <b>Design of support of utilities above</b> and below MIDC road near main tunnel portal including temporary road diversion and steel decking."		
	Division 01000, Sub-Division 01020,	Design of support of utilities above and		2. In Item 75, revised Sub-Clause 2.5 reads as  "Design of support of utilities above and below MIDC road near Main Tunnel Portal including temporary road diversion and steel decking"		
		below MIDC road Page 10 of 11		and stipulates  "The Contractor is required to design complete scheme of support of utilities at MIDC road including steel decking and road diversion to enable safe construction of tunnel below the MIDC road. The Contractor shall carry out		
	Item 75 Part 2 Section VI-2.	Sub-Clause 2.5 Design of support of		geotechnical investigation required for the purpose. Complete design of the scheme shall be provided by the contractor. Data required for design of the scheme shall be collected by the Contractor from the relevant utility authorities/ road authorities. The design shall conform to specifications as decided by the utility owners."		
		utilities above and below MIDC road		Please confirm our understanding that the design works as specified in Items 72 and 75 above shall be borne under Bill No. 5 (Specified Provisional Sums) and paid to the Contractor accordingly.		
		Page 8 of 199				

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5	Addendum No. 3, Item 73  Part 2 Section VI-2.	Clauses 2.6 & 2.7 Page 8 of 199	Missing existing Clause 2.6  2.5. Design of all other temporary works  The Contractor is required to design all other temporary works like dewatering, ventilation, lighting etc wherever required as directed by the Engineer. The design shall be based on standards given in these specifications or on good industrial practice.  3. Technical Specifications for Tunnelling – General  3.1. Definitions  (i) Ground Conditions  The topographical, geological and hydrological conditions of the spound by the Engineer. The design shall be based on standards given in these specifications or on good industrial practice.  Page 8 of 199	<ol> <li>We refer to Item 73 of Addendum No. 3 issued on 29 July 2019.</li> <li>Item 73 states         "<add 2.6="" 2.7="" after="" existing="" following="" sub-clause="" the="">         "Design submission under Sub-Clause 2.1 and 2.5 shall include a compliant Design Certificate (Form-DC) and a Third Party Verifier Certificate (Form 3PVC), thereby demonstrating that the designer and the Third Party Verifier have fully checked the design as being compliant with all Quality Assurance (QA) procedures and fully compliant with the requirement of the Contract.</add></li></ol>	Refer Addendum No.3 Item No. 75 for Sub-Clause 2.6
6	Response to Bid Queries - 1, Item 6  Part 2 Section VI-1 General Specifications Division 04000 Works Administration		Outstanding Addendum on  "Appendix 04000-1 Schedule of Interface, Coordination and Cooperation with Other Parties Chapter 3 Interface Table for Design, Supply and Installation Items"	Our original query in Clarification No. 3 (Item 6) dated 27 May 2019 was "It is stipulated that "Table 4: Interface Table between C-2 and C-3 and P-1(A). Please provide the area requirement and location of foundation. We believe that such design information will be issued as Addendum of the Bidding Documents soon." The Employer's Reply in Response to Bid Queries – 1, Item 6, dated 29 July 2019 is "Necessary correction will be issued in subsequent Addendum. Please issue addendum to us soonest possible so that we can finalize our pricing.	Refer Addendum No.6 Item No. 1.
7	Response to Bid Queries - 1, Item 200 Part 1 Section IV Bidding Forms Bill of Quantities Item 407		Outstanding Addendum on  "Rebar Corrosion Monitoring System at NATM Tunnel"	Our original query in Clarification No. 4 (Item 4) dated 04 June 2019 was "The rebar corrosion monitoring system at the TBM Tunnel is paid under Bill No. 407 which stipulates "Supplying and installing reinforcement steel bar corrosion monitoring system (Anode ladder type) in RC segments and providing 3 Nos. (Total) hand measuring instruments in accordance with the Specification and the Drawings" and the Quantity is 15 nos. as per Drawing 00340000.  However, there is no Bill No. for the similar rebar corrosion monitoring system at the NATM Tunnel and whose quantity is 1 No. as per Drawing 00340000.	Refer Addendum No.4 Item No. 1

