

**REPUBLIC OF THE UNION OF MYANMAR
MINISTRY OF CONSTRUCTION
DEPARTMENT OF BRIDGE**

**DETAILED DESIGN STUDY ON
THE BAGO RIVER BRIDGE
CONSTRUCTION PROJECT**

FINAL REPORT ATTACHMENTS

VOLUME V DRAFT TENDER DOCUMENT

PACKAGE 1

Volume - IV

DRAWINGS

DECEMBER 2017

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

NIPPON KOEI CO., LTD.

ORIENTAL CONSULTANTS GLOBAL CO., LTD.

METROPOLITAN EXPRESSWAY COMPANY LIMITED.

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CONTENTS OF DRAWINGS

A. GENERAL				B. ROAD DESIGN			
		LOCATION MAP	P1-GE-0001				
		GENERAL VIEW OF BAGO RIVER BRIDGE (1)-(7)	P1-GE-0002 ~ 0008				
		GENERAL VIEW OF ON-RAMP BRIDGE	P1-GE-0009				
		GENERAL NOTES (ROAD DESIGN)	P1-GE-1011				
		GENERAL NOTES (PC BOX GIRDER BRIDGE)	P1-GE-1021				
		GENERAL NOTES (STEEL BOX GIRDER BRIDGE)	P1-GE-1031				
		GENERAL NOTES (STEEL CABLE STAYED BRIDGE)	P1-GE-1041				
		GENERAL NOTES (ON-RAMP BRIDGE)	P1-GE-1051				
		GENERAL NOTES (LIGHTING)	P1-GE-1061				
		ALIGNMENT LAYOUT AND GEOMETRIC DATA	P1-GE-2001				
B. ROAD DESIGN							
	PLAN & PROFILE	PLAN & PROFILE (1)-(2)	P1-RD-0100 ~ 0110				
	TYPICAL CROSS SECTION	TYPICAL CROSS SECTION (1)-(2)	P1-RD-0200 ~ 0210				
	PAVEMENT	PAVEMENT LAYER (1)-(2)	P1-RD-0300 ~ 0310				
	CROSS SECTION	CROSS SECTION MAIN ROAD (1)-(4)	P1-RD-0400 ~ 0430				
	STAR CITY TO APPROACH ROAD TO BAGO BRIDGE	PLAN & PROFILE	P1-RD-1000				
		TYPICAL CROSS SECTION	P1-RD-1010				
		CROSS SECTION MAIN ROAD (1)-(5)	P1-RD-1020 ~ 1060				
	INTERSECTION	PLAN & PROFILE (1) STAR CITY ACCESS LINE	P1-RD-2000				
		PLAN & PROFILE (2) THILAWA ACCESS LINE	P1-RD-2010				
		PLAN & PROFILE (3) YANGON ACCESS LINE	P1-RD-2020				
		PLAN & PROFILE (3) MAIN ROAD	P1-RD-2025				
		TYPICAL CROSS SECTION (1) STAR CITY ACCESS LINE	P1-RD-2030				
		TYPICAL CROSS SECTION (2) THILAWA ACCESS LINE/YANGON ACCESS LINE	P1-RD-2040				
		CROSS SECTION STAR CITY ACCESS LINE (1)-(2)	P1-RD-2050 ~ 2060				
		CROSS SECTION THILAWA ACCESS LINE (1)-(3)	P1-RD-2070 ~ 2090				
		CROSS SECTION YANGON ACCESS LINE (1)-(3)	P1-RD-2100 ~ 2120				
		INTERSECTION PLAN, PROFILE AND SECTION (STA.0+040)	P1-RD-2130				
		DETAIL OF CONCRETE PAVEMENT (1)-(2)	P1-RD-2140 ~ 2150				
		ROAD MARKINGS PLAN (1) STAR CITY ACCESS LINE	P1-RD-2160				
		ROAD MARKINGS PLAN (2) THILAWA ACCESS LINE	P1-RD-2170				
		ROAD MARKINGS PLAN (3) YANGON ACCESS LINE	P1-RD-2180				
		ROAD MARKINGS PLAN (4) MAIN ROAD	P1-RD-2185				
		PLAN & PROFILE (THILAWA ACCESS ROAD)	P1-RD-2190				
		TYPICAL CROSS SECTION (THILAWA ACCESS ROAD)	P1-RD-2200				
		CROSS SECTION (1)-(2) THILAWA ACCESS ROAD	P1-RD-2210 ~ 2220				
		INTERSECTION PLAN, PROFILE AND SECTION (THILAWA ACCESS ROAD, MAIN ROAD)	P1-RD-2230				
		DRAINAGE SYSTEM PLAN ((THILAWA ACCESS ROAD)	P1-RD-2240				
		GENERAL PLAN AND SECTION OF ROAD ACCESS	P1-RD-2250				
		DETAIL OF SIDE DITCH	P1-RD-2260				
		DETAIL OF CATCH PIT	P1-RD-2270				
		DETAIL OF BOX CULVERT FOR ROAD ACCESS	P1-RD-2280				
		DETAIL OF CURB	P1-RD-2290				
		DETAIL OF GUARD RAIL (GR-Am)	P1-RD-2300				
		DETAIL OF GUARD PIPE (GP-A)	P1-RD-2310				
		PAVEMENT PLAN (THILAWA ACCESS ROAD)	P1-RD-2320				
		ROAD MARKINGS PLAN (THILAWA ACCESS ROAD)	P1-RD-2330				
		DETAIL OF ROAD MARKING (1)-(2)	P1-RD-2340 ~ 2350				
	DRAINAGE	DRAINAGE SYSTEM PLANS (LEFT RIVER BANK)	P1-RD-3000				
		DRAINAGE SYSTEM PLAN (1)-(3)	P1-RD-3010 ~ 3012				
		DETAIL OF BOX CULVERT (1) BAR ARRANGEMENT OF BOX CULVERT	P1-RD-3020				
		DETAIL OF BOX CULVERT (2) FOR ROAD ACCESS	P1-RD-3021				
		GENERAL VIEW OF BOX CULVERT	P1-RD-3030				
		DETAIL OF CONCRETE PIPE CULVERT Φ300 (CON.360°) TYPE B	P1-RD-3040				
		DETAIL OF CONCRETE PIPE CULVERT Φ900 (CON.360°)	P1-RD-3041				
		GENERAL VIEW OF R.C. PIPE CULVERT (1)-(2)	P1-RD-3050 ~ 3051				
		DETAIL OF SIDE DITCH (1)-(3)	P1-RD-3060 ~ 3062				
		DETAIL OF CATCH PIT (1)-(3)	P1-RD-3070 ~ 3072				
		VERTICAL DRAIN TYPE A (1)-(3)	P1-RD-3080 ~ 3082				
		DRAINAGE OUTLET TYPE-A (1)-(9)	P1-RD-3090 ~ 3098				
	MECHANICALLY STABILISED EARTH WALL AND RETAINING	MECHANICALLY STABILISED EARTH WALL MAIN ROAD (1)-(3)	P1-RD-4000 ~ 4020				
		MECHANICALLY STABILISED EARTH WALL RAMP (1)-(2)	P1-RD-4030 ~ 4040				
		DETAIL OF MECHANICALLY STABILIZED EARTH WALL (1)-(4)	P1-RD-4050 ~ 4080				
		GUARDRAIL ON MECHANICALLY STABILISED EARTH WALL MAIN ROAD (1)-(2)	P1-RD-4090 ~ 4100				
		GUARDRAIL ON MECHANICALLY STABILISED EARTH WALL RAMP (1)-(4)	P1-RD-4110 ~ 4140				
		DETAIL OF LIGHTING FOUNDATION	P1-RD-4150				
	SOFT SOIL TREATMENT	SOFT SOIL IMPROVEMENT MEASURES: MAIN ROAD (1)-(2)	P1-RD-5000 ~ 5010				
		SOFT SOIL IMPROVEMENT MEASURES: RAMP	P1-RD-5020				
		CROSS SECTION OF SURCHARGE : MAIN ROAD (1)-(2)	P1-RD-5030 ~ 5040				
		CROSS SECTION OF DEEP MIXING METHOD: MAIN ROAD (1)-(3)	P1-RD-5050 ~ 5070				
		CROSS SECTION OF DEEP MIXING METHOD: RAMP (1)-(2)	P1-RD-5080 ~ 5090				
		(REFERENCE) CONSTRUCTION PROCEDURE (1)-(2)	P1-RD-5100 ~ 5110				
	MISCELLANEOUS	DETAILS OF KERB	P1-RD-6000				
		DETAIL OF CONCRETE SEAL	P1-RD-6005				
		DETAIL OF SIGNBOARD FOUNDATION AND POST	P1-RD-6010				
		DETAIL OF SIGNBOARD	P1-RD-6020				
		SCHEDULE OF SIGNBOARDS	P1-RD-6030				
		DETAIL OF INFORMATORY SIGNBOARD	P1-RD-6040				
		DETAIL OF INFORMATORY SIGNBOARD - TYPE C FOUNDATION AND POST (1)-(2)	P1-RD-6050 ~ 6060				
		SCHEDULE OF INFORMATORY SIGNBOARD	P1-RD-6070				
		ROAD MARKING DETAILS (1)-(2)	P1-RD-6080 ~ 6090				
		DETAILS OF GUARDRAIL (1)-(3)	P1-RD-6100 ~ 6110				
		DETAILS OF GUARD PIPE TYPE - A	P1-RD-6120				
	REFERENCE DRAWING	(REFERENCE) QUANTITY TABLE OF ROAD (1)-(3)	P3-RD-7000 ~ 7020				

CONTENTS OF DRAWINGS

C. PC BOX GIRDER BRIDGE				D. STEEL BOX GIRDER BRIDGE				
SUPERSTRUCTURE		COORDINATES OF SUPERSTRUCTURE A1-P5 <L,R> (1)-(8)	P1-PB-0001 ~ 0008	SUPERSTRUCTURE		COORDINATES OF SUPERSTRUCTURE (P5-P10) (1)-(3)	P1-SB-1001 ~ 1003	
		GENERAL VIEW OF SUPERSTRUCTURE A1-P5 <L> (1)-(9)	P1-PB-1001 ~ 1009				GENERAL VIEW OF SUPERSTRUCTURE (P5-P10)	P1-SB-1011
		GENERAL VIEW OF SUPERSTRUCTURE A1-P5 <R> (1)-(9)	P1-PB-1051 ~ 1059				STRESS DIAGRAM OF MAIN GIRDER G1 (P5-P10) (1)-(2)	P1-SB-1021 ~ 1022
		DETAIL OF PRESTRESSING A1-P5 <L> (1)-(19)	P1-PB-1101 ~ 1119				STRESS DIAGRAM OF MAIN GIRDER G2 (P5-P10) (1)-(2)	P1-SB-1023 ~ 1024
		DETAIL OF PRESTRESSING A1-P5 <R> (1)-(19)	P1-PB-1151 ~ 1169				STRESS DIAGRAM OF MAIN GIRDER G3 (P5-P10) (1)-(2)	P1-SB-1025 ~ 1026
		TYPICAL CROSS SECTION OF GIRDER A1-P5 <L, R>	P1-PB-1201				STRESS DIAGRAM OF MAIN GIRDER G4 (P5-P10) (1)-(2)	P1-SB-1027 ~ 1028
		BAR ARRANGEMENT OF SEGMENT A1-P5 <L, R> (1)-(42)	P1-PB-1301 ~ 1342				COMMON DETAIL (P5-P10) (1)-(13)	P1-SB-1031 ~ 1043
		ARRANGEMENT OF SHEAR KEY A1-P5 <L, R>	P1-PB-1401				DETAIL OF GIRDER G1 (1)-(33)	P1-SB-1101 ~ 1133
SUBSTRUCTURE AND FOUNDATION		COORDINATES OF SUBSTRUCTURE (A1-P5)	P1-PB-2000	SUBSTRUCTURE AND FOUNDATION		DETAIL OF GIRDER G2 (1)-(33)	P1-SB-1201 ~ 1233	
		GENERAL VIEW OF A1 ABUTMENT (1)-(2)	P1-PB-2001 ~ 2002				DETAIL OF GIRDER G3 (1)-(33)	P1-SB-1301 ~ 1333
		GENERAL VIEW OF P1 PIER	P1-PB-2011				DETAIL OF GIRDER G4 (1)-(33)	P1-SB-1401 ~ 1433
		GENERAL VIEW OF P2 PIER	P1-PB-2021				DETAIL OF END CORSS GIRDER (1)-(4)	P1-SB-1501 ~ 1504
		GENERAL VIEW OF P3 PIER	P1-PB-2031				DETAIL OF MIDDLE CORSS GIRDER (1)-(3)	P1-SB-1511 ~ 1513
		GENERAL VIEW OF P4 PIER	P1-PB-2041				DETAIL OF CORSS GIRDER SECTION (1)-(15)	P1-SB-1521 ~ 1535
		GENERAL VIEW OF P5 PIER (1)-(2)	P1-PB-2051 ~ 2052				DETAIL OF DIAPHRAGM SECTION (1)-(4)	P1-SB-1541 ~ 1544
		BAR ARRANGEMENT OF A1 ABUTMENT (1)-(8)	P1-PB-2101 ~ 2108				DETAIL OF CROSS BEAM SECTION (1)-(21)	P1-SB-1551 ~ 1571
		BAR ARRANGEMENT OF P1 PIER (1)-(5)	P1-PB-2111 ~ 2115				DETAIL OF DECK PLATE (1)-(89)	P1-SB-1601 ~ 1689
		BAR ARRANGEMENT OF P2 PIER (1)-(5)	P1-PB-2121 ~ 2125				PAINTING SYSTEM DETAIL (1)-(2)	P1-SB-1701 ~ 1702
		BAR ARRANGEMENT OF P3 PIER (1)-(5)	P1-PB-2131 ~ 2135				CAMBER	P1-SB-1801
		BAR ARRANGEMENT OF P4 PIER (1)-(6)	P1-PB-2141 ~ 2146				COORDINATES OF SUBSTRUCTURE (P6-P7)	P1-SB-2000
		BAR ARRANGEMENT OF P5 PIER (1)-(8)	P1-PB-2151 ~ 2158			P6 PIER	GENERAL VIEW OF P6 PIER (1)-(2)	P1-SB-2001 ~ 2002
		BAR ARRANGEMENT OF CAST IN PLACE PILE FOR A1 ABUTMENT (1)-(2)	P1-PB-2201 ~ 2202				BAR ARRANGEMENT OF P6 PIER (1)-(18)	P1-SB-2003 ~ 2020
		BAR ARRANGEMENT OF CAST IN PLACE PILE FOR P1 PIER (1)-(2)	P1-PB-2211 ~ 2212				BAR ARRANGEMENT OF FOOTING FOR P6 PIER (1)-(6)	P1-SB-2021 ~ 2026
		BAR ARRANGEMENT OF CAST IN PLACE PILE FOR P2 PIER (1)-(2)	P1-PB-2221 ~ 2222				GENERAL VIEW OF STEEL PIPE SHEET PILE FOUNDATION OF P6 PIER	P1-SB-2027
		BAR ARRANGEMENT OF CAST IN PLACE PILE FOR P3 PIER (1)-(2)	P1-PB-2231 ~ 2232				DETAIL OF STEEL PIPE SHEET PILE OF P6 PIER (1)-(2)	P1-SB-2028 ~ 2029
		BAR ARRANGEMENT OF CAST IN PLACE PILE FOR P4 PIER (1)-(2)	P1-PB-2241 ~ 2242				DETAIL OF INTERLOCKING OF STEEL PIPE SHEET PILE OF P6 PIER	P1-SB-2030
		BAR ARRANGEMENT OF CAST IN PLACE PILE FOR P5 PIER (1)-(2)	P1-PB-2251 ~ 2252				DETAIL OF CONNECTION BETWEEN STEEL PIPE SHEET PILE AND FOOTING OF P6 PIER	P1-SB-2031
							(REFERENCE) LAYOUT PLAN OF COFFERDAM PART OF P6 PIER (1)-(2)	P1-SB-2032 ~ 2033
BRIDGE ACCESSORIES		DETAIL OF BEARINGS A1-P5 <L, R> (1)-(6)	P1-PB-3001 ~ 3006		(REFERENCE) CONSTRUCTION PLAN OF STEEL PIPE SHEET PILE WORK OF P6 PIER	P1-SB-2034		
		DETAIL OF EXPANSION JOINT A1-P5 <L, R> (1)-(4)	P1-PB-3101 ~ 3104	P7 PIER	GENERAL VIEW OF P7 PIER (1)-(2)	P1-SB-2101 ~ 2102		
		DETAIL OF CURB A1-P5 <L, R>	P1-PB-3201		BAR ARRANGEMENT OF P7 PIER (1)-(18)	P1-SB-2103 ~ 2120		
		DETAIL OF LIGHTING BASE A1-P5 <L, R>	P1-PB-3301		BAR ARRANGEMENT OF FOOTING FOR P7 PIER (1)-(6)	P1-SB-2121 ~ 2126		
		DETAIL OF RAILINGS A1-P5 <L, R> (1)-(2)	P1-PB-3401 ~ 3402		GENERAL VIEW OF STEEL PIPE SHEET PILE FOUNDATION OF P7 PIER	P1-SB-2127		
		DETAIL OF DRAINAGE A1-P5 <L, R> (1)-(3)	P1-PB-3501 ~ 3503		DETAIL OF STEEL PIPE SHEET PILE OF P7 PIER (1)-(2)	P1-SB-2128 ~ 2129		
		DETAIL OF MANHOLE A1-P5 <L, R>	P1-PB-3601		DETAIL OF INTERLOCKING OF STEEL PIPE SHEET PILE OF P7 PIER	P1-SB-2130		
		FALL PREVENTIVE HANDRAIL OF P5 PIER (1)-(5)	P1-PB-3701 ~ 3705		DETAIL OF CONNECTION BETWEEN STEEL PIPE SHEET PILE AND FOOTING FOR P7 PIER	P1-SB-2131		
		INCLINATION AND DISPLACEMENT MEASUREMENT OF ABUTMENT A1	P1-PB-3801		DETAIL OF PILE TOP CONNECTION TO THE BASE CONCRETE OF P7 PIER	P1-SB-2132		
					(REFERENCE) LAYOUT PLAN OF COFFERDAM PART OF P7 PIER (1)-(2)	P1-SB-2133 ~ 2134		
			(REFERENCE) CONSTRUCTION PLAN OF STEEL PIPE SHEET PILE WORK OF P7 PIER		P1-SB-2135			
REFERENCE DRAWING		TEMPORARY COFFERDAM (REFERENCE DRAWING)	P1-PB-4011	BRIDGE ACCESSORIES	DETAIL OF RUBBER BEARING (1)-(4)	P1-SB-3001 ~ 3004		
		QUANTITY TABLE OF SUPERSTRUCTURE A1-P5 (REFERENCE DRAWING)	P1-PB-4101		EXPANSION JOINT PIER P5 MAIN ROAD (1)-(5)	P1-SB-3011 ~ 3015		
		QUANTITY TABLE OF SUBSTRUCTURE A1-P5 (REFERENCE DRAWING)	P1-PB-4102		EXPANSION JOINT PIER P5 ON RAMP (1)-(5)	P1-SB-3016 ~ 3020		
					ANCILLARY WORKS LAYOUT	P1-SB-3021		
					DETAIL OF DRAINAGE (1)-(4)	P1-SB-3022 ~ 3025		
					DETAIL OF BRACKET FOR LIGHTING POST	P1-SB-3026		
					INSPECTION WALKWAY (1)-(3)	P1-SB-3031 ~ 3033		
					DETAIL OF RAILING (1)-(3)	P1-SB-3041 ~ 3043		
					(REFERENCE) QUANTITY TABLE OF SUPERSTRUCTURE	P1-SB-4001		
					(REFERENCE) QUANTITY TABLE OF SUBSTRUCTURE	P1-SB-4101		

CONTENTS OF DRAWINGS

E. STEEL CABLE STAYED BRIDGE				F. ON-RAMP BRIDGE							
SUBSTRUCTURE AND FOUNDATION	P13 PIER	GENERAL ARRANGEMENT OF P13 PIER (1)-(2)	P1-CS-2301 ~ 2302	SUPERSTRUCTURE		COORDINATES OF SUPERSTRUCTURE (1)-(3)	P1-OR-0001 ~ 0003				
		BAR ARRANGEMENT OF P13 PIER (1)-(30)	P1-CS-2303 ~ 2332			GENERAL VIEW OF SUPERSTRUCTURE FOR ON-RAMP (1)-(5)	P1-OR-1001 ~ 1005				
		BAR ARRANGEMENT OF P13 FOOTING (1)-(8)	P1-CS-2333 ~ 2340			TENDON ARRANGEMENT OF PRECAST BEAM FOR ON-RAMP (1)-(4)	P1-OR-1101 ~ 1104				
		GENERAL DRAWING OF STEEL PIPE SHEET PILE FOUNDATION OF P13 PIER	P1-CS-2341			BAR ARRANGEMENT OF PRECAST BEAM FOR ON-RAMP (1)-(8)	P1-OR-1201 ~ 1208				
		DETAIL OF STEEL PIPE SHEET PILE OF P13 PIER (1)-(2)	P1-CS-2342 ~ 2343			BAR ARRANGEMENT OF SLAB FOR ON-RAMP (1)-(8)	P1-OR-1301 ~ 1308				
		DETAIL OF INTERLOCKING OF STEEL PIPE SHEET PILE OF P13 PIER	P1-CS-2344			BAR ARRANGEMENT OF CROSS BEAM FOR ON-RAMP (1)-(5)	P1-OR-1401 ~ 1405				
		DETAIL OF CONNECTION BETWEEN STEEL PIPE SHEET PILE AND FOOTING OF P13 PIER	P1-CS-2345			BAR ARRANGEMENT OF PC-BOARD FOR ON-RAMP	P1-OR-1501				
		DETAIL OF PILE TOP CONNECTION TO THE BASE CONCRETE OF P13 PIER	P1-CS-2346								
		FALL PREVENTIVE HANDRAIL OF P13 PIER (1)-(4)	P1-CS-2347 ~ 2350								
		(REFERENCE) LAYOUT PLAN OF COFFERDAM PART OF P13 PIER (1)-(2)	P1-CS-2351 ~ 2352								
		(REFERENCE) CONSTRUCTION PLAN OF STEEL PIPE SHEET PILE WORK OF P13 PIER (1)-(2)	P1-CS-2353 ~ 2354								
		BRIDGE ACCESSORIES				ROCKING BEARING	P1-CS-3001	SUBSTRUCTURE AND FOUNDATION		COORDINATES OF SUBSTRUCTURE (A01-P03)	P1-OR-2000
						ANCHOR FRAME	P1-CS-3002			GENERAL VIEW OF AO1 ABUTMENT (1)-(2)	P1-OR-2001 ~ 2002
						TIE BAR FOR ROCKING BEARING	P1-CS-3003			GENERAL VIEW OF PO1 PIER	P1-OR-2011
						DETAIL OF TIE BAR (1)-(2)	P1-CS-3004 ~ 3005			GENERAL VIEW OF PO2 PIER	P1-OR-2021
						DETAIL OF PIN ROLLER BEARING (1)-(4)	P1-CS-3006 ~ 3009			GENERAL VIEW OF PO3 PIER	P1-OR-2031
DETAIL OF PIVOT BEARING (1)-(3)	P1-CS-3010 ~ 3012			BAR ARRANGEMENT OF AO1 ABUTMENT (1)-(8)	P1-OR-2101 ~ 2108						
PIER P11&P12 PEDESTAL FRAME (1)-(4)	P1-CS-3013 ~ 3016			BAR ARRANGEMENT OF PO1 PIER (1)-(4)	P1-OR-2111 ~ 2114						
PIER P11&P12 ANCHOR FRAME (1)-(2)	P1-CS-3017 ~ 3018			BAR ARRANGEMENT OF PO2 PIER (1)-(4)	P1-OR-2121 ~ 2124						
DETAIL OF BEARING FOR HORIZONTAL FORCE (1)-(3)	P1-CS-3019 ~ 3021			BAR ARRANGEMENT OF PO3 PIER (1)-(4)	P1-OR-2131 ~ 2134						
EXPANSION JOINT PIER P10 (1)-(4)	P1-CS-3022 ~ 3025			BAR ARRANGEMENT OF CAST IN PLACE PILE FOR AO1 ABUTMENT (1)-(2)	P1-OR-2201 ~ 2202						
EXPANSION JOINT PIER P13 (1)-(4)	P1-CS-3026 ~ 3029			BAR ARRANGEMENT OF CAST IN PLACE PILE FOR PO1 PIER (1)-(2)	P1-OR-2211 ~ 2212						
HANGER	P1-CS-3030			BAR ARRANGEMENT OF CAST IN PLACE PILE FOR PO2 PIER (1)-(2)	P1-OR-2221 ~ 2222						
MAIN GIRDER ANCILLARY WORKS LAYOUT (1)-(3)	P1-CS-3031 ~ 3033			BAR ARRANGEMENT OF CAST IN PLACE PILE FOR PO3 PIER (1)-(2)	P1-OR-2231 ~ 2232						
INSPECTION ROAD (1)-(8)	P1-CS-3034 ~ 3041										
DRAINAGE (1)-(3)	P1-CS-3042 ~ 3044			BRIDGE ACCESSORIES		DETAIL OF BEARINGS FOR ON-RAMP (1)-(6)	P1-OR-3001 ~ 3006				
FAIRING (1)-(4)	P1-CS-3045 ~ 3048					DETAIL OF EXPANSION JOINTS FOR ON-RAMP	P1-OR-3101				
RAIL FOR INSPECTION VEHICLE (1)-(3)	P1-CS-3049 ~ 3051					DETAIL OF CURB FOR ON-RAMP	P1-OR-3201				
DETAIL OF RAILING (1)-(2)	P1-CS-3052 ~ 3053					DETAIL OF LIGHTING BASE FOR ON-RAMP	P1-OR-3301				
BRIDGE SURFACE WORK (1)-(2)	P1-CS-3054 ~ 3055					DETAIL OF RAILINGS FOR ON-RAMP (1)-(2)	P1-OR-3401 ~ 3402				
CABLE RACK SUPPORT	P1-CS-3056					DETAIL OF DRAINAGE FOR ON-RAMP (1)-(2)	P1-OR-3501 ~ 3502				
WATER PIPE SUPPORT (1)-(2)	P1-CS-3057 ~ 3058										
NAVIGATION SIGN & LIGHT (1)-(2)	P1-CS-3059 ~ 3060					REFERENCE DRAWING		TEMPORARY COFFERDAM (REFERENCE DRAWING)	P1-OR-4011		
LIGHT-UP SYSTEM (1)-(2)	P1-CS-3061 ~ 3062			QUANTITY TABLE OF SUPERSTRUCTURE AO1-PO3 (REFERENCE DRAWING)	P1-OR-4101						
MAIN TOWER ANCILLARY WORKS LAYOUT	P1-CS-3063			QUANTITY TABLE OF SUBSTRUCTURE AO1-PO3 (REFERENCE DRAWING)	P1-OR-4102						
LADDER (1)-(4)	P1-CS-3064 ~ 3067										
AERODYNAMIC DEVICE	P1-CS-3068										
REFERENCE DRAWING	(REFERENCE) DETAIL OF STEEL GIRDER END FOR EXPANSION JOINT (P13) (1)-(3)			P1-CS-3069 ~ 3071							
	(REFERENCE) QUANTITY TABLE OF SUPERSTRUCTURE P10-P13			P1-CS-4001							
	(REFERENCE) QUANTITY TABLE OF SUBSTRUCTURE P10-P13			P1-CS-4002							

