



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

Date: 07 - August - 2019

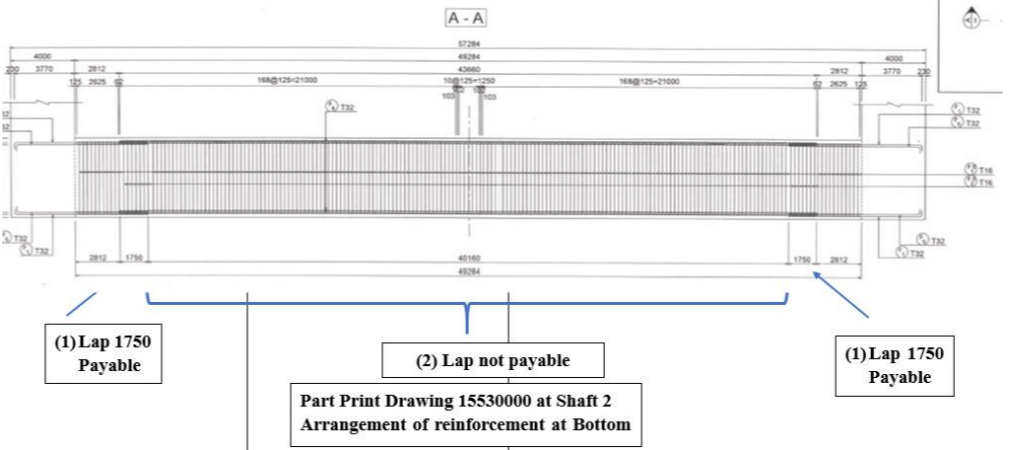
Response to Bid Queries-3

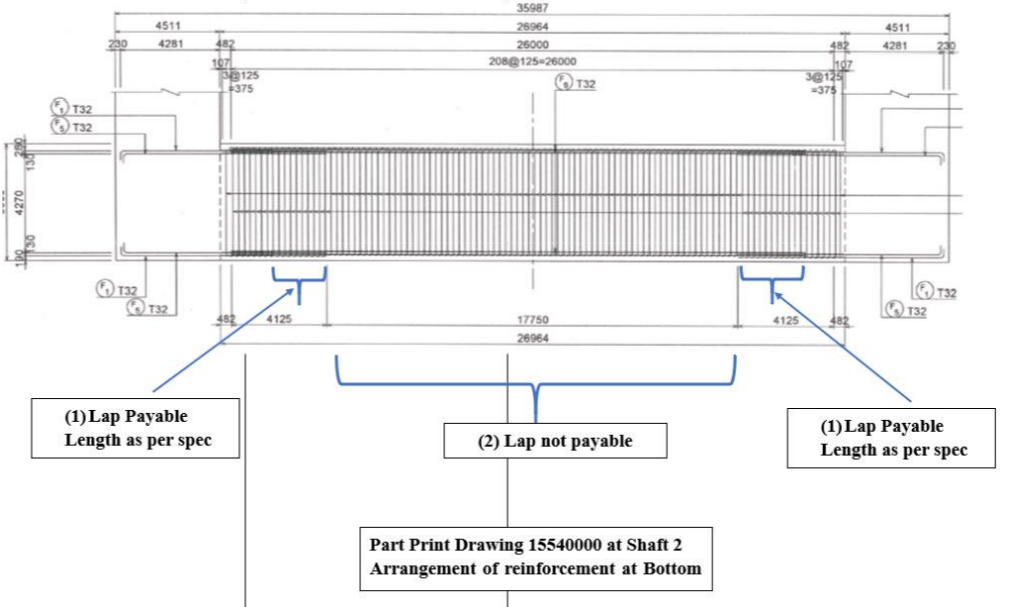
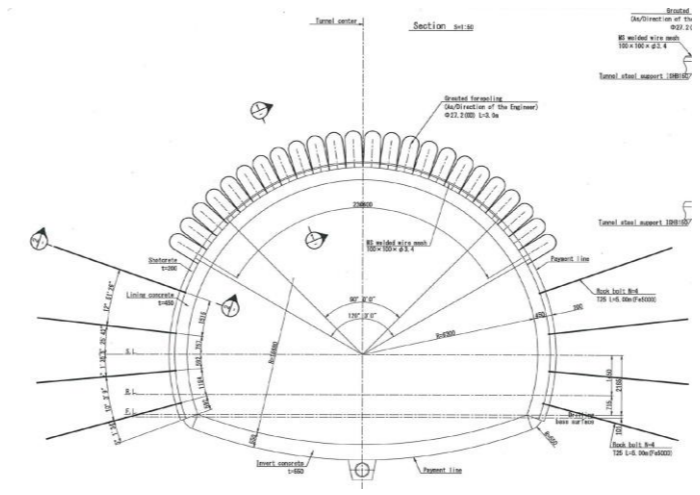
No.	Part & Section Reference	Page No. / Clause No.	Provisions as Per-Bidding Documents	Bidder Query	Employer's Reply																																																								
1.	Part 1 Section IV Bidding Forms	Page 10 of 159	1.1.Schedule of Adjustment Data Table B. Foreign Currency (FC)	<p>Reference is made to Table B below:</p> <p>Foreign Currency (FC) _____ [Insert name of currency; if the Bidder wishes to quote in more than one foreign currency then this table should be repeated for each foreign currency].</p> <table border="1" data-bbox="1463 667 2131 1304"> <thead> <tr> <th>(1)</th> <th>(2)</th> <th>(3)</th> <th>(4)</th> <th colspan="2">(5)</th> <th>(6)</th> </tr> <tr> <th>Index code</th> <th>Index description</th> <th>Source of index</th> <th>Base value and Date</th> <th>Bidder's related currency Amount (FC)</th> <th>Bidder's Proposed Weightage</th> <th>Prescribed Weightage by Employer</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Non-Adjustable</td> <td>-</td> <td>-</td> <td>**</td> <td>0.20</td> <td>A: 0.20</td> </tr> <tr> <td>B</td> <td>Labour</td> <td>Bidder to specify</td> <td>Bidder to specify</td> <td>**</td> <td>*</td> <td>B: 0.28-0.32</td> </tr> <tr> <td>C</td> <td>Petroleum & Coal product</td> <td>Bidder to specify</td> <td>Bidder to specify</td> <td>**</td> <td>*</td> <td>C: 0.13-0.15</td> </tr> <tr> <td>D</td> <td>Iron & Steel</td> <td>Bidder to specify</td> <td>Bidder to specify</td> <td>**</td> <td>*</td> <td>D: 0.28-0.32</td> </tr> <tr> <td>E</td> <td>Electric power, Gas & Water</td> <td>Bidder to specify</td> <td>Bidder to specify</td> <td>**</td> <td>*</td> <td>E: 0.04-0.06</td> </tr> <tr> <td colspan="4">Total</td> <td>**</td> <td>1.00</td> <td></td> </tr> </tbody> </table> <p>We note that the classifications and prescribed weightages are stated as follows;</p> <p>A. Non-Adjustable: 0.20</p> <p>B. Labour: 0.28-0.32</p> <p>C. Petroleum & Coal product: 0.13-0.15</p> <p>D. Iron & Steel: 0.28-0.32</p> <p>E. Electric power, Gas & Water: 0.04-0.06</p> <p>Our queries are:</p> <p>1) We note that the classification covers labour and material only.</p>	(1)	(2)	(3)	(4)	(5)		(6)	Index code	Index description	Source of index	Base value and Date	Bidder's related currency Amount (FC)	Bidder's Proposed Weightage	Prescribed Weightage by Employer	A	Non-Adjustable	-	-	**	0.20	A: 0.20	B	Labour	Bidder to specify	Bidder to specify	**	*	B: 0.28-0.32	C	Petroleum & Coal product	Bidder to specify	Bidder to specify	**	*	C: 0.13-0.15	D	Iron & Steel	Bidder to specify	Bidder to specify	**	*	D: 0.28-0.32	E	Electric power, Gas & Water	Bidder to specify	Bidder to specify	**	*	E: 0.04-0.06	Total				**	1.00		The condition(s) of Bidding Documents shall remain unaltered.
(1)	(2)	(3)	(4)	(5)		(6)																																																							
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Total				**	1.00																																																								