Sl. No	Document	Page no / Clause No.	Provisions as Per-Bidding Documents/Subject/Title/Item as mentioned by the Bidder	Bidder Query	Employer's Reply
	&			Please confirm where to price for this item at the NATM Tunnel."	
	Part 2 Section VI-3			The Employer's Reply in Response to Bid Queries – 1, Item 200, dated 29 July 2019	
	Drawings				
	5. COMMON, TD- JIC-IC1- TDC-B01- UST-NTU- 00340000 and 00390000			"This will be issued in an Addendum."  Please issue addendum to us soonest possible so that we can finalize our pricing.	
8	Response to Bid		Outstanding Addendum on	Our original query in Clarification No. 4 (Item 5) dated 04 June 2019 was	Refer Addendum No.4 Item
	Queries - 1, Item 201  Section IV Bidding		"Undersea Tunnel "List of Information Drawings – Main Tunnel (NATM)" dwg No. TD-JIC-IC1-TDC- B01-UST-NTU-41140000"	"Under the Bills of Quantity, it is stipulated that "Excavation/removal of unsuitable material (below subgrade) and filling by M-20 grade concrete in accordance with the Specification and the Drawings subject to the approval of the Engineer."	No. 1
	Forms Bills of Quantity Items 307, 324, 506 (b), and 513 (b)			While the Bills of Quantity explains that excavation/removal of unsuitable material (below subgrade) shall follow the Specifications and drawings, we cannot find any relevant specifications and/or drawings with the exception of the drawing referred herein titled "Replacement of Unsuitable Material".	
	Section VI-4			We would like to query the followings;	
	Reference Information			1. The drawing is located in Section VI-4, which is basically provided "for reference purpose only".	
	Att. 08 Information			Please confirm the intention of this drawing.	
	Drawings_20190409			2. The referred drawing states "Replacement of unsuitable material by M10 grade concrete". The backfill material is different from M-20 as stipulated in various parts of the Bills of Quantity.	
				Please clarify which grade of concrete shall apply.	
				3. The drawing does not show the depth of replacement by M10, but from the scale, the quantity seems to be very different from the pertinent Bill of Quantity Item 506(b) which shows 200 cubic metres.	
				Please clarify."	
				The Employer's Reply in Response to Bid Queries – 1, Item 201, dated 29 July 2019 is	
				"This will be issued in an Addendum."	
				Please issue addendum to us soonest possible so that we can finalize our pricing.	

Sl. No	Document	Page no / Clause No.	Provisions as Per-Bidding Documents/Subject/Title/Item as mentioned by the Bidder	Bidder Query	Employer's Reply
9	Outstanding Clarification No. 6	Bill No. 502 (d) (ii)	Method of Measurement for Payment	Our original query in Clarification No. 6 (Item 4) dated 20 June 2019 was	Item 502 (d) (ii) has been deleted.
	(Item 4)	Page 73 of 159	Excavation at NATM MAIN Tunnel	"The details and location of grouted fore poling $\emptyset$ 27.2 x 4.0m long are not shown on the tender drawings. (Refer to part print of $\emptyset$ 27.2 x 3.0m below)	Refer Addendum No.4 Item No. 1
	Part 1 Section IV Bidding Forms Bills of Quantities		Request for missing drawings	Please provide the missing drawings accordingly."  We have not received any response yet from the Employer.  Please issue us the missing drawing soonest possible so that we can finalize the pricing.	
10	Part 2 Section V1-3 Drawings from Addendum #2 A- GENERAL DRAWINGS TD-JIC-IC1-TDC- B01-UST-NTU- 00030001 (Revised)  And B- TBM DRAWINGS	Page 02/8  Pages 23/164, 09/137, 120/137 & 99/200	Discrepancy of Equipment Room Location	Bidder understands that Locations of Equipment Room are subject to the view from TBM execution direction shown on the Drawing Nos. TD-JIC-IC1-TDC-B01-UST-NTU-10320001 (Revised), 14072000 (New),  14183000 (New) & 14299000 (New) as follows:  1) Type A1 and B1 are left side from TBM side  2) Type A2 and B2 are right side from TBM side  But compared to the Schematic Diagram of Equipment Rooms Drawing No. RD-JIC-IC1-TDC-B01-UST-NTU-00030001 (Revised), there is discrepancy about the location of equipment room as shown on below sketch highlighted with Red Color.  For TBM1 & TBM3, Up line is on left side and Down line is on right side, therefore Type A1 and B1 are at the correct location.  For TBM2, Up line is on right side and Down line is on left side, therefore Type A2 and B2 are at the correct location.  Kindly please clarify.	Rooms shown in Drawing No.  RD-JIC-IC1-TDC-B01- UST-NTU-00030001 (Revised) are correct.  Drawing Nos. TD-JIC-IC1- TDC-B01-UST-NTU- 10320001 (Revised),