CONTENTS OF DRAWINGS

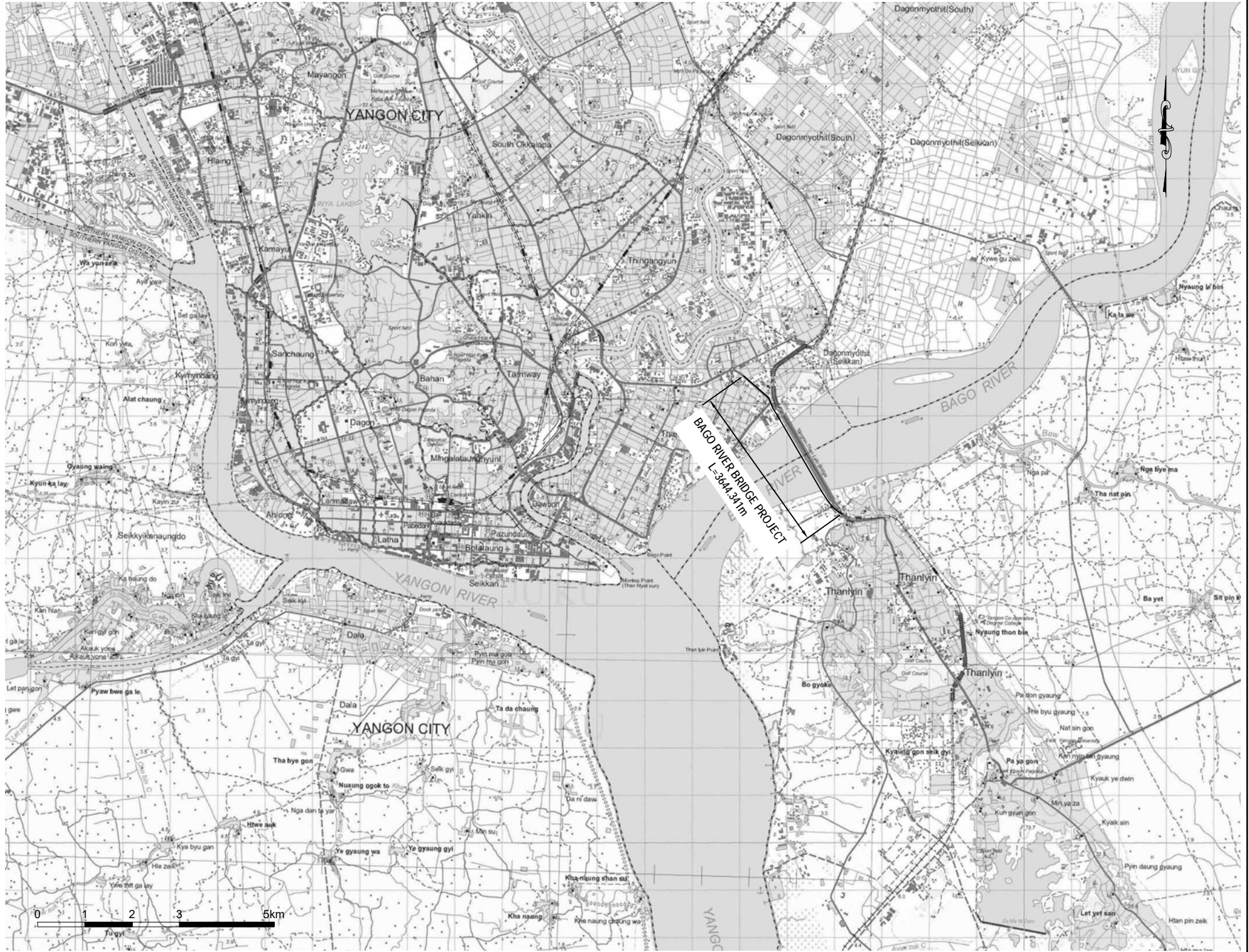
G. LIGHTING			
		TYPICAL POWER DISTRIBUTION PLAN	P1-EL-0001
		TYPICAL WIRING PLAN	P1-EL-0002
		(REFERENCE) INCOMING POWER RECEIVING FOR ROAD LIGHTING	P1-EL-0003
		TYPICAL MV SITE SUBSTATION	P1-EL-0004
		TYPICAL ELECTRIC POLE ASSEMBLING	P1-EL-0005
		TYPICAL LIGHTING PLAN FOR RETAINING WALL APPROACH (THANLYIN SIDE)	P1-EL-0006
		TYPICAL LIGHTING PLAN FOR PC BOX GIRDER AND STEEL BOX GIRDER BRIDGE (THANLYIN SIDE)	P1-EL-0007
		TYPICAL LIGHTING PLAN FOR CABEL STAYED BRIDGE (1)-(2)	P1-EL-0008 ~ 0009
		TYPICAL LIGHTING PLAN FOR ON-RAMP	P1-EL-0010
		(REFERENCE) SINGLE LINE DIAGRAM FOR PANELS	P1-EL-0011
		TYPICAL LED LUMINAIR AND POLE	P1-EL-0012
		TYPICAL FOUNDATION DETAILS FOR ROAD LIGHTING POLE	P1-EL-0013
		(REFERENCE) INSTALLATION DETAIL FOR FLEXIBLE PIPE	P1-EL-0014
		(REFERENCE) OUTLINE OF ELECTRIC PANELS	P1-EL-0015
		TYPICAL TRAFFIC SIGNAL SYSTEM PLAN FOR STA.0+40 INTERSECTION	P1-EL-0016
		TYPICAL TRAFFIC SIGNAL CONTROL SYSTEM DIAGRAM	P1-EL-0017
		TYPICAL UNDERGROUND WIRING PLAN FOR STA.0+40 INTERSECTION	P1-EL-0018
		(REFERENCE) TRAFFIC SIGNAL HEAD AND POLES	P1-EL-0019
		(REFERENCE) OUTLINE OF TRAFFIC SIGNAL CONTROLLER AND JUNCTION BOX	P1-EL-0020
		(REFERENCE) TYPICAL AVIATION OBSTRUCTION LIGHT PLAN	P1-EL-0021
		(REFERENCE) TYPICAL ACCESSORIES FOR LIGHTING PROTECTION SYSTEM	P1-EL-0022
		(REFERENCE) CONTROL PANEL FOR OBSTRUCTION LIGHT	P1-EL-0023
		TYPICAL NAVIGATION LATERAL MARKS AND OBSTRUCTION LIGHT	P1-EL-0024
		TYPICAL SCHEMATIC DIAGRAM	P1-EL-0025
		(REFERENCE) TYPICAL FLOOD LIGHT INSTALLATION	P1-EL-0026
		(REFERENCE) TYPICAL WIRING PLAN AND LIGHTING PANEL AT P10	P1-EL-0027
	REFERENCE DRAWING	QUANTITY TABLE OF LIGHTING AND ELECTRICAL WORKS	P1-EL-0028
H. REFERENCE DRAWING			
		(REFERENCE) GENERAL LAYOUT OF CONSTRUCTION YARD	P1-REF-0001
		(REFERENCE) NAVIGATION CONTROL PLAN (1)-(2)	P1-REF-0002 ~ 0003
		(REFERENCE) CONSTRUCTION SEQUENCE OF CABLE STAYED BRIDGE	P1-REF-0004
		(REFERENCE) CONSTRUCTION SEQUENCE OF CONTINUOUS STEEL BOX GIRDER	P1-REF-0005
		(REFERENCE) CONSTRUCTION SEQUENCE OF CONTINUOUS PC BOX GIRDER	P1-REF-0006
		(REFERENCE) DIVERSION OF EXISTING TRAFFIC DURING CONSTRUCTION OF INTERSECTION	P1-REF-0007
		(REFERENCE) MONUMENT AND BRIDGE RECORD	P1-REF-0008
		(REFERENCE) NETWORK PLAN	P1-REF-0009
		(REFERENCE) EXISTING UNDERGROUND UTILITIES LAYOUT (1)-(2)	P1-REF-0011 ~ 0012
		(REFERENCE) QUARRY SITE LOCATION	P1-REF-1001
		(REFERENCE) LAND TRANSPORTATION ROUTE TO WASTE DISPOSAL SITE IN THILAWA SEZ	P1-REF-1002
		(REFERENCE) LAND TRANSPORTATION ROUTE FROM LANDING PORT	P1-REF-1003
		(REFERENCE) DIAGRAM OF RAILING POST	P1-REF-2001
		(REFERENCE) INSPECTION LADDER FROM DECK	P1-REF-2002

A. GENERAL

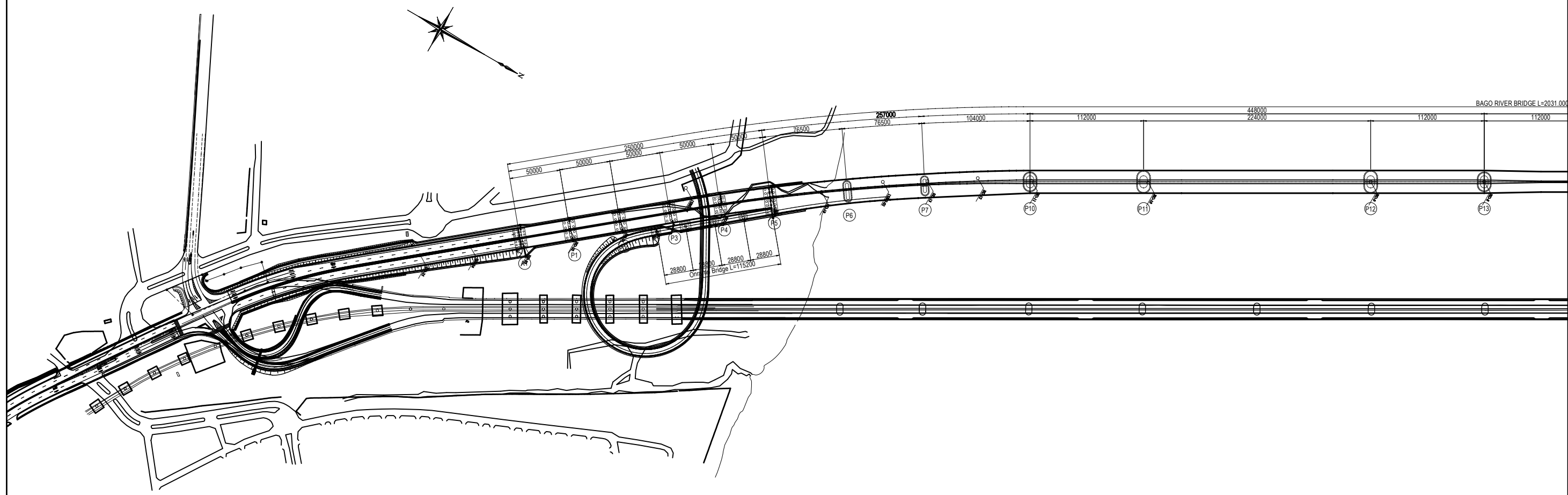
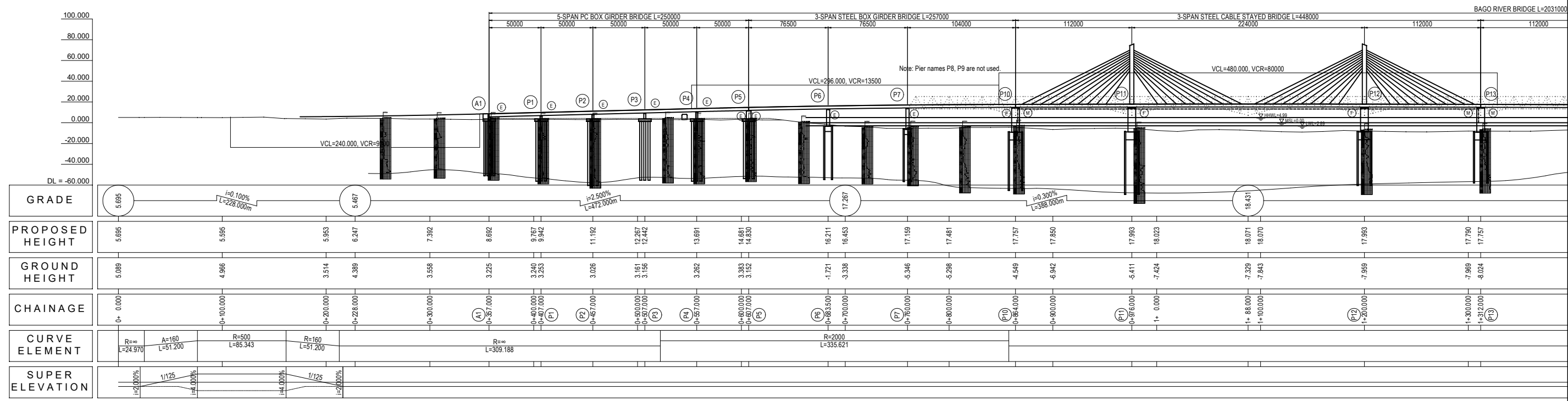


LOCATION MAP

S=1:100,000

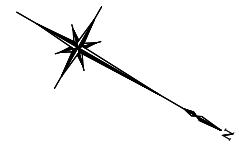
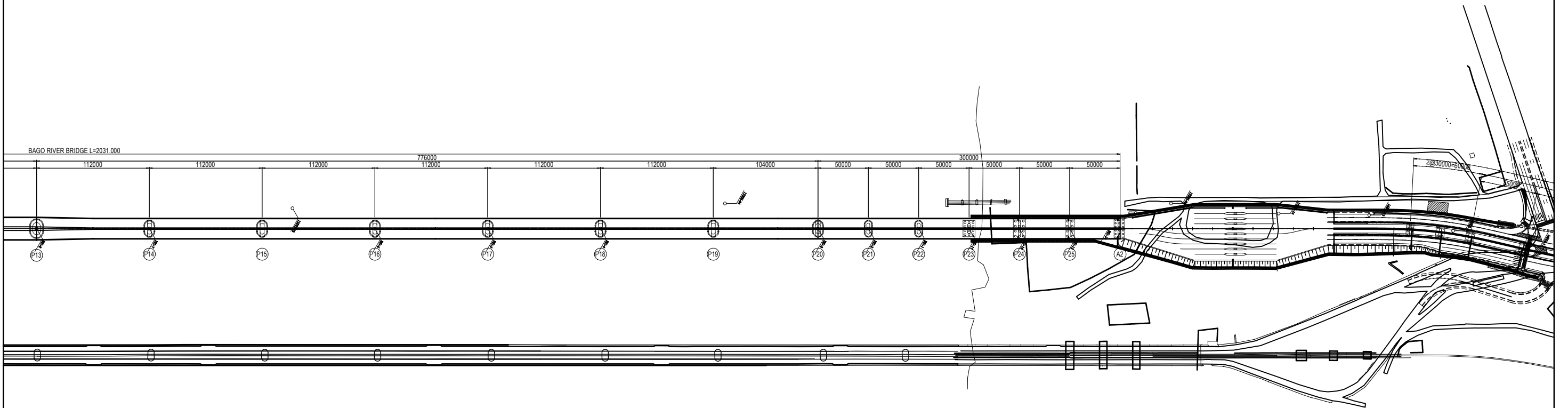
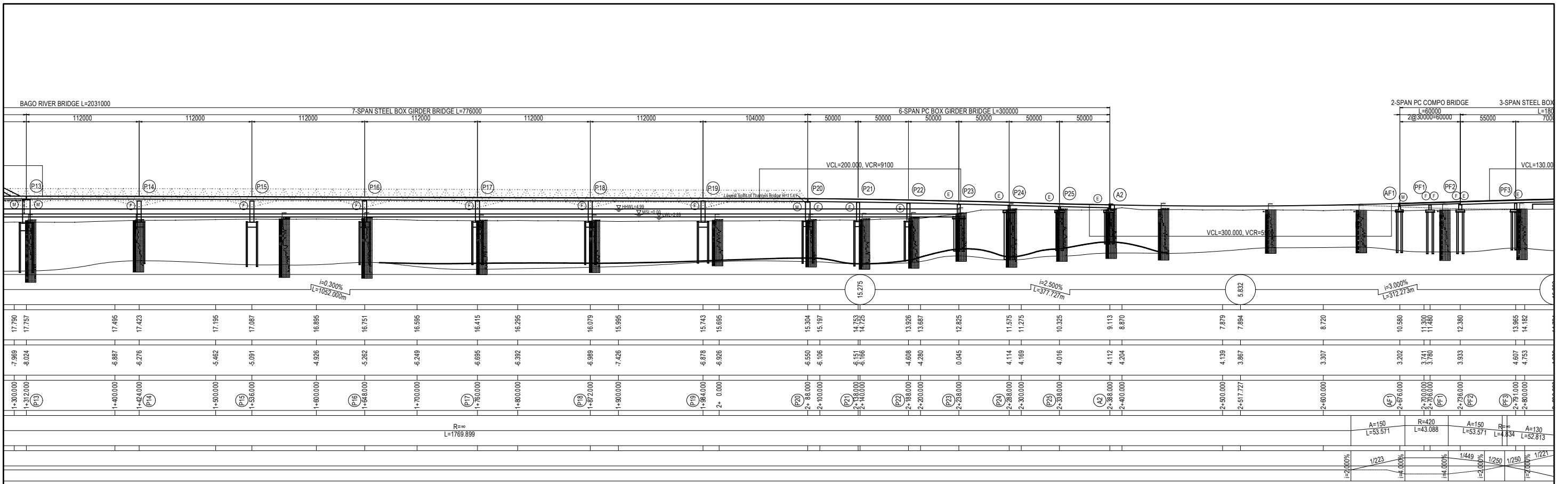


PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE LOCATION MAP	PACKAGE 1 DWG No. P1-GE-0001	
				PREPARED BY	T. HAYAKAWA				15 Sep.2017
				CHECKED BY	T. HAYAKAWA				22 Sep.2017
APPROVED BY	Y. SANO		29 Sep.2017						



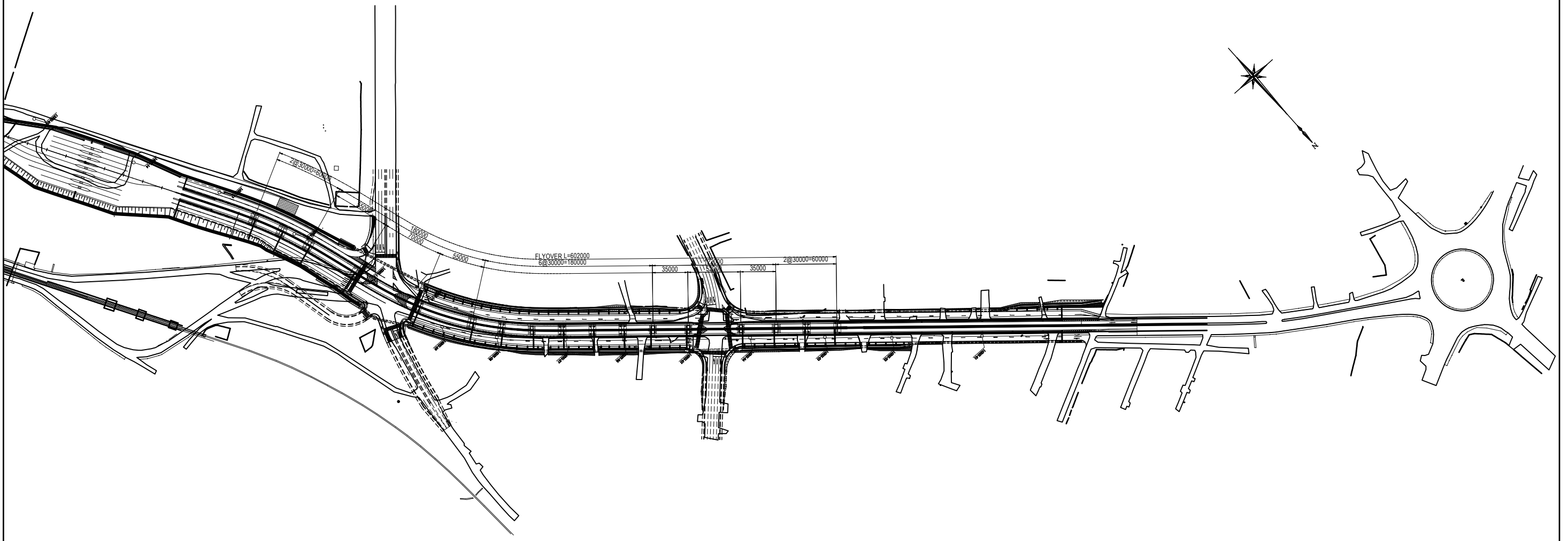
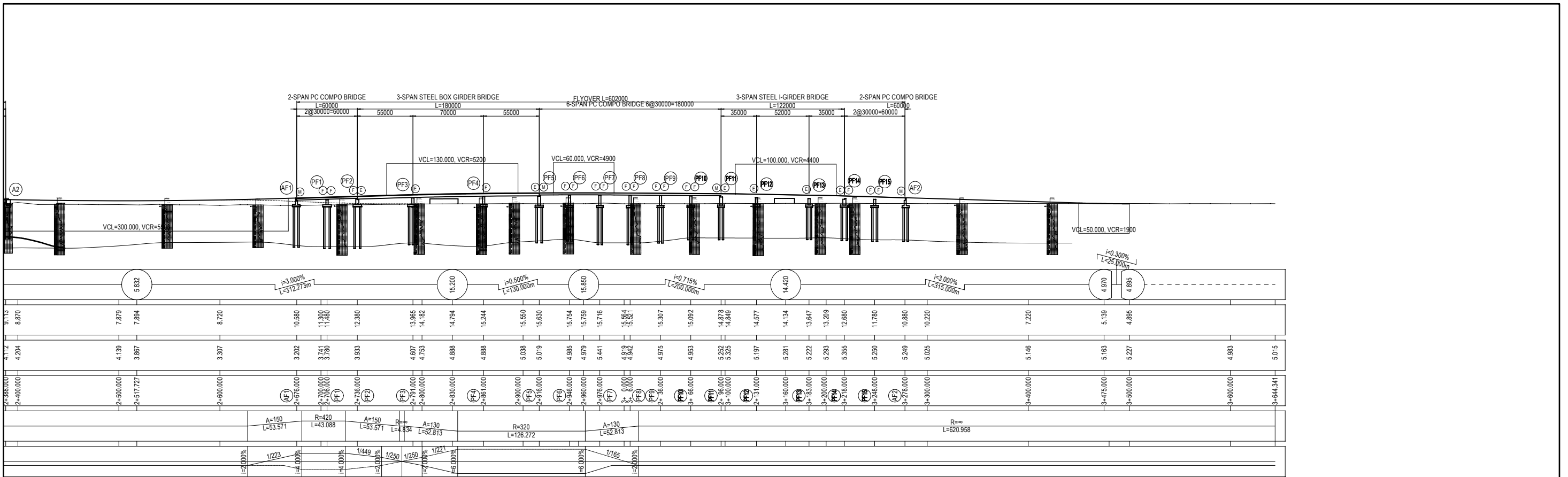
Elevation represents above MSL unless otherwise indicated.

