

**North – South Commuter Railway (NSCR) Project (Malolos – Tutuban)
Package CP01: Elevated Structures, 7 Stations and Depot**

REVISIONS/AMENDMENTS

Volume IA, Part I – Bill of Quantities

ITEM NO.	REFERENCE CLAUSE/SECTION	REVISIONS/AMENDMENTS			
<i>Volume IA, Part I – Bill of Quantities</i>					
1	Section IV, Page BOQ-7, Bill No. 7	SUB-STATIONS			
2	Section IV, Page BOQ-10	TOTAL (GENERAL REQUIREMENTS), CARRIED FORWARD TO THE GENERAL SUMMARY			
3	Section IV, Page BOQ-14	206 (10)a	Blinding Layer Concrete/Lean Concrete, 20 MPa for Bridge and Viaduct, including compacted sand layer (=150mm)		
4	Section IV, Page BOQ-15 to BOQ-16	216(1340)a	Seismic Restrainer, Type 1, 180mmφ Steel Pin		
		216(1340)b	Seismic Restrainer, Type 2, 200mmφ Steel Pin		
		216(1340)c	Seismic Restrainer, Type 3, 220mmφ Steel Pin		
		216(1340)d	Seismic Restrainer, Type 4, 240mmφ Steel Pin		
		216(1340)e	Seismic Restrainer, Type 5, 265mmφ Steel Pin		
		216(1340)f	Seismic Restrainer, Type 6, 295mmφ Steel Pin		
		216(1340)g	Seismic Restrainer, 450×2600mm Steel Pin		
		216(1340)h	Seismic Restrainer, 600×3900mm Steel Pin		
		216(1340)i	Seismic Restrainer, 700×3900mm Steel Pin		
5	Section IV, Page BOQ-17	122(2)	Drain Pipe(300) and Accessories for Elevated Section	1.m.	8,586.90
		122(3)	Concrete Drainage Outlet	1.m.	4,668.00
		SUB-TOTAL (PART C - DRAINAGE WORKS)			
6	Section IV, Page BOQ-18	TOTAL (VIADUCTS & BRIDGES), CARRIED FORWARD TO THE GENERAL SUMMARY			

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7	Section IV, Page BOQ-19, Header	BILL No. 3 SUMMARY OF BILL No. 3 for BILL No. 3 (1) THROUGH BILL NO.3 (7) xxx			
		7	Bocane Station		
		TOTAL/STATIONS), CARRIED FORWARD TO THE GENERAL SUMMARY			
8	Section IV, Page BOQ-25		Steel Windows		
		527(1)	Type "A" Louver Aerofoil	m ²	309.87
		527(4)	Aluminum Louver (Furnished, Fabricated & Installed)	m ²	2,110.00
9	Section IV, Page BOQ-29		300 x 800mm Non-slip Precast Tile	m ²	311.00
		504	Architectural Concrete (Block) Pavers (Interlocking)	m ²	1,390.32
		505(4)	Self-Levelling Epoxy Paint with Hardener	m ²	604.00
10	Section IV, Pages BOQ-36, BOQ-52, BOQ-97, BOQ-113	"SUB-TOTAL (PART PART E..."			
11	Section IV, Page BOQ-42		Steel Windows		
		527(1)	Type "A" Louver Aerofoil	m ²	311.72
		527(4)	Aluminum Louver (Furnished, Fabricated & Installed)	m ²	788.00
12	Section IV, Page BOQ-45		Pebble Washout Finish	m ²	60.00
		504	Architectural Concrete (Block) Pavers (Interlocking)	m ²	1,500.24
		536(3)	Non-Skid Granite Floor Tiles (900mm x 900mm)	m ²	2,746.00

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ITEM NO.	REFERENCE CLAUSE/SECTION	REVISIONS/AMENDMENTS			
13	Section IV, Page BOQ-55	405(6)a	Structural Concrete Class "AAA" (36 MPa) for Tie Beam (At-Grade Beam)	m ²	441,00438.00
14	Section IV, Page BOQ-72		Steel Windows Type "A" Louver Aerofoil Aluminum Louver (Furnished, Fabricated & Installed)	m ² m ² m ²	311.92 788.00
15	Section IV, Page BOQ-129	201(3)a	Structures Excavation for Earth Retaining Wall (GSR Method)	xxx	
16	Section IV, Page BOQ-133		Jet Grouting, 2500mm Ø	xxx	
17	Section IV, Page BOQ-136	TOTAL (ELEVATED EMBANKMENT/EARTH-RETAINING SYSTEM), CARRIED FORWARD TO THE GENERAL SUMMARY			
18	Section IV, Pages BOQ-137 to BOQ-139, Headers	TOTAL (DRAINAGE), CARRIED FORWARD TO THE GENERAL SUMMARY			
19	Section IV, Page BOQ-139	BILL No. 6	SUMMARY OF BILL NO. 6-1 THROUGH BILL NO. 6-3	xxx	
20	Section IV, Page BOQ-141	SUB-TOTAL (PART A) - EARTHWORKS)	DEPOT MOTORCYCLE/BIKE SHED	xxx	
		TOTAL COST FOR BILL No. 6 (DEPOT) CARRIED FORWARD TO THE GENERAL SUMMARY			
		SUB-TOTAL (PART A) - EARTHWORKS)			