Sl. No Document	Page no / Clause No.	Provisions as Per-Bidding Documents/Subject/Title/Item as mentioned by the Bidder							Bidder Q	uery				Employer's Reply
TD-JIC-IC1-TDC- B01-UST-NTU- 10320001 (Revised) 14072000 (New) 14183000 (New)			ТВМІ	2 3 4 5 6 7	CHAINAGI (Km) 1km630m 1km630m 2km630m 3km630m 4km630m 5km630m 6km059m 6km490m		1	P LINE A2 A2 A1 A1 A1	EASTING 276709.473 276709.473 277590.873 278519.983 279487.640 280455.455 280870.648 281287.777	NORTHING 2110549.453 2110549.453 2110549.453 2111038.073 2111378.314 2111630.517 2111882.237 2111990.199 2112098.665		ST-6 ST-2 ST-2 ST-1 ST-1 ST-1 ST-3 ST-1		
14299000 (New)			TBM3  TBM3	10 11 12 13 14 15 16 17 18	6km751m 7km240m 7km729m 8km230m 8km729m 9km230m 10km230m 10km729m 11km228m 11km228m 12km228m 12km26m 13km590m 13km590m 13km590m 14km729m	A B A		B1 A1 B1 A2 B2 A2	281540.377 282013.638 282487.868 282971.776 283939.592 283939.592 284422.532 284907.407 285390.347 285373.287 286358.163 287806.983 287806.983 288783.184 289261.609 289717.451 290210.055 290553.720 28169.690 289717.451 290210.655 290553.720 291180.690 291564.578 291953.531 292164.688 292514.209 292844.909 293462.396	2112164.348 2112287.410 2112287.410 2112785.254 2112785.214 2112785.214 2112785.214 2112913.793 2113039.875 2113165.453 2113291.032 2113417.114 2113542.692 2113665.271 2113793.850 211385.454 211385.454 211385.454 211385.454 2113920.434 2114042.490 214472.955 211472.955 211472.955 211472.955 211472.955 211472.955 211472.955 211472.943 2114915.814 2115131.799 2115265.605 21155790.613 2116430.424 2117238.951	NATM	ST-3 ST-1 ST-3 ST-1 ST-3 ST-1 ST-3 ST-1 ST-3 ST-2 ST-2 ST-4 ST-2		
11 Referring to the Drawing No. TD- JIC-IC1-TDC-B01- UST-NTU- 15010000									joint for R lease provi			ch as prov	vision of water	Refer Addendum No. 6 Item No. 1.
12 Referring to the Drawing No. TD- JIC-IC1-TDC-B01- UST-NTU- 17120000					ovide th M Tuni		s of v	water	stop plate	that will be	e insta	alled betw	veen the shaft 3	The Contractor shall submit method statement for making the joint between Shaft-3 and NATM Tunnel water proof to the Engineer for his approval.
13 Referring to the Drawing No. TD-JIC-IC1-TDC-B01-UST-NTU-10780000 and 10790000			concr	ete.	In addi		reba	r arra					os of entrance rete was found.	

Sl. No Document	Page no / Clause No.	Provisions as Per-Bidding Documents/Subject/Title/Item as mentioned by the Bidder	Bidder Query	Employer's Reply
				No.1 for rebar arrangement of entrance concrete.
14 Referring to the Drawing No. TD-JIC-IC1-TDC-B01-UST-NTU-10500000 and 10510000			Please provide the details for the connection between main tunnel segment and the equipment room lining as well as waterproofing if necessary.	Refer Addendum No. 6 Item No. 1.
15			Many items had been revised and newly added in the drawings issued as the Addendum No.2, and there are no Items in the Bills of Quantities for those revised and added items. Please revise BOQ to cover all those items.	
16 Referring to the Drawing No. TD- JIC-IC1-TDC-B01- UST-NTU- 23360001			Table of "PERMANENT AREA COORDINATES", the EASTING and NORTHING value of RP5 is same as the value of RP6. It seems that the value of RP6 is not correct. Please clarify.	
17 Referring to the Drawing No. TD- JIC-IC1-TDC-B01- UST-NTU- 23360001 and 23430000			The boundary wall between the points B10 and B11 should be installed on the stream of water. Please provide detailed section drawings showing how to install the boundary wall on the stream of water.	
Referring to the Original BOQ, Bill No. 5.1: Main tunnel, Item no. 502 d)			The description of grouted fore poling has been delated from the BOQ of Addendum No.4. We understand this item is to be constructed 'As / Direction of the Engineer' so that we don't need to estimate it in this stage. Please conform.	Refer Addendum No 4 Item No. 1.  Cost of auxiliary supports including forepoling are included in BOQ Item no. 501. Nothing extra shall be payable for auxiliary supports including forepoling.
19 Referring to the Addendum No.4, Item No.13 and			Utility support for MIDC Road, issued on 7-August 2019, even if the other supporting system to be adopted, it will be large-scale structure that takes for a long term for construction procedures (i.e. design submission, material procurement, material	Document shall remain