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE GENERAL VIEW OF BAGO RIVER BRIDGE (1)	PACKAGE 1 DWG No. P1-GE-0002	
				PREPARED BY	T. HAYAKAWA				27 Nov. 2017
				CHECKED BY	T. HAYAKAWA				28 Nov. 2017
				APPROVED BY	Y. SANO				29 Nov. 2017



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PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE	
				PREPARED BY	T. HAYAKAWA				27 Nov. 2017
				CHECKED BY	T. HAYAKAWA				28 Nov. 2017
				APPROVED BY	Y. SANO				29 Nov. 2017
							GENERAL VIEW OF BAGO RIVER BRIDGE (2)	1	
								DWG No.	
								P1-GE-0003	



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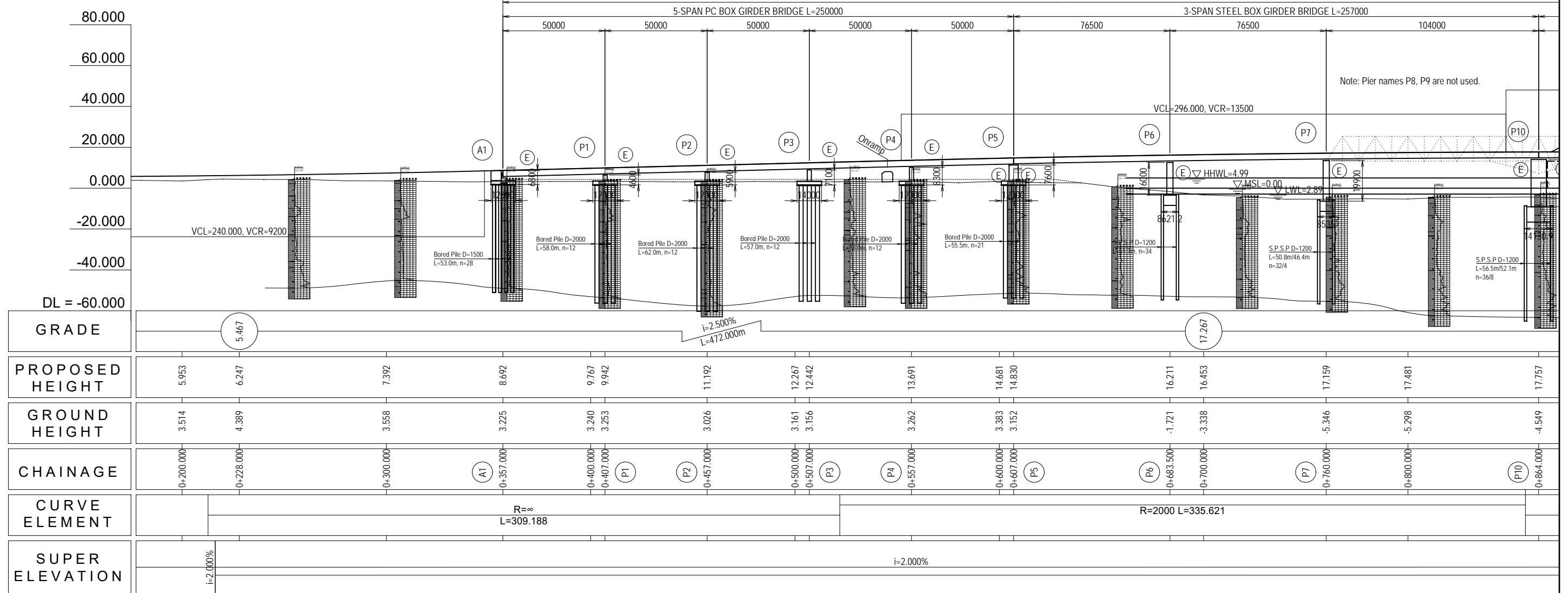
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE GENERAL VIEW OF BAGO RIVER BRIDGE (3)	PACKAGE 1 DWG No. P1-GE-0004	
				PREPARED BY	T. HAYAKAWA				27 Nov. 2017
				CHECKED BY	T. HAYAKAWA				28 Nov. 2017
				APPROVED BY	Y. SANO				29 Nov. 2017

GENERAL VIEW OF BAGO RIVER BRIDGE (4)

LONGITUDINAL SECTION

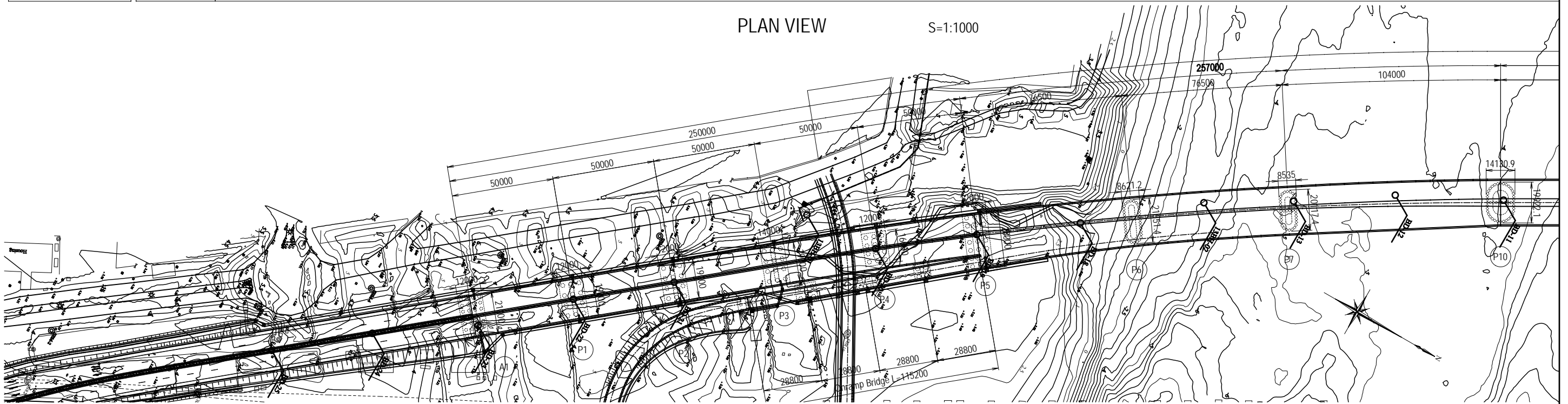
S=1:1000

BAGO RIVER BRIDGE L=2031000



PLAN VIEW

S=1:1000



Elevation represents above MSL unless otherwise indicated.

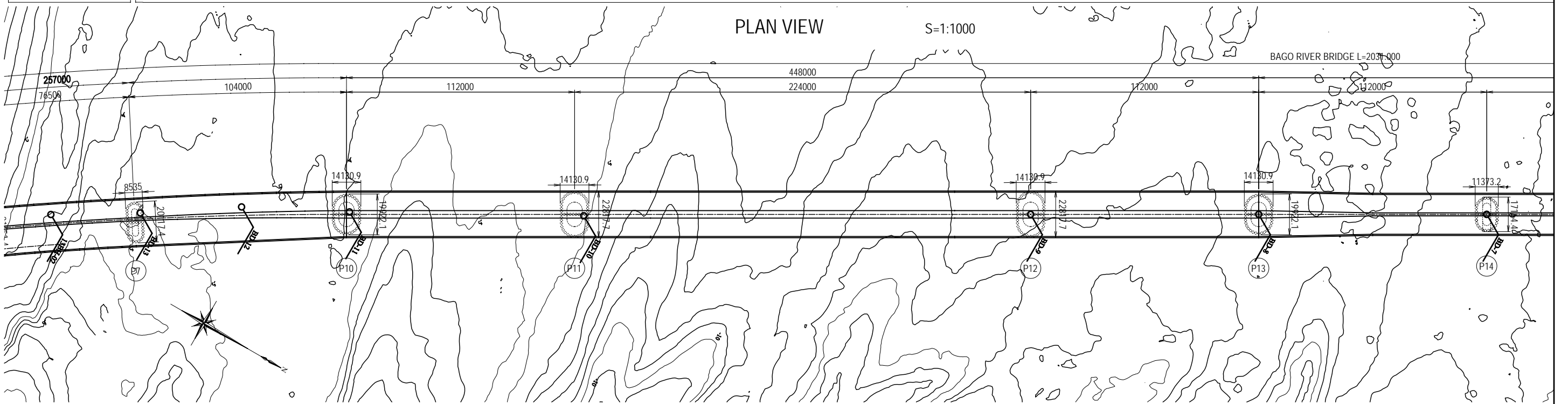
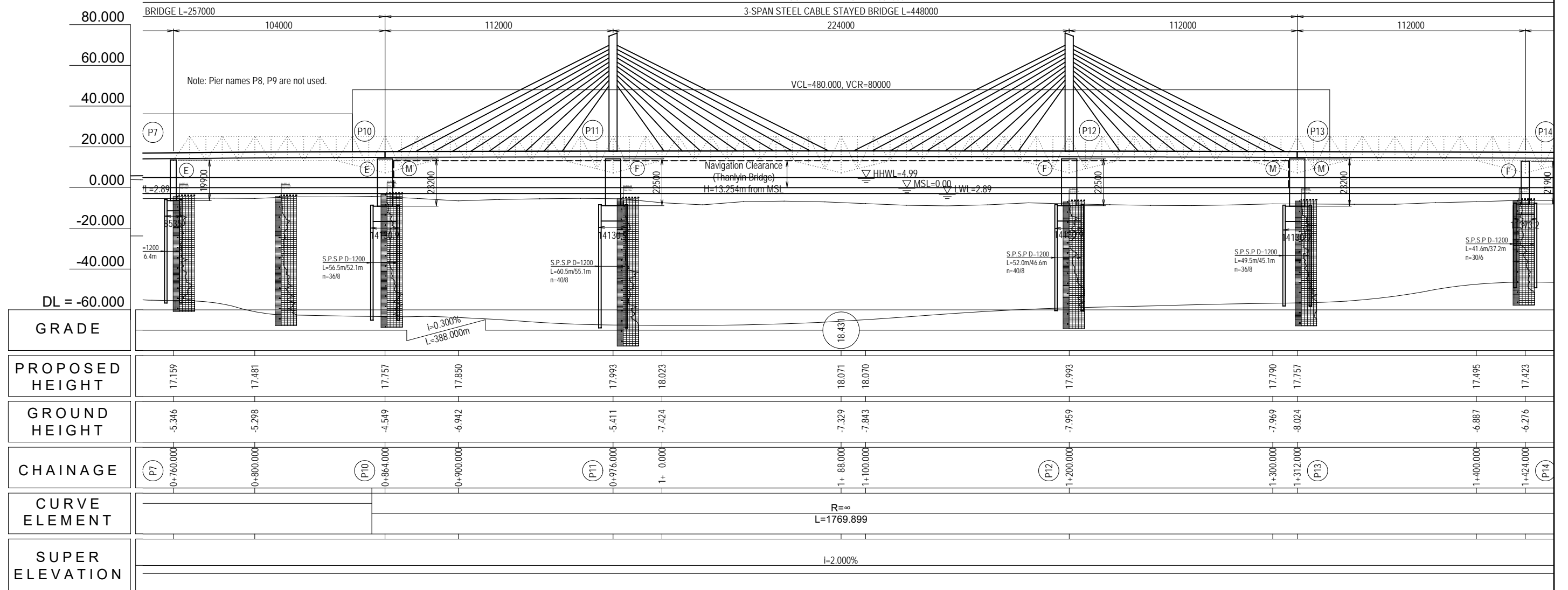
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE GENERAL VIEW OF BAGO RIVER BRIDGE (4)	PACKAGE 1 DWG No. P1-GE-0005	
				PREPARED BY	T. HAYAKAWA				27 Nov. 2017
				CHECKED BY	T. HAYAKAWA				28 Nov. 2017
				APPROVED BY	Y. SANO				29 Nov. 2017

GENERAL VIEW OF BAGO RIVER BRIDGE (5)

LONGITUDINAL SECTION S=1:1000

BAGO RIVER BRIDGE L=2031000

3-SPAN STEEL CABLE STAYED BRIDGE L=448000



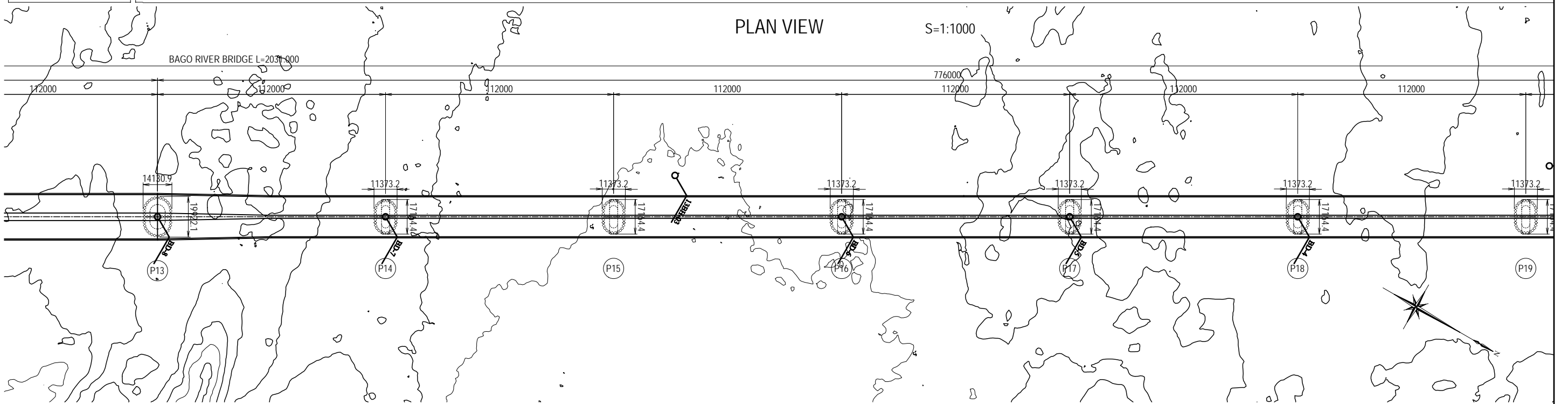
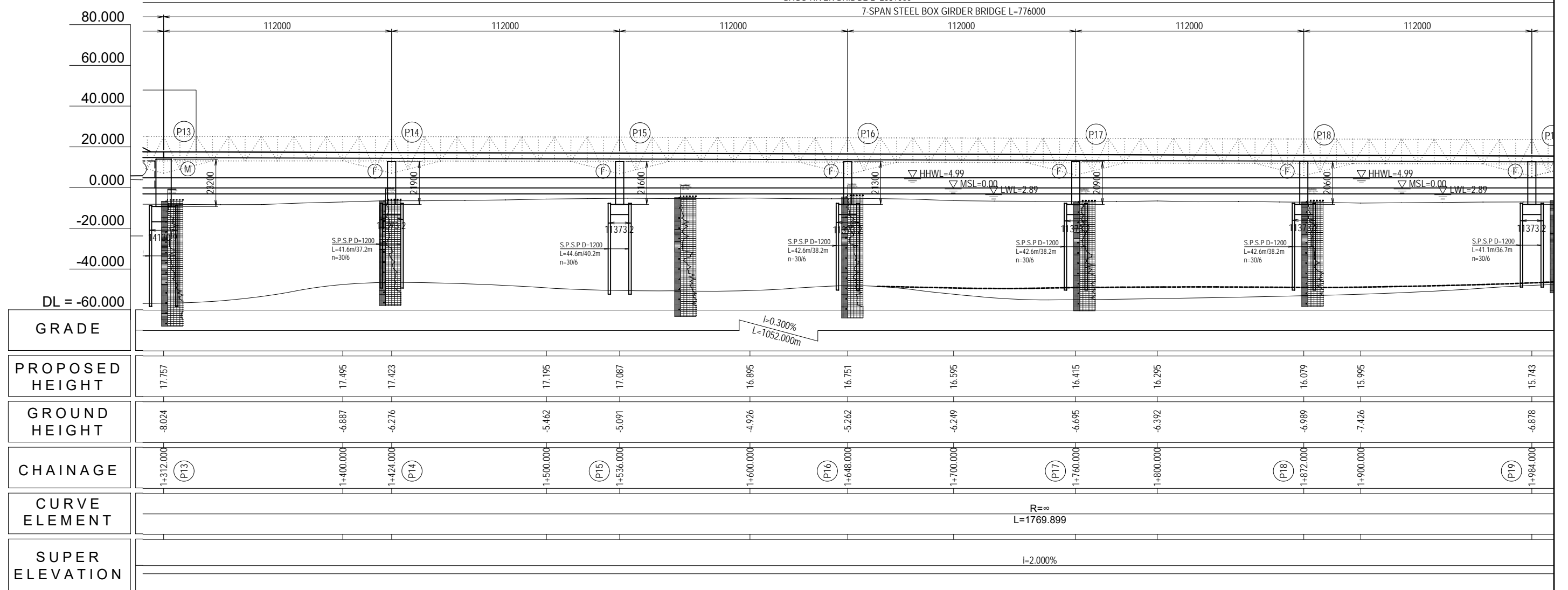
Elevation represents above MSL unless otherwise indicated.

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE GENERAL VIEW OF BAGO RIVER BRIDGE (5)	PACKAGE	
				PREPARED BY	T. HAYAKAWA			27 Nov. 2017	1
				CHECKED BY	T. HAYAKAWA			28 Nov. 2017	DWG No.
				APPROVED BY	Y. SANO			29 Nov. 2017	P1-GE-0006

GENERAL VIEW OF BAGO RIVER BRIDGE (6)

LONGITUDINAL SECTION S=1:1000

BAGO RIVER BRIDGE L=2031000
7-SPAN STEEL BOX GIRDER BRIDGE L=776000



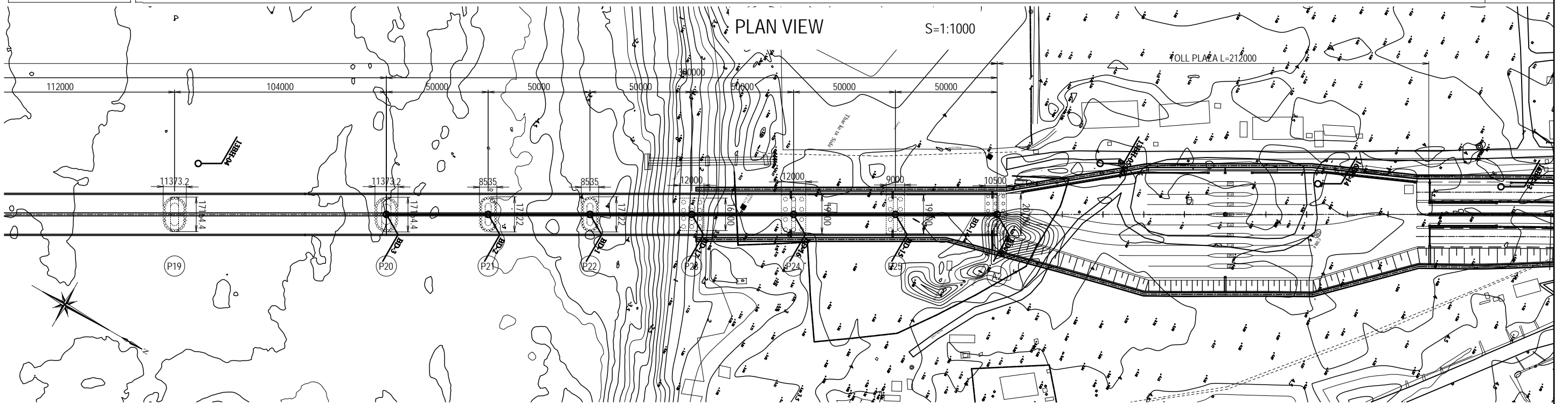
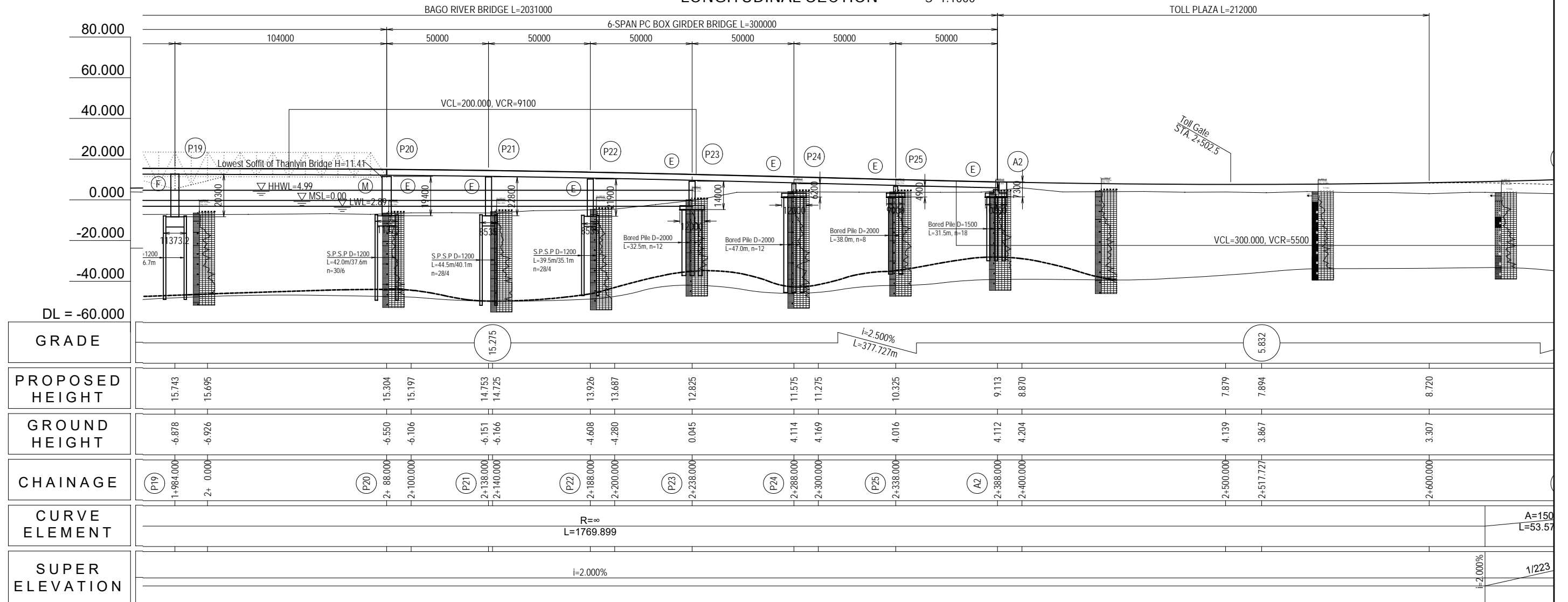
Elevation represents above MSL unless otherwise indicated.

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE GENERAL VIEW OF BAGO RIVER BRIDGE (6)	PACKAGE	
				PREPARED BY	T. HAYAKAWA			27 Nov. 2017	1
				CHECKED BY	T. HAYAKAWA			28 Nov. 2017	DWG No.
				APPROVED BY	Y. SANO			29 Nov. 2017	P1-GE-0007

GENERAL VIEW OF BAGO RIVER BRIDGE (7)

LONGITUDINAL SECTION

S=1:1000



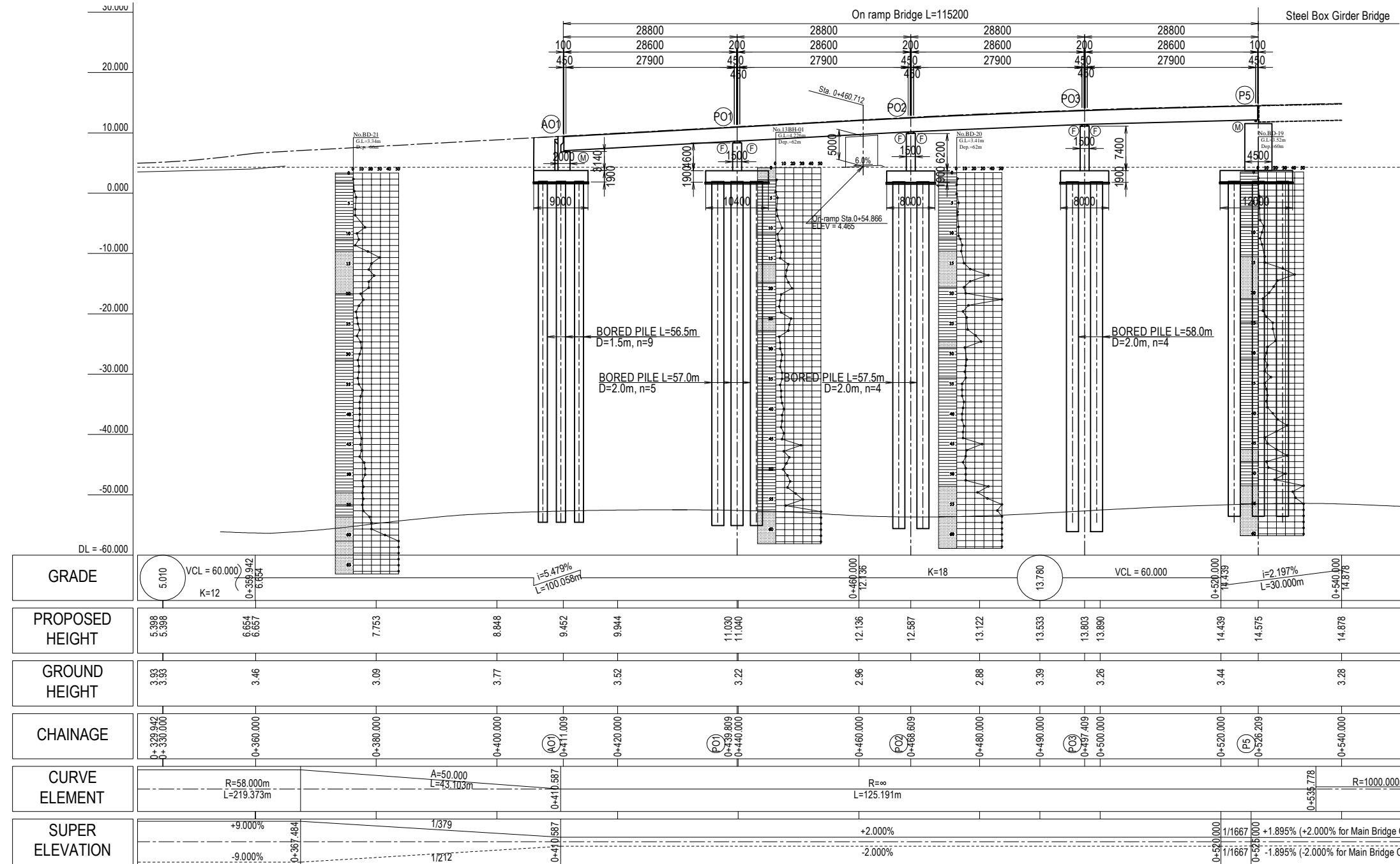
Elevation represents above MSL unless otherwise indicated.