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ITEM NO.	REFERENCE CLAUSE/SECTION	REVISIONS/AMENDMENTS	
21	Section IV, Page BOQ-142	SUB- TOTAL (PART BD – SUBBASE AND BASE COURSE)	
		107(1)	Sub-ballast
22	Section IV, Page BOQ-144	206 (10)d Blinding Layer Concrete / Lean Concrete, 15 Mpa for Structure in Depot (except Detention Basin), including compacted sand layer (f=150mm)	
23	Section IV, Page BOQ-145	206(10)e Blinding Layer Concrete / Lean Concrete, 15 Mpa for Detention Basin in Depot, including compacted sand layer (f=150mm)	
24	Section IV, Page BOQ-161	D512(76) Pre-painted Hi-Rib Z.A.M. Steel Roofing on Purlins (f=0.60mm)	
25	Section IV, Page BOQ-167	621(19) Elevator for Workshop, 1050Kg Capacity (Furnished, & Installed & RAMS)	
26	Section IV, Page BOQ-182	621(1) Elevator for OCC, 1050Kg Capacity (Furnished, & Installed & RAMS)	
27	Section IV, Pages BOQ-187 and BOQ-197	D512(5) Pre-painted G.I. Ridge Flashing, (f=0.60mm)	m ² m-
28	Section IV, Pages BOQ-204, BOQ-212, BOQ-218	D527(5) Aluminum Louver (Furnished, Fabricated & Installed)(PVDF) Aluminum Powder Coated Manual Operable Aerofoil Louver w/ SS Insect Screen	

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ITEM NO.	REFERENCE CLAUSE/SECTION	REVISIONS/AMENDMENTS	
29	Section IV, Page BOQ - 312	D512(76)	Pre-painted Hi-Rib Z.A.M. Steel Roofing on Purlins (t=0.60mm)
30	Section IV, Page BOQ - 314	6010	D601(1) Mechanical Works, Complete
31	Section IV, Page BOQ-316	403(2)a	Reinforcing Steel, Grade 60 for Bored Pile
32	Section IV, Pages BOQ-329, BOQ-337, BOQ-345 BOQ-354, BOQ-363, BOQ-373	D506	D506(53) Maintenance Ladder
33	Section IV, Pages BOQ-348, BOQ-357, BOQ-366, BOQ-376	The pertinent Clauses/Sections are revised as follows: "GRAND TOTAL (...)"	
<i>Volume II, Part 2 – Works Requirements</i>			
34	GS 100, Page GS-23 Section 108.2	Upon completion of the Engineer's site offices the Contractor shall provide brand new SUV Type vehicles and brand new motorcycles for the use of the Engineer's Inspectors. The quantity, type and specification of the vehicles and motorcycles are listed in Appendix 5. The vehicles and motorcycles shall remain available until the end of the Defects Notification Period. The vehicles and motorcycles shall be solely for the use of the Engineer's staff and if purchased, shall be handed over to the Employer, in good working order, at the end of the Defects Notification Period. The provision of the vehicles and motorcycles shall include all running and maintenance costs (fuel, maintenance, insurance, tax, lubricants, cleaning, maintenance, repairs and replacement, if necessary).	
35	GS 100, Page GS-219, Appendix 5, Section 2.0	Engineer Vehicles As a minimum, supply the following vehicles, including fuel supply toll charges, parking fee, drivers fee and maintenance: For CP01; 1633 (ea) Pick-up Truck, 5-seater, 2000 cc minimum, 4WD (Engineer)	

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ITEM NO.	REFERENCE CLAUSE/SECTION	REVISIONS/AMENDMENTS
36	TS 100 Page TS100-53 Section 107	<p style="text-align: center;">REVISIONS/AMENDMENTS</p> <p>For CP02; 7 (ea) Pick-up Truck, 5-seater, 2000 cc minimum, 4WD (Employer) 1042 (ea) Pick-up Truck, 5-seater, 2000 cc minimum, 4WD (Engineer) 3 (ea) Pick-up Truck, 5-seater, 2000 cc minimum, 4WD (Employer)</p> <p>107 SUB-BALLAST / AGGREGATE BASE COURSE</p>
37	TS 100 Page TS100-85 Section 109.1	<p>All "<i>Sub-ballast</i>" referred to in this Section, except the Pay Item Table in Section 107.4.2, shall be read as "<i>Sub-ballast / Aggregate Base Course</i>"</p> <p>1) Undertrack drainage of surface stormwater from within the NSGRP NSCR ROW.</p>
38	TS 100 Page TS100-86 Section 109.3.1 1 st sentence	<p>Trenches shall be excavated in accordance with the requirements of Section 201.402, Structure Excavation and Backfill, ...</p>
39	TS 100 Page TS100-93 Section 110.3.3 Last Sentence	<p>...in accordance with Section 201.402, Structure Excavation and Backfill.</p>
40	TS 100 Page TS100-169 Section 133.4.1	<p>The quantity of springing to be paid for shall be the number of units of 100 square meters, measured on the ground surface, completed and accepted.</p>