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general attached drawing (GAD) 4E			fabrication and assembling etc.). So please advise us whether you consider the handover date of Milestone No.4 to be extended or not.	
20 General Conditions of the Contract	1.5	Priority of documents  As per existing tender conditions, priority of documents is as below:  (a) Contract Agreement  (b) Letter of Acceptance,  (c) Letter of Tender,  (d) Particular Conditions  (e) General Conditions  (f) Specification, (g)Drawings, and  (h)Schedules and any other documents forming part of the Contract.	It is kindly requested to amend the Priority of documents as below:  (a) Contract Agreement  (b) Letter of Acceptance,  (c) Letter of Tender,  (d) Particular Conditions  (e) General Conditions  (f) Design Requirements and Criteria  (g) Technical Specifications,  (h) Drawings,  (i) Schedules  (j) Contractor's Proposal and any other documents forming part of the Contract.	The condition(s) of Bidding Documents shall remain unaltered.  Refer Part-3, Section-VIII, Particular Conditions, Part-B Specific Provisions, Sub-Clause 1.5.
21 Part 3, Section VIII, Part-A Contract Data, Advance Payment,	14.2 Page 6 of 33	15% (fifteen percent) of the Accepted Contract Amount less Provisional Sums payable in the currencies and proportions in which the Accepted Contract Amount is payable.  The Advance Payment shall be made in two instalments as under:  a) 10 (ten) percent: On submission of a Performance Security; and  b) 5 (five) percent: On submission of proof of placement of order for three  (3) TBMs.	The Employer will appreciate that, immediately after award of works; the Contractor has to act on following:  Arrangement of:  Bank Guarantees  Insurances  Arrangement of huge parcels of land for:  Casting Yard  Muck Disposal Yard(s)  Contractor's Temporary Facilities  Etc.  Construction / Setting-up of:  Casting Yard  Contractor's Facilities like Offices, Workshops, Warehouses, Stock Yards, etc.  Concrete Production facilities  Procurement of Segment Moulds	Refer Addendum No 6 Item No. 9.

Sl. No	Document	Page no / Clause No.	Provisions as Per-Bidding Documents/Subject/Title/Item as mentioned by the Bidder		Bidder Query				Employer's Reply
				Equipm	ent's for Construction of Shafts a	and NA	TM Tunnels	like:	
				0	Vertical Drilling Rigs & Boomer	'S			
				0 5	o Shotcrete Machines				
				0 ]	Excavators, Wheel Loaders, Doz	ers, etc.			
				0 ]	Dumpers & Transit Mixers				
				0	Concrete Batching Plants & Labo	oratory			
				0	Cranes				
				0	Other essential P&M				
				Considering all above, the Mobilization Advance of 10% (Ten) of Accepted Contract Sum is not enough to cater for the immediate requirement of Fixed as well as Working Capital.					
				Further, procurement of Three New TBM's and Associated Equipment's like:					
				0 5	Slurry Treatment Plants				
				0 5	Slurry Transportation System				
				o I	Rolling Stocks				
				0 (	Cranes				
				0 (	Other essential P&M				
				_	apital outlay, upfront 5% (Five) TBM's and associated equipment vestment.		_		
				Accordingly, on	nce again, it is our humble subn	nission 1	to:		
					vance Clause and provide for reubmission of Performance Bank			e Mobilization	
				AND					
				Introduce Line Items in BOQ for Stage Payments against Procurement of TBM's as mentioned below:					
					<b>BOQ Description</b>	UOM	Quantity		
					Order Placement for TBM	Nos.	3	1	