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE GENERAL VIEW OF BAGO RIVER BRIDGE (7)	PACKAGE	
				PREPARED BY	T. HAYAKAWA			27 Nov. 2017	1
				CHECKED BY	T. HAYAKAWA			28 Nov. 2017	DWG No.
				APPROVED BY	Y. SANO			29 Nov. 2017	P1-GE-0008

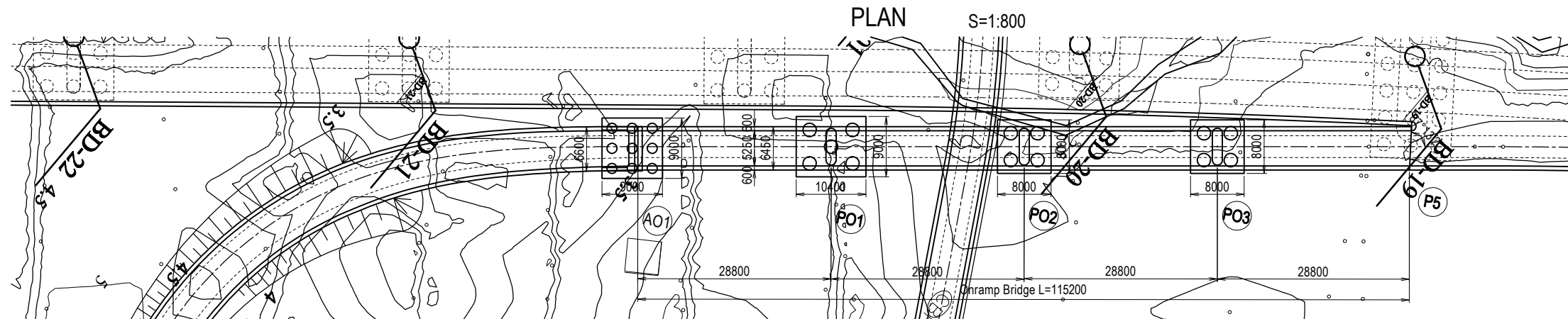
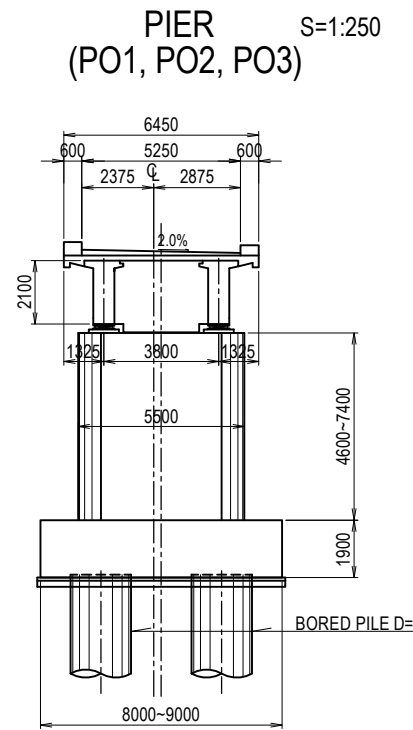
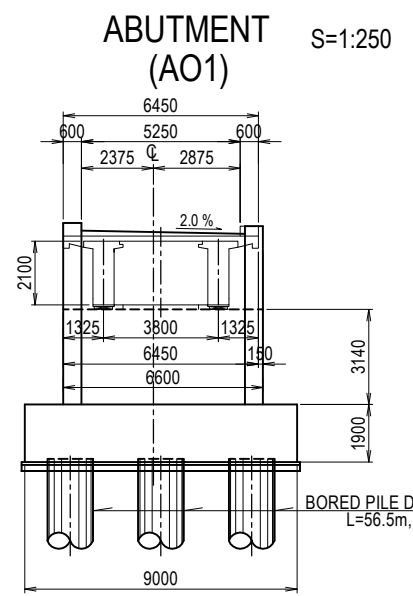
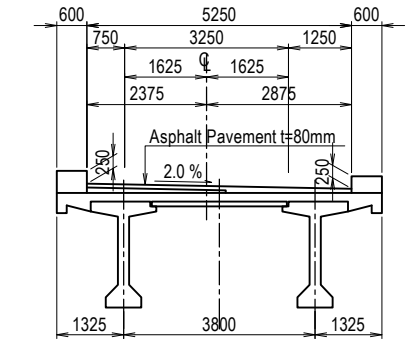
GENERAL VIEW OF ON-RAMP BRIDGE

ELEVATION S=1:800

TYPICAL CROSS SECTION S=1:150



GRADE	5.010 VCL = 60.000 K=12	6.654 0-358.942 6.654	7.753	8.848	9.452 i=5.479% L=100.058m	9.944	11.030 0-439.809 11.040	12.136 0-460.000 12.136	12.587 0-468.609	13.122	13.533 K=18	13.803 VCL = 60.000	13.890	14.439 0-520.000 14.439	14.575 i=2.197% L=30.000m	14.878 0-540.000 14.878
PROPOSED HEIGHT	5.398 5.398	6.654 6.657	7.753	8.848	9.452	9.944	11.030 11.040	12.136	12.587	13.122	13.533	13.803	13.890	14.439	14.575	14.878
GROUND HEIGHT	3.93 3.93	3.46	3.09	3.77	3.52	3.22	3.22	2.96	2.88	3.39	3.26	3.44	3.44	3.44	3.28	3.28
CHAINAGE	0+328.042 0+330.000	0+360.000	0+380.000	0+400.000	0+410.587 0+411.009	0+420.000	0+440.000	0+460.000	0+468.609	0+480.000	0+490.000	0+497.409	0+500.000	0+520.000	0+526.209	0+540.000
CURVE ELEMENT	R=58.000m L=219.373m	A=50.000 L=43.103m			0+410.587 0+411.009			R=∞ L=125.191m						0+520.000 0+526.209		R=1000.000m
SUPER ELEVATION	+9.000% -9.000%	0-387.484	1/379	1/212	0+410.587 0+411.009			+2.000% -2.000%						0+520.000 0+526.209	+1.895% (+2.000% for Main Bridge CL) -1.895% (-2.000% for Main Bridge CL)	



PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE	
				PREPARED BY	M. OHYAMA				15 Jun.2017
				CHECKED BY	T. HAYAKAWA				20 Jun.2017
				APPROVED BY	Y. SANO				21 Jun.2017
GENERAL VIEW OF ON-RAMP BRIDGE							1	DWG No.	P1-GE-009

GENERAL NOTES (ROAD DESIGN)

1.0 SPECIFICATIONS

- 1.1 ALL WORKS SHALL COMPLY WITH THE AASHTO STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, AND WITH THE SPECIAL PROVISIONS & SUPPLEMENTAL SPECIFICATIONS PERTAINING TO THIS PROJECT.

2.0 DIMENSIONS

- 2.1 DISTANCES AND ELEVATIONS SHOWN ON THE PLANS ARE IN METERS (m) UNLESS OTHERWISE SPECIFIED.
2.2 DIMENSIONS OF CULVERTS, BRIDGES AND OTHER STRUCTURES ARE MEASURED AND EXPRESSED IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.

3.0 STATIONING

- 3.1 STATIONING OF ROAD, BRIDGE, ELEMENTS OF CURVE FOR BOTH HORIZONTAL AND VERTICAL ALIGNMENTS ARE RECKONED FROM THE ROAD CENTERLINE.
3.2 STATION TICK MARKS ARE SHOWN AT 20m INTERVAL AND STATION LABELS AT 100m INTERVAL. STATIONS ARE SHOWN ALSO AT LOCATIONS OF HORIZONTAL AND VERTICAL GEOMETRY.

4.0 HORIZONTAL AND VERTICAL ALIGNMENT

- 4.1 NO ALTERATION/CHANGE IN ALIGNMENT SHALL BE MADE UNLESS EXISTING FIELD CONDITIONS SO WARRANT AND ONLY UPON APPROVAL OF THE ENGINEER.
4.2 FINISHED GRADE ELEVATIONS SHOWN ON THE PLAN AND PROFILE SHEET REFER TO THE FINISHED GRADE LEVEL AT ROAD CENTERLINE SHOWN ON THE TYPICAL ROADWAY SECTIONS. MODIFICATIONS CAN BE DONE ON DESIGN GRADES AND ELEVATIONS ONLY UPON APPROVAL OF THE ENGINEER.
4.3 GROUND LEVEL SHOWN ON THE PLAN AND PROFILE SHEET REFERS TO THE ELEVATION OF THE ORIGINAL GROUND ALONG THE DESIGN ROAD CENTERLINE.

5.0 ROAD CONNECTIONS AND SHOULDER IMPROVEMENT

- 5.1 ROAD CONNECTIONS SHALL BE CONSTRUCTED BY THE CONTRACTOR AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER IN SUCH MANNER AS TO ENSURE SMOOTH CONNECTION AND GOOD RIDING QUALITY.
5.2 THE SHOULDER STRUCTURE IS ASPHALT CONCRETE WITH VARYING WIDTHS. THE WIDTH MAY BE ADJUSTED DURING CONSTRUCTION TO SUIT EXISTING FIELD CONDITION UPON APPROVAL OF THE ENGINEER.

6.0 REMOVAL OF EXISTING UTILITIES, STRUCTURES AND OBSTRUCTIONS

- 6.1 ALL WORKS SHALL COMPLY WITH THE REQUIREMENTS AND CONDITIONS OF CONTRACT OF THE MINISTRY OF CONSTRUCTION.
6.2 EXTREME PRECAUTION SHALL BE EXERCISED BY THE CONTRACTOR NOT TO DAMAGE ANY PORTION OF EXISTING UTILITIES DURING CONSTRUCTION. ANY DAMAGE THEREOF SHALL BE REPAIRED OR COMPENSATED ON THE ACCOUNT OF THE CONTRACTOR.

7.0 DRAINAGE STRUCTURES

- 7.1 EXACT LOCATIONS, SLOPES, OUTFALLS, AND INVERT ELEVATIONS OF DRAINAGE STRUCTURES SHALL BE CHECKED IN THE FIELD BY THE CONTRACTOR BEFORE MAKING ANY REMOVAL OR IMPROVEMENT. MINOR ADJUSTMENTS MAY BE MADE TO SUIT ACTUAL FIELD CONDITIONS UPON APPROVAL OF THE ENGINEER.
7.2 EXISTING DRAINAGE STRUCTURES THAT ARE FAULTY, BROKEN DOWN, OR NOT IN GOOD WORKING CONDITION SHALL BE DETERMINED IN THE FIELD. RECONSTRUCTION, REPAIR AND/OR REPLACEMENT OF SAME SHALL BE DIRECTED BY THE ENGINEER, AND SHALL CONFORM TO THE STANDARDS SHOWN IN THE DRAWINGS.
7.3 EXISTING DRAINAGE STRUCTURES OR PARTS THEREOF REMOVED BY THE CONTRACTOR THAT ARE STILL SERVICEABLE SHALL BE TURNED OVER TO THE GOVERNMENT AND SHALL BE DEPOSITED AT A PLACE DESIGNATED BY THE ENGINEER WITHOUT ANY EXTRA COMPENSATION. EXTREME PRECAUTIONS SHALL BE EXERCISED BY THE CONTRACTOR NOT TO DAMAGE THESE MATERIALS DURING THE REMOVAL AND HANDLING OPERATION.
7.4 PRIOR TO INSTALLATION OF PIPE CULVERTS AND OTHER DRAINAGE STRUCTURES, ALL MATERIALS SHALL BE TESTED TO CHECK ANY DEFECT AND CONFORMITY WITH TECHNICAL SPECIFICATIONS.
7.5 THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPLACEMENT OF MATERIALS INSTALLED AND FOUND TO BE DEFICIENT IN WORKMANSHIP AND QUALITY.
7.6 INLETS AND OUTLETS OF NEW AND OPERATIONAL EXISTING CULVERTS SHALL BE CHANNELIZED AND CLEARED OF DEBRIS AND OBSTRUCTIONS. THIS SHALL BE CONSIDERED AS SUBSIDIARY WORK OF OTHER DRAINAGE PAY ITEMS.
7.7 ANY REVISION, REMOVAL, CLEANING, UNCLOGGING AND/OR RE-LAYING OF DRAINAGE STRUCTURES AS DIRECTED BY THE ENGINEER TO SUIT EXISTING FIELD CONDITION SHALL BE CONSIDERED AS SUBSIDIARY WORK PERTAINING TO OTHER CONTRACT ITEMS. NO DIRECT PAYMENT SHALL BE MADE FOR THIS WORK UNLESS OTHERWISE SPECIFICALLY IDENTIFIED FOR PAYMENT IN THE BID SCHEDULE.

8.0 OPEN DITCHES (LINED CANAL AND EARTH DITCH)

- 8.1 ALL DITCHES SHALL COMPLY WITH THE REQUIRED STANDARDS.
8.2 INVERT ELEVATIONS AND EXACT LOCATION AND DIMENSION OF OPEN DITCHES MAYBE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER.

9.0 MISCELLANEOUS STRUCTURES

- 9.1 LOCATION AND LENGTH OF GUARDRAILS, SLOPE PROTECTIONS SUCH AS GROUTED RIPRAP, STONE MASONRY RETAINING WALLS AND OTHER STRUCTURES ARE SUBJECT TO ADJUSTMENT TO SUIT EXISTING FIELD CONDITIONS UPON APPROVAL OF THE ENGINEER.
9.2 GROUTED RIPRAP AND/OR RIPRAP, STONE MASONRY SHOULD BE WELL CONSTRUCTED AS SPECIFIED IN THE STANDARD SPECIFICATION FOR THE SAID ITEM.
9.3 CUT SLOPE CONSTRUCTION SHALL BE DONE AT PACE WITH EMBANKMENT CONSTRUCTION TO AVOID SLIDING OF FILL MATERIALS.

10.0 OTHERS

- 10.1 ALL SCHEDULES/LISTINGS FOR GUARDRAILS, SLOPE PROTECTION STRUCTURES, PAVEMENT MARKINGS, ROAD SIGNS AND ALL OTHER RELATED SCHEDULES/LISTINGS SHOWN ON THE PLANS ARE SUBJECT TO ADJUSTMENT/MODIFICATION TO SUIT ACTUAL FIELD CONDITION. THE ENGINEER MAY ORDER IN WRITING THE CONSTRUCTION/INSTALLATION OF NEW STRUCTURES/OR MISCELLANEOUS ITEMS IF IN HIS OPINION IS DEEMED NECESSARY IN ADDITION TO THE APPROVED SCHEDULES AND LISTINGS.
10.2 ADEQUATE ROAD SIGNAGE AND SAFETY PRECAUTION SHALL BE PROVIDED TO INFORM, WARN AND ALERT MOTORISTS DURING CONSTRUCTION.

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY  JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART  REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM  NIPPON KOEI CO., LTD.  ORIENTAL CONSULTANTS GLOBAL CO., LTD.  METROPOLITAN EXPRESSWAY COMPANY LIMITED  CHODAI CO., LTD.  NIPPON ENGINEERING CONSULTANTS CO.,LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE GENERAL NOTES (ROAD DESIGN)	PACKAGE	
				PREPARED BY	T. HAYAKAWA			15 Sep.2017	1
				CHECKED BY	T. HAYAKAWA			22 Sep.2017	DWG No.
				APPROVED BY	Y. SANO			29 Sep.2017	P1-GE-1011

GENERAL NOTES (PC BOX GIRDER BRIDGE)

1. GENERAL DESCRIPTION

- 1) A bridge with 4-lane road with width 3.5m/lane have been provided.
- 2) All drawings are to be read in conjunction with the technical specification.
- 3) All chainages, coordinates and elevations are shown in meter.
- 4) All dimensions are shown in millimeters.
- 5) WGS84 UTM coordinate system is applied.
- 6) Vertical control is based on the BM. 76097 established by Myanmar Survey Department.
- 7) Dimensions shown in the drawing are ones after the period of calculation of creep and/or shrinkage.

2. DESIGN CODES

The structure shall be designed in accordance with Specifications for Highway Bridges of Japan Road Associations (JSHB, 2012).

3. DESIGN LOADS

- 1) Dead loads
- 2) Live loads
AASHTO HL-93
- 3) Shrinkage and creep
- 4) Effect of temperature
+10°C to +40°C (25°C ± 15°C)
- 5) Wind load
W=44.7m/sec
- 6) Effect of earthquake
Horizontal seismic coefficient K=0.30
- 7) Earth pressure
- 8) Water pressure
- 9) Buoyant Force

4. RIVER CONDITION

	Elevation	Remarks
High Water Level (H.W.L.)	MSL +4.990	100 year flood
H.W.L. for temporary work	MSL +4.340	5 year flood
Low Water Level (L.W.L.)	MSL -2.39	Designed River Bed Level
River Bed Level	A1 N/A	
	A2 side or P20~P22 MSL -7.490	

5. CONCRETE

- 1) Unless otherwise indicated the strength of concrete shall be of the following grade based on 28 days cylinder strength.

Strength (MPa)	Structural member
50	Precast segment & CIP portion for PC box girder
40	Main girder for PC-I GIRDER
30	RC CIP slab, crossbeam and connection for PC-I girder Pier head and column : P4 through P23 Cast-In-Place RC pile
24	RC concrete: general, wheel guard.... Abutment A1 , A2 and AO1 Pier for P1 to P3,P24,P25,PO1 to PO3 Footing : P4 through P23
21	Seal concrete (Bottom slab concrete, Filling inside of SPSP)
18	Blinding concrete, etc

- 2) Grouting mortar with $f_{Dck} = 45\text{MPa}$ is used .
- 3) All exposed edges of concrete shall be chamfered 20x20 mm unless noted otherwise.

6. REINFORCEMENT

- 1) Unless otherwise indicated reinforcement bar shall be high strength deformed bar confirming to the requirement of JIS G 3112.

Class	Yield point or 0.2% proof stress (MPa)	Tensile stress (MPa)	Structural member
SD390	>>390	>>560	Pier column axial rebar :P4 through P23
SD345	>>345	>>490	Superstructure, substructure, Stud rebar
SD295	>>295	>>440	Accessories (saddle)

- 2) Clear cover to reinforcement as follows unless otherwise stated on the component of drawings.

Structural member	Cover (mm)
Cast in situ pile	120
Pile cap	70
Pier, abutment and approach slab	70
Pier beam	50
Main girder	35
Slab, wheel guard	30

- 3) Minimum requirements for development length and lap length for reinforcement bar shall be comply to the JSHB. Mechanical splice shall be used for the connection of reinforcement bars 35mm of diameter or exceeded instead of lap joint.

		SD345									
Diameter		D13	D16	D19	D22	D25	D29	D32	D35	D38	
Length la (mm)	$\sigma = 40\text{N/mm}^2$	330	400	480	550	630	730	800	1160		
	$\sigma = 36\text{N/mm}^2$	340	420	500	580	660	760	840	1210		
	$\sigma = 30\text{N/mm}^2$	370	450	530	620	700	810	890	980	1060	
	$\sigma = 24\text{N/mm}^2$	410	510	600	690	790	910	1010	1100	1190	
		SD390									
Length la (mm)	$\sigma = 30\text{N/mm}^2$	420	520	610	710	800	930	1030	1120	1220	
	$\sigma = 24\text{N/mm}^2$	470	580	690	790	900	1050	1150	1260	1370	

7. PRESTRESSING STEEL

- 1) Unless otherwise indicated prestressing steel shall be low relaxation strand confirming to the requirement of JIS G 3536 or JIS G 3109.

Class	Grade	Structural member
19S15.2mm ECF strand	SWPR7BL	External tendon for PC box girder
12S15.2mm strand	SWPR7BL	Internal tendon for PC box girder(longitudinal)
3S12.7mm strand	SWPR7BL	Internal tendon for PC box girder(transverse)
4S15.2mm strand	SWPR7BL	Internal tendon for PC box girder(crossbeam)
$\phi 32$ bar	SWPR930/1080	Internal tendon for PC box girder(crossbeam)
12S12.7mm strand	SWPR7BL	Internal tendon for PC-I girder(longitudinal)
1S19.3mm strand	SWPR7A	Internal tendon for precast PC panel of PC -I girder
$\phi 32$ bar	SWPR930/1080	Internal tendon for PC-I girder(crossbeam)

8. STEEL PIPE SHEET PILE

- 1) Unless otherwise indicated steel pipe sheet pile shall be confirming to the requirement of JIS A 5530 or JIS G 3444.

Class	Yield point or proof stress (MPa)	Tensile stress (MPa)	Structural member
SKY490	>>315	>>490	Steel pipe sheet pile
SKY400	>>235	>>400	Steel pipe sheet pile
STK400	>>235	>>400	Joint pipe for steel pipe sheet pile

9. OTHER STRUCTURE

- 1) Bearings and Anchor bars shall satisfy the requirement of the force and displacement stated on the Drawings.
- 2) Expansion joint shall satisfy the requirement of the displacement stated on the Drawings.

Note : This general notes is not applicable to the following structures;

- Cable stayed bridge
- Piers P10 through P13

PROJECT NAME	FINANCED BY	COUNTERPART	JICA STUDY TEAM	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE
DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	JAPAN INTERNATIONAL COOPERATION AGENCY	REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO.,LTD. NIPPON ENGINEERING CONSULTANTS CO.,LTD.	PREPARED BY M. OHYAMA		15 Jun.2017	GENERAL NOTES (PC BOX GIRDER BRIDGE)	1
				CHECKED BY T. HAYAKAWA		20 Jun.2017		DWG No.
				APPROVED BY Y. SANO		21 Jun.2017		P1-GE-1021

GENERAL NOTES

(STEEL BOX GIRDER BRIDGE)

1. GENERAL DESCRIPTION

- 1) A bridge with 4-lane road with width 3.5m/lane have been provided.
- 2) All drawings are to be read in conjunction with the technical specification.
- 3) All chainages, coordinates and elevations are shown in meter.
- 4) All dimensions are shown in millimeters.
- 5) WGS84 UTM coordinate system is applied.
- 6) Vertical control is based on the BM. 76097 established by Myanmar Survey Department.

2. DESIGN CODES

The structure shall be designed in accordance with Specifications for Highway Bridges of Japan Road Associations (JSHB, 2012).

3. DESIGN LOADS

- 1) Dead loads
- 2) Live loads
AASHTO HL-93
- 3) Effect of temperature
+10°C to +40°C (25°C ± 15°C)
- 4) Wind load
W=44.7m/sec
- 5) Effect of earthquake
Horizontal seismic coefficient K=0.30
- 6) Earth pressure
- 7) Water pressure
- 8) Buoyant Force
- 9) Collision Load

4. RIVER CONDITION

	Elevation	Remarks
High Water Level (H.W.L.)	MSL +4.990	100 year flood
H.W.L. for temporary work	MSL +4.340	5 year flood
Low Water Level (L.W.L.)	MSL -2.39	
River Bed Level	P6 MSL-1.721m P7 MSL-5.346m	Designed River Bed Level

5. CONCRETE

- 1) Unless otherwise indicated the strength of concrete shall be of the following grade based on 28 days cylinder strength.

Strength (MPa)	Structural member
30	Pier head and column : P6 and P7
24	RC concrete: concrete curb, foundation of lighting pole, connection with expansion joint Footing : P6 and P7
21	Seal concrete (Bottom slab concrete, Filling inside of SPSP)

- 2) All exposed edges of concrete shall be chamfered 20x20 mm unless noted otherwise.

6. REINFORCEMENT

- 1) Unless otherwise indicated reinforcement bar shall be high strength deformed bar conforming to the requirement of JIS G 3112.

Class	Yield point or 0.2% proof stress (MPa)	Tensile stress (MPa)	Structural member
SD345	>>345	>>490	Superstructure, Substructure, Foundation

- 2) Clear cover to reinforcement as follows unless otherwise stated on the component of drawings.

Structural member	Cover (mm)
Footing, Pier	70
Pier beam	50
Concrete curb etc.	30

- 3) Minimum requirements for development length and lap length for reinforcement bar shall be comply to the JSHB. Mechanical splice shall be used for the connection of reinforcement bars 35mm of diameter or exceeded instead of lap joint.

		SD345									
Diameter		D13	D16	D19	D22	D25	D29	D32	D35	D38	
Length la (mm)	$\sigma=40\text{N/mm}^2$	330	400	480	550	630	730	800	1160		
	$\sigma=36\text{N/mm}^2$	340	420	500	580	660	760	840	1210		
	$\sigma=30\text{N/mm}^2$	370	450	530	620	700	810	890	980	1060	
	$\sigma=24\text{N/mm}^2$	410	510	600	690	790	910	1010	1100	1190	

7. STRUCTURAL STEEL

Structural steel for steel box girder shall comply with the below, unless otherwise indicated on the drawings.

Standard	Designation(Class)	Structural Member
JIS G 3101	SS400	Fabricated steel for main girder
JIS G 3106	SM400	Ditto
	SM490Y	Ditto
	SM520	Ditto
	SM570	Ditto
	SM570	Ditto
	SM570-H	Ditto
JS G 3444	STK400	Shapes
	STK490	Shapes
*	S10T	High strength bolt for splice joints
JIS B 1186	F8T	Galvanized high strength bolt
	F10T	High strength bolt

* Applied to Technical Specification

8. STEEL PIPE SHEET PILE

- 1) Unless otherwise indicated steel pipe sheet pile shall be conforming to the requirement of JIS A 5530 or JIS G 3444.

Class	Yield point or proof stress (MPa)	Tensile stress (MPa)	Structural member
SKY400	>>235	>>400	Steel pipe sheet pile
STK400	>>235	>>400	Joint pipe for steel pipe sheet pile

9. OTHER STRUCTURE

- 1) Bearings and Anchor bars shall satisfy the requirement of the force and displacement stated on the Drawings.
- 2) Expansion joint shall satisfy the requirement of the displacement stated on the Drawings.

PROJECT NAME	FINANCED BY	COUNTERPART	JICA STUDY TEAM	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE
DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	JAPAN INTERNATIONAL COOPERATION AGENCY	REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	PREPARED BY S. IMADA		29 Sept.2017	GENERAL NOTES (STEEL BOX GIRDER BRIDGE)	1
			CHECKED BY T. HAYAKAWA		3 Oct.2017	DWG No.		
			APPROVED BY Y. SANO		6 Oct.2017	P1-GE-1031		

GENERAL NOTES (ON-RAMP BRIDGE)

1. GENERAL DESCRIPTION

- 1) A bridge with 4-lane road with width 3.5m/lane have been provided.
- 2) All drawings are to be read in conjunction with the technical specification.
- 3) All chainages, coordinates and elevations are shown in meter.
- 4) All dimensions are shown in millimeters.
- 5) WGS84 UTM coordinate system is applied.
- 6) Vertical control is based on the BM. 76097 established by Myanmar Survey Department.
- 7) Dimensions shown in the drawing are ones after the period of calculation of creep and/or shrinkage.

2. DESIGN CODES

The structure shall be designed in accordance with Specifications for Highway Bridges of Japan Road Associations (JSHB, 2012).

3. DESIGN LOADS

- 1) Dead loads
- 2) Live loads
AASHTO HL-93
- 3) Shrinkage and creep
- 4) Effect of temperature
+10°C to +40°C (25°C ± 15°C)
- 5) Wind load
W=44.7m/sec
- 6) Effect of earthquake
Horizontal seismic coefficient K=0.30
- 7) Earth pressure
- 8) Water pressure
- 9) Buoyant Force

4. RIVER CONDITION

	Elevation	Remarks
High Water Level (H.W.L.)	MSL +4.990	100 year flood
H.W.L. for temporary work	MSL +4.340	5 year flood
Low Water Level (L.W.L.)	MSL -2.39	
River Bed Level	A1 N/A A2 side or P20~P22 MSL -7.490	Designed River Bed Level

5. CONCRETE

- 1) Unless otherwise indicated the strength of concrete shall be of the following grade based on 28 days cylinder strength.

Strength (MPa)	Structural member
50	Precast segment & CIP portion for PC box girder
40	Main girder for PC-I GIRDER
30	RC CIP slab, crossbeam and connection for PC-I girder Pier head and column : P4 through P23 Cast-In-Place RC pile
24	RC concrete: general, wheel guard.... Abutment A1 , A2 and AO1 Pier for P1 to P3,P24,P25,PO1 to PO3 Footing : P4 through P23
21	Seal concrete (Bottom slab concrete, Filling inside of SPSP)
18	Blinding concrete, etc

- 2) Grouting mortar with $f_{Dck} = 45\text{MPa}$ is used .
- 3) All exposed edges of concrete shall be chamfered 20x20 mm unless noted otherwise.

6. REINFORCEMENT

- 1) Unless otherwise indicated reinforcement bar shall be high strength deformed bar confirming to the requirement of JIS G 3112.

Class	Yield point or 0.2% proof stress (MPa)	Tensile stress (MPa)	Structural member
SD390	>>390	>>560	Pier column axial rebar :P4 through P23
SD345	>>345	>>490	Superstructure, substructure, Stud rebar
SD295	>>295	>>440	Accessories (saddle)

- 2) Clear cover to reinforcement as follows unless otherwise stated on the component of drawings.