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ITEM NO.	REFERENCE CLAUSE/SECTION															
41	TS 100 Pages TS100-213 to TS-100-214 Section 143.6.1 3 rd Paragraph and 4 th Paragraph	<p>Distribution Pump system will be measured by Lumpsum and payment will be made by the table below:</p> <table border="1" data-bbox="922 651 1203 2069"> <thead> <tr> <th>Payment Percentage</th> <th>Item Deliverables</th> </tr> </thead> <tbody> <tr> <td>10%</td> <td>Of the Contract Price upon Award, acceptance, signing, notice to proceed</td> </tr> <tr> <td>40%</td> <td>Materials and Equipment Delivery and Acceptance at Site</td> </tr> <tr> <td>25%</td> <td>Installation of Devices, Equipment and Appurtenances: Support Hangers, Ducts, Pumps, ACU, Generators, Air Duct, Plenums, etc.</td> </tr> <tr> <td>10%</td> <td>Testing, Commissioning, Acceptance and Handover.</td> </tr> <tr> <td>5%</td> <td>As-Built Drawings</td> </tr> <tr> <td>10%</td> <td>Retention</td> </tr> </tbody> </table> <p>Measurement for all testing, inspections and commissioning shall not be made paid, it shall be considered as included in the related Pay Item."</p>	Payment Percentage	Item Deliverables	10%	Of the Contract Price upon Award, acceptance, signing, notice to proceed	40%	Materials and Equipment Delivery and Acceptance at Site	25%	Installation of Devices, Equipment and Appurtenances: Support Hangers, Ducts, Pumps, ACU, Generators, Air Duct, Plenums, etc.	10%	Testing, Commissioning, Acceptance and Handover.	5%	As-Built Drawings	10%	Retention
Payment Percentage	Item Deliverables															
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10%	Testing, Commissioning, Acceptance and Handover.															
5%	As-Built Drawings															
10%	Retention															
42	TS 100 Page TS100-218 Section 144.6.1 4 th and 5 th Paragraph	<p>Waste Water Treatment Plant will be measured by Lump Sum... and payment will be made by the table below:</p> <table border="1" data-bbox="464 651 745 2069"> <thead> <tr> <th>Percentage Payment</th> <th>Item Deliverables</th> </tr> </thead> <tbody> <tr> <td>10%</td> <td>Of the Contract Price upon Award, acceptance, signing, notice to proceed</td> </tr> <tr> <td>40%</td> <td>Materials and Equipment Delivery and Acceptance at Site</td> </tr> <tr> <td>25%</td> <td>Installation of Devices, Equipment and Appurtenances: Support Hangers, Ducts, Pumps, ACU, Generators, Air Duct, Plenums, etc.</td> </tr> <tr> <td>10%</td> <td>Testing, Commissioning, Acceptance and Handover.</td> </tr> <tr> <td>5%</td> <td>As Built Drawings</td> </tr> <tr> <td>10</td> <td>Retention</td> </tr> </tbody> </table> <p>Measurement for all testing, inspections and commissioning shall not be made paid, it shall be considered as included in the related Pay Item.</p>	Percentage Payment	Item Deliverables	10%	Of the Contract Price upon Award, acceptance, signing, notice to proceed	40%	Materials and Equipment Delivery and Acceptance at Site	25%	Installation of Devices, Equipment and Appurtenances: Support Hangers, Ducts, Pumps, ACU, Generators, Air Duct, Plenums, etc.	10%	Testing, Commissioning, Acceptance and Handover.	5%	As Built Drawings	10	Retention
Percentage Payment	Item Deliverables															
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10%	Testing, Commissioning, Acceptance and Handover.															
5%	As Built Drawings															
10	Retention															
43	TS 200 Page TS200-52 Section 204.4.3.2	<p>Time of Removal When concrete strength tests are used for removal of forms and supports, such removal should not begin until the concrete has attained either the percentage of the specified design strength shown in the table below or as specified on the drawings.</p>														

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44	TS 200 Page TS200-61 Section 204.2.5, item 1)	1) ... If slurry is used to construct the shafts, the slurry manufacturer's representative and the Contractor's employee trained in the use of the slurry. As as identified to by the Engineer <u>shall attend</u> , in accordance with Section 204.4.3.4.1-204.2.3 shall attend.
45	TS 200 Page TS200-62 Section 204.2.6	204.2.6 Drilled Holes Not Used. All holes for concrete piles cast in drilled holes shall be drilled dry to the tip elevations shown on the Drawings. All holes will be examined for straightness and any hole which on visual inspection from the top shows less than one-half the diameter of the hole at the bottom of the hole will be rejected. Suitable casings shall be furnished and placed when required to prevent caving of the hole before concrete is placed. All loose material existing at the bottom of the hole after drilling operations have been completed shall be removed before placing concrete. The use of water for drilling operations or for any other purpose where it may enter the hole will not be permitted. All necessary action shall be taken to prevent surface water from entering the hole and all water which may have infiltrated into the hole shall be removed before placing concrete. Concrete shall be placed by means of suitable tubes. Prior to the initial concrete set, the top 3m of the concrete filled pile or the depth of any reinforcing cage, whichever is greater, shall be consolidated by acceptable vibratory equipment. Casing, if used in drilling operations, may be left in place or removed from the hole as concrete is placed. The bottom of the casing shall be maintained not more than 1.5m nor less than 0.3m below the top of the concrete during withdrawal and placing operations unless otherwise permitted by the Engineer. Separation of the concrete during withdrawal operations shall be avoided by vibrating the casing. 204.2.6.1-204.2.6.1 Drilled Shafts
46	TS 200 Page TS200-62, and TS200-63, Section 204.2.6.1.1, Header Numbering and 8 th Paragraph	The center-to-center spacing between shafts is normally restricted to a minimum of 3B <u>3D</u> , where D is the diameter of the pile, to minimize...