No.	Part & Section Reference	Page No. / Clause No.	Provisions as Per-Bidding Documents	Bidder Query	Employer's Reply
				<p>Please clarify if the cost of machinery and equipment to be imported, such as TBM, can be classified under Index Code D?</p> <p>Please re-consider the classification.</p> <p>2) Notes (c) stipulates that "Bidder's Proposed Weightage: The Bidders shall specify amount & evaluated Weightage in each box marked "***" and "*" respectively of columns (5), within the ranges given by the Employer in column (6), so that the total weightage of each schedule equals 1.00."</p> <p>However, we are of the opinion that our estimation may not meet the Prescribed Weightage by Employer in certain classification; for example, in cases where the labour share in a certain currency might be less.</p> <p>Please consider allowing the Bidder's Proposed Weightages to be out of your ranges in column (6), provided that the total weightages of Index Code B to E equals 0.80.</p>	
2.	Part 2 Section VI-1 General Specifications 07020 & Section VI-2 Technical Specifications 4. Technical Specifications for Tunnelling by TBM	CL. 9.2 GS Page 27 of 33 & CL. 4.9 TS Page 40 of 199	<p>GS CL. 9.2 Constructional Mock-Ups</p> <p>The Contractor shall construct, maintain, and remove (all at his cost) any mockups that are specified in the Contract.</p> <p>TS CL. 4.9 Mock-up of segmental lining</p> <p>The Contractor shall arrange for mock-up of complete section of TBM tunnel consisting of 2 rings length in the casting yard.</p> <p>This mock up shall consist of complete lining including all joint material, backfill concrete, track bed, inserts for drop arms, cable ducts, walkways, drainage arrangement complete in all respects as per the Drawings.</p>	<p>Mock-up specified in the Contract is "Mock-up of segmental lining" in TS 4.9 only.</p> <p>Please confirm if our understanding is correct.</p>	Bidder's understanding is correct.



No.	Part & Section Reference	Page No. / Clause No.	Provisions as Per-Bidding Documents	Bidder Query	Employer's Reply
3.	Part 2 Section VI-2 Technical Specifications 8 METHOD OF MEASUREMENT FOR PAYMENT & Drawings "Arrangement of Reinforcement for ####" as per newly issued at Addendum #2 dated 10 July 2019. For this clarification, we refer to part print of drawing Nos. TD-JIC-IC1-TDC-B01-UST-NTU-15530000 and 15540000 of Shaft 2.	CL.205 Reinforcement Steel Page 176 of 199 &	Lapped splices of reinforcement steel	<p>CL.205 stipulates that "The quantity of reinforcement steel shall be measured in MT as per the Drawings. Wastages, lapped splices, mechanical joints, spacer bars, chairs, assembly reinforcement steel and binding wire, etc. shall not be measured and cost of these items shall be deemed to be included in the rates. The payment for the item shall be made at Unit Rate per MT, entered in the Priced Bill of Quantities."</p> <p>On the other hand, tender drawings "Arrangement of Reinforcement for ####" show only lapped splices (1) between rebars with different number (ID). And the Contractor needs to add lapped splices (2) on bars that are too long.</p> <p>Please confirm that</p> <p>(1) lapped splices shown in Tender Drawings are measured for payment and that</p> <p>(2) lapped splices to be added by the Contractor shall not be measured.</p> 	The condition(s) of Bidding Documents shall remain unaltered. No lapped splices shall be payable even if it is shown in the Drawings.