Sl. No	Document	Page no / Clause No.	Provisions as Per-Bidding Documents/Subject/Title/Item as mentioned by the Bidder	Bidder Query	Employer's Reply
				Completion of TBM Design and Commencement of TBM Manufacturing	
				Factory Acceptance Test Nos. 3	
				Receipt of TBM's at site Nos. 3	
				Successful Commissioning Nos. 3	
				The above modifications are very much essential for the Contractor to maintain a workable and healthy cash flow at site to carry out construction activities without any financial constraints.	
22	Part 1, Section II, BDS	ITB 7.1	"The Employer's response will be uploaded on the Employer's webpage no later than twenty-eight  (28) days prior to the deadline for submission of Bids, provided that such request is received no later than forty-nine (49) days prior to the deadline"	Bidder would like to apprise that Addendum No. 4 has been released by the Employer on 8th Aug'19. New/Revised Drawings, Revised BOQ's and other details as released needs detailed review and there might be few points which needs further clarification from the Employer. Accordingly, it is requested to modify the provision as  " such request is received no later than Twenty Eight  (28) days prior to the deadline"	Refer Addendum No. 5 Item No. 3.
23	Part 1, Section II, BDS	ITB 22.1 & 25.1, Page 9 of 31	The deadline for Bid submission is: Date: 24th September 2019 Time: 15:00 hrs	Bidder would like to inform that there are many techno- commercial issues that are yet to be clarified.  Further, more than 1000 drawings have been issued by the Employer, which needs thorough study and detailing. Therefore, the bid extension of only 1 month, as granted is not enough to prepare a comprehensive techno- commercial bid for a project of such magnitude and complexity.  Accordingly, it is requested to extend the bid submission by a further period of 1 month; i.e. up to 24 <sup>th</sup> October 2019.	Refer Addendum No. 5 Item No. 2.
24	Drawing TD-JIC-IC1- B01-UST-NTU- 10330000 & TD-JIC- IC1-B01-UST-NTU-10330001		Steel Segment for Opening of Equipment	From the drawing, Bidder understands that only removal of indicated steel segment will not create access to the Equipment room opening, as indicated by Cross (X) in the figure. This will need further Metal arc Cutting at site location, as well.  1. It is requested to confirm our understanding, as we fear it may damage the Coatings.  2. Also, please confirm that Clause 4.8.5 (Infill Concrete of Steel segments) is not valid for TBM Segments and is valid only for segments of Equipment Room.	<ol> <li>Cutting of steel segments of Main Tunnel will be required at site as shown in the Drawings.</li> <li>Infill concrete of steel segments shall be provided for segments</li> </ol>

Sl. No	Document	Page no / Clause No.	Provisions as Per-Bidding Documents/Subject/Title/Item as mentioned by the Bidder	Bidder Query	Employer's Reply	
			03		of TBM as well as of Equipment Rooms.	
25	Drawing No TD- JIC- IC1-TDC-B01- UST- NTU-23360001		Adit Tunnel Portal	Contour values in General Arrangement drawings of Adit Tunnel are not given. Kindly provide the Dwg. file for it.	Refer Addendum No.6 Item No. 1.	
26	Drawing No TD- JIC- IC1-TDC-B01- UST- NTU-16290000		Shaft 2	Drawing No. TD-JIC-IC1-TDC-B01-UST-NTU-16290000 given in List of drawing related to Retaining wall is missing from Shaft 2 drawings. Please provide the same.	Refer Addendum No.4 Item No. 3.	
27	General		Cutting Slopes	It is requested to provide the cutting slopes for drains, retaining walls and culverts.	The condition(s) of Bidding Documents shall remain unaltered.	
28	Part 1, Section II,	BDS ITB 4.1	Power of Attorney	In relation to the Employer's Reply to Query No. 130 provided on 29 <sup>th</sup> July 2019, in order to prepare for urgent events during the bidding process, we wish to nominate multiple "Representative" personnel from the Lead member. Alternatively, if such proposal cannot be accepted, we need the appointed subagent(s) to the "Representative" to act on his behalf during the bidding process.	The condition(s) of Bidding Documents shall remain unaltered.	
				Our request is to cater for unexpected sudden event when the sole signer cannot be readily available. Please reconsider and amend the Employer's requirement as above for the smooth implementation of the bidding process.		
29	Part 1 Section III Evaluation and Qualification Criteria,	Clause 4.2.4 Page 29 of 31	Key Personnel	It is stipulated that "*Years of experience in similar works means experience in tunnel construction by TBM method / NATM method."  We understand that "/" in the above sentence stands for "OR".  Please confirm.	Bidder's understanding is correct.	