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47	TS 200 Page TS200-66 Section 204.2.7.1 1 st Paragraph	...Initial load test shall be referred to Static Load Test in Section 204.7.2 204.2.7.2
48	TS 200 Page TS200-66 Section 204.2.7.2 2 nd Paragraph Last Paragraph Page TS200-67	...The equipment to conduct the static load test shall be supplied by the entity specified in the contract documents The minimum number of tests to be conducted for confirming the capacity and their locations shall be as indicated on the contract as directed and approved by the Engineer. xxx
49	TS 200 Page TS200-67 Section 204.2.7.3 2 nd Paragraph	High Strain Pile integrity tests shall be carried out on 10% of the piles in accordance with the requirements of ASTM D4945. The location of the test piles shall be proposed by the Contractor and as directed by the Engineer. The Contractor shall prepare the top of piles for the required instrument attachment as directed by the Engineer.
50	TS 200 Page TS200-67 Section 204.2.7.4 2 nd Paragraph	The number of piles to be tested by this method shall be 3% of all piles or as proposed by the Contractor and agreed withas designated by the Engineer, prior to commencement of any piling works on-site.
51	TS 200 Page TS200-69 Section 204.3.5 1 st Paragraph	...Only synthetic slurry systems which have been approved by the Employer#Engineer may be used...
52	TS 200 Page TS200-70 Section 204.3.7 2 nd Paragraph	...The access tubes shall be fitted with watertight threaded caps on the bottom and the top. The access tubes are considered to be incidental to the bored pile construction.
53	TS 200 Page TS200-73 Section 204.4.4 Last sentence	...Contractor shall remove, bypass or break up the obstruction under the provisions of Section 204.5.2.4.

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54	TS 200 Page TS200-74 Section 204.4.6 1 st Paragraph, last sentence.	...A sample set shall be composed of samples taken at mid-height and within 600 mm. of the bottom of the storage area.
55	TS 200 Pages TS200-76 Section 204.4.9 4 th Paragraph, last sentence	...Responsibility for setting for testing costs, and calculation of time extension, shall be in accordance with Section 204.4-12.
56	TS 200 Pages TS200-80 Section 204.5.1.1	"Trial bored Bored piles that are installed prior to installation of contract bored piles for the purpose of demonstrating to the Engineer the adequacy of the methods proposed shall not be measured per each number of bored pile installed successfully for payment and are considered to be incidental to bored pile construction."
57	TS 200 Pages TS200-80 Section 204.5.1.2	204.5.1.2 Geotechnical Works (Boring Test Confirmation Boreholes) Geotechnical Works (Boring Test Confirmation Boreholes) either proposed by the Contractor and approved by the Engineer or directed by the Engineer for purposes of confirming geotechnical properties of soil and rock and to determine the founding elevation of the bored piles specified in the Drawings will be measured by the number of Boring test completed and accepted Confirmation Boreholes.
58	TS 200 Page TS200-80 Section 204.5.1.4	204.5.1.4 Permanent Casing Not Used. Furnishing and placing permanent casing shall be measured by the number of linear meter of each diameter of required permanent casing installed as specified in Section 204.3-3. The upper limit of casing payment shall be defined as the lower of: 1) Original ground or 2) Base of footings.

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ITEM NO.	REFERENCE CLAUSE/SECTION	
		If excavated prior to bored pile installation, the lower limit shall be the elevation indicated in the Contract Plans.
59	TS 200 Page TS200-81 Section 204.5.1.7	CSL tests shall be measured per pile for tests accepted by the Engineer by the linear meter of tube furnished and installed.
60	TS 200 Page TS200-81 Section 204.5.2.1	204.5.2.1 Test Piles Not Used.
		Trial bored piles shall be paid on the basis of number of bored piles directed by the Engineer and installed successfully. Payment for trial bored piles shall include mobilization, excavation and disposal of drill spoil, furnishing, mixing, placing, maintaining, collecting, and disposing of all mineral, synthetic, and water slurry and disposal of all excavated materials, temporary casing, concrete, and reinforcing steel, if necessary.
61	TS 200 Page TS200-81 Section 204.5.2.2	204.5.2.2 Geotechnical Borehole Works (Boring Test Confirmation Boreholes)
		Geotechnical Works (Boring Tests Confirmation Boreholes) carried out at the direction of the Engineer shall be paid based on the number of boring tests carried out and approved by the Engineer.
62	TS 200 Page TS200-81 Section 204.5.2.3 1 st Sentence	Payment for the item concrete bored piles cast in drilling hole shall be per linear meter for each diameter. Such payment includes all costs in connection with mobilization, excavation and disposal of drill spoil, furnishing, mixing, placing of concrete, maintaining, collecting, and disposing of all mineral, synthetic, and water slurry and disposal of all excavated materials, concrete and reinforcement. Temporary casing...
63	TS 200 Page TS200-81 Section 204.5.2.4	Payment for removing bore pile shaft obstructions shall be made for the changes in shaft construction methods necessary to remove the obstruction based on hours spent at contract bid rates through a Provisional Sum.
64	TS 200 Page TS200-82 Section 204.5.2.5	204.5.2.5 Permanent Casing Furnishing and Placing Not Used.
		Payment for the item "Furnishing and Placing Permanent Casing For 1500mm Diameter Bored Pile" shall be paid per linear meter.