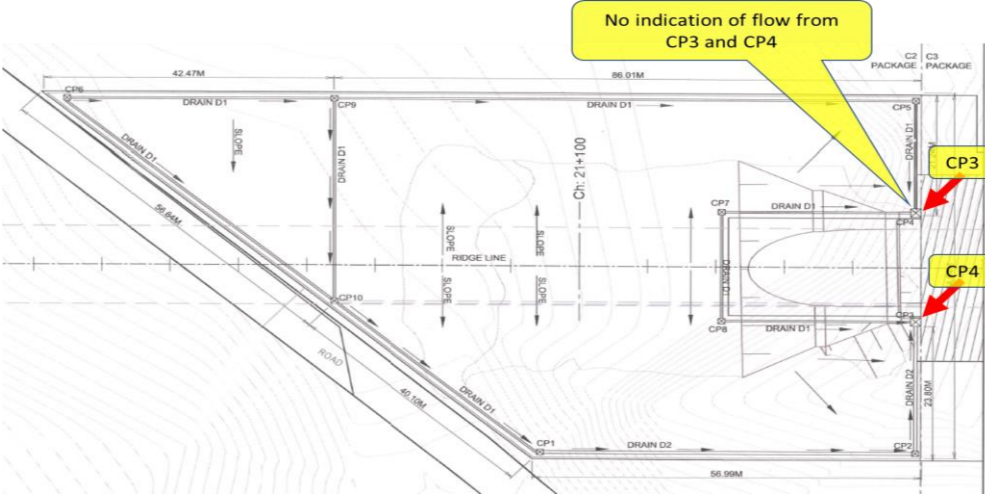
No.	Part & Section Reference	Page No. / Clause No.	Provisions as Per-Bidding Documents	Bidder Query	Employer's Reply
				 <p style="text-align: center;">Part Print Drawing 15540000 at Shaft 2 Arrangement of reinforcement at Bottom</p>	
4.	Part 2 Section VI-2 Technical Specifications	CL. 502 (a) Page 187 of 199	Temporary Supports Shotcrete - Measurement for payment of various sub-items shall be in sqm of the area of shotcrete measured inner face of Shaft-3 to start of cut and cover tunnel as shown on the Drawings or established at the Site by the Engineer. The length of shotcrete shall be measured at the centre line of the tunnel. The width of the shotcrete shall be measured as per payment line shown in the Drawings. No deduction shall be made for opening of Equipment Rooms. Payment shall be made at the Unit Rate per sqm entered in the Priced Bill of Quantities.	Please confirm "the payment line shown in the drawings" for temporary supports are payment limit for shotcrete only. Typical sketch below is extracted from dwg no. TD-JIC-IC1-TDC-B01-UST-NTU-20100000 	Bidder's understanding is correct.
5.	Part 2 Section VI-3 Drawings from Addendum #2 C. SHAFT-2	Pages 114 & 115 of 119	Missing drawing & confirmation of drawing	1. <u>Drawing 16290000 / SHAFT-2 - PERMANENT REINSTATEMENT AND ASSOCIATED WORKS (RETAINING WALL) (1)</u> Drawing is listed in "NEW LIST OF DRAWINGS as per Attachment of Addendum No. 2 but is not found in the actual set of pdf drawings. Please provide us the missing drawing	1. Refer Addendum No. 4 Item No. 3. 2. Refer Addendum No. 4 Item No. 2.

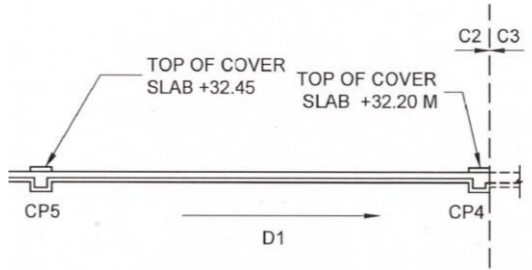
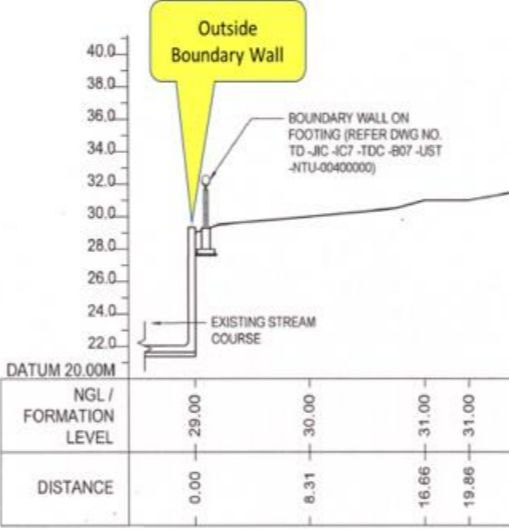


