

<b>Metro Manila Subway Project Phase 1 Package CP106: E&amp;M Systems and Track Works</b>			
<b>ITEM NO.</b>	<b>REFERENCE/CLAUSE/ SECTION</b>	<b>QUERIES</b>	<b>RESPONSE</b>
<i>Volume I, Part 1 – Bidding Procedures</i>			
1.	Volume I, Invitation for Bids 6	At present, the whole world is under emergency due to the spread of Covid-19. The Philippines is under the Enhanced Community Quarantine until April 30, under the direction of President Rodrigo Roa Duterte, and also, Japan is declared a state of emergency until May 6, under the direction of Prime minister Shinzo Abe. Under these circumstances, each potential bidder has a significant problem in preparing for bids. Given this situation, we strongly request that the bidding period be extended up to at least 90 days after the emergency measures in both countries are lifted.	An extension was published under General Bid Bulletin No. 4 on 20 April 2020.

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<i>Volume II, Part 2 – Employer’s Requirements General Requirements</i>			
2.	Volume II. Part 2, Section VI Page-ERG-39 11.1 REMEDYING DEFECT	<p><i>“The Defect Notification Period of The Railway System shall be seven hundred thirty (730) days from the Handover of the Railway Systems”</i></p> <p>Package CP106 is split in two (2) sections as PO section (Completion of Trial Run until 257 weeks as per KD-PO-54) and Remaining Section (Completion of Works until 322 weeks as per KD-RS-14).</p> <p>The Contractor interprets that Defect Notification Period will also be split in PO section (upon the completion of Trial Run) and Remaining section (upon the completion of Works). Please clarify.</p>	<p>Yes, bidder’s understanding is correct.</p> <p>The opening of the railway is divided into two (2) separate sections</p> <p style="padding-left: 40px;">(i) The Partial Operability (PO) section; and (ii) (ii) The Remaining Operability (RO) Section</p> <p>Two separate Handover to the Operator for commencement of the revenue service with passenger.</p> <p>The Defect Notification Period (DNP) for these sections will commence after the completion of Trial Run that includes the entire railway assets not just Rolling Stocks.</p>
3.	Volume II, Part 2, Section VI Appendix 6, item 3 (General scope of interface)	As seen in the description of interfaces on item 3, many of the information is actually designed/ provided by other contractors –kindly provide information about status of other packages.	One Civil package covering the PO section is awarded as detailed design contract (CP101) RO sections civil contract packages are not

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			design build; detailed design is under preparation for construction contract Bid packages.
<i>Volume II, Part 2 – Employer’s Requirements, c) Technical Requirements (ERT)</i>			
4.	Volume II, Part 2, Section VI c) ERT, 2) SIG, Page SIG-2-1 2.1	What’s the exact location of the BOCC?	North Avenue Station. This Back up OCC is for emergency use only. Coordination with other relevant parties such as the Civil Contractor and the O&M Concessionaire via The Engineer is necessary during the detailed design stage.
5.	Volume II, Part 2, Section VI c) ERT, 2) SIG, Page SIG-2-4 2.1.4.2	Kindly re-confirm the temperature and humidity requirements. For instance, how to test to 100% humidity.	The table stands correct. Relative humidity is the amount of moisture in the air compared to what the air hold at that temperature. As an example when humidity is 100%, it means that the air is holding all the moisture that it can hold at the given temperature. It can be measured using a Psychrometer which contains a Dry-bulb and Wet-bulb thermometers. If the difference between Wet-

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			Bulb and Dry-Bulb temperature readings is zero, then the relative humidity is said to be 100 %.
6.	Volume 2, Part 2, Section VI c) ERT, 2) SIG, Page SIG-2-6 2.3.2 item 2)	Kindly note that as per industry accepted practices, signaling should not be used to perform track works preventive maintenance (detection of broken rail). It's also known that secondary train detection do not effectively detect cracked rails.	Bidders opinion is accepted. Secondary train detection could be an option in the event a tram loose communication and the interlocking fail to detect the absence of the train. Contractor to provide a risk a safe and reliable system with risk analysis to support the proposed detailed design.
7.	Volume II, Part 2, Section VI c) ERT, 2) SIG, Page SIG-2-13 2.5.4.1 Table 2.5.3, item 6	Kindly note this requirement doesn't match the capabilities of CBTC technology as per the international standards. Bi-directional operation is allowed in moving block CBTC mode regardless if there is a secondary train detection or not.	Bi-directional movement under failure mode is necessary. A risk assessment to be conducted during the detailed design stage for the application. However fixed block working from station to station for reversing moves in the event of a failure shall also be considered.
8.	Volume II, Part 2, Section VI c) ERT, 2) SIG, Page SIG-2-17 2.5.4.2 (3), a)	Kindly note it's proven that track circuits don't detect cracked rails and are not a mean to replace track maintenance.	As per response to item 6.