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65	TS 200 Page TS200-82 Section 204.5.2.8	<p>Payment for the item "CSL Access Tube" shall be paid per linear meter installed.</p> <p>Payment shall be made under:</p> <table border="1" data-bbox="976 651 1136 2072"> <thead> <tr> <th>Pay Item Number</th> <th>Description</th> <th>Unit of Measurement</th> </tr> </thead> <tbody> <tr> <td>204(1)</td> <td>Test Piles-1500mm diameter</td> <td>Linear meter</td> </tr> <tr> <td>204(2)</td> <td>Geotechnical Works (Boring Test Confirmation Boreholes)</td> <td>Each</td> </tr> <tr> <td colspan="3" style="text-align: center;">xxx</td> </tr> </tbody> </table>	Pay Item Number	Description	Unit of Measurement	204(1)	Test Piles-1500mm diameter	Linear meter	204(2)	Geotechnical Works (Boring Test Confirmation Boreholes)	Each	xxx																	
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66	TS 200 Page TS200-116 Section 206.2.2 Table 206.2-1	<p align="center">Table 206.2-1 Classification of Normal Weight Concrete</p> <table border="1" data-bbox="751 949 911 1787"> <thead> <tr> <th>Class of Concrete</th> <th>Consistency Range in Slump (mm)</th> </tr> </thead> <tbody> <tr> <td>xxx</td> <td>xxx</td> </tr> <tr> <td>Seal</td> <td>100 to 200 125 to 230</td> </tr> </tbody> </table>	Class of Concrete	Consistency Range in Slump (mm)	xxx	xxx	Seal	100 to 200 125 to 230																					
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67	TS 200 Page TS200-117 Section 206.2.3 Table 206.2-2	<p align="center">Table 206.2-2 Concrete Strength</p> <table border="1" data-bbox="347 651 703 2072"> <thead> <tr> <th rowspan="2">Element</th> <th rowspan="2">Class of Concrete to DPWH Specification</th> <th colspan="2">Minimum Compressive Strength of 150×300 Cylinder Specimen at 28 days</th> <th rowspan="2">Slump</th> </tr> <tr> <th>MPa</th> <th>mm</th> </tr> </thead> <tbody> <tr> <td>Pre-stressed Concrete Box Girder (Service)</td> <td>Class P</td> <td>50</td> <td>50-100 200 max</td> <td></td> </tr> <tr> <td>Pre-stressed Concrete Box Girder (Transfer)</td> <td>Class P</td> <td>50</td> <td>50-100 200 max</td> <td></td> </tr> <tr> <td>All other structures except Piles</td> <td>Class P</td> <td>40</td> <td>50-100-200 max</td> <td></td> </tr> <tr> <td colspan="5" style="text-align: center;">xxx</td> </tr> </tbody> </table>	Element	Class of Concrete to DPWH Specification	Minimum Compressive Strength of 150×300 Cylinder Specimen at 28 days		Slump	MPa	mm	Pre-stressed Concrete Box Girder (Service)	Class P	50	50-100 200 max		Pre-stressed Concrete Box Girder (Transfer)	Class P	50	50-100 200 max		All other structures except Piles	Class P	40	50-100-200 max		xxx				
Element	Class of Concrete to DPWH Specification	Minimum Compressive Strength of 150×300 Cylinder Specimen at 28 days			Slump																								
		MPa	mm																										
Pre-stressed Concrete Box Girder (Service)	Class P	50	50-100 200 max																										
Pre-stressed Concrete Box Girder (Transfer)	Class P	50	50-100 200 max																										
All other structures except Piles	Class P	40	50-100-200 max																										
xxx																													