No.	Part & Section Reference	Page No. / Clause No.	Provisions as Per-Bidding Documents	Bidder Query	Employer's Reply
	DRAWINGS TD-JIC-IC1- TDC-B01-UST- NTU- 16290000 (NEW) & 16300000 (NEW)			<p>2. <u>Drawing 16300000 / SHAFT-2 - PERMANENT REINSTATEMENT AND ASSOCIATED WORKS (RETAINING WALL) (2)</u></p> <p>There are two versions in the actual set of pdf drawings; on pages 114 and 115 of 119 as indicated respectively below.</p> <p>Please confirm the correct version.</p> <div style="display: flex; justify-content: space-around;"> <div data-bbox="1320 485 1762 1291"> <p>REFERENCE DRAWINGS</p> <ol style="list-style-type: none"> SHAFT 2 - RETAINING WALL (1) TD-JIC-IC1-TDC-B01-UST-NTU-16290000 SHAFT 2 - ROAD (1) TD-JIC-IC1-TDC-B01-UST-NTU-16300000 DETAIL OF BOUNDARY WALL ON RETAINING WALL TD-JIC-IC7-TDC-B07-UST-NTU-00420000 DETAIL OF DRAIN (2) TD-JIC-IC7-TDC-B07-UST-NTU-00440000 DETAIL OF GATE (G1) TD-JIC-IC7-TDC-B07-UST-NTU-00490000 <p>GENERAL NOTES</p> <ol style="list-style-type: none"> ALL DIMENSIONS ON DRAWINGS ARE SHOWN IN MM. DRAWINGS NOT TO BE SCALED, ONLY WRITTEN DIMENSIONS TO BE FOLLOWED. ALLOWABLE SBC SHALL BE 16TSQM OR MORE, THE SAME SHALL BE CONFIRMED BY PLATE LOAD TEST PRIOR TO CONSTRUCTION. GRADE OF CONCRETE SHALL BE M-35 AS PER IS:456. GRADE OF REINFORCEMENT SHALL BE F4500 AS PER IS:1786. CLEAR COVER TO MAIN REINFORCEMENT SHALL BE AS FOLLOWS:- a) RETAINING WALL = 40 mm SURCHARGE LOAD FOR ALL WALL = 25KN/M² BACKFILLING WITH SUITABLE MATERIAL IN LAYERS NOT EXCEEDING 300MM IN THICKNESS TO ACHIEVE 90% COMPACTION. <p>Adopted by: NHSRCL</p> <p>Title: SHAFT 2 - PERMANENT REINSTATEMENT AND ASSOCIATED WORKS (RETAINING WALL) (2)</p> <p>Scale: 1:25 @ A1</p> <p>Drawing No. TD-JIC-IC1-TDC-B01-UST-NTU-16300000</p> </div> <div data-bbox="1804 485 2237 1291"> <p>REFERENCE DRAWINGS</p> <ol style="list-style-type: none"> SHAFT 2 - RETAINING WALL (1) TD-JIC-IC1-TDC-B01-UST-NTU-16290000 SHAFT 2 - ROAD (1) TD-JIC-IC1-TDC-B01-UST-NTU-16300000 DETAIL OF BOUNDARY WALL ON RETAINING WALL TD-JIC-IC7-TDC-B07-UST-NTU-00420000 DETAIL OF DRAIN (2) TD-JIC-IC7-TDC-B07-UST-NTU-00440000 DETAIL OF GATE (G1) TD-JIC-IC7-TDC-B07-UST-NTU-00490000 <p>GENERAL NOTES</p> <ol style="list-style-type: none"> ALL DIMENSIONS ON DRAWINGS ARE SHOWN IN MM. DRAWINGS NOT TO BE SCALED, ONLY WRITTEN DIMENSIONS TO BE FOLLOWED. GRADE OF CONCRETE SHALL BE M-35 AS PER IS:456. HOT ROLLED DEFORMED BARS WITH CHARACTERISTIC STRENGTH F_{yk} = 500D (IS 1786) SHALL BE USED FOR REINFORCEMENT. CLEAR COVER TO MAIN REINFORCEMENT SHALL BE AS FOLLOWS:- a) RETAINING WALL = 40 mm SURCHARGE LOAD FOR ALL WALL = 25KN/M² BACKFILLING WITH SUITABLE MATERIAL IN LAYERS NOT EXCEEDING 300MM IN THICKNESS TO ACHIEVE 90% COMPACTION. ALL STRUCTURES HAVE BEEN DESIGNED FOR A SAFE BEARING CAPACITY OF 16TSQM FOR THE SOIL. <p>Adopted by: NHSRCL</p> <p>Title: SHAFT 2 - PERMANENT REINSTATEMENT AND ASSOCIATED WORKS (RETAINING WALL) (2)</p> <p>Scale: 1:25 @ A1</p> <p>Drawing No. TD-JIC-IC1-TDC-B01-UST-NTU-16300000</p> </div> </div>	
6.	Part 2 Section V1-3 Drawings from Addendum #2 B-TBM DRAWINGS TD-JIC-IC1- TDC-B01-UST- NTU- 10490001 (Revised) ~	Pages 27 ~ 31 of 164	Discrepancy between drawings Note.	<p>There is a discrepancy between Note 5 of <u>Drawing No. 10490001 / TBM – CENTER DRAINAGE PIPE DETAIL</u> and <u>Note 6 of Drawings No. from 10500001 to 10530001 / TBM – GENERAL ARRANGEMENT OF EQUIPMENT ROOM</u> regarding the scope of work of E1 and C2 contractor.</p> <p>(Refer to below sketch)</p> <p>Please clarify the contractor for the following scope of works.</p> <ol style="list-style-type: none"> Handhole at all equipment room locations Handhole cover at all equipment room locations Cable pit inside all equipment rooms Cable pit cover inside all equipment rooms 	Refer Addendum No. 4 Item No. 2. Refer Sub-Division 01020 of the General Specifications, Section VI-1, Part 2 for scope of work.