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9.	Volume II, Part 2, Section VI c) ERT, 2) SIG, Page SIG-2-17 2.5.4.2 (3), (e)	There is no interoperability between ETCS and CBTC. The only possibility is to dually equip ALL trains that are intended to be operated in both lines, and to implement a mechanism to manually switch from one system to the other. Also, routes will have to be set manually whenever there is one train changing from system to the other. Kindly confirm this is what is intended or clarify if otherwise.	Bidder is correct , no interoperability between CBTC & ETCS.  CBTC to ETCS system will manual switched over. CBTC is fully isolated after switchover. If the train is in CBTC mode, once the switchover is carried out, the ETCS system shall establish communication with the NSRP OCC using GSM-R. Once the train is registered on ETCS network, the NSCR OCC will set a route.  NSRP CBI will request slot info from MMSP CBI and when the conditions are received and met then the NSRP OCC / CBI will set a route using ETCS system.
10.	Volume II, Part 2, Section VI c) ERT, 2) SIG, Page SIG-2-20 2.5.6 1), (i)	Kindly confirm the described transponder mechanism is NOT needed in case the supplier has a different mechanism to implement the stopping accuracy as requested.	Yes, agreed as long as it is a proven technology.
11.	Volume II, Part 2, Section VI c) ERT, 2) SIG,	Kindly note the power supply capacity indicated for stations seems to be extremely over dimensioned for the dimensioned	As mentioned in the section, the values are only for reference. Bidders to submit power

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	Page SIG-2-29 2.5.10, 7)	needs.	supply calculations along with the Bid for review and acceptance.
12.	Volume II, Part 2, Section VI c) ERT, 2) SIG, Page SIG-2-37 2.5.12, 2)	Kindly clarify which CBI will control the point machines allowing access between both systems: is it MMSP's or NSRP-S'?	<p>The points within MMSP projects will be controlled by MMSP CBI and the ones beyond the demarcation line will be controlled by NSRP CBI.</p> <p>Example: for the routes from Bicutan to Sucat (Calamba) the CBI's will communicate with each other using relay interface to obtain points set, locked and detected status and other peripheral information required to set a route.</p> <p>However, these are to be developed in the detailed design stage.</p>
13.	Volume II, Part 2, Section VI c) ERT, 2) SIG, Page SIG-2-37 2.5.12, 3)	Kindly confirm it's up to the NSRP'S' ATS system to lead and integrate this exchange of information (lead party in this interface).	<p>A detailed interface specification to be developed by the contractor that shall dictate the functions, role and responsibilities to be carried out by each Operators.</p> <p>The in-cab system will be manually switched</p>

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			over to ETCS mode, NSRP ATS will be setting the route to Sucat (Calamba).
14.	Volume II, Part 2, Section VI c) ERT, 2) SIG, Page SIG-2-44 2.8	Kindly advise status of different packages as SIG will not be able to progress without inputs from the design of the remaining contractors (normally Systems is the last package being awarded due to that).	Refer to the General Bid Bulletin No.1, items 10 & 11 of Annex B published on 14 Feb 2020 for the revised Schedule of Key Dates and Schedule of Access Dates.  Interface of CP106 package is with CP 107 (Rolling Stock) and Civil packages. CP 106 is the entire E&M Systems package that comprising of Track works, Signalling, Telecommunication, Power Supply System, OCS, AFC, PSD, MVDE, MMS and FSCADA systems.
15.	General	Kindly provide information about the access dates, including but not limited to for each section, depot, OCC and rolling stock availability at factory and 1st delivery on-site.	Please refer General Bid Bulletin No.1, items 10 & 11 of Annex B published on 14 Feb 2020.
16.	General Bid Bulletin No.1 Annex "A" Item No.28 Response	<i>"The Track Alignment diagram is included in the Vol. II d) Drawings"</i>	Yes, Bidder's understanding is correct.  Please refer Annex C of General Bid Bulletin