Structural member	Cover (mm)
Cast in situ pile	120
Pile cap	70
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Slab, wheel guard	30

- 3) Minimum requirements for development length and lap length for reinforcement bar shall be comply to the JSHB. Mechanical splice shall be used for the connection of reinforcement bars 35mm of diameter or exceeded instead of lap joint.

		SD345									
Diameter		D13	D16	D19	D22	D25	D29	D32	D35	D38	
Length la (mm)	$\sigma = 40\text{N/mm}^2$	330	400	480	550	630	730	800	1160		
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	$\sigma = 24\text{N/mm}^2$	410	510	600	690	790	910	1010	1100	1190	
		SD390									
Length la (mm)	$\sigma = 30\text{N/mm}^2$	420	520	610	710	800	930	1030	1120	1220	
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7. PRESTRESSING STEEL

- 1) Unless otherwise indicated prestressing steel shall be low relaxation strand confirming to the requirement of JIS G 3536 or JIS G 3109.

Class	Grade	Structural member
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$\phi 32$ bar	SWPR930/1080	Internal tendon for PC box girder(crossbeam)
12S12.7mm strand	SWPR7BL	Internal tendon for PC-I girder(longitudinal)
1S19.3mm strand	SWPR7A	Internal tendon for precast PC panel of PC -I girder
$\phi 32$ bar	SWPR930/1080	Internal tendon for PC-I girder(crossbeam)

8. STEEL PIPE SHEET PILE

- 1) Unless otherwise indicated steel pipe sheet pile shall be confirming to the requirement of JIS A 5530 or JIS G 3444.

Class	Yield point or proof stress (MPa)	Tensile stress (MPa)	Structural member
SKY490	>>315	>>490	Steel pipe sheet pile
SKY400	>>235	>>400	Steel pipe sheet pile
STK400	>>235	>>400	Joint pipe for steel pipe sheet pile

9. OTHER STRUCTURE

- 1) Bearings and Anchor bars shall satisfy the requirement of the force and displacement stated on the Drawings.
- 2) Expansion joint shall satisfy the requirement of the displacement stated on the Drawings.

















Note : This general notes is not applicable to the following structures;

- Cable stayed bridge
- Piers P10 through P13

PROJECT NAME	FINANCED BY	COUNTERPART	JICA STUDY TEAM	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE
DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	JAPAN INTERNATIONAL COOPERATION AGENCY	REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO.,LTD. NIPPON ENGINEERING CONSULTANTS CO.,LTD.	PREPARED BY M. OHYAMA		15 Jun.2017	GENERAL NOTES (ON-RAMP BRIDGE)	1
				CHECKED BY T. HAYAKAWA		20 Jun.2017		DWG No.
				APPROVED BY Y. SANO		21 Jun.2017		P1-GE-1051

GENERAL NOTES (LIGHTING)

LEGEND



























-  : Concrete pole
-  : Steel pole
-  : Traffic signal controller
-  : Vehicle traffic signal
-  : Arrow sign traffic signal
-  : Pedestrian signal
-  : Push-button switch
-  : Junction box
-  : Power supply box
-  : Pull box
-  : Hand hole
-  : Raising underground pipe
-  : Base mounted pole signal head pole (with arm)
-  : Pedestrian signal head pole (with push-button)
-  : Underground piping
-  : Underground wiring
- SVV : Control -use vinyl insulated vinyl sheathed cable
- IV : Indoor PVC
- E : Grounding
- G : Vehicle traffic signal : Green light
- Y : Vehicle traffic signal : Yellow light
- R : Vehicle traffic signal : Red light
- A : Arrow traffic signal : Green light
- PG : Pedestrian signal lamp : Green light
- PR : Pedestrian signal lamp : Red light
- COM : Common for all indication

GENERAL NOTES

1. THE ELECTRICAL WORKS SHALL BE DONE UNDER THE DIRECT SUPERVISION OF THE DUTY REGISTERED ELECTRICAL ENGINEER.
2. THE CONTRACTOR SHALL SECURE ALL PERMITS AND PAY ALL FEES REQUIRED FOR ELECTRICAL INSTALLATION WORKS AND FURNISH THE OWNER, THROUGH THE ENGINEER, THE FINAL CERTIFICATE OF ELECTRICAL INSPECTION AND APPROVAL FROM PROPER GOVERNMENT AUTHORITIES FOR THE COMPLETE ELECTRICAL WORKS.
3. ALL ELECTRICAL MATERIALS TO BE USED SHALL BE BRAND NEW AND APPROVED TYPES.
4. ALL UNDERGROUND CONDUIT PIPES AND CONDUIT RUN EMBEDDED IN CONCRETE SHALL BE HIGH-DENSITY POLYETHYLENE (HDPE)..
5. UNPROTECTED CONDUIT RISERS AND EXPOSED CONDUIT SHALL BE GAS PIPE(GP).
6. ALL CONDUIT RUN SHALL BE PROVIDED WITH A 14mm² BARE COPPER GROUND WIRE AND SHALL BE TERMINATED AT MAIN DISTRIBUTION PANEL BOARD, ALL EQUIPMENT, METALLIC PARTS AND SURFACES SHALL BE EFFECTIVELY GROUNDED.
7. ALL STREET LUMINAIRE ASSEMBLIES INCLUDING POLES SHALL WITHSTAND UP TO 180 KpH GUSTING WINDS WITHOUT PERMANENT DEFORMATION.
8. THE ELECTRICAL SERVICE VOLTAGE FOR THAKETA SIDE SHALL BE 11KV/240V SECONDARY, 3-PHASE 4 WIRE, 50 HERTZ AC.
9. THE ELECTRICAL SERVICE VOLTAGE FOR THANLYIN SIDE SHALL BE 6.6KV/240V SECONDARY, 3-PHASE 4 WIRE, 50 HERTZ AC.
10. THE CONTRACTOR SHALL EXERCISE EXTREME CARE IN REMOVING EXISTING INSTALLATIONS, APPROPRIATE TOOLS AND EQUIPMENT SHALL BE UTILIZED TO MINIMIZED DAMAGE.
11. ALL FEEDER LINES AND BRANCH CIRCUITS SHALL BE INSTALLED AS INDICATED ON PLANS, INDIVIDUAL FEEDER AND BRANCH CIRCUIT AND HOMERUNS SHALL NOT BE COMBINED IN THE SAME RACEWAY UNLESS SPECIFIED.
12. LOCATIONS OF ELECTRICAL EQUIPMENT AND DEVICES INCLUDING CONDUIT ROUTINGS SHOWN IN THE DRAWINGS ARE APPROXIMATE LOCATION ONLY. CONTRACTOR SHALL ALLOW FOR NECESSARY FIELD ADJUSTMENTS TO SUIT ACTUAL CONDITION AT SITE.
13. SUBMIT COMPLETE TECHNICAL SPECIFICATIONS OF MATERIALS/EQUIPMENTS AND SHOP DRAWINGS FOR APPROVAL BY THE ENGINEER PRIOR TO START OF INSTALLATION.

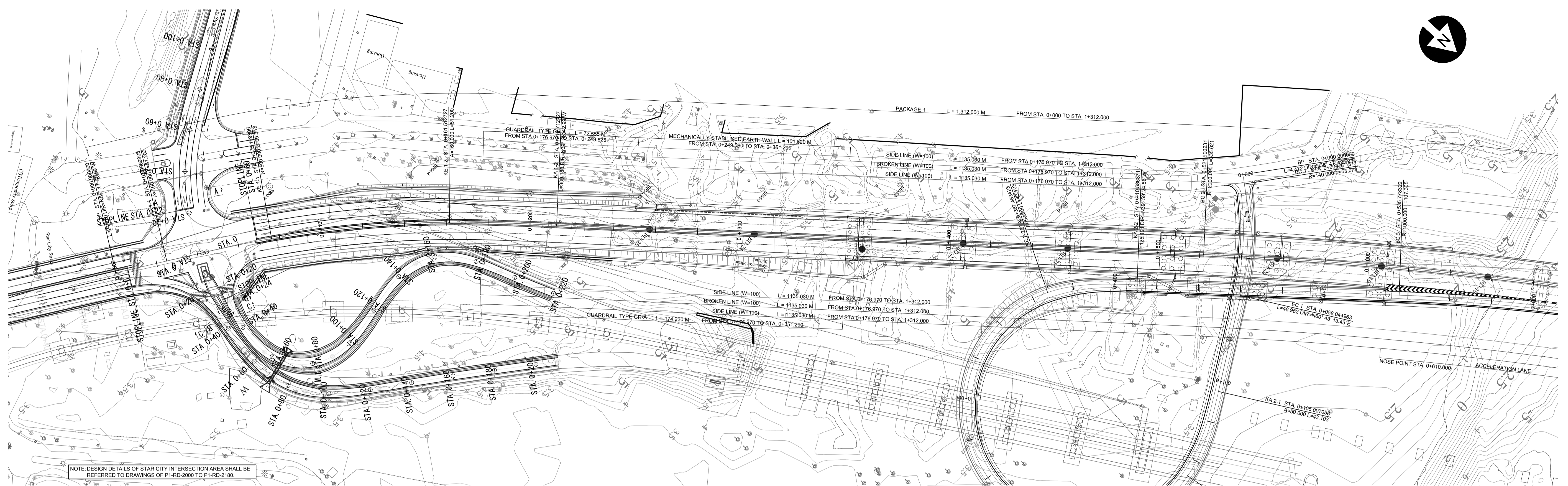
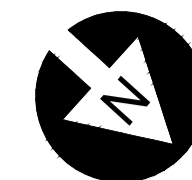
ABBREVIATIONS:

- A : AMPERE
- AC : ALTERNATING CURRENT
- AF : AMPERE FRAME
- AT : AMPERE TRIP
- BCW : BARE COPPER WIRE
- C : CONDUIT
- CB : CIRCUIT BREAKER
- CHH : COMMUNICATION HANDHOLE
- CT : CURRENT TRANSFORMER
- DF : DEMAND FACTOR
- DIA : DIAMETER
- ECB : ENCLOSED CIRCUIT BREAKER
- EHH : ELECTRICAL HANDHOLE
- EL : ELEVATION
- (GND) : GROUND
- ATS : AUTOMATIC TRANSFER SWICH
- HID : HIGH INTENSITY DISCHARGE LAMP
- HZ : HERTZ
- IMC : INTERMEDIATE METAL CONDUIT
- IND'L : INDUSTRIAL
- KVA : KILOVOLT AMPERE
- KW : KILOWATT
- KWHR : KILOWATT HOUR
- KAIC : KILOAMPERE INTERRUPTIG CAPACITY
- LED : LIGHT EMITTING DIODE
- LP : LIGHTING PANEL BOARD
- LTG : LIGHTING
- MDP : MAIN DISTRIBUTION PANEL BOARD
- MTD : MOUNTED
- P,Ø : POLE, PHASE
- PVC : POLYVINYL CHLORIDE
- uPVC : UNPLASTICIZED POLYVINYL CHLORIDE
- ROW : RIGHT OF WAY
- STA : STATION
- SDBC : SOFT DRAWN BARE COPPER WIRE
- TW : THERMOPLASTIC MOISTURE RESISTANT
- TYP : TYPICAL
- THW : THERMOPLASTIC HEAT AND MOISTURE RESISTANT
- V : VOLT / VOLTAGE
- VA : VOLT - AMPERE
- W : WATT
- XLPE : CORSS-LINKED POLYETHYLENE INSULATED CABLES
- TEI : TARLAC ELECTRIC INCORPORATED

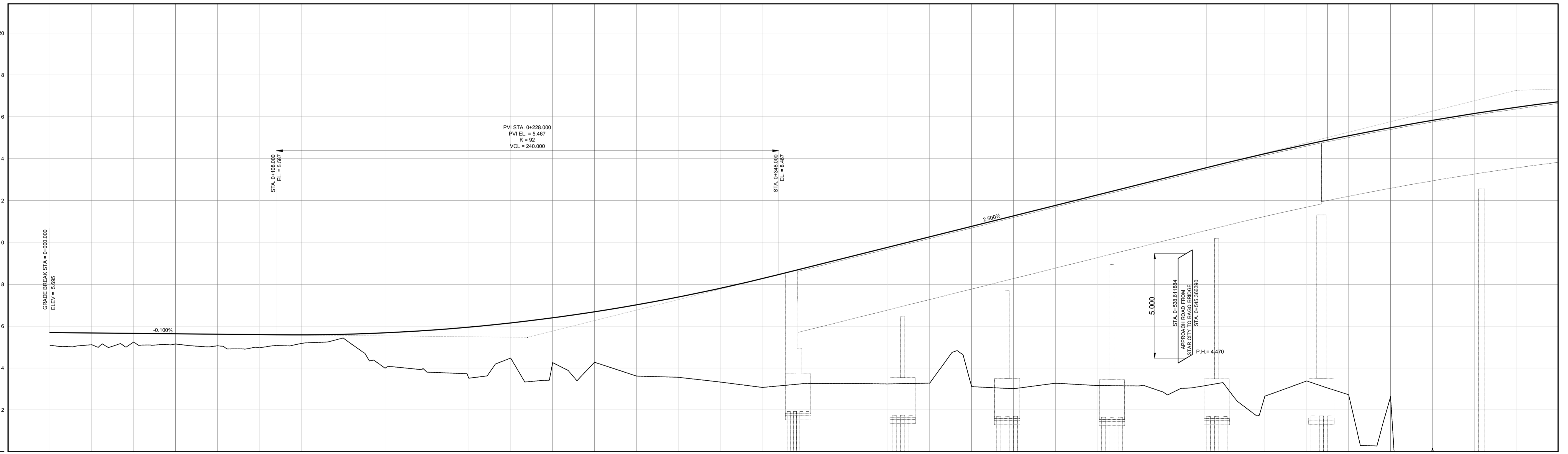
-  : MOLD-CASE CIRCUIT BREAKER
-  : AMPERE TRIPPING
-  : GROUNDING
-  : CONTACTOR
-  : VOLTMETER CHANGE OVER SWITCH
-  : AMMETER CHANGOVER SWITCH
-  : CURRENT TRANSFORMER
-  : DIESEL ENGINE
-  : GENERATOR
-  : EXITER
-  : AMPERE METER
-  : VOLTAGE METER
-  : FREQUENCY METER
-  : BATTERY
-  : AUTOMATIC VOLTAGE LEGULATOR
-  : LOW VOLTAGE RELAY
-  : OVER VOLTAGE
-  : OVERCURRENT RELAY
-  : LIGHTING PANEL
-  : KILOWATT HR.METER
-  : POWER TRANSFORMER
-  : PRIMARY CUTOUT (PE) WITH POWER FUSE (PF)
-  : LIGHTING ARRESTER (LA)
-  : CURRENT FUSE
-  : MAIN DISTRIBUTION PANEL
-  : POWER FUSE

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY  JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART  REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM  NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO.,LTD. NIPPON ENGINEERING CONSULTANTS CO.,LTD.		NAME T. HAYAKAWA T. HAYAKAWA Y. SANO	SIGNATURE   	DATE 15 Sep.2017 22 Sep.2017 29 Sep.2017	DRAWING TITLE GENERAL NOTES (LIGHTING)	PACKAGE 1 DWG No. P1-GE-1061
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B. ROAD DESIGN

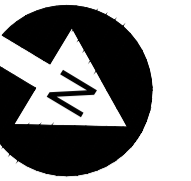


NOTE: DESIGN DETAILS OF STAR CITY INTERSECTION AREA SHALL BE REFERRED TO DRAWINGS OF P1-RD-2000 TO P1-RD-2150.



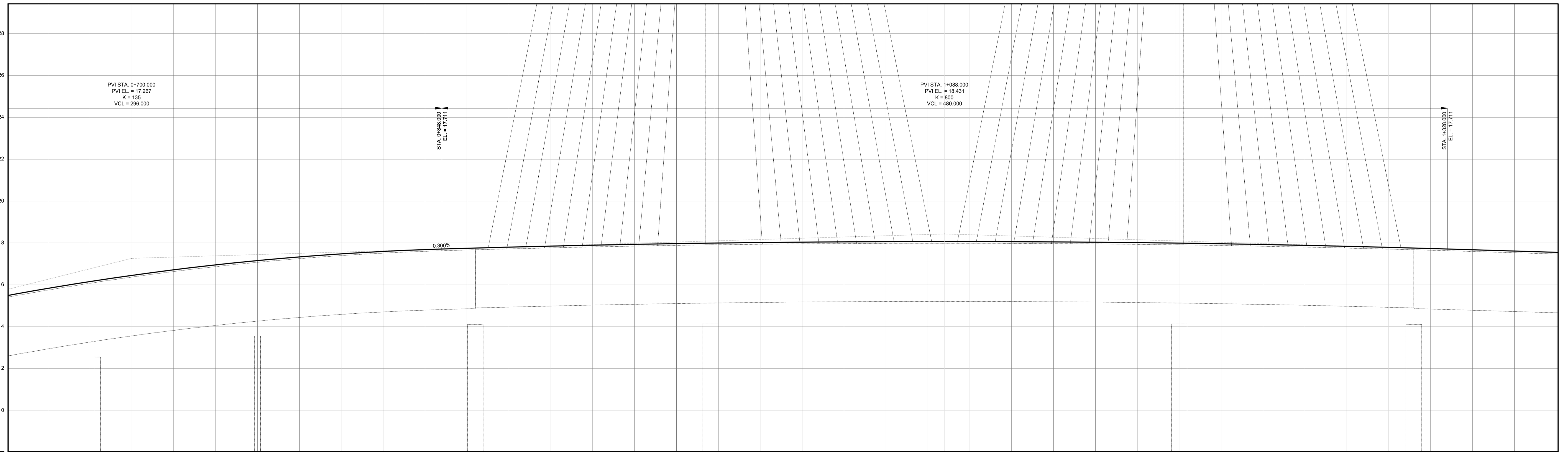
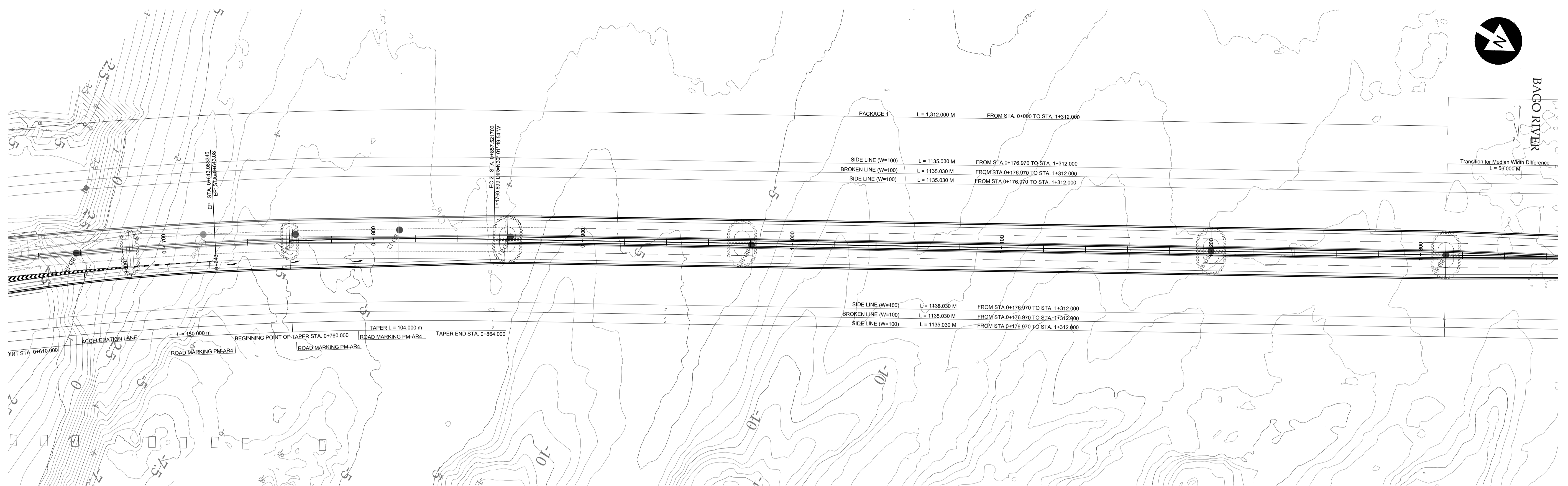
GRADE	0+000.000 ELEV = 5.855	0+105.000 ELEV = 5.897	0+228.000 ELEV = 5.467	0+348.000 ELEV = 6.487	0+558.000 ELEV = 13.367	0+584.000 ELEV = 13.367	0+700.000 ELEV = 16.455
PROPOSED HEIGHT	5.08	5.11	5.675	6.655	6.15	6.035	6.15
EXISTING HEIGHT	5.08	5.11	5.675	6.655	6.15	6.035	6.15
STATION	0+000	0+100	0+200	0+300	0+400	0+500	0+600
SUPER ELEVATION	-2.000%	1/125	4.000%	-4.000%	-2.000%	-2.000%	-2.000%
CURVE ELEMENTS	R = ∞ L = 24.970m	A = 180.000 L = 51.200m	R = 500.000m L = 85.343m	R = ∞ L = 309.188m	R = ∞ L = 472.000m	R = 2000.000m L = 335.521m	R = 2000.000m L = 335.521m

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME E. YOKOTA	SIGNATURE 	DATE 15 JUNE 2017	DRAWING TITLE PLAN AND PROFILE (1/2)	PACKAGE 1
				CHECKED BY T. HAYAKAWA		20 JUNE 2017		DWG No.
				APPROVED BY Y. SANO		21 JUNE 2017		P1-RD-0100



BAGO RIVER

Transition for Median Width Difference
L = 56.000 M

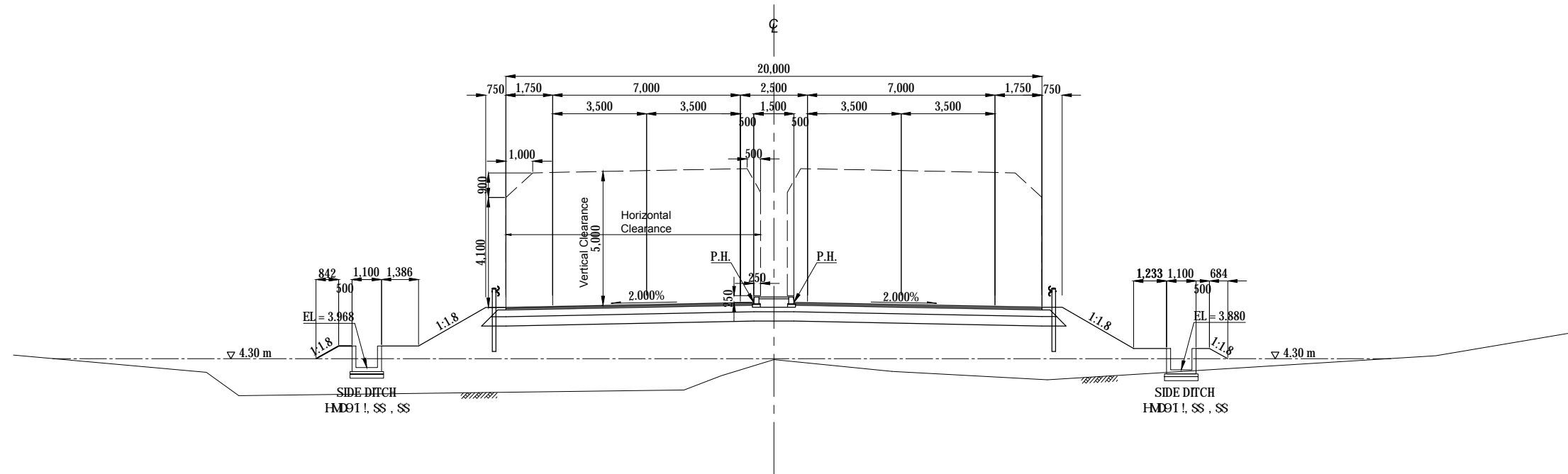


GRADE	0.300% L = 388.000 m PVI STA. 0+700.000 PVI EL. = 17.267 K = 135 VCL = 296.000																												18.211 L = 300.000 m PVI STA. 1+088.000 PVI EL. = 18.431 K = 300 VCL = 480.000							
PROPOSED HEIGHT	18.833	16.156	16.453	16.716	16.953	17.159	17.335	17.481	17.598	17.685	17.746	17.801	17.850	17.895	17.934	17.969	17.998	18.023	18.042	18.057	18.066	18.071	18.070	18.065	18.054	18.039	17.993	17.962	17.927	17.886	17.841	17.790	17.735	17.675	17.615	17.555
EXISTING HEIGHT	0.17	-1.23	-2.63	-3.63	-4.80	-5.01	-4.81	-4.88	-4.33	-4.09	-3.93	-4.88	-6.18	-4.94	-5.07	-4.74	-4.88	-6.74	-7.99	-6.87	-6.01	-6.33	-7.50	-8.38	-8.76	-8.11	-7.59	-7.97	-8.05	-8.33	-8.26	-7.74	-7.53	-8.07	-7.88	-7.53
STATION	0+660	0+680	0+700	0+720	0+740	0+760	0+780	0+800	0+820	0+840	0+860	0+880	0+900	0+920	0+940	0+960	0+980	1+000	1+020	1+040	1+060	1+080	1+100	1+120	1+140	1+160	1+180	1+200	1+220	1+240	1+260	1+280	1+300	1+320	1+340	1+360
SUPER ELEVATION	-2.000%																																			
CURVE ELEMENTS	R=2000.000m L=336.621m																																			

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	PREPARED BY	NAME	SIGNATURE	DATE	DRAWING TITLE PLAN AND PROFILE (2/2)	PACKAGE 1 DWG No. P1-RD-0110
				CHECKED BY	T. HAYAKAWA		20 JUNE 2017		
				APPROVED BY	Y. SANO		21 JUNE 2017		

STA. 0+240

G.H.= 4.26
P.H.= 6.399

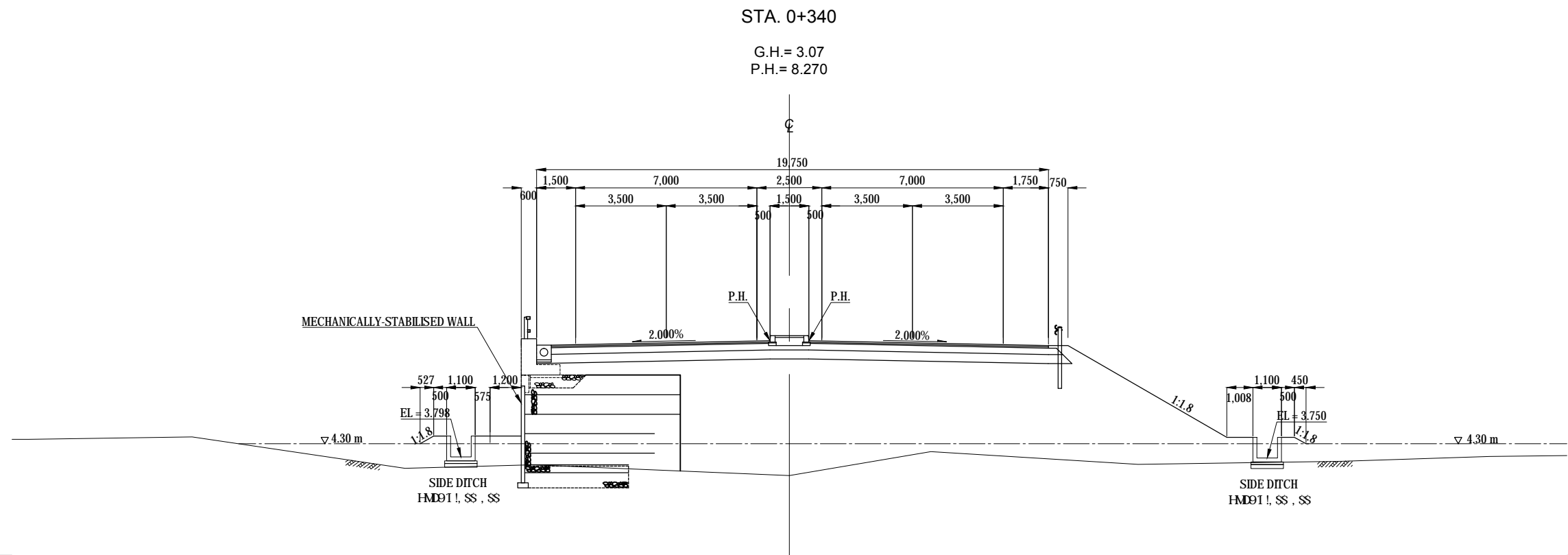


D.L.= 0.00

EMBANKMENT SECTION S = 1:200

NOTE: ELEVATION IS BASED ON MSL (MEAN SEA LEVEL).
ELEVATION OF 4.30 M SHOWN IN THE DRAWING IS THE PROPOSED HEIGHT OF CONSTRUCTION YARD.