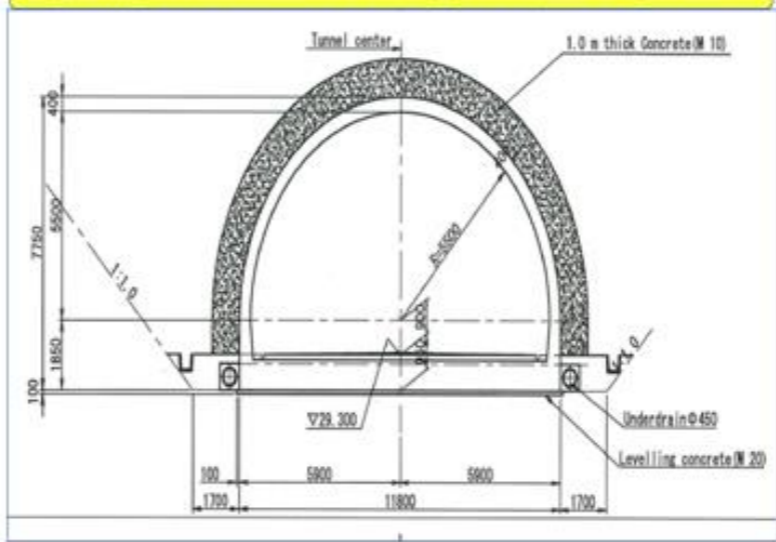
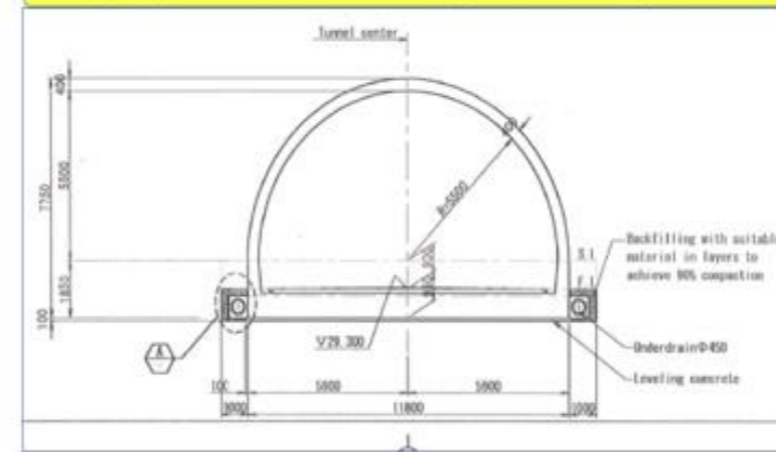


No.	Part & Section Reference	Page No. / Clause No.	Provisions as Per-Bidding Documents	Bidder Query	Employer's Reply										
	10530001 (Revised)			<table border="1"> <tr> <td data-bbox="1320 195 1765 241">5. Handhole & cable pit covers shall be scope of E1 Contractor.</td> <td data-bbox="1765 195 2240 241">6. Handhole covers shall be in scope of E1 Contractor and cable pit covers shall be in scope of C2 Contractor.</td> </tr> <tr> <td data-bbox="1320 268 1765 304">Adopted by: NHSRCL</td> <td data-bbox="1765 268 2240 304">Adopted by: NHSRCL</td> </tr> <tr> <td data-bbox="1320 338 1765 388">Title CENTER DRAINAGE PIPE DETAIL</td> <td data-bbox="1765 338 2240 388">Title GENERAL ARRANGEMENT OF EQUIPMENT ROOM (1) (TYPE - A)</td> </tr> <tr> <td data-bbox="1320 409 1765 430">Scale S-1:30, 1:60 @A1</td> <td data-bbox="1765 409 2240 430">Scale S-1:60 @A1</td> </tr> <tr> <td data-bbox="1320 441 1765 472">Drawing No. TD-JIC-IC1-TDC-B01-UST-NTU-10490001</td> <td data-bbox="1765 441 2240 472">Drawing No. TD-JIC-IC1-TDC-B01-UST-NTU-10500001</td> </tr> </table>	5. Handhole & cable pit covers shall be scope of E1 Contractor.	6. Handhole covers shall be in scope of E1 Contractor and cable pit covers shall be in scope of C2 Contractor.	Adopted by: NHSRCL	Adopted by: NHSRCL	Title CENTER DRAINAGE PIPE DETAIL	Title GENERAL ARRANGEMENT OF EQUIPMENT ROOM (1) (TYPE - A)	Scale S-1:30, 1:60 @A1	Scale S-1:60 @A1	Drawing No. TD-JIC-IC1-TDC-B01-UST-NTU-10490001	Drawing No. TD-JIC-IC1-TDC-B01-UST-NTU-10500001	
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Adopted by: NHSRCL	Adopted by: NHSRCL														
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Scale S-1:30, 1:60 @A1	Scale S-1:60 @A1														
Drawing No. TD-JIC-IC1-TDC-B01-UST-NTU-10490001	Drawing No. TD-JIC-IC1-TDC-B01-UST-NTU-10500001														
7.	Part 2 Section V1-3 Drawings from Addendum #2 A. GENERAL DRAWINGS TD-JIC-IC1-TDC-B01-UST-NTU-00170001 (NEW) and D. SHAFT-3 DRAWINGS TD-JIC-IC1-TDC-B01-UST-NTU-17380001 (REVISED)	Page 4 of 8 And Page 25 of 105	Missing information on the drawing and missing drawing.	<ol style="list-style-type: none"> <u>Drawing 00170001 / WORK AREA ACCESS PLAN SHAFT-3</u> No indications of location of "POINT ID" on the drawing as stipulated in the table of "ACCESS AREA COORDINATES". Please provide us the missing information. <u>Drawing 17380001 / SHAFT-3 - PERMANENT REINSTATEMENT AND ASSOCIATED WORKS (GENERAL ARRANGEMENT DRAWING)</u> "REFERENCE DRAWINGS" stipulate "1. WORKS AREA ACCESS PLAN SHAFT-3" TD-JIC-IC1-B01-UST-NTU-00170000". We consider that drawing 00170000 (from the original tender documents) has been superseded by 00170001 (Revised from Addendum #2). Please confirm our understanding and revise the above reference to be 00170001 in 17380001. <div data-bbox="1525 1306 2059 1759" data-label="Image"> </div>	Refer Addendum No. 4 Item No. 2.										