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		<p>Please confirm not Vol. II but Vol. III.</p> <p>Also, please provide the drawing No. of such Track Alignment Diagram for mainline including pocket tracks and depot access and depot layout plan.</p>	<p>No.6 published on 21 May 2020 for the Track Alignment Diagram for mainline including pocket tracks and Depot access and Depot layout plan.</p>
17.	<p>Volume II. Page ERG-App 10-14</p> <p>Table 3.8 Type of rails of different tracks</p> <p>Volume II. Page TRW-1-4</p> <p>1.2.4 Track system for MMS Project Item (6)</p>	<p><i>“Main track-important track -Quality- EN60N for Mainline”</i></p> <p><i>“----rail type JIS60 or EN60EI equivalent for the mainline and ----”</i></p> <p>Considering the connection and interface with the other lines, please clarify JIS60N rails are individually acceptable or not in this package CP106.</p>	<p>Main Line of MMSP adopts both JIS60N and EN60E1.</p>
18.	<p>Volume II. Page TRW-1-4</p> <p>1.3.2 Track Works Design Principles</p>	<p><i>“The Contractor shall design the Depot in a way that the future O&amp;M Contractor can Operate the Depot in the modern and efficient way. The Employer’s drawing is for reference only.”</i></p> <p>Please clarify the requirements and/or conditions of future O&amp;M contractor to operate the Depot in a modern and efficient way.</p> <p>Also, please provide “the Employer’s drawing for reference”.</p>	<p>CP 106 is Design and Build contract, Contractor shall develop detailed design with O&amp;M proposals for the Engineer review and approval with the Employer and O&amp;M Concessionaire.</p> <p>Please refer Dwg. No. EV-CI-BA-2201 to Dwg. No. EV-CI-BA-2211 in Annex C of GBB No.6 published on 22 May 2020 for the reference</p>



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			Track Alignment in Depot.
19.	Volume II. Page TRW-1-5 1.3.2 Track Works Design Principles Volume II. Page TRW-1-13 1.5 OPERATIONAL CRITERIA	<i>"-----The designs of the Track Works and its components shall be to Japanese standards, AREMA, AAHTO, EN codes, ISO Standards, and IEC Standards and to other-----"</i>  ERT broadly states to adopt JIS, AREMA, and else. Criteria does not touch upon passengers comfort requirement / parameters such as RgD, RgE and else. Please clarify.	CP 106 is Design and Build contract. Therefore, the Contractor shall propose criteria or requirements during detailed design stage and ensure the design is accordance with the technical requirement with regards to safety, operability and maintainability (i.e. a fit for purpose system) for MMSP line.
20.	Volume II. Page TRW-1-13 1.3 OPERATION CRITERIA Item (2) b), c) and (22)	<i>"b) Depot Access Line: 15 km/h;"</i> <i>"c) Depot Area: 15 km/h;"</i> <i>"(22) The Depot track shall be suitable for train operation at speed up to 25 km/h and have low maintenance requirement"</i>  The Contractor interpret that Design speed for b) and c) shall be 25 km/hr. Please clarify.	The Bidder's understanding is correct.
21.	Volume II. Page TRW-1-15 1. General Description of Track Forms Item (1)	<i>"(1) For the tunnels and cutting sections, where last settlement is guaranteed less than 20 mm, the elastic sleeper directly fastened track shall be laid."</i>  No construction tolerances and/or deviation of civil work	Civil invert tolerances are adjusted in the bed concrete. On top of that, the design to secure track adjustment allowance of 20mm.

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		structures considered by CP-106 Contractor. Please clarify.	
22.	Volume II. Page TRW-1-15 1. General Description of Track Forms Item (2)	“(2) The dibble bars (shear connectors) shall be installed by the Civil Contractor. The exposed length of the dibble bar shall be more than 70 mm”  Please clarify the design length and tolerances of dibble bar by the Civil Contractor.	Contractor shall coordinate with Civil contractors to clarify the design length and tolerances of dibble bar during detailed design stage.
23.	Volume II. Page TRW-1-23 1.10.1 General Item (4) 1.10.2 Rail Section and Materials Item (3)	“(4) All rails shall be produced by the one manufacturer” “(3) All rails shall be sourced from one (1) manufacturer-----”  Due to the difficulties of critical procurement conditions, the contractor intend to procure the rail materials from more than two (2) manufacturer.  (e.g. 60 kg from A-supplier and 50 kg from B-supplier, or else) Please clarify whether such condition can be relaxed for bidders to be allowed to procure rail materials from multiple suppliers subject to additional conditions (if any).	We will accept two manufacturers. One manufacturer solely for Mainline and one manufacturer for Depot Line only.
24.	Volume II. Page TRW-1-28 1.11.1 Rail fixation Fastening Track System for Ballast Less Track	Please clarify about the direct fixation rail fastening system.  Please clarify whether any type of Track Fastened Ties such as Type-D, Type-A, Type-S or else will be acceptable or not.	Refer Volume III, Part 2, d) for the following drawings: - i) Dwg. No. MMSP-TRK-0000-DD-0403 (Main plain Line) ii) Dwg. No. MMSP-TRK-0000-DD-0404