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ITEM NO.	REFERENCE CLAUSE/SECTION	REVISIONS/AMENDMENTS																	
68	TS 200 Page TS200-121 Section 206.4.2 Table 206.4-1	<p align="center">Table 206.4-1 Normal-Weight Concrete Slump Test Limits</p> <table border="1" data-bbox="879 651 1241 2067"> <thead> <tr> <th data-bbox="1177 651 1241 1272">Type of Work</th> <th data-bbox="1177 1272 1241 1709">Nominal Minimum Slump (mm)</th> <th data-bbox="1177 1709 1241 2067">Maximum Slump (mm)</th> </tr> </thead> <tbody> <tr> <td data-bbox="1010 651 1177 1272">Formed Elements: Section Over 300mm thick Sections 300mm thick or less</td> <td data-bbox="1010 1272 1177 1709">25 to 75mm 75mm</td> <td data-bbox="1010 1709 1177 2067">125mm 125mm</td> </tr> <tr> <td data-bbox="922 651 1010 1272">Cast in Place Piles and drilled shafts not vibrated</td> <td data-bbox="922 1272 1010 1709">125 to 200mm 125mm</td> <td data-bbox="922 1709 1010 2067">230mm</td> </tr> <tr> <td data-bbox="834 651 922 1272">Concrete placed under water</td> <td data-bbox="834 1272 922 1709">125 to 200mm 125mm</td> <td data-bbox="834 1709 922 2067">230mm</td> </tr> <tr> <td data-bbox="863 651 834 1272">Filling for riprap</td> <td data-bbox="863 1272 834 1709">75 to 180mm 75mm</td> <td data-bbox="863 1709 834 2067">200mm</td> </tr> </tbody> </table>			Type of Work	Nominal Minimum Slump (mm)	Maximum Slump (mm)	Formed Elements: Section Over 300mm thick Sections 300mm thick or less	25 to 75mm 75mm	125mm 125mm	Cast in Place Piles and drilled shafts not vibrated	125 to 200mm 125mm	230mm	Concrete placed under water	125 to 200mm 125mm	230mm	Filling for riprap	75 to 180mm 75mm	200mm
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69	TS 200 Page TS200-126 Section 206.5.6.1 Table 206.5-1	<p align="center">Table 206.5-1 Frequency of Testing</p> <table border="1" data-bbox="655 920 831 1816"> <thead> <tr> <th data-bbox="778 920 831 1361">Characteristic Analyzed</th> <th data-bbox="778 1361 831 1709">Minimum Frequency of Test</th> </tr> </thead> <tbody> <tr> <td data-bbox="746 920 778 1361">Slump</td> <td data-bbox="746 1361 778 1709">One per batch of concrete truck</td> </tr> </tbody> </table>			Characteristic Analyzed	Minimum Frequency of Test	Slump	One per batch of concrete truck											
Characteristic Analyzed	Minimum Frequency of Test																		
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70	TS 200 Page TS200-172 Section 206.16.6.2.6	<p>Removal of Forms and Falsework When concrete strength tests are used for removal of forms and supports, such removal should not begin until the concrete has attained either the percentage of the specified design strength shown in the table below or as specified on the drawings.</p>																	

**North – South Commuter Railway (NSCR) Project (Malolos – Tutuban)
Package CP01: Elevated Structures, 7 Stations and Depot**

ITEM NO.	REFERENCE CLAUSE/SECTION	REVISIONS/AMENDMENTS		
		Bar Size (Metric mm)	Linear Mass Density (kg/m)	Nominal Area (mm ²)
71	TS 200 Pages TS200-189 to TS200-190 Section 207.11 Table 207.11-1	Table 207.11-1 Reinforcing Bars Nominal Weight and Areas		
		#66	0.2490.222	3228
		#1010	0.5600.617	7479
		#1312	0.9940.888	129113
		#1616	1.5521.578	199201
		#2020	2.2352.466	284314
		#2222	3.0423.261	387415
		#2525	3.9733.853	510491
		#2928	5.0604.834	645616
		#3232	6.404 6.313	819804
		#3636	7.9077.990	10061018
#4340	11.389.864	14521257		

**North – South Commuter Railway (NSCR) Project (Malolos – Tutuban)
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ITEM NO.	REFERENCE CLAUSE/SECTION	REVISIONS/AMENDMENTS		
72	TS 200 Page TS200-322 Section 216.13.2	Pay Item Number	Description	Unit of Measurement
			xxxx	
		216(13)216(13)a	Seismic Restrainer Type 1, 180mmØ Steel Pin	Each
		216(13)b	Seismic Restrainer, Type 2, 200mmØ Steel Pin	Each
		216(13)c	Seismic Restrainer, Type 3, 220mmØ Steel Pin	Each
		216(13)d	Seismic Restrainer, Type 4, 240mmØ Steel Pin	Each
		216(13)e	Seismic Restrainer, Type 5, 265mmØ Steel Pin	Each
		216(13)f	Seismic Restrainer, Type 6, 295mmØ Steel Pin	Each
		216(13)g	Seismic Restrainer, 450 x 2600mm Steel Pin	Each
		216(13)h	Seismic Restrainer, 600 x 3900mm Steel Pin	Each
216(13)i	Seismic Restrainer, 700 x 3900mm Steel Pin	Each		
		xxx		
73	TS 400, Page TS400-15 to TS400-16 Section 401.2.6.2 2 nd Paragraph	...ASTM D1143/D1143M. The equipment to conduct the static load test shall be supplied by the entity specified by the Drawings. The Contractor shall...		
74	TS 400, Page TS400-16 Section 401.2.6.2 Last Paragraph	The minimum number of tests to be conducted for confirming the capacity shall be 2% of all piles shown on the Drawings (fractional number rounded up to the next higher integer number).		
75	TS 400, Page TS400-16	High Strain Pile integrity tests shall be carried out on 10% of the piles in accordance with the requirements of ASTM D4945. The location of the test piles shall be as directed by the Engineer. The Contractor shall prepare the top of piles		