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO.,LTD. NIPPON ENGINEERING CONSULTANTS CO.,LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE TYPICAL CROSS SECTION (1/2)	PACKAGE	
				PREPARED BY	E. YOKOTA			15 JUNE 2017	1
				CHECKED BY	T. HAYAKAWA			20 JUNE 2017	DWG No.
				APPROVED BY	Y. SANO			21 JUNE 2017	P1-RD-0200



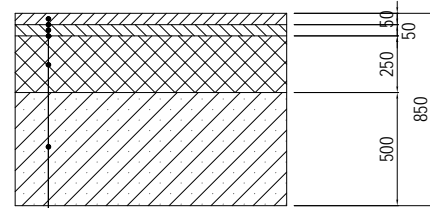
EMBANKMENT SECTION WITH MECHANICALLY-STABILISED WALL AT THE LEFT SIDE S = 1:200

NOTE: ELEVATION IS BASED ON MSL (MEAN SEA LEVEL).
ELEVATION OF 4.30 M SHOWN IN THE DRAWING IS THE PROPOSED HEIGHT OF CONSTRUCTION YARD.

<small>PROJECT NAME</small> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	<small>FINANCED BY</small> JAPAN INTERNATIONAL COOPERATION AGENCY	<small>COUNTERPART</small> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	<small>JICA STUDY TEAM</small> NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;"></th> <th style="width: 15%;">NAME</th> <th style="width: 15%;">SIGNATURE</th> <th style="width: 15%;">DATE</th> </tr> </thead> <tbody> <tr> <td>PREPARED BY</td> <td>E. YOKOTA</td> <td></td> <td>15 JUNE 2017</td> </tr> <tr> <td>CHECKED BY</td> <td>T. HAYAKAWA</td> <td></td> <td>20 JUNE 2017</td> </tr> <tr> <td>APPROVED BY</td> <td>Y. SANO</td> <td></td> <td>21 JUNE 2017</td> </tr> </tbody> </table>		NAME	SIGNATURE	DATE	PREPARED BY	E. YOKOTA		15 JUNE 2017	CHECKED BY	T. HAYAKAWA		20 JUNE 2017	APPROVED BY	Y. SANO		21 JUNE 2017	<small>DRAWING TITLE</small> TYPICAL CROSS SECTION (2/2)	<small>PACKAGE</small> 1 <small>DWG No.</small> P1-RD-0210
	NAME	SIGNATURE	DATE																				
PREPARED BY	E. YOKOTA		15 JUNE 2017																				
CHECKED BY	T. HAYAKAWA		20 JUNE 2017																				
APPROVED BY	Y. SANO		21 JUNE 2017																				

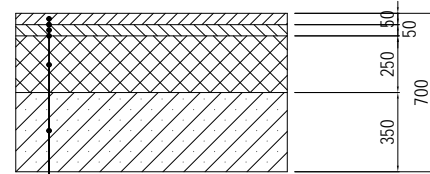
PAVEMENT LAYER (1) S=1:30

TYPE E1



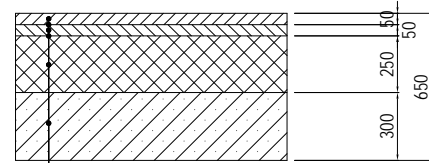
AC SURFACE COURSE (t=50mm)
TACK COAT 0.4 l/m²
AC SURFACE BASE (t=50mm)
PRIME COAT 0.4 l/m²
BASE COURSE (t=250mm)
SUB BASE (t=500mm)

TYPE E2



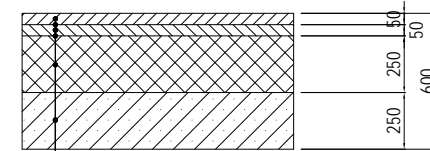
AC SURFACE COURSE (t=50mm)
TACK COAT 0.4 l/m²
AC SURFACE BASE (t=50mm)
PRIME COAT 0.4 l/m²
BASE COURSE (t=250mm)
SUB BASE (t=350mm)

TYPE E3



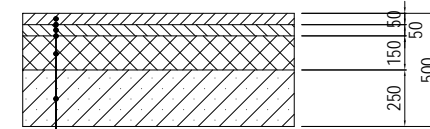
AC SURFACE COURSE (t=50mm)
TACK COAT 0.4 l/m²
AC SURFACE BASE (t=50mm)
PRIME COAT 0.4 l/m²
BASE COURSE (t=250mm)
SUB BASE (t=300mm)

TYPE E4



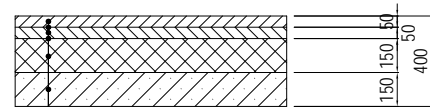
AC SURFACE COURSE (t=50mm)
TACK COAT 0.4 l/m²
AC SURFACE BASE (t=50mm)
PRIME COAT 0.4 l/m²
BASE COURSE (t=250mm)
SUB BASE (t=250mm)

TYPE E5



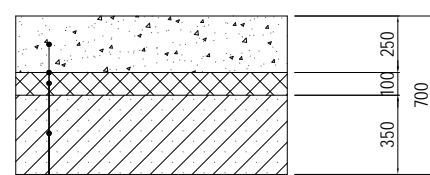
AC SURFACE COURSE (t=50mm)
TACK COAT 0.4 l/m²
AC SURFACE BASE (t=50mm)
PRIME COAT 0.4 l/m²
BASE COURSE (t=150mm)
SUB BASE (t=250mm)

TYPE E6



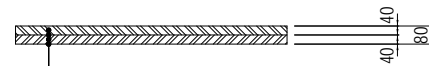
AC SURFACE COURSE (t=50mm)
TACK COAT 0.4 l/m²
AC SURFACE BASE (t=50mm)
PRIME COAT 0.4 l/m²
BASE COURSE (t=150mm)
SUB BASE (t=150mm)

TYPE C



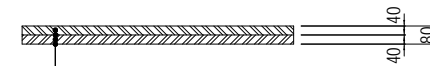
CONCRETE (t=250mm)
PRIME COAT 0.4 l/m²
BASE COURSE (t=100mm)
SUB BASE (t=350mm)

TYPE B1
(FOR CONCRETE DECK)



AC SURFACE COURSE (t=40mm)
TACK COAT 0.4 l/m²
AC SURFACE BASE (t=40mm)
WATERPROOFING
BONDING COAT

TYPE B2
(FOR STEEL DECK)



POLYMER-MODIFIED ASPHALT II (t=40mm)
TACK COAT 0.4 l/m²
POLYMER-MODIFIED ASPHALT III-WF (t=40mm)
WATERPROOFING
BONDING COAT

SIDE WALK

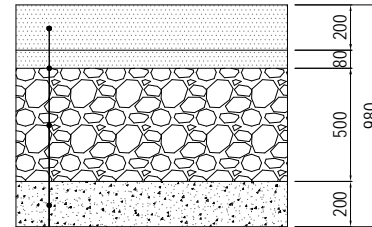


PRECAST CONCRETE PAVING BLOCK (300x300mm x t=60mm)
SAND (t=30mm)
SOIL AGGREGATE: C-30 (t=100mm)

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE PAVEMENT LAYER (1)	PACKAGE	
				PREPARED BY	J.TSUCHIYA			15 Jun. 2017	1
				CHECKED BY	T. HAYAKAWA			20 Jun. 2017	DWG No.
				APPROVED BY	Y. SANO			21 Jun. 2017	P1-RD-0300

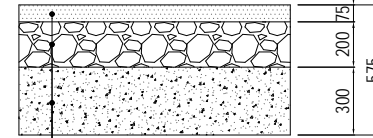
PAVEMENT LAYER (2) S=1:30

TYPE CS



RC PAVEMENT G-30 (t=200mm)
 LEAN CONCRETE 1:3:6 (t=80mm)
 PLASTIC SHEET
 HARD CORE WITH SAND ROLLER MACHINE COMPACTED CBR>10% (t=500mm)
 SAND COMPACTED (t=200mm)

SIDE WALK S



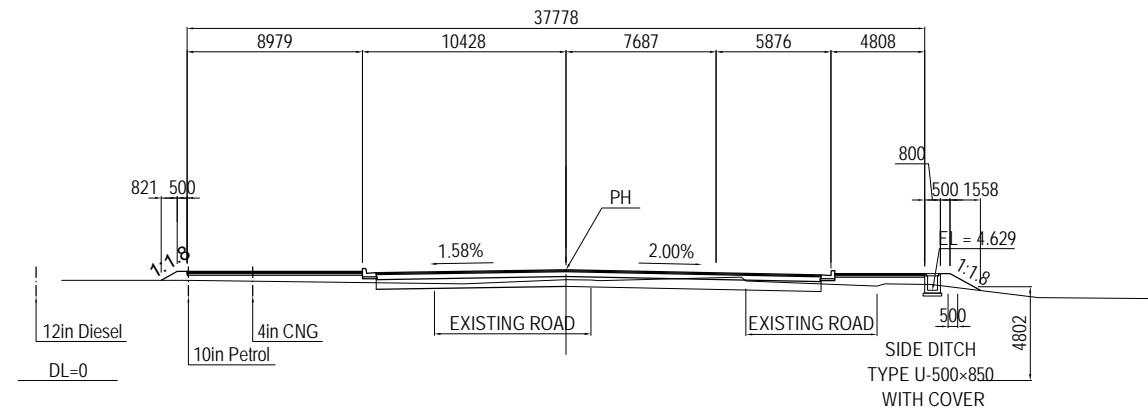
EXPOSED AGGREGATE FINISHED FOOTPATH (t=75mm)
 HARDCORE WITH COMPACTED SAND (t=200mm)
 SAND COMPACTED (t=300mm)

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE PAVEMENT LAYER (2)	PACKAGE	
				PREPARED BY	J.TSUCHIYA			15 Jun. 2017	1
				CHECKED BY	T. HAYAKAWA			20 Jun. 2017	DWG No.
				APPROVED BY	Y. SANO			21 Jun. 2017	P1-RD-0310