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			<p>(fastenings on Turnouts, Cross overs &amp; Scissors at Main Line)</p> <p>These details will clarify type of rail fastenings. Bidders could propose Type of Track Fastened Ties in the Bid submission for acceptance.</p>
25.	08 Maintenance Vehicles and Depot Equipment (MVDE)_12 Dec 2019 (PA) Clause 03.01.3 p) Page: MVDE-8-45	Please provide us with the drawing showing the layout of this equipment.	CP 106 is Design and Build contract. Therefore, the Contractor is responsible to develop the train wash equipment layout.
26.	08 Maintenance Vehicles and Depot Equipment (MVDE)_12 Dec 2019 (PA) Clause 05.01 Page: MVDE-8-48 etc.	Please provide us with the drawing of each workshop showing the floor plan, cross section plan, and equipment layout plan.	<p>Please refer Dwg. No. EV-CI-BA-2201 to Dwg. No. EV-CI-BA-2211 in Annex C of GBB No.6 published on 22 May 2020, with the floor plan of workshop in Depot.</p> <p>Please refer Dwg. No. MMSP-OCS-0000-DD-0201 in the Volume III, Part 2, d) for the typical cross-section plan for workshop in Depot.</p>

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		<p>Please also clarify the traveling distance of the following cranes.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: center;">Clause</th> <th style="text-align: center;">Item Description</th> </tr> </thead> <tbody> <tr><td style="text-align: center;">05.01</td><td style="text-align: center;">3-T Overhead Travelling Crane</td></tr> <tr><td style="text-align: center;">05.02</td><td style="text-align: center;">10-T Overhead Travelling Crane</td></tr> <tr><td style="text-align: center;">07.01</td><td style="text-align: center;">3-T Overhead Travelling Crane</td></tr> <tr><td style="text-align: center;">08.01</td><td style="text-align: center;">3-T Overhead Travelling Crane</td></tr> <tr><td style="text-align: center;">09.01</td><td style="text-align: center;">3-T Overhead Travelling Crane</td></tr> <tr><td style="text-align: center;">10.01</td><td style="text-align: center;">3-T Overhead Travelling Crane</td></tr> <tr><td style="text-align: center;">10.02</td><td style="text-align: center;">10-T Overhead Travelling Crane</td></tr> <tr><td style="text-align: center;">11.01</td><td style="text-align: center;">3-T Overhead Travelling Crane</td></tr> <tr><td style="text-align: center;">12.01</td><td style="text-align: center;">3-T Overhead Travelling Crane</td></tr> <tr><td style="text-align: center;">14.01</td><td style="text-align: center;">3-T Overhead Travelling Crane</td></tr> <tr><td style="text-align: center;">15.01</td><td style="text-align: center;">3-T Overhead Travelling Crane</td></tr> <tr><td style="text-align: center;">17.01</td><td style="text-align: center;">3-T Overhead Travelling Crane</td></tr> <tr><td style="text-align: center;">23.04</td><td style="text-align: center;">3-T Overhead Travelling Crane</td></tr> </tbody> </table>	Clause	Item Description	05.01	3-T Overhead Travelling Crane	05.02	10-T Overhead Travelling Crane	07.01	3-T Overhead Travelling Crane	08.01	3-T Overhead Travelling Crane	09.01	3-T Overhead Travelling Crane	10.01	3-T Overhead Travelling Crane	10.02	10-T Overhead Travelling Crane	11.01	3-T Overhead Travelling Crane	12.01	3-T Overhead Travelling Crane	14.01	3-T Overhead Travelling Crane	15.01	3-T Overhead Travelling Crane	17.01	3-T Overhead Travelling Crane	23.04	3-T Overhead Travelling Crane	<p>The following are the traveling distance for the cranes.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: center;">Clause</th> <th style="text-align: center;">Qty</th> <th style="text-align: center;">Travel</th> </tr> </thead> <tbody> <tr><td style="text-align: center;">05.01</td><td style="text-align: center;">1</td><td style="text-align: center;">250 m</td></tr> <tr><td style="text-align: center;">05.02</td><td style="text-align: center;">1</td><td style="text-align: center;">250 m</td></tr> <tr><td style="text-align: center;">07.01</td><td style="text-align: center;">1</td><td style="text-align: center;">250 m</td></tr> <tr><td style="text-align: center;">08.01</td><td style="text-align: center;">2</td><td