No.	Part & Section Reference	Page No. / Clause No.	Provisions as Per-Bidding Documents	Bidder Query	Employer's Reply
8.	Part 2 Section V1-3 Drawings from Addendum #2 E. NATM (MAIN TUNNEL) DRAWINGS TD-JIC-IC1-TDC-B01-UST-NTU-20490001 (REVISED)	Page 33 of 37	Stipulated information not in order between drawing and table.	<p>1. <u>Drawing 20490001 / MAIN TUNNEL PORTAL-PERMANENT REINSTATEMENT AND ASSOCIATED WORKS (GENERAL ARRANGEMENT DRWING)</u></p> <p>ID for PERMANENT AREA COORDINATES stipulated on the drawing are not in order as stipulated in the table.</p> <p>(For example: Easting (B6 – B6A) = 294357.4960 – 281361.0960 = 12996.4000 and Northing (B6 – B6A) = 2117626.1450 – 2112065.2100 = 5560.9400 Calculated distance (B6 – B6A) = 14,136.14M But distance stipulated on the drawing is 56.99M Therefore, there is a discrepancy of 14,079.15M.) Please review and provide us the correct information.</p>	Refer Addendum No. 4 Item No. 2.
9.	Part 2 Section V1-3 Drawings from Addendum #2 E. NATM (MAIN TUNNEL) DRAWINGS TD-JIC-IC1-TDC-B01-UST-NTU-20500001 (REVISED) And TD-JIC-IC1-TDC-B01-UST-NTU-20510000 (NEW)	Page 34 of 37 And Page 35 of 37	Request additional information on the drawing.	<p>1. <u>Drawing 20500001 / MAIN TUNNEL PORTAL-PERMANENT REINSTATEMENT AND ASSOCIATED WORKS (DRAINAGE) (1)</u></p> <p>Drainage flow directions are indicated toward CP3 and CP4. However, no indication of flow and outlet from CP3 and CP4 are provided.</p>  <p>Please provide us the details of flow and outlet from CP3 and CP4.</p> <p>2. <u>Drawing 20510000 / MAIN TUNNEL PORTAL-PERMANENT REINSTATEMENT AND ASSOCIATED WORKS (DRAINAGE) (2)</u></p> <p>No details of Catch Pit CP3 and CP4 where the drainage connection to Contract C3 package.</p>	<p>1. Refer Addendum No. 4 Item No. 2.</p> <p>2. Refer Addendum No. 4 Item No. 2.</p> <p>The connection details of drainage shall be interfaced with C3 Contractor during execution.</p>

No.	Part & Section Reference	Page No. / Clause No.	Provisions as Per-Bidding Documents	Bidder Query	Employer's Reply
				 <p data-bbox="1409 514 2270 598">Please provide connection details of drainage between Contract C2 and C3.</p>	
10.	Part 2 Section V1-3 Drawings from Addendum #2 F. NATM (ADIT TUNNEL) DRAWINGS TD-JIC-IC1-TDC-B01-UST-NTU-23440000 (NEW) and TD-JIC-IC1-TDC-B01-UST-NTU-23450000 (NEW)	Page 30 of 40 and Page 31 of 40	Confirmation for scope of works.	<ol style="list-style-type: none"> <li data-bbox="1350 630 2211 766">1. <u>Drawing 23440000 / ADIT TUNNEL PORTAL-PERMANENT REINSTATEMENT AND ASSOCIATED WORKS (BOUNDARY WALL) (2)</u> <li data-bbox="1350 787 2211 924">2. <u>Drawing 23450000 / ADIT TUNNEL PORTAL-PERMANENT REINSTATEMENT AND ASSOCIATED WORKS (BOUNDARY WALL) (3)</u> <p data-bbox="1409 955 2240 1144">Based on our site visit, we did not see the structure/shape of Existing Stream Course stipulated on above drawings. We understand that the scope of works at outside Boundary Wall is not under Contract C2. Please confirm.</p> 	The Bidder's understanding is correct.
11.	Part 2 Section V1-3 Drawings from Addendum #2	Pages 09 & 17 of 37 and	Underdrain Φ 450mm	Please provide the specifications / details of the underdrain pipe Φ 450mm as shown at the cut and cover portion of NATM (Main Tunnel & Adit Tunnel)	Refer Addendum No. 4 Item No. 2.

No.	Part & Section Reference	Page No. / Clause No.	Provisions as Per-Bidding Documents	Bidder Query	Employer's Reply
	<p>E. NATM (MAIN TUNNEL) DRAWINGS TD-JIC-IC1-TDC-B01-UST-NTU- 20240001 (REVISED) & 20310001 (REVISED)</p> <p>and</p> <p>F. NATM (ADIT TUNNEL) DRAWINGS TD-JIC-IC1-TDC-B01-UST-NTU- 23220001 (REVISED) & 23230001 (REVISED)</p>	<p>Pages 12 & 13 of 40</p>			
12.	<p>Part 2 Section V1-3 Drawings from Addendum #2</p> <p>E. NATM (MAIN TUNNEL) DRAWINGS TD-JIC-IC1-TDC-B01-UST-</p>	<p>Page 12 of 40 and</p> <p>Page 79 of 159</p> <p>And</p> <p>Page 88 of 159</p>	<p>Confirmation of drawings and omission of BOQ items.</p>	<p>1. <u>Drawing 20240001 / GENERAL DRAWING OF CUT-AND-COVER TUNNEL (2)</u></p> <p>2. <u>Drawing 2322001 / GENERAL DRAWING OF CUT-AND-COVER ADIT TUNNEL (2)</u></p> <p>We consider that drawing 20240000 and 23220000 (from the original tender documents) have been superseded by 20240001 and 23220001 (Revised from Addendum #2).</p>	<p>Refer Addendum No. 4 Item No. 1 and Item No. 2.</p>