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76	Section 401.2.6.3 2 nd Paragraph TS 400, Page TS400-16 Section 401.2.6.4	for the required instrument attachment as directed by the Engineer. Cross-hole Sonic Logging (CSL) testing shall be performed on bored piles as specified in the Contract. The Contractor shall accommodate the CSL testing by furnishing and installing access tubes in accordance with Section 401.3.7- Cross Hole Sonic Logging Test, and in accordance with the construction requirements set out in Section 401.4.12. These access tubes are considered to be incidental to bored pile construction.
77	TS 400, Page TS400-24 Section 401.4.8 4 th Paragraph	The number of piles to be tested by this method shall be proposed by agreed between the Contractor and agreed with the Engineer. prior to commencement of any piling works on site. The steel reinforcing cage shall be securely held in position throughout the concrete placement operation. The reinforcing steel in the shaft shall be tied and supported so that the location of the reinforcing steel will remain within allowable tolerance. Concrete spacers or other approved noncorrosive spacing devices shall be used at...
78	TS 400, Page TS400-29 Section 401.5.1.1	Trial bored piles that are installed prior to installation of contract bored piles for the purpose of demonstrating to the engineer the adequacy of the methods proposed shall not be measured per each number of bored pile installed successfully for payment and are considered to be incidental to bored pile construction.
79	TS 400, Page TS400-29 Section 401.5.1.2	401.5.1.2 Exploration Holes Confirmation Boreholes Exploration holes Confirmation Boreholes specified in the contract by the Engineer for purposes of confirming geotechnical properties of soil and rock and to determine the founding elevation of the proposed bored piles will be measured per linear meter for exploration holes installed by the number of confirmation boreholes completed and accepted. Exploration holes Confirmation Boreholes may be drilled prior to bored pile excavation or from the base of the excavation bored pile. The top elevation shall be defined as ground surface at time of exploration hole Confirmation Borehole drilling. The bottom of elevation shall be defined as the bottom of the exploration hole Confirmation Borehole.
80	TS 400, Page TS400-30 Section 401.5.1.4	405.5.1.4 Permanent Casing Not Used. Furnishing and placing permanent casing shall be measured by the number of linear meter of each diameter of required permanent casing installed as specified in Section 401.3.3. The upper limit of casing payment shall be defined as the lower of: 1) Original ground; or 2) Base of footing

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81	TS 400, Page TS400-30 Section 401.5.1.7	If excavated prior to bored pile installation. The lower limit shall be the elevation indicated in the Contract Drawings. CSL tests shall be measured per pile for tests accepted by the Engineer. CSL access tube shall be measured by the linear meter of tube furnished and installed.																					
82	TS 400, Page TS400-30 Section 401.5.1.9	Steel reinforcing bar for pile shafts shall be measured by...																					
83	TS 400, Page TS400-31 Section 401.5.1.9	401.5.2.2 Exploration Holes Confirmation Boreholes Exploration holes Confirmation boreholes installed at the direction of the Engineer shall be paid per each of exploration hole installed.																					
84	TS 400, Page TS400-31 Section 401.5.2.4	... to remove the obstruction based on hours spent at contract bid rates through a Provisional Sum.																					
85	TS 400, Page TS400-31 Section 401.5.2.4	<table border="1"> <thead> <tr> <th data-bbox="724 658 762 965">Pay Item Number</th> <th data-bbox="724 965 762 1599">Description</th> <th data-bbox="724 1599 762 2085">Unit of Measurement</th> </tr> </thead> <tbody> <tr> <td data-bbox="686 658 724 965">401(4)</td> <td data-bbox="686 965 724 1599">Trial Bored Piles</td> <td data-bbox="686 1599 724 2085">Linear meter</td> </tr> <tr> <td data-bbox="647 658 686 965">401(2)</td> <td data-bbox="647 965 686 1599">Exploration Holes Confirmation boreholes</td> <td data-bbox="647 1599 686 2085">Each</td> </tr> <tr> <td colspan="3" data-bbox="609 658 647 2085" style="text-align: center;">XXX</td> </tr> <tr> <td data-bbox="571 658 609 965">401(4)</td> <td data-bbox="571 965 609 1599">Obstruction Removal</td> <td data-bbox="571 1599 609 2085">Provisional Pph/Hour/Sum</td> </tr> <tr> <td data-bbox="533 658 571 965">401(5)</td> <td data-bbox="533 965 571 1599">Permanent Casings Furnishing and Placing</td> <td data-bbox="533 1599 571 2085">Linear meter</td> </tr> <tr> <td colspan="3" data-bbox="494 658 533 2085" style="text-align: center;">XXX</td> </tr> </tbody> </table>	Pay Item Number	Description	Unit of Measurement	401(4)	Trial Bored Piles	Linear meter	401(2)	Exploration Holes Confirmation boreholes	Each	XXX			401(4)	Obstruction Removal	Provisional Pph/Hour/Sum	401(5)	Permanent Casings Furnishing and Placing	Linear meter	XXX		
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**North – South Commuter Railway (NSCR) Project (Malolos – Tutuban)
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86	TS 400, Page TS400-68 Section 405.3.1.1 Table 405.3.1	<table border="1"> <thead> <tr> <th data-bbox="1161 1787 1236 2085">Exposure Class</th> <th data-bbox="1121 1787 1161 2085">Maximum Aggregate Size (mm)</th> <th data-bbox="1082 1787 1121 2085">Slump (mm)</th> </tr> </thead> <tbody> <tr> <td data-bbox="1042 1787 1082 2085">Girder (to include Prestressing Steel)</td> <td align="center" data-bbox="1002 1787 1042 2085">xxx</td> <td align="center" data-bbox="962 1787 1002 2085">25-20</td> </tr> <tr> <td data-bbox="922 1787 962 2085">Bored Piles (In-Situ RC)</td> <td align="center" data-bbox="882 1787 922 2085">xxx</td> <td align="center" data-bbox="842 1787 882 2085">20</td> </tr> <tr> <td data-bbox="882 1787 922 2085">Building Blinding/Mass Concrete/Cinder Concrete</td> <td align="center" data-bbox="842 1787 882 2085">xxx</td> <td align="center" data-bbox="802 1787 842 2085">50-100</td> </tr> <tr> <td data-bbox="842 1787 882 2085"></td> <td align="center" data-bbox="802 1787 842 2085">25</td> <td align="center" data-bbox="762 1787 802 2085">50-100</td> </tr> </tbody> </table>	Exposure Class	Maximum Aggregate Size (mm)	Slump (mm)	Girder (to include Prestressing Steel)	xxx	25-20	Bored Piles (In-Situ RC)	xxx	20	Building Blinding/Mass Concrete/Cinder Concrete	xxx	50-100		25	50-100
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	25	50-100															
87	TS 400, Page TS400-69 Section 405.4.3.1	4) If so instructed by the Contractor Engineer, a petrologic...															
88	TS 400, Page TS400-78 Section 405.5.4.4	...When the outdoor ambient temperature is more than 32°C, the temperature of the concrete as placed shall not exceed 32°C 30°C...															
89	TS 400, Page TS400-86 Section 405.9.1	The quantity of concrete to be paid for will be the final quantity placed and accepted in the completed structure. No deduction will be made for the volume occupied by pipe less than 100mm in diameter or by reinforcing steel, anchor conduits, weep holes or expansion joint materials.															
90	TS 400, Page TS400-97 Section 407.2.1 2 nd Paragraph	Compacted sand layer shall not be measured for payment as it is considered a subsidiary to the item for Blinding Concrete.															
91	TS 400, Page TS400-99 Section 407.3.2.3 1 st Paragraph	Bituminous material shall be either rapid Curing (RC) or Medium Curing (MC) Cut-back Asphalt, whichever is called for in the Bill of Quantities. It shall conform to the requirements of Item 702 Bituminous Materials of the DPWH Standard Specifications. It shall conform to the requirements of Item 704.2.2 Bituminous Materials. The type and grade shall be specified in the Special Provisions. ...Bituminous material shall be applied by means of pressure distributor at the temperature given by Section 407.2.2 Construction Requirements Item 704.2.2 Bituminous Materials , of the particular material being used...															