CROSS SECTION MAIN ROAD (1) S=1:400

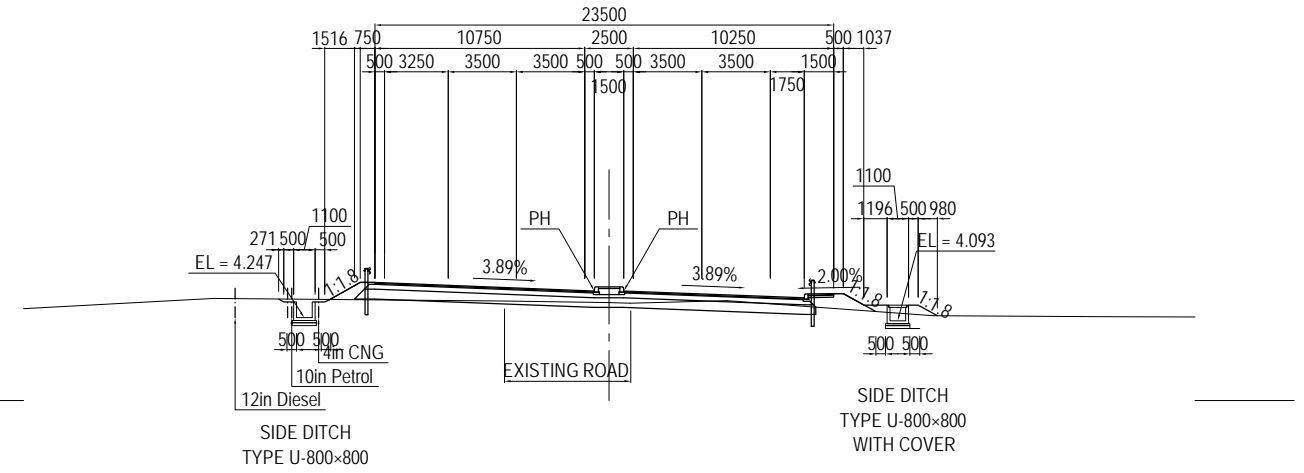
STA.0+24.97

GH = 5.16
PH = 5.670



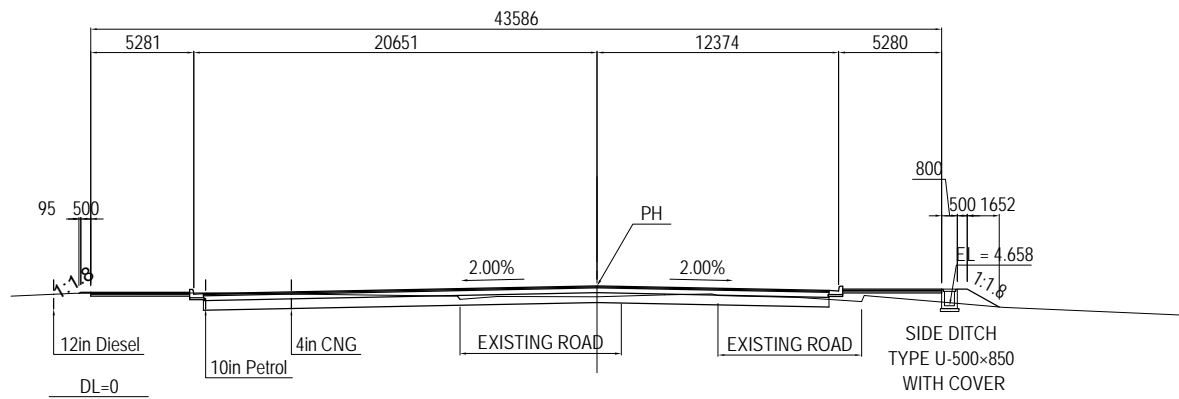
STA.0+76.17

GH = 5.01
PH = 5.619



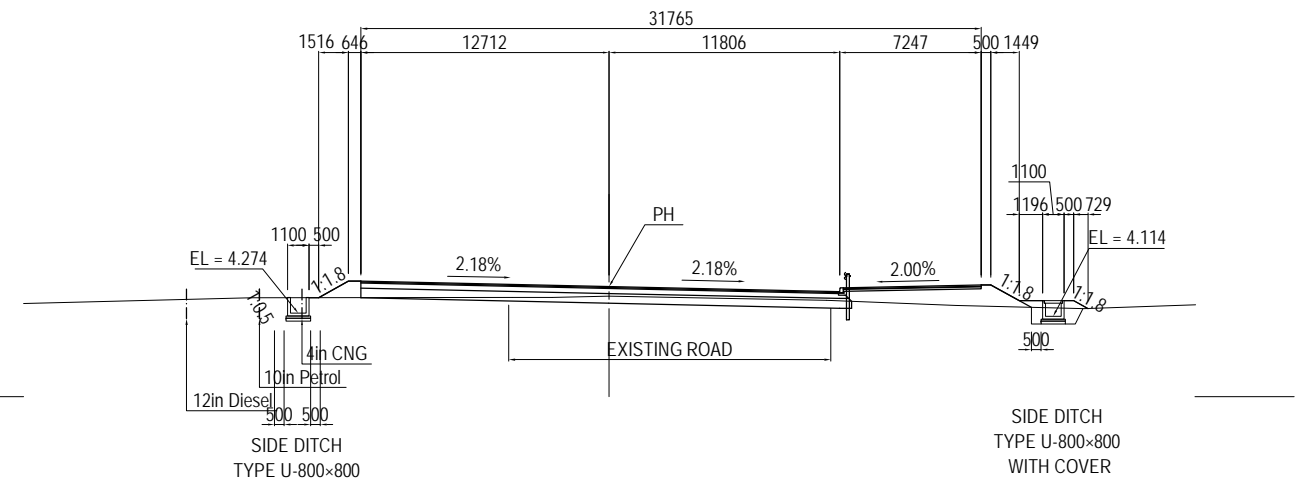
STA.0+20

GH = 5.12
PH = 5.675



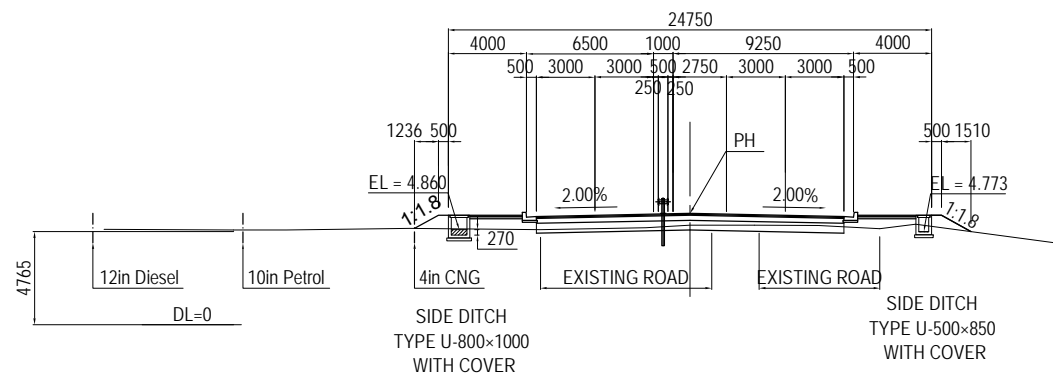
STA.0+60

GH = 5.15
PH = 5.635



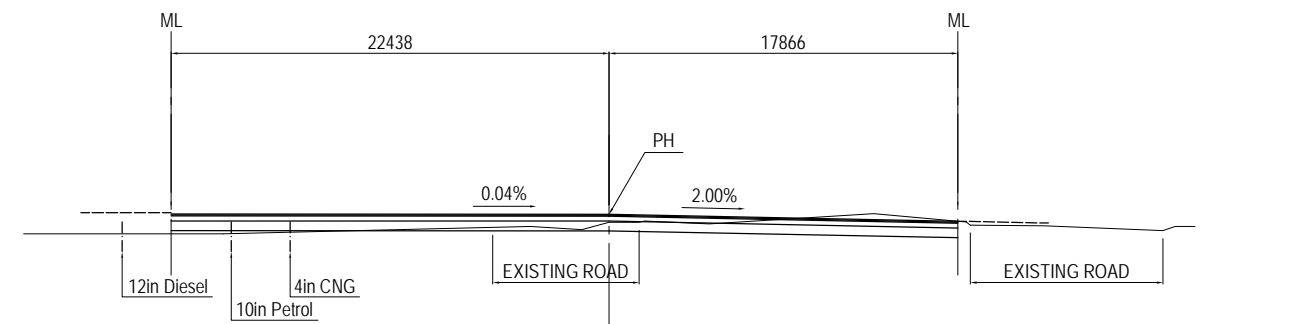
STA.0

GH = 5.09
PH = 5.695



STA.0+40

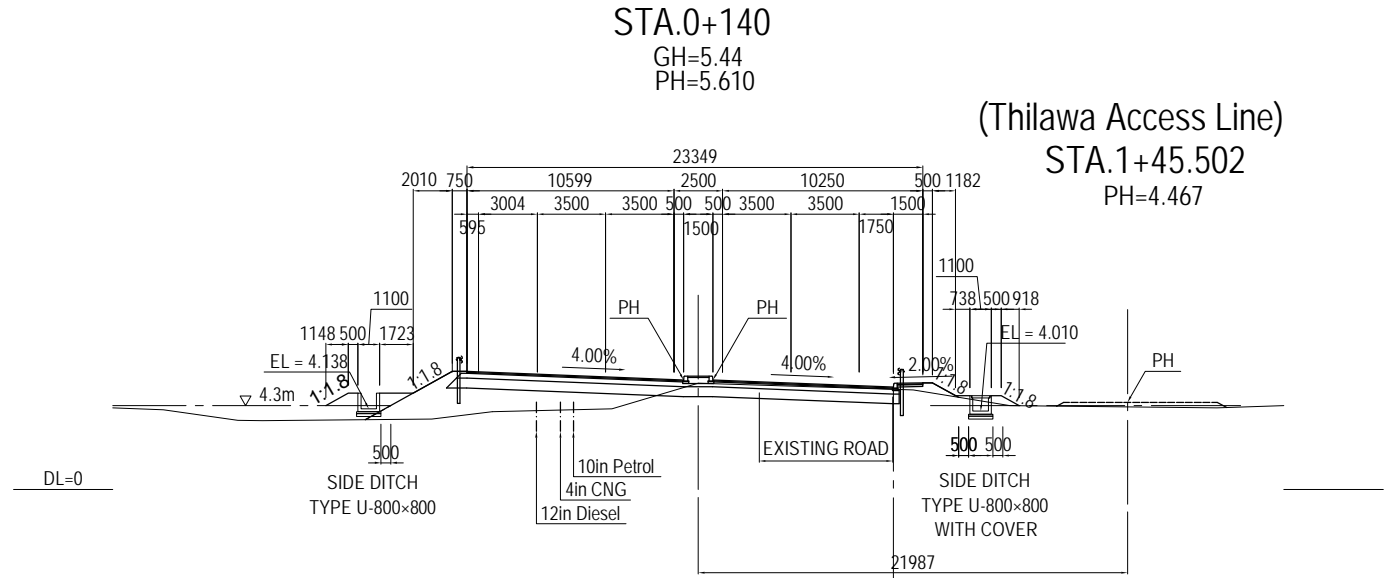
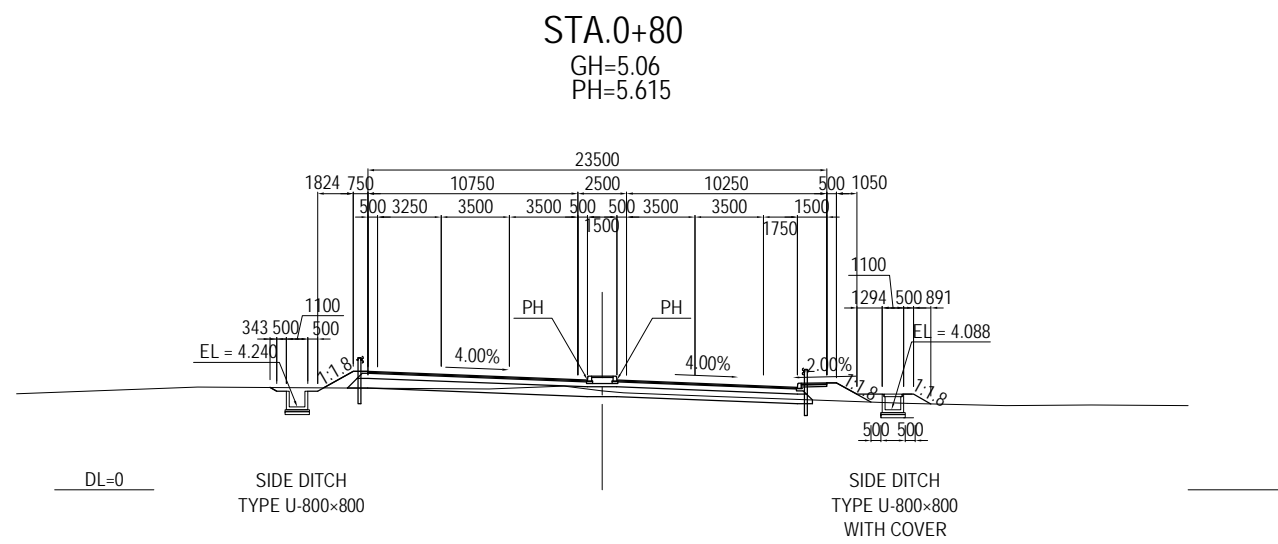
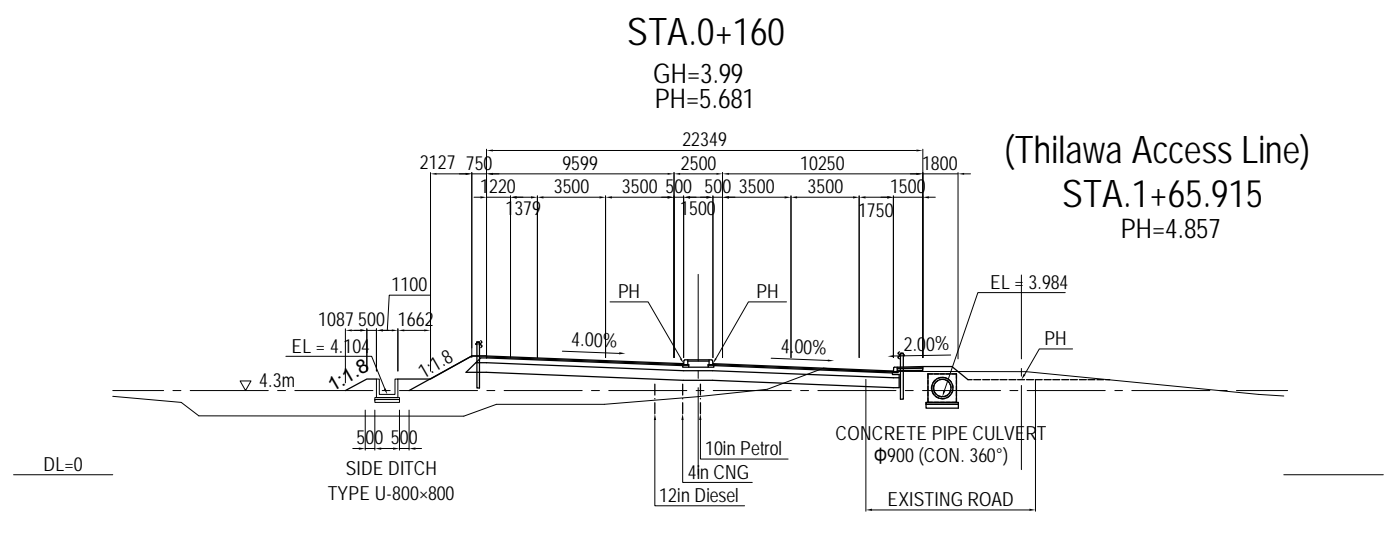
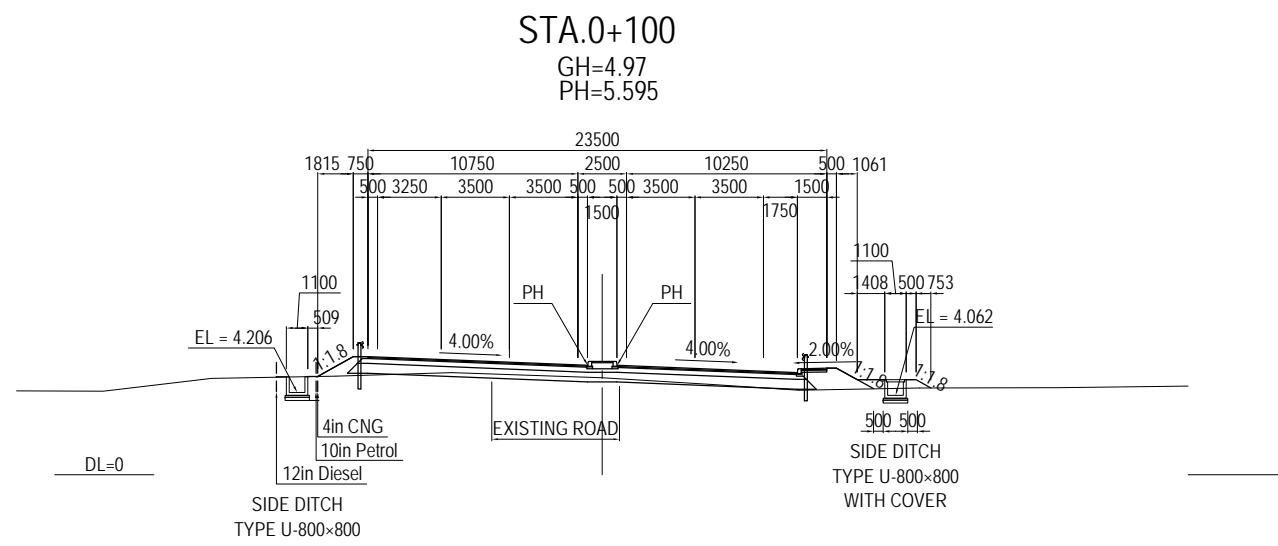
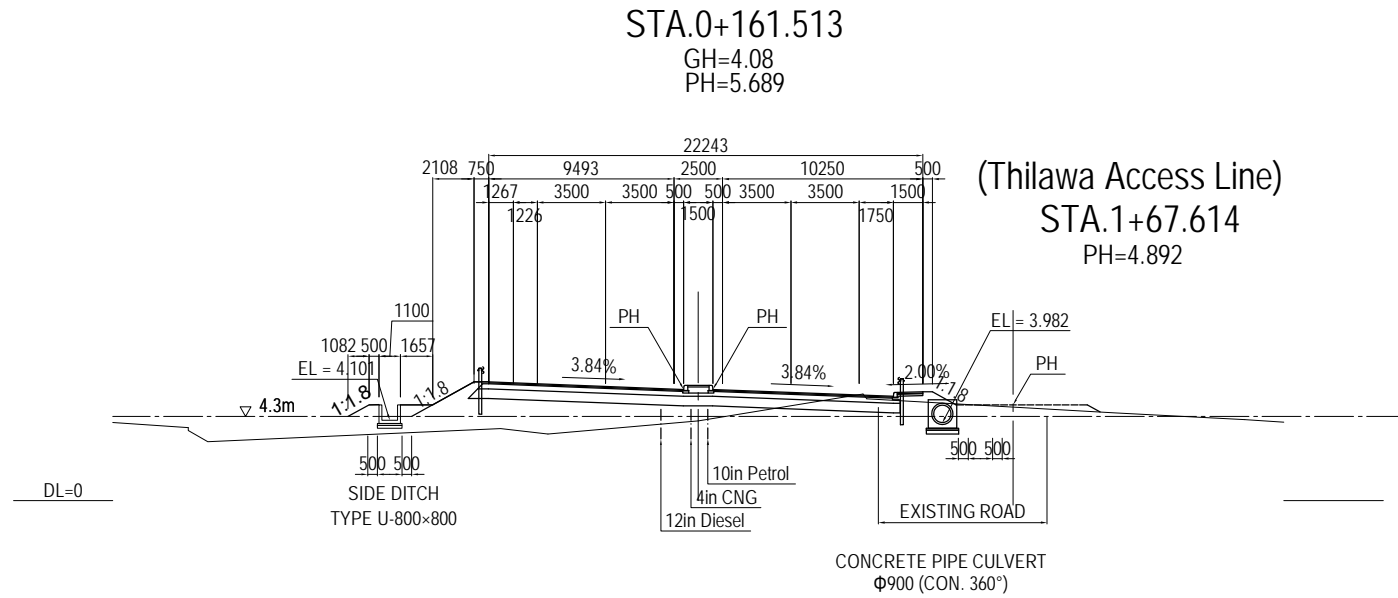
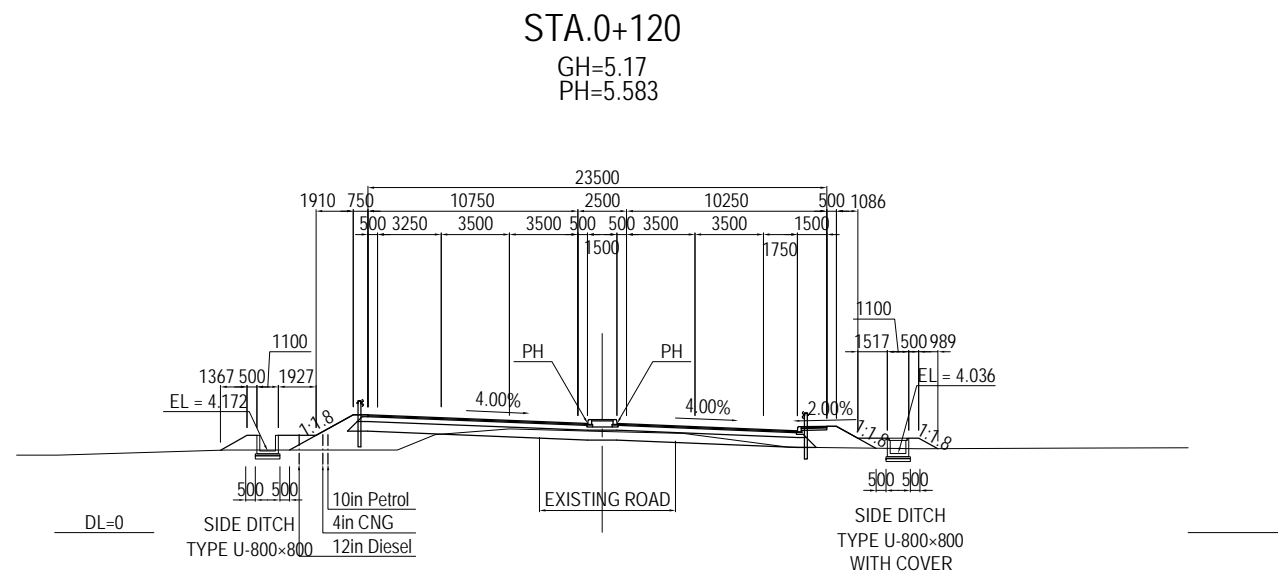
GH = 5.24
PH = 5.655



Note: Elevation is based on MSL (Mean Sea Level)

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 15%;">NAME</th> <th style="width: 20%;">SIGNATURE</th> <th style="width: 15%;">DATE</th> </tr> <tr> <td>PREPARED BY</td> <td>M. TORIU</td> <td>15 Jun. 2017</td> </tr> <tr> <td>CHECKED BY</td> <td>T. HAYAKAWA</td> <td>20 Jun. 2017</td> </tr> <tr> <td>APPROVED BY</td> <td>Y. SANO</td> <td>21 Jun. 2017</td> </tr> </table>	NAME	SIGNATURE	DATE	PREPARED BY	M. TORIU	15 Jun. 2017	CHECKED BY	T. HAYAKAWA	20 Jun. 2017	APPROVED BY	Y. SANO	21 Jun. 2017	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 100%;">DRAWING TITLE</th> <th style="width: 100%;">PACKAGE</th> </tr> <tr> <td style="text-align: center;">CROSS SECTION MAIN ROAD (1)</td> <td style="text-align: center;">1</td> </tr> <tr> <td></td> <td style="text-align: center;">DWG No.</td> </tr> <tr> <td></td> <td style="text-align: center;">P1-RD-0400</td> </tr> </table>	DRAWING TITLE	PACKAGE	CROSS SECTION MAIN ROAD (1)	1		DWG No.		P1-RD-0400
NAME	SIGNATURE	DATE																							
PREPARED BY	M. TORIU	15 Jun. 2017																							
CHECKED BY	T. HAYAKAWA	20 Jun. 2017																							
APPROVED BY	Y. SANO	21 Jun. 2017																							
DRAWING TITLE	PACKAGE																								
CROSS SECTION MAIN ROAD (1)	1																								
	DWG No.																								
	P1-RD-0400																								

CROSS SECTION MAIN ROAD (2) S=1:400



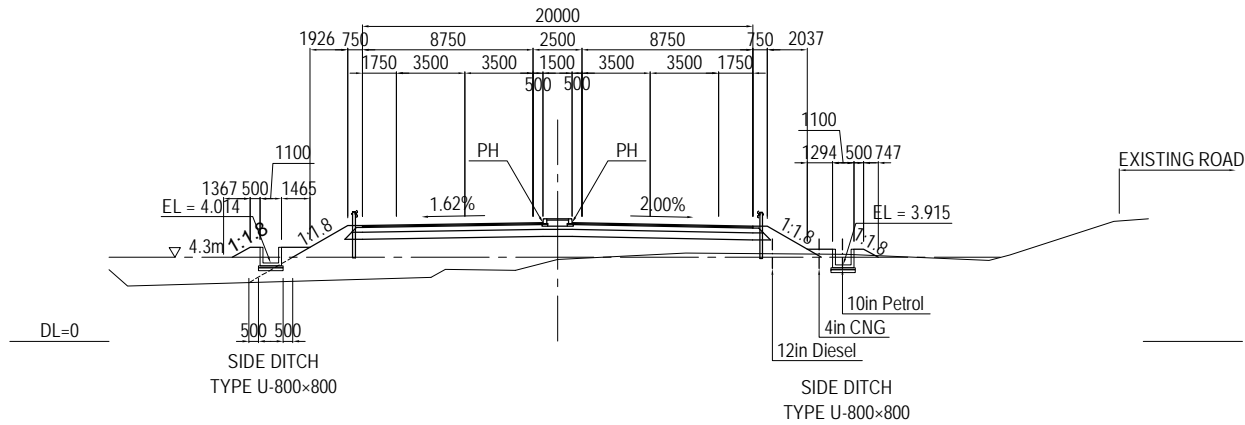
Note: Elevation is based on MSL (Mean Sea Level)

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE CROSS SECTION MAIN ROAD (2)	PACKAGE	
				PREPARED BY	M. TORIU			15 Jun. 2017	1
				CHECKED BY	T. HAYAKAWA			20 Jun. 2017	DWG No.
				APPROVED BY	Y. SANO			21 Jun. 2017	P1-RD-0410

CROSS SECTION MAIN ROAD (3) S=1:400

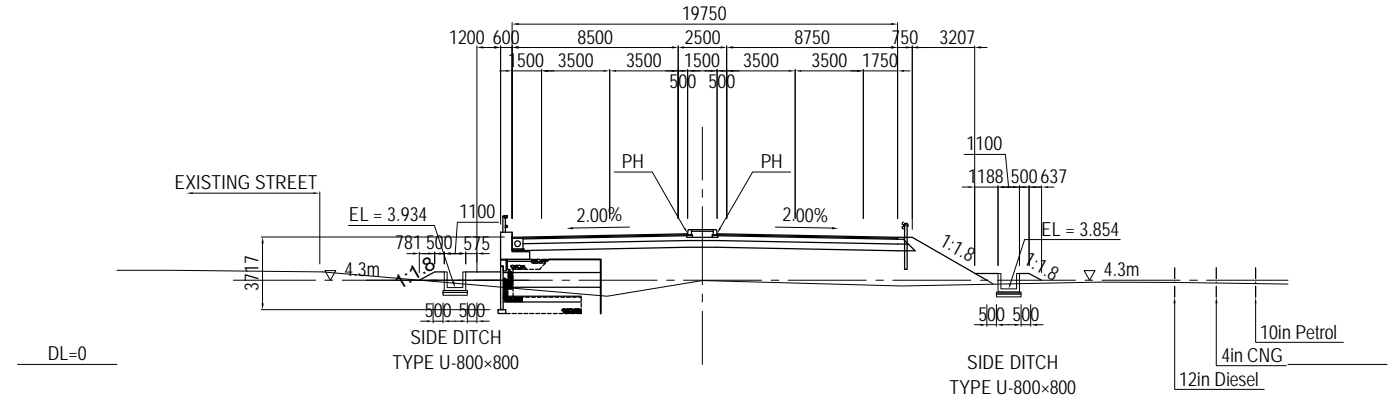
STA.0+212.713

GH=4.19
PH=6.076



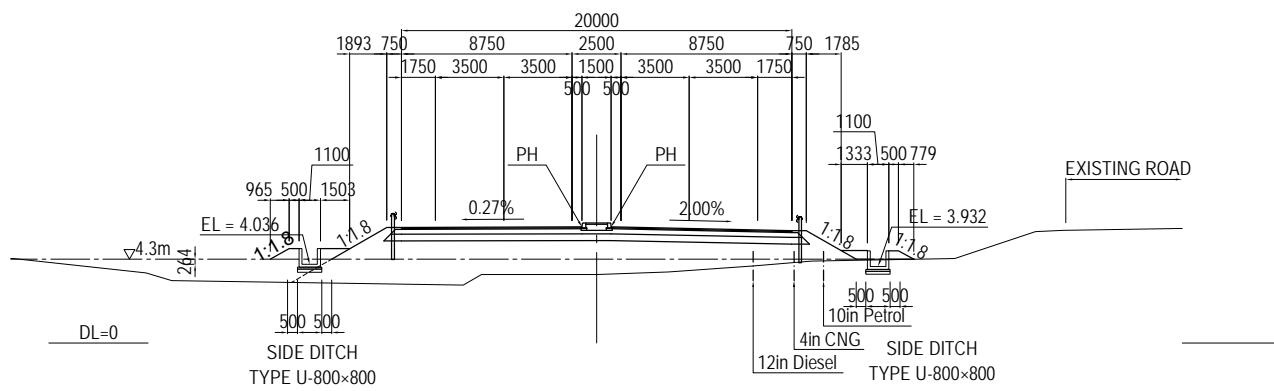
STA.0+260

GH=4.28
PH=6.686



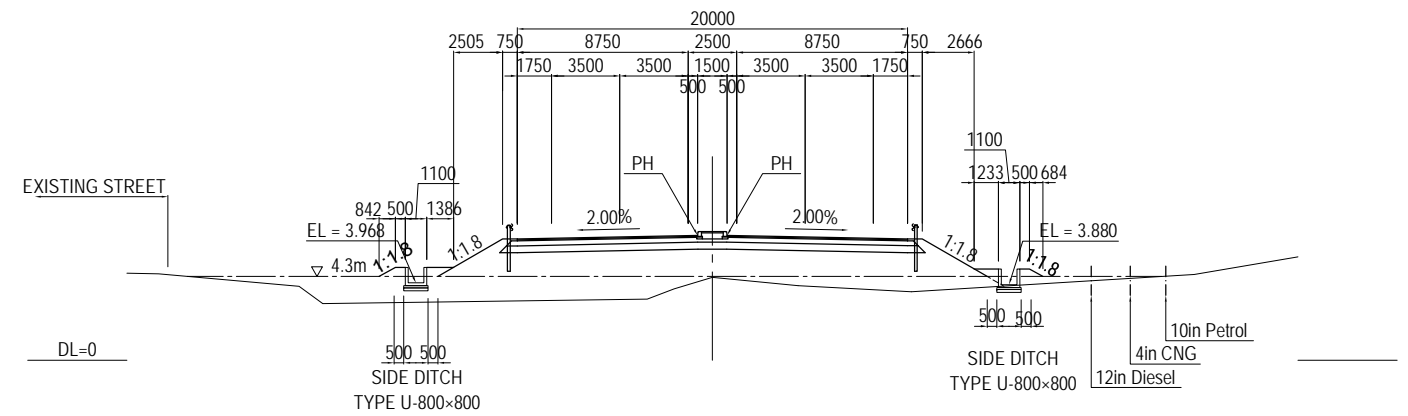
STA.0+200

GH=3.51
PH=5.953



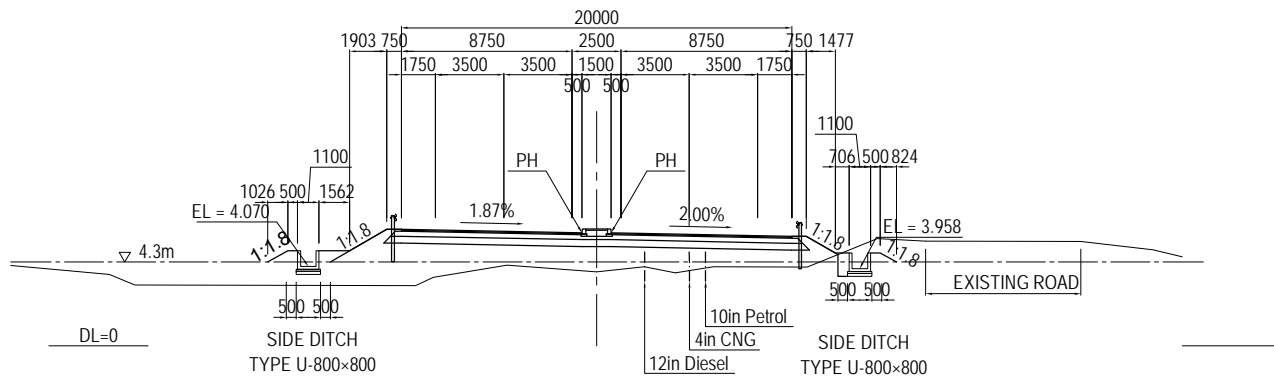
STA.0+240

GH=4.26
PH=6.399



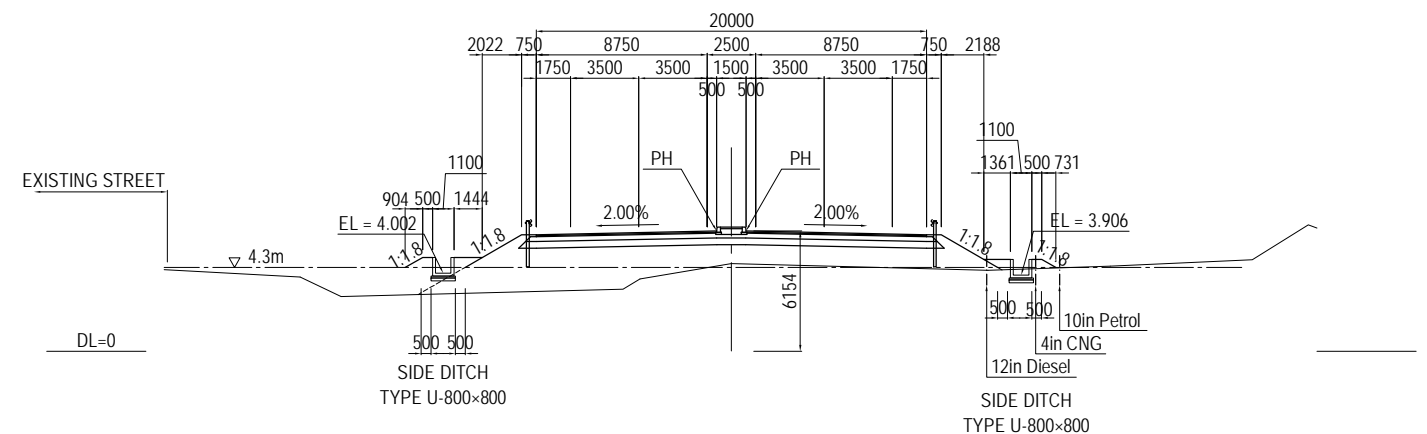
STA.0+180

GH=3.80
PH=5.796



STA.0+220

GH=4.48
PH=6.154



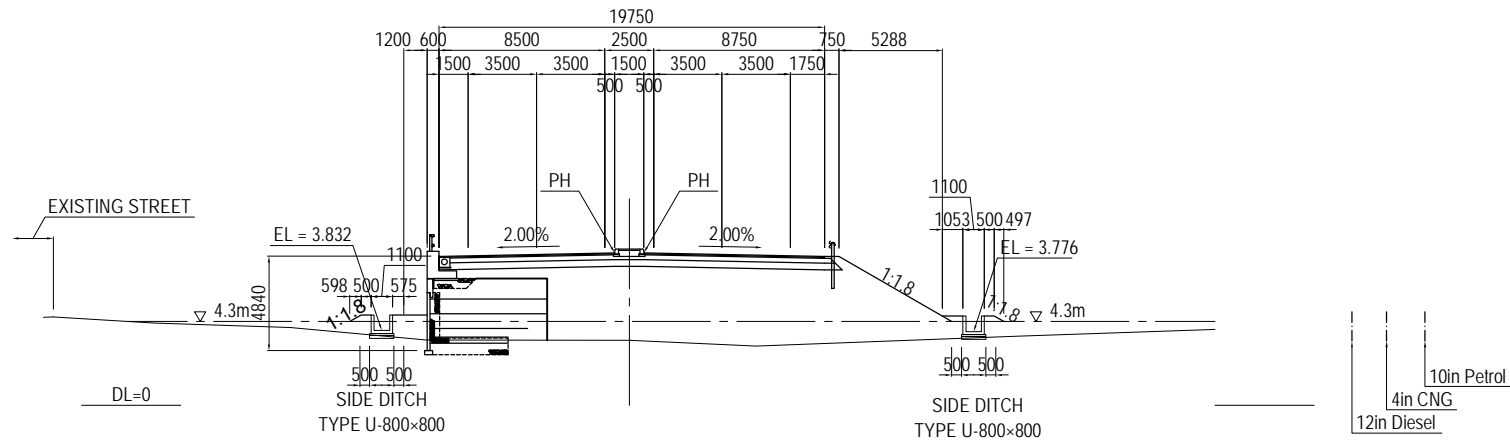
Note: Elevation is based on MSL (Mean Sea Level)

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE CROSS SECTION MAIN ROAD (3)	PACKAGE	
				PREPARED BY	M. TORIU			15 Jun. 2017	1
				CHECKED BY	T. HAYAKAWA			20 Jun. 2017	DWG No.
				APPROVED BY	Y. SANO			21 Jun. 2017	P1-RD-0420