Sl. No Document	Page no / Clause No.	Provisions as Per-Bidding Documents/Subject/Title/Item as mentioned by the Bidder	Bidder Query	Employer's Reply
30 Part 1 Section IV Bidding Form & Addendum 4 Attachment 1 Item 406,		Reinforcement Steel and Glass Fibre reinforced rod	Notwithstanding the reference to Item 205, please confirm that the method of measurement shall be the summation of all individual reinforcement shown in the design drawings without deduction for the lap lengths in case of concrete segments.	The condition(s) of Bidding Document shall remain unaltered.
31 Part 2, Section VI-2	Sub-Clause 2.5, Page 8 of 199 & Addendum No. 3, Item No. 75 Page 5 of 6, & Addendum No.4, Item No. 13	MIDC Support System	From the description of the revised requirement and the scope of works inclusive of the design, we understand that this is a temporary structure to be demolished after the tunnel pass through this area. Please confirm.	
32 Part 2, Section VI-1 General Specifications Division 04040	Clause 2.15 Page 27 of 100 and Division 04100 Clause 2 Page 69 of 100	04040 Interface, Coordination and Cooperation with Other Parties Clause 2.15  04100 Milestones  Clause 2 Milestone Schedules	In relation to the Employer's Reply to Query No. 139, please confirm if our understanding is correct.  Suppose the Contractor is liable to delay damage to any Milestone as stipulated in the Milestone Schedules under General Specifications 04100 "Milestones". Then, they will not be liable to pay additionally/deducted furthermore, under Clause 2.15 of General Specifications 04040 stipulating that the matter be "settled by the Engineer under Sub-Clause 3.5 [Determination] and Sub- Clause 2.5 [Employer's Claim] of the General Conditions of Contract".	The condition(s) of Bidding Documents shall remain unaltered.
33 Part 2, Section VI-2	Sub-Clause 4.24 As amended by Addendum No. 3 Page 52 of 58	General Arrangement of Steel Segment for all type.	The revised provision of Sub-Clause 4.24 allows the infill concrete of the steel segment be carried out at the fabrication yard or in situ.  However, this proposal shall also mean that there may be some sections which have to be boxed out due to the presence of holes for bolt and grout socket etc.  If box-outs are filled by concrete after installation, the concrete, if not done properly, may peel off during operation due to poor bonding.  Kindly advise your requirements for such case, or if we are allowed to leave out these boxed-out areas.	The box-out areas are to be filled up completely. The Contractor shall submit method statement for the same to the Engineer to obtain approval.

Sl. No	Document	Page no / Clause No.	Provisions as Per-Bidding Documents/Subject/Title/Item as mentioned by the Bidder	Bidder Query	Employer's Reply
34	Part 2, Section VI-3 Drawings from Addendum No. 2		General Arrangement of Steel Segment for all type.	The tender drawings do not show any ring connection bolt at the receiving girder position of steel segment rings.  Please provide us the ring connection bolts details.	Refer Addendum No. 6 Item No. 1.
	B. TBM Drawings TD-JIC-IC1-TDC-B01-UST-NTU- 1088000-1388000 (NEW) & 14071000-14122000 (NEW) & 14182000-1423000 (NEW) & 14298000-14347000 (NEW) & 14415000-14499000 (NEW)				
35	Part 2, Section VI-3 Drawings from Addendum Nos. 2 and 3  B. TBM Drawings TD-JIC-IC1-TDC-B01-UST-NTU- 14420000 (NEW)		General Arrangement of Bolt Sockets for Steel Segment (ST-6)(6) (at Location of Equipment Room Type A2&B2 (Both Side-TDS)	The connection details between main tunnel steel segments and equipment room steel segments are not provided in Addendum Nos. 2 & 3 Drawings.  Please provide us the connection details	Refer Addendum No. 6 Item No. 1.
36	Part 2 Section V1-3 Drawings from Addendum No. 2		Equipment Room's Main Girder Plate Thickness	Bidder understands that Equipment Room Type A1 and A2 shown on the Drawing Nos. TD-JIC-IC1-TDC-B01-UST-NTU-13250000~13280000 (NEW) and 13420000~13450000 (NEW) are the similar conditions for all aspects.	The thickness shown in the Drawings is correct.