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92	TS 400 Page TS400-101 Section 407.4.3	The construction requirement shall be in accordance, whenever applicable, with Section 307.3 of Item 307, Bituminous Plant-Mix Surface Course of the DPWH Standard Specifications.									
93	TS 400 Page TS400-131 Section 411.1.	Add: "8) Catwalks"									
94	TS 500, Page TS-125 Section 512.5.2	<table border="1"> <thead> <tr> <th data-bbox="965 1097 1029 1355">Depot Building Pay Item Number</th> <th data-bbox="965 1355 1029 1612">Description</th> <th data-bbox="965 1612 1029 2094">Unit of Measurement</th> </tr> </thead> <tbody> <tr> <td data-bbox="869 1097 965 1355">D512(6)</td> <td data-bbox="869 1355 965 1612">Pre-painted Metal Sheet Roofing (t=0.60mm)</td> <td data-bbox="869 1612 965 2094">Square Meter</td> </tr> <tr> <td data-bbox="790 1097 869 1355">D512(6)D512(7)</td> <td data-bbox="790 1355 869 1612">Pre-painted Hi-Rib Z.A.M. Steel Roofing on Purlins (t=0-60mm)</td> <td data-bbox="790 1612 869 2094">Square Meter</td> </tr> </tbody> </table>	Depot Building Pay Item Number	Description	Unit of Measurement	D512(6)	Pre-painted Metal Sheet Roofing (t=0.60mm)	Square Meter	D512(6)D512(7)	Pre-painted Hi-Rib Z.A.M. Steel Roofing on Purlins (t=0-60mm)	Square Meter
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95	Book No.8 of 11, Page No. CP01-B8-003, Drawing No. NSCR-DWG-DEP-GE-0051	<p>The length of the "SHOP IN/OUT Track No.1 & 2" has been increased by 20m to match the length of the "Final Adjustment Track" in the workshop area and the marking of Train cleaning Access Platforms at the storage tracks on south side of the depot.</p> <p>The number of storage tracks have also been corrected.</p> <p>The pertinent drawing is revised as per Annex "C" of this General Bid Bulletin.</p>									
96	Section VIII, Page PC-12, PC 1.1.6 Other Definitions	<p><i>Volume IV, Part 3 – Conditions of Contract and Contract Forms</i></p> <p>The pertinent Clause/Section is revised as follows: "...Possession of parcels of land referred to in (d), (e), and (f) above, are available for temporary use by the Contractor provided that, is deemed to be at the discretion of the Contractor the Contractor must lease these parcels of land from PNR. The lease rates shall be equivalent to 7% of the zonal value of the actual area occupied per month." Copies of the drawings showing the areas of the parcels of land referred to in (d), (e) and (f) are attached for reference as Annexes "D" to "E" of this General Bid Bulletin.</p>									