style="text-align: center;">250 m</td></tr> <tr><td style="text-align: center;">09.01</td><td style="text-align: center;">1</td><td style="text-align: center;">210 m</td></tr> <tr><td style="text-align: center;">10.01</td><td style="text-align: center;">1</td><td style="text-align: center;">210 m</td></tr> <tr><td style="text-align: center;">10.02</td><td style="text-align: center;">1</td><td style="text-align: center;">210 m</td></tr> <tr><td style="text-align: center;">11.01</td><td style="text-align: center;">1</td><td style="text-align: center;">210 m</td></tr> <tr><td style="text-align: center;">12.01</td><td style="text-align: center;">1</td><td style="text-align: center;">210 m</td></tr> <tr><td style="text-align: center;">14.01</td><td style="text-align: center;">1</td><td style="text-align: center;">150 m</td></tr> <tr><td style="text-align: center;">15.01</td><td style="text-align: center;">2</td><td style="text-align: center;">150 m</td></tr> <tr><td style="text-align: center;">17.01</td><td style="text-align: center;">1</td><td style="text-align: center;">150 m</td></tr> <tr><td style="text-align: center;">23.04</td><td style="text-align: center;">1</td><td style="text-align: center;">250 m</td></tr> </tbody> </table>			Clause	Qty	Travel	05.01	1	250 m	05.02	1	250 m	07.01	1	250 m	08.01	2	250 m	09.01	1	210 m	10.01	1	210 m	10.02	1	210 m	11.01	1	210 m	12.01	1	210 m	14.01	1	150 m	15.01	2	150 m	17.01	1	150 m	23.04	1	250 m
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27.	08 Maintenance Vehicles and Depot Equipment (MVDE)_12 Dec 2019 (PA) Clause 28.01 Page: MVDE-8-192	Please provide us with the drawing showing the layout of this equipment.	CP106 is Design and Build contract. Therefore, the Contractor is responsible to develop the Industrial Waste Water Treatment Plant layout.
28.	08 Maintenance Vehicles and Depot Equipment (MVDE)_12 Dec 2019 (PA) Clause 28.01.3 a) Page: MVDE-8-192	Please clarify the effluent standard to be applied for the depot location/area, and provide us with the relevant documents.	Class C water treatment standard applies. Please refer to the following website for details. <a href="http://water.emb.gov.ph/?page_id=809">http://water.emb.gov.ph/?page_id=809</a>  Please also refer to the following website for Water Quality Criteria of Class C water bodies. <a href="http://wepa-db.net/policies/law/philippines/dao34_1990.htm">http://wepa-db.net/policies/law/philippines/dao34_1990.htm</a>  <b>MMSP-Depot Industrial WWTP Effluent Discharge Standards</b> is included in Annex C of this GBB.

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29.	08 Maintenance Vehicles and Depot Equipment (MVDE)_12 Dec 2019 (PA) Clause 28.01.3.c) Page: MVDE-8-192	Please clarify how long this plant should continue to be operated in order to treat 70m <sup>3</sup> /day of waste water. Please also clarify the maximum inflow volume of waste water per hour.	This facility will be a permanent installation for automatic washing plant the future fleet of 58 10-car trains at least twice per week, say 10 – 12 trains per day, and manually washing 2 trains per day plus occasional washing of other equipment.
<b><i>Volume III, Part 2 –Employer’s Requirements (ER) d) Drawings</i></b>			
30.	Volume III, Part 2, Section VI, d) Drawings Page 9	Kindly advise where are NAIA T3 and Bicutan stations located in this drawing;	Please refer Dwg. No. MMSP-SIG-0000-DD-0201 in Annex C of General Bid Bulletin No.6 for the revised Mainline Layout of Signaling System.
31.	Volume III, Part 2, Section VI, d) Drawings Page 9	Kindly provide information needed for the design of the signaling system and headway simulation, namely exact distances to point machines, gradient, curvature and civil	We have published vertical and horizontal track alignment data in Annex C of General Bid Bulletin No.6 on 22 May 2020. Minimum

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		speed limits.	headway required is 4 minutes as mentioned in Signalling document. Train characteristics are mentioned in section 4.6 of Power supply systems document. The contractor shall utilize the above information for the headway simulation.