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B. TBM DRAWINGS	Pages 130 to 133 of 205		But we note that the thickness of main girder plate for A1 and A2 are 40mm and 36mm respectively.	
TD-JIC-IC1-TDC- B01-UST-NTU- 13250000~13280000 (NEW)			Therefore, please clarify that the two different thicknesses are correct for the bidder's costing.  STEEL SEGMENT FOR EQUIPMENT ROOM (TYPE A1) TYPICAL PART (2)  ATYPE SEGMENT S=1:10	
and	and		4135 292 4135 292 4198 4198 4198 4198 4198 4198 4198 4198	
TD-JIC-IC1-TDC- B01-UST-NTU- 13420000~13450000 (NEW)	Pages 147 to 150 of 205		SUPPORT PARE  SUPPORT PARE  SOUTH PARE  SO	
			STEEL SEGMENT FOR EQUIPMENT ROOM (TYPE A2) TYPICAL PART (2)  A TYPE SEGMENT S=1:10	
			A TYPE SEGMENT S=1:10  4135  4921  4932  4932  4934  4935  59415-23300	
37 Part 2 Section V1-3		Equipment Room's Main Girder Plate Thickness	Bidder understands that Equipment Room Type B1 and B2 shown on the Drawing	The thickness shown in the
Drawings from Addendum No. 2			Nos. <b>TD-JIC-IC1-TDC-B01-UST-NTU-13590000~13610000</b> ( <b>NEW</b> ) and <b>13780000~13800000</b> ( <b>NEW</b> ) are the similar conditions for all aspects.	Drawings is correct.
B. TBM DRAWINGS			But we note that the thickness of main girder plate for B1 and B2 are 50mm and 36mm respectively.	
TD-JIC-IC1-TDC- B01-UST-NTU- 13590000~13610000 (NEW)	Pages 164 to 166 of 205		Therefore, please clarify that the two different thicknesses are correct for the bidder's costing.	
TD-JIC-IC1-TDC- B01-UST-NTU- 13780000~13800000	Pages 183 to 185 of 205			

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	(NEW)			STEEL SEGMENT FOR EQUIPMENT ROOM (TYPE B1) TYPICAL PART (2)  A TYPE SEGMENT  SOLUTION OF THE SEGMENT S	
38	Part 2 Section V1-3 Drawings from Addendum No. 2 G. COMMON DRAWINGS TD-JIC-IC1-TDC-B07-UST-NTU- 00430000 (NEW)	Page 7 of 19	Discrepancy on the drawing.	1. Drawing 00430000 / PERMANENT REINSTATEMENT AND ASSOCIATED WORKS (DETAIL OF DRAIN) (1)  There are discrepancies between SECTION DRAIN D2 and COVER DETAILS FOR DRAIN D2.  PERFORATED COVER  PERFORATED COVER  PERFORATED COVER  SECTION DRAIN D2 (500(W) X 500(D))  SCALE 1.15	Refer Addendum No. 6 Item No. 1.

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				16 Ø ROD16 Ø ROD INSERTED & BENT AFTER CASTING 6 NOS-12 Ø 50 Ø HOLE  16 Ø ROD INSERTED & BENT AFTER CASTING 6 NOS-12 Ø  240 150 150 240  88 ENT AFTER CASTING 6 NOS-12 Ø 4 NOS-16 Ø  COVER DETAILS FOR DRAIN D2 SCALE 1:25  Please provide the correct information.	
39	Part 2 Section V1-3	Page 11 of	Discrepancy on the drawing.	1. Drawing 00470000 / PERMANENT REINSTATEMENT AND ASSOCIATED	Refer Addendum No. 6 Item
	Drawings from Addendum No. 2	19		WORKS (DETAIL OF CATCH PIT – TYPE B)  There are discrepancies between Section-AA and BB.	No. 1.
	G. COMMON DRAWINGS				
	TD-JIC-IC1-TDC- B07-UST-NTU- 00470000 (NEW)				

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			P.C.C 200 200 16-16 NOs-16T  SECTION B-B SCALE 120  Please provide the correct information.	
40 Part 2 Section V1-3		Missing formation levels	DRAWING 20520000 / MAIN TUNNEL PORTAL-PERMANENT REINSTATEMENT AND ASSOCIATED WORKS (BOUNDARY WALL)	Refer Addendum No. 6 Item No. 1.
Drawings from			<u>and</u>	The turfing work may follow contour of existing slope on

Sl. No Docum	Page no / Clause No	Provisions as Per-Bidding Documents/Subject/Title/Item as mentioned by the Bidder	Bidder Query	Employer's Reply
Addendum M E. NATM (I TUNNEL) DRAWING TD-JIC-ICI	MAIN SS Page 36 of		DRAWING 20490002 / MAIN TUNNEL PORTAL-PERMANENT REINSTATEMENT AND ASSOCIATED WORKS (GENERAL ARRANGEMENT DRAWING)  There are no formation levels shown on both drawings 20520000 (NEW) and	Site with the approval of the Engineer.
B07-UST-N 20520000 (N	TU- 37		20490002 (REVISED).  Please clarify the following:	
Drawings fro			<ol> <li>Can the site clearance and turfing works follow the contour of the existing slope on site?</li> <li>This shall mean that the top 300mm of existing slope shall be trimmed off for</li> </ol>	
Attachment NATM (MA TUNNEL) DRAWING	AIN 134		replacement with topsoil and then turfing on top.	
TD-JIC-IC1 B07-UST-N 20490002 (REVISED)	TU-			
Part 3 Section Particular Co (PC) Part A- Data	onditions Clause.14.	Plant and Materials 5,	1. In relation to the Employer's Reply to Query No. 182 provided on 29th July 2019, we understand that the steel reinforcements used for tunnel segments will be paid when the material arrives at the segment factory. Please confirm.	<ol> <li>Bidder's understanding is correct.</li> <li>Refer Addendum No.</li> </ol>
			2. In addition, please add another pay item, in the form of instalments, for the delivery of segment accessories such as dowels,	6 Item No. 12.
42 Part 3 Section Particular Co (PC) Part A- Data	onditions Clause.14.	Plant and Materials 5,	In relation to the Employer's Reply to Query No. 182 provided on 29th July 2019, we would like to request the Employer to kindly accept the following alternative to the provisions stated in the current Bidding Documents. This is because the Contractor cashflow will be significantly negative. The negative cashflow does not dissolve even if we can receive 15% of Accepted Contract Amount as the Advance Payment;	
			Please add separated BOQ item for payment as per "Completion of Tunnel Segment Factory"	