CROSS SECTION MAIN ROAD (4) S=1:400

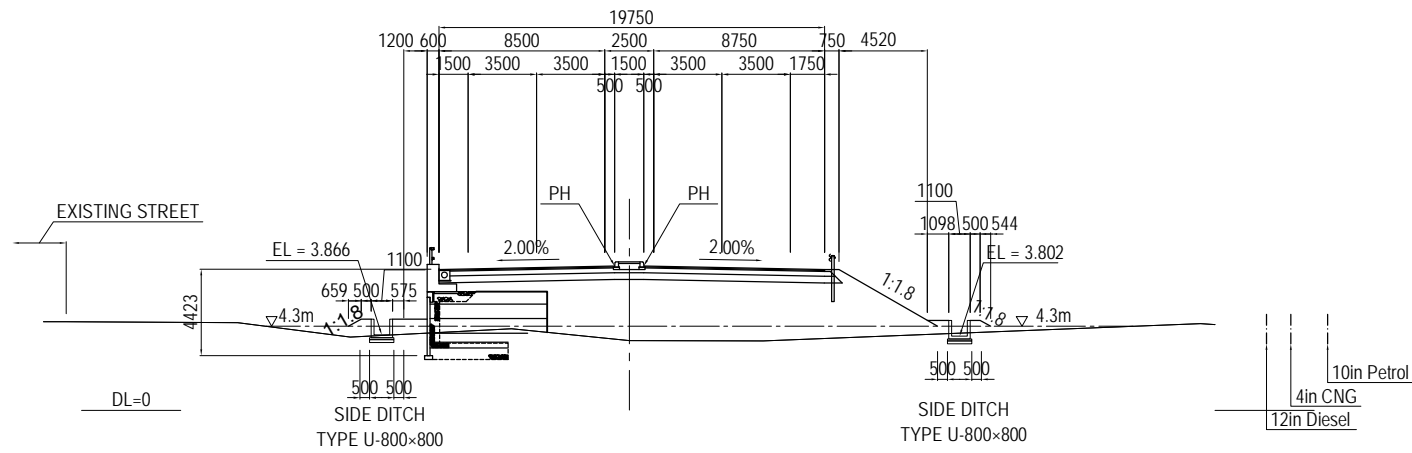
STA.0+320

GH=3.33
PH=7.809



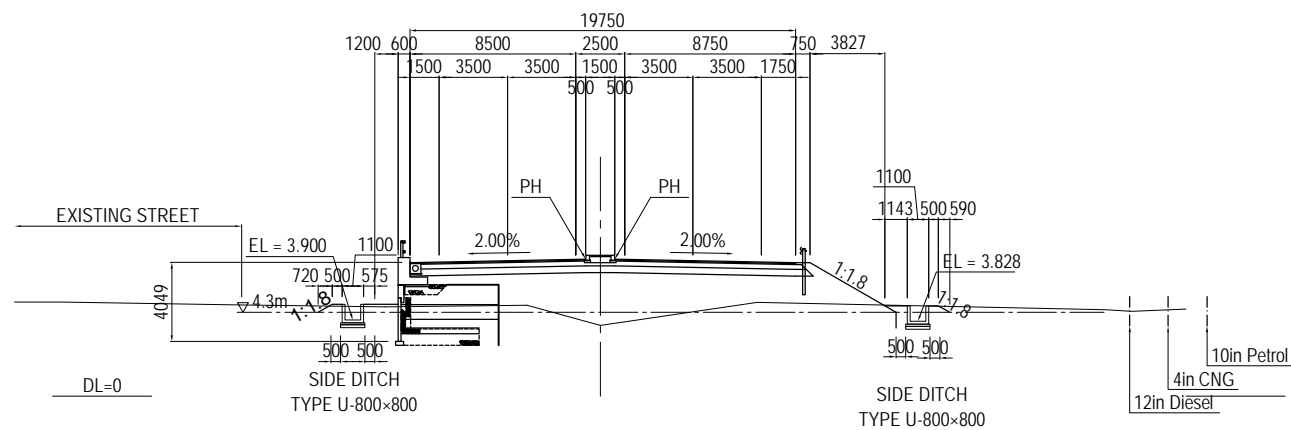
STA.0+300

GH=3.56
PH=7.392



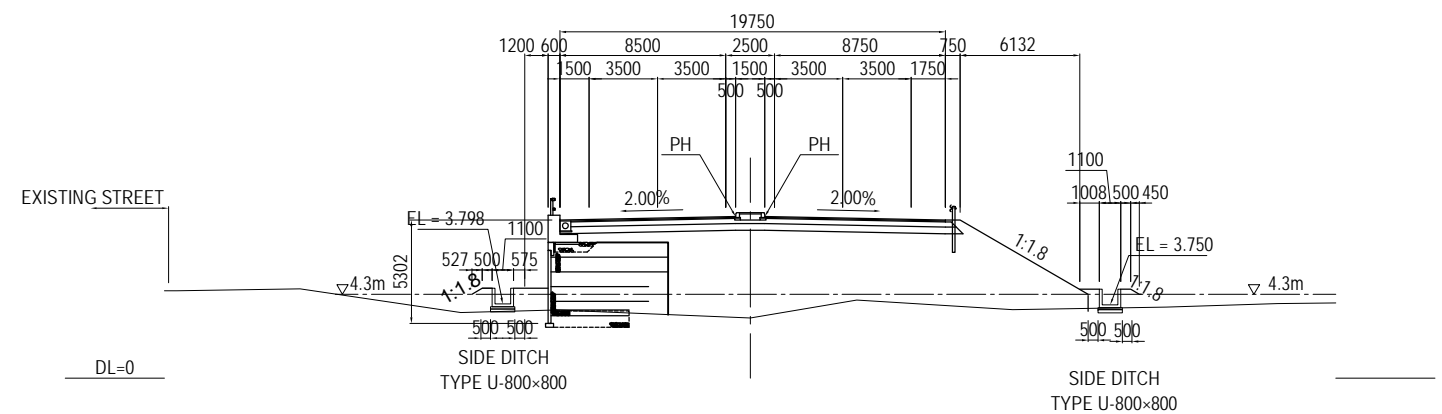
STA.0+280

GH=3.62
PH=7.017



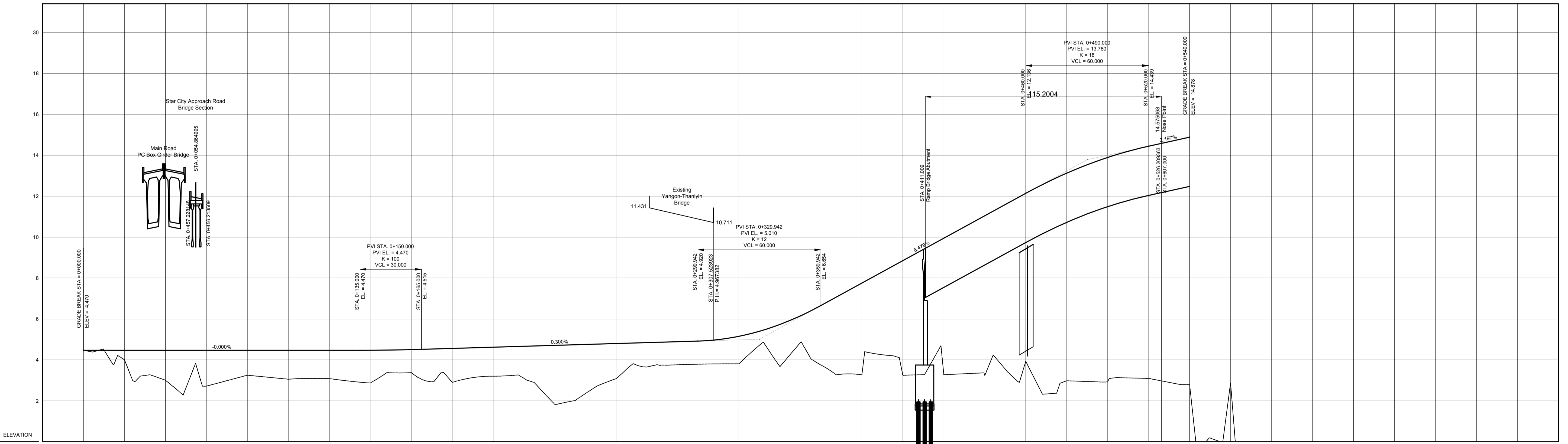
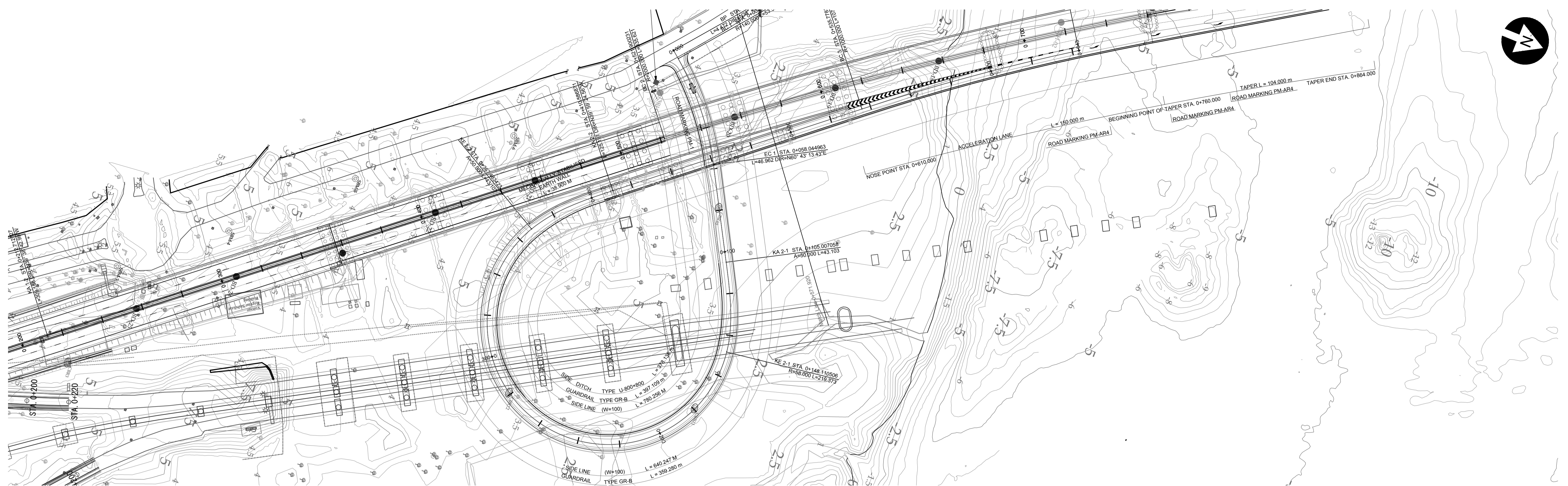
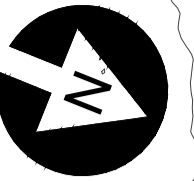
STA.0+340

GH=3.07
PH=8.270



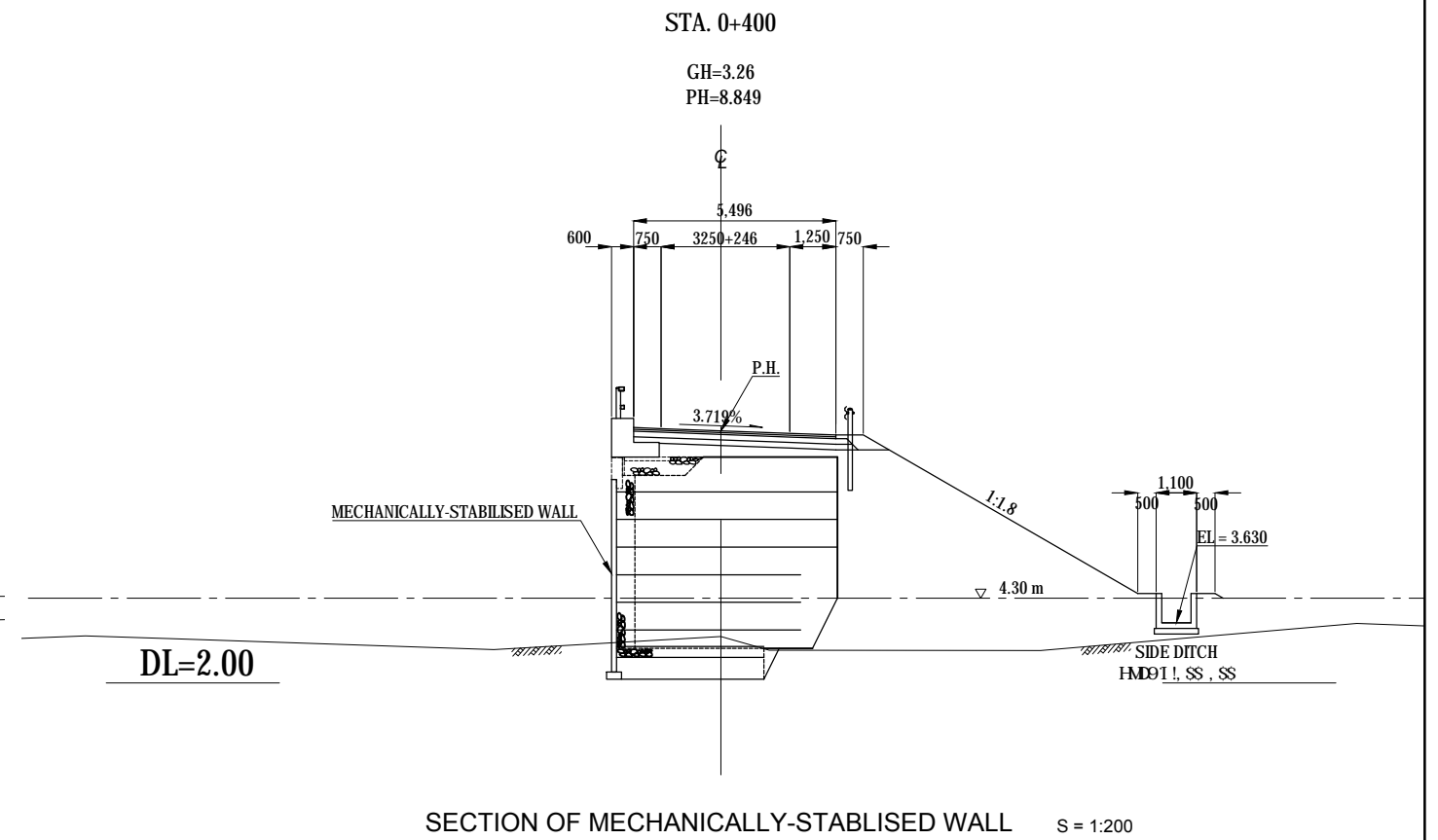
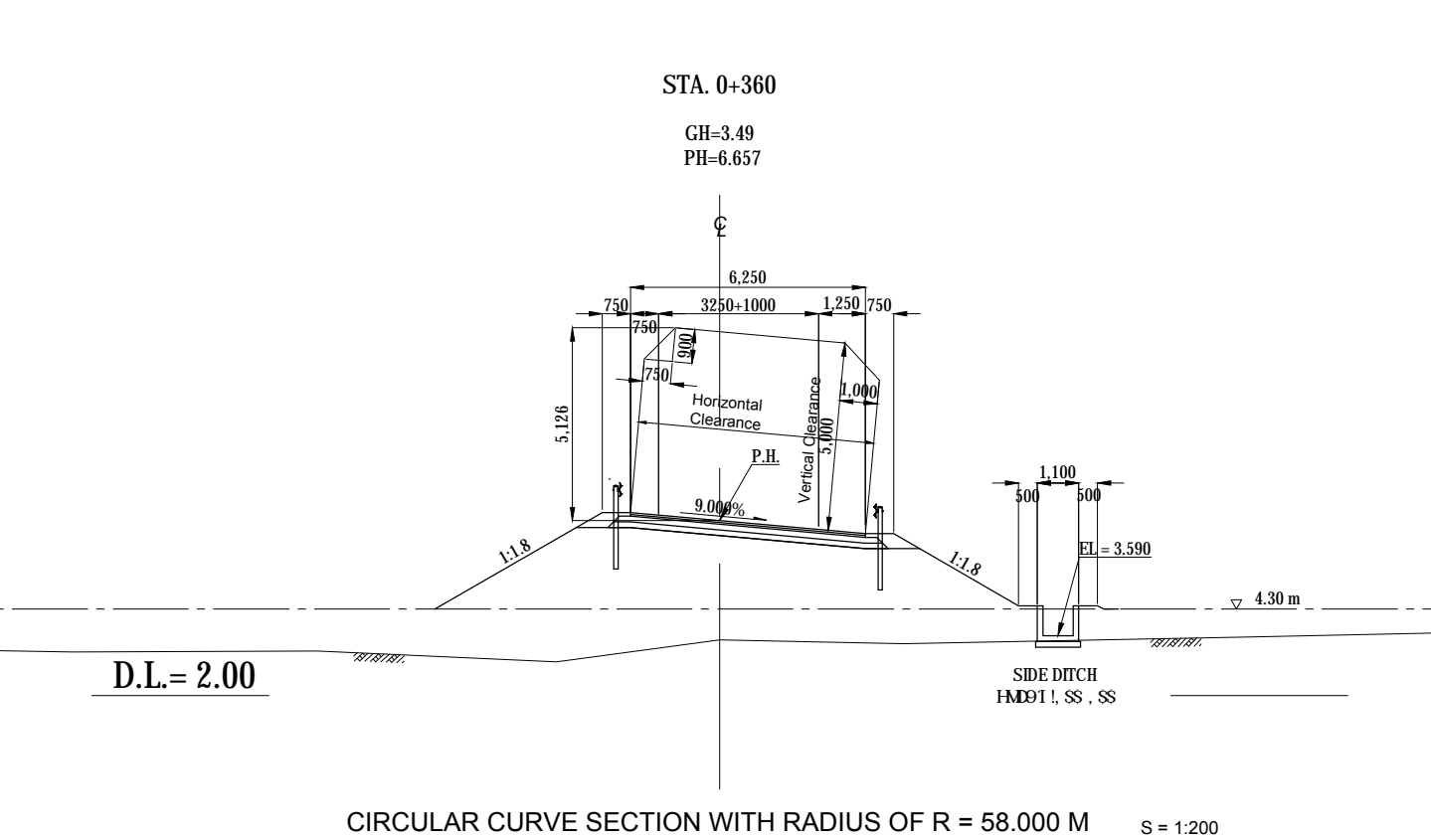
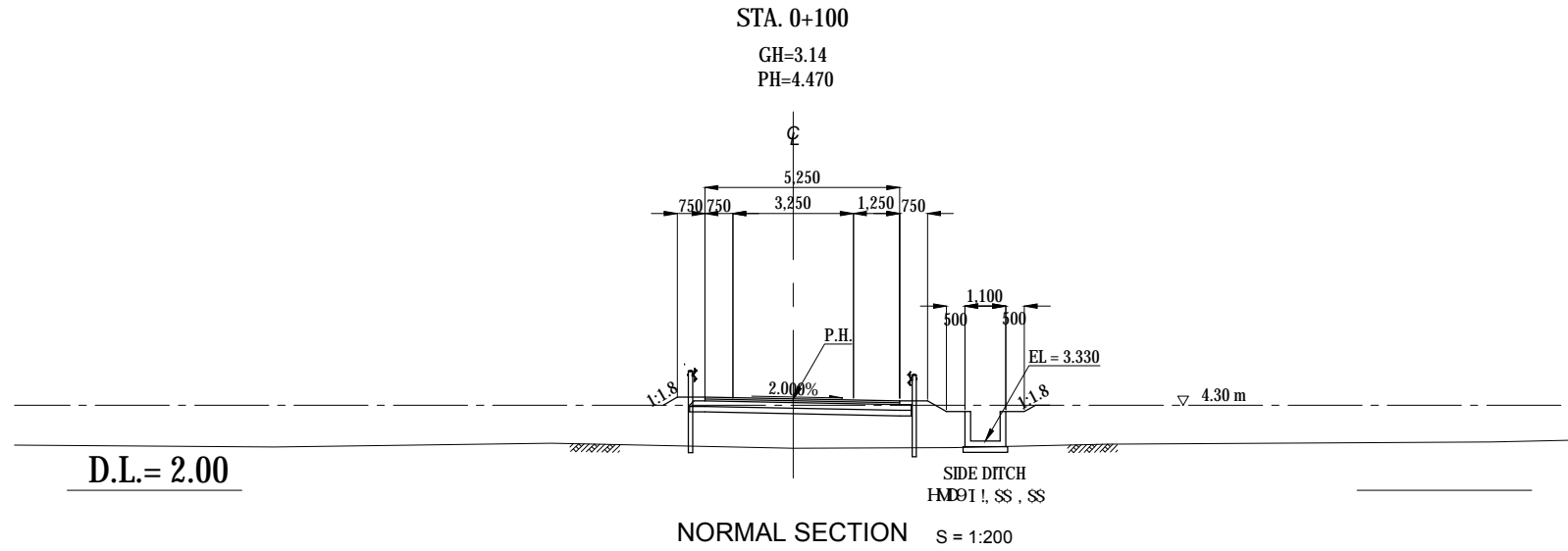
Note: Elevation is based on MSL (Mean Sea Level)

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 20%;">NAME</th> <th style="width: 20%;">SIGNATURE</th> <th style="width: 20%;">DATE</th> </tr> <tr> <td>PREPARED BY</td> <td>M. TORIU</td> <td>15 Jun. 2017</td> </tr> <tr> <td>CHECKED BY</td> <td>T. HAYAKAWA</td> <td>20 Jun. 2017</td> </tr> <tr> <td>APPROVED BY</td> <td>Y. SANO</td> <td>21 Jun. 2017</td> </tr> </table>	NAME	SIGNATURE	DATE	PREPARED BY	M. TORIU	15 Jun. 2017	CHECKED BY	T. HAYAKAWA	20 Jun. 2017	APPROVED BY	Y. SANO	21 Jun. 2017	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 100%;">DRAWING TITLE</th> <th style="width: 100%;">PACKAGE</th> </tr> <tr> <td style="text-align: center;">CROSS SECTION MAIN ROAD (4)</td> <td style="text-align: center;">1</td> </tr> <tr> <td></td> <td style="text-align: center;">DWG No.</td> </tr> <tr> <td></td> <td style="text-align: center;">P1-RD-0430</td> </tr> </table>	DRAWING TITLE	PACKAGE	CROSS SECTION MAIN ROAD (4)	1		DWG No.		P1-RD-0430
NAME	SIGNATURE	DATE																							
PREPARED BY	M. TORIU	15 Jun. 2017																							
CHECKED BY	T. HAYAKAWA	20 Jun. 2017																							
APPROVED BY	Y. SANO	21 Jun. 2017																							
DRAWING TITLE	PACKAGE																								
CROSS SECTION MAIN ROAD (4)	1																								
	DWG No.																								
	P1-RD-0430																								



GRADE	0+000-4+470	4+470-4+700	4+700-5+010	5+010-5+310	5+310-5+610	5+610-5+910	5+910-6+210	6+210-6+510	6+510-6+810	6+810-7+100
PROPOSED HEIGHT	4.47	4.01	3.01	2.72	3.25	3.06	3.09	2.87	3.38	2.90
EXISTING HEIGHT	4.47	4.01	3.01	2.72	3.25	3.06	3.09	2.87	3.38	2.90
STATION	0+000	0+200	0+400	0+600	0+800	1+000	1+200	1+400	1+600	1+800
SUPER ELEVATION	-2.000%	-6.000%	+6.000%	-2.000%	+2.000%	-2.000%	+9.000%	-9.000%	+2.000%	-2.000%
CURVE ELEMENTS	R=∞	R=140.000m	R=∞	R=∞	R=∞	R=∞	R=58.000m	R=∞	R=∞	R=1000.000m

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE STAR CITY APPROACH ROAD TO BAGO BRIDGE PLAN AND PROFILE	PACKAGE 1 DWG No. P1-RD-1000	
				PREPARED BY	E. YOKOTA				15 JUNE 2017
				CHECKED BY	T. HAYAKAWA				20 JUNE 2017
APPROVED BY	Y. SANO		21 JUNE 2017						



CIRCULAR CURVE SECTION WITH RADIUS OF R = 58.000 M S = 1:200

INSIDE WIDENING OF 1.000 M IS REQUIRED FOR THE CARRIAGEWAY
 VERTICAL/HORIZONTAL CLEARANCE LIMIT SHALL BE INCLINED PARALLEL TO SURFACE SLOPE

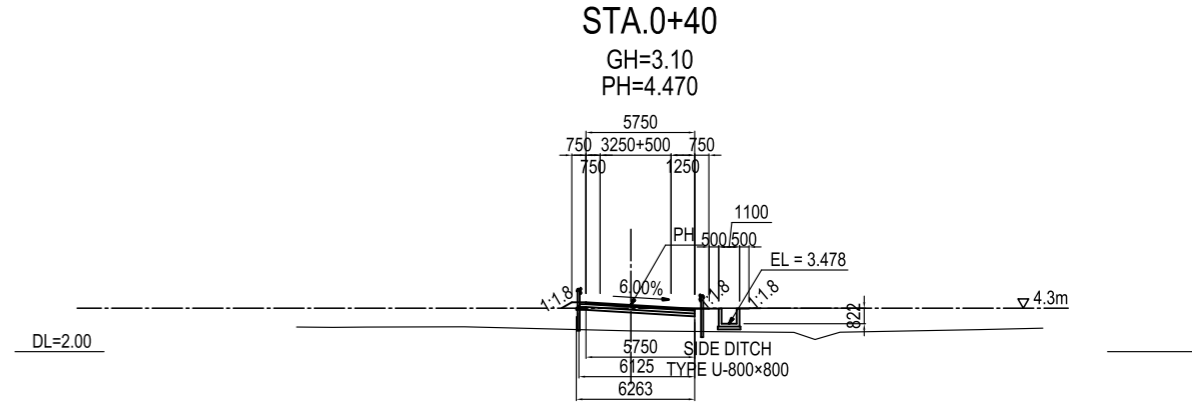
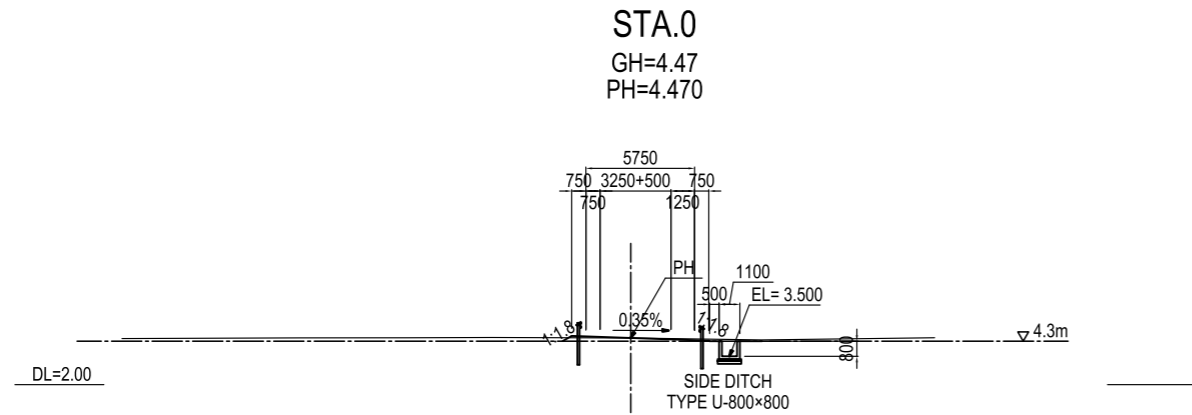
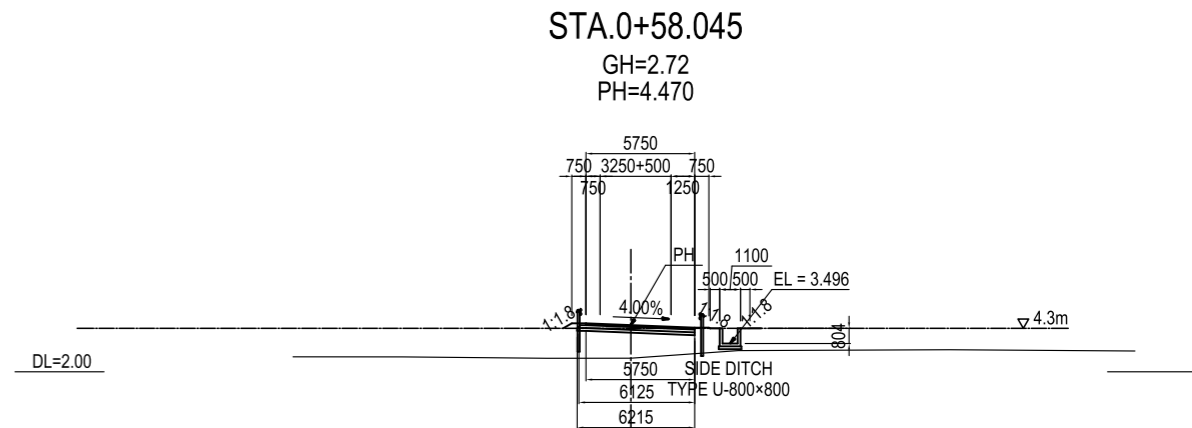