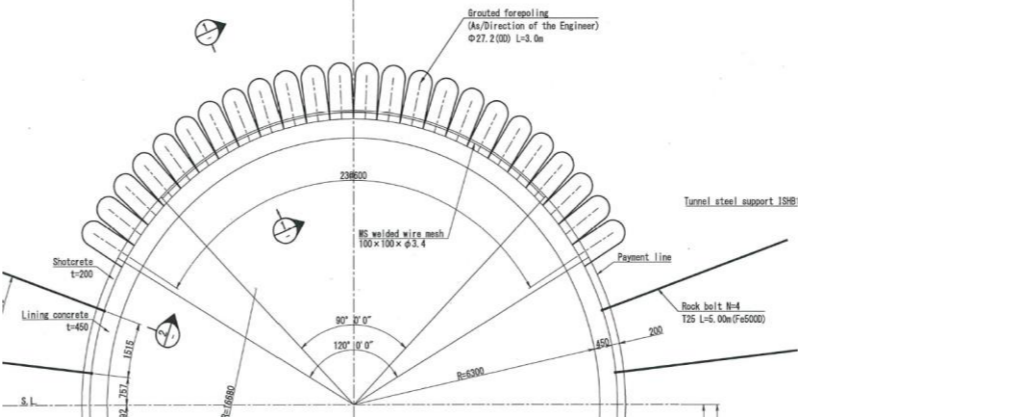
No.	Part & Section Reference	Page No. / Clause No.	Provisions as Per-Bidding Documents	Bidder Query	Employer's Reply
	<p>NTU- 20240001 (REVISED) Page 9 of 37 and F. NATM (ADIT TUNNEL) DRAWINGS TD-JIC-IC1-TDC-B01-UST-NTU-23220001 (REVISED)</p> <p>And</p> <p>Part 1 Section IV Bidding Forms Bill No. 5.1: Main Tunnel (Cut & Cover) Item no. 507 d) Plain cement concrete of grade M-20 over arch lining for 1.0m thickness</p> <p>and</p> <p>Bill No. 5.2: Adit</p>			<p>1.0 m thick Concrete over arch lining is stipulated on drawings 20240000 and 23220000.</p> <p>However, it is omitted on drawings 20240001 and 23220001.</p> <div data-bbox="1418 373 2142 926"> <p>Typical copy for 1.0 m thick Concrete over arch lining which is stipulated on dwg 23220000</p>  </div> <div data-bbox="1418 1010 2142 1472"> <p>Typical copy for 1.0 m thick Concrete over arch lining which is omitted on dwg 23220001</p>  </div> <p>Therefore, we consider that BOQ item 507 d) and 514 e) Plain cement concrete of grade M-20 over arch lining for 1.0m thickness are also omitted from the BOQ.</p> <p>Please confirm above our understanding and revise the BOQ.</p>	



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13.	Part 2 Section VI-4 Reference Information/Reports Att. 5A (i) Report - pages 4 to 8 of 50 Att. 5A (ii) Table - Att 6B. Status of As-Built Drawings - pages 2 of 24 Att. 2D - Topographical Survey - page 6 of 7	pages 10 to 33 of 50	48 no's of buildings which may be affected by the Tunnel Construction	<p>We check Attachments 5A, 6B and 2D and summarize findings in attached Table below.</p> <table border="1" data-bbox="1329 737 2261 1255"> <caption>MAHSR C2 - COMPARISON of 48 buildings which may be affected by the Tunnel Construction</caption> <thead> <tr> <th rowspan="2">Item No</th> <th colspan="4">Att. 5A (i) Report (48 nos affected)</th> <th colspan="3">Att. 5A (ii) Table (Overall 261 nos)</th> <th colspan="3">Att. 6B. Status of As-Built Drawings</th> <th colspan="3">Att. 2D Topographical Survey Page 6 of 7</th> <th rowspan="2">Clarification</th> </tr> <tr> <th>Sl. No. of Building</th> <th>Name of Building</th> <th>Chainage</th> <th>Area</th> <th>Sl. No. of Building</th> <th>Name of Building</th> <th>Risk Category</th> <th>Name of Building</th> <th>Chainage</th> <th>Status</th> <th>Sl. No. of Building</th> <th>Name of Building</th> <th>Chainage</th> <th>Cl. Diff (SA - 2D)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>97</td> <td>Dheeraj Realty</td> <td>2200</td> <td>2295</td> <td>2283</td> <td>97</td> <td>Dheeraj Realty</td> <td>TBA</td> <td>Low</td> <td></td> <td></td> <td></td> <td></td> <td>1. Type of building</td> </tr> <tr> <td>2</td> <td></td> <td></td> <td>4000</td> <td>4000</td> <td>4000</td> <td>75</td> <td>Slum</td> <td>Slum</td> <td>TBA</td> <td></td> <td></td> <td></td> <td></td> <td>1. Risk</td> </tr> <tr> <td>3</td> <td>110</td> <td>Unknown Building</td> <td>4300</td> <td>4300</td> <td>4300</td> <td>110</td> <td>Anchor Res. Dev.</td> <td>Slum</td> <td>TBA</td> <td></td> <td></td> <td></td> <td></td> <td>1. Type of building 2. Risk</td> </tr> <tr> <td>4</td> <td>151</td> <td>Maheshwari Kharola</td> <td>4644</td> <td>4684</td> <td>4664</td> <td>151</td> <td>Maheshwari Kharola</td> <td>TBA</td> <td>Medium to High</td> <td></td> <td></td> <td></td> <td></td> <td>1. Type of building</td> </tr> <tr> <td>5</td> <td></td> <td></td> <td>4835</td> <td>4835</td> <td>4835</td> <td>139</td> <td>Slum</td> <td>Slum</td> <td>TBA</td> <td></td> <td></td> <td></td> <td></td> <td>1. Risk</td> </tr> <tr> <td>6</td> <td></td> <td></td> <td>4814</td> <td>4830</td> <td>4872</td> <td>140</td> <td>Railway track</td> <td>Railway track</td> <td>TBA</td> <td></td> <td></td> <td></td> <td></td> <td>1. Risk</td> </tr> <tr> <td>7</td> <td>226</td> <td>Nirmal Bhawan</td> <td>15800</td> <td>15835</td> <td>15818</td> <td></td> <td></td> <td></td> <td></td> <td>MPCB</td> <td>16325</td> <td>Pending</td> <td>(502)</td> <td>MPCB</td> <td>16325</td> <td>(507)</td> <td>1. Name of Building 2. 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No. of Building	Name of Building	Chainage	Cl. Diff (SA - 2D)	1	97	Dheeraj Realty	2200	2295	2283	97	Dheeraj Realty	TBA	Low					1. Type of building	2			4000	4000	4000	75	Slum	Slum	TBA					1. Risk	3	110	Unknown Building	4300	4300	4300	110	Anchor Res. Dev.	Slum	TBA					1. Type of building 2. Risk	4	151	Maheshwari Kharola	4644	4684	4664	151	Maheshwari Kharola	TBA	Medium to High					1. Type of building	5			4835	4835	4835	139	Slum	Slum	TBA					1. Risk	6			4814	4830	4872	140	Railway track	Railway track	TBA					1. Risk	7	226	Nirmal Bhawan	15800	15835	15818					MPCB	16325	Pending	(502)	MPCB	16325	(507)	1. Name of Building 2. Chainage difference	8			15805	15800	15808	230				As on Key or Available	16380	Pending	(512)	As on Key or Available	16350	(482)	1. Chainage difference	9	351	Technocity	15915	15935	15975					Digital Edge Solutions	16475	Pending	(950)	Digital Edge Solutions	16475	(950)	1. Name of Building 2. 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14.	Part 1 Section IV Bidding Forms Bill of Quantities Item 407	Pages 69 of 159	Rebar Corrosion Monitoring System at NATM Tunnel	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	Refer Addendum No. 4 Item No. 1.																																																																																																																																																																																																																																																																				