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43 Part 3, Section VIII, PC Part A CL. 14.2	Page 6 of 33	Advance Payment	In relation to the Employer's Reply to Query No. 221 provided on 29th July 2019, we would like to request the Employer to kindly accept the following alternative to the provisions stated in the current Bidding Documents;	Refer Addendum No. 6 Item No. 9.
			We believe that the application of the original contract provisions is not practical because it includes complications in the definition of the advance payment. Furthermore, as discussed in the Pre-Bid Meeting, cashflow of the Contractor will be significantly negative. We expect the cash flow to be negative during construction period even if we choose to submit retention guarantee due to various factors such as purchasing of equipment, GST, TDS etc. The negative cashflow does not dissolve even if we can receive 15% of Accepted Contract Amount as the Advance Payment.	
			In consideration of the above situation, we would like to request again the Employer to support the Contractor's cashflow by accepting our following alternative proposals.	
			The first alternative proposal for relieving the aforementioned cashflow issue is as follows:	
			The Advance Payment to be a straightforward "15% (fifteen percent) of the Accepted Contract Amount payable in the currencies and proportions in which the Accepted Contract Amount is payable."	
44 Part 3, Section VIII, PC Part A CL. 14.2	Page 6 of 33	Advance Payment	The second alternative proposal for relieving the aforementioned cashflow issue is as follows:  The procurement of three TBMs to be separate BOQ items for each TBM	The condition(s) of Bidding Documents shall remain unaltered.
			with payment to be progressively measured in accordance with progress of procurement as follows;	
			1) 30% upon submission of proof of placement of order,	
			2) 60% upon successful factory inspection,	
			3) 5% upon arrival at Site, and	
			5% upon successful launch.	
Part3 Section VIII Particular Conditions, Part A Contract Data,	CL. 1.1.3.3 Page 5 of 33	Time for Completion	In relation to the No. 107 and No. 108 of the Addendum No.3 provided on 29th July 2019, please hold the 2nd Pre-Bid Meeting for clarifications regarding the background and basis of "Time for Completion" provided in the above Addendum.	

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46	Part3 Section VIII Particular Conditions, Part A Contract Data,	CL. 2.1 Page 6 of 33	Time for Access to, and possession of all parts of, the Site	for Co	mpletion,		truction period to meet Time uction area for Shaft 2 on the	Refer Addendum No. 6 Item No 7 & 8.	
47	Part 2 Section V1-3 Drawings from Addendum#4  A. LIST OF REVISED DRAWINGS TD- JIC-IC1-TDC-B01-	Page 91 of 139	Discrepancy on the drawing.		Drawing 00170002 / WORK AREA ACCESS PLAN SHAFT-3  There are discrepancies between ACCESS AREA COORDINATES Table and POINT ID stipulated on the drawing.  ACCESS AREA COORDINATES				Refer Addendum No. 6 Item No. 1.
	UST-NTU- 00170002			\$.NO. 1 2 3 4 5 6 7 8 9 10 11	POINT ID  RB 8'  RB 7  RB 6  RB 5  RB 4A  RB 4A1  B 4  RB 4A2  RB 11  RB 10'  RB 9	EASTING  290619.2690  290649.0993  290690.9450  290737.2343  290755.7540  290777.1024  290758.7282  290759.2921  290755.5434  290597.5487  290601.6654	NORTHING 2114517.3890 2114525.2626 2114536.3118 2114548.5393 2114553.4204 2114559.0485 2114617.7034 2114617.8378 2114633.7843 2114591.7820 2114576.4308		

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				Please provide correct information.	