No.	Part & Section Reference	Page No. / Clause No.	Provisions as Per-Bidding Documents	Bidder Query	Employer's Reply
	& Part 2 Section VI-3 Drawings 5. COMMON, TD- JIC-IC1-TDC-B01- UST-NTU- 00340000 and 00390000	Pages 11 & 16 of 16		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. Please confirm where to price for this item at the NATM Tunnel.	
15.	Section IV Bidding Forms Bills of Quantity Items 307, 324, 506 (b), and 513 (b) Section VI-4 Reference Information Att. 08 Information Drawings_2019040 9	Pages 38, 53, 78, 86 of 159 Page 22 of 26	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.” 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”. We would like to query the followings; 1. The drawing is located in Section VI-4, which is basically provided “for reference purpose only”. Please confirm the intention of this drawing. 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	Refer Addendum No. 4 Item No. 1.
16.	Part 1 Section IV Bidding Forms	Bills of Quantities Bill No. 502 (d) (ii) Page 73 of 159	Method of Measurement for Payment Excavation at NATM MAIN Tunnel Request for missing drawings	The details and location of grouted fore poling ϕ 27.2 x 4.0m long are not shown on the tender drawings. (Refer to part print of ϕ 27.2 x 3.0m below) Please provide the missing drawings accordingly.	Refer Addendum No. 4 Item No. 1.

No.	Part & Section Reference	Page No. / Clause No.	Provisions as Per-Bidding Documents	Bidder Query	Employer's Reply																
																					
17.	Drawing No. TD-JIC-IC1-TDC-B01-UST-NTU-17080000, 17090000, 17100000, and 17110000			<p>Numbers of doors on drawings is different with the door schedule and BQ. Please clarify.</p> <table border="1" data-bbox="1567 724 2033 829"> <thead> <tr> <th>Door Type</th> <th>BQ</th> <th>Door Schedule</th> <th>Drawings</th> </tr> </thead> <tbody> <tr> <td>(2) 1.5w x 2.5h</td> <td>11</td> <td>11</td> <td>10</td> </tr> <tr> <td>(3) 1.5w x 2.5h</td> <td>12</td> <td>10</td> <td>10</td> </tr> <tr> <td>(4) 2.5w x 2.5h</td> <td>-</td> <td>2</td> <td>2</td> </tr> </tbody> </table>	Door Type	BQ	Door Schedule	Drawings	(2) 1.5w x 2.5h	11	11	10	(3) 1.5w x 2.5h	12	10	10	(4) 2.5w x 2.5h	-	2	2	Refer Addendum No. 4 Item No. 1.
Door Type	BQ	Door Schedule	Drawings																		
(2) 1.5w x 2.5h	11	11	10																		
(3) 1.5w x 2.5h	12	10	10																		
(4) 2.5w x 2.5h	-	2	2																		
18.	Drawing No. TD-JIC-IC1-TDC-B01-UST-NTU-17350000			Ventilation Building Shaft-3, FI Floor, louver size 3800mm(w) x 4000mm(h) and 2500mm(w) x 4000mm(h) discrepancy with size stated in BQ. Please clarify	Refer Addendum No. 4 Item No. 1.																
19.	BOQ Items 501a), b) and c)			for Tunnel Excavation IVN, IIN and IIN, the quantities are 2,157m, 2,260m and 100m respectively. Also referring to BOQ Items 502a) i) and ii) for Temporary Supports, the quantities are 64,266m ² and 54,563m ² respectively. Shotcrete t=100mm is for Class IVN and t=150mm is for Class IIN and IIN. The length of Class IVN is shorter than Class IIN plus IIN, but the quantity of shotcrete t=100mm for Class IVN is bigger than Class IIN plus IIN. Please clarify	Refer Addendum No. 4 Item No. 1.																
20.	BOQ Items 502d) i) and ii)			for Grouted Fore Poling L=3.0m and L=4.0m, the quantities are 5,712 Nos. and 100Nos. respectively. There is no details and indication in the drawings for Main Tunnel. Please provide the details.	Refer Addendum No. 4 Item No. 1.																
21.	BOQ Items 510d) i) and ii)			for Grouted Fore Poling L=3.0m and L=4.0m, the quantities are 300Nos. and 100Nos. respectively. There is no details and indication in the drawings for	Refer Addendum No. 4 Item No. 1.																



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*				Adit Tunnel. Please provide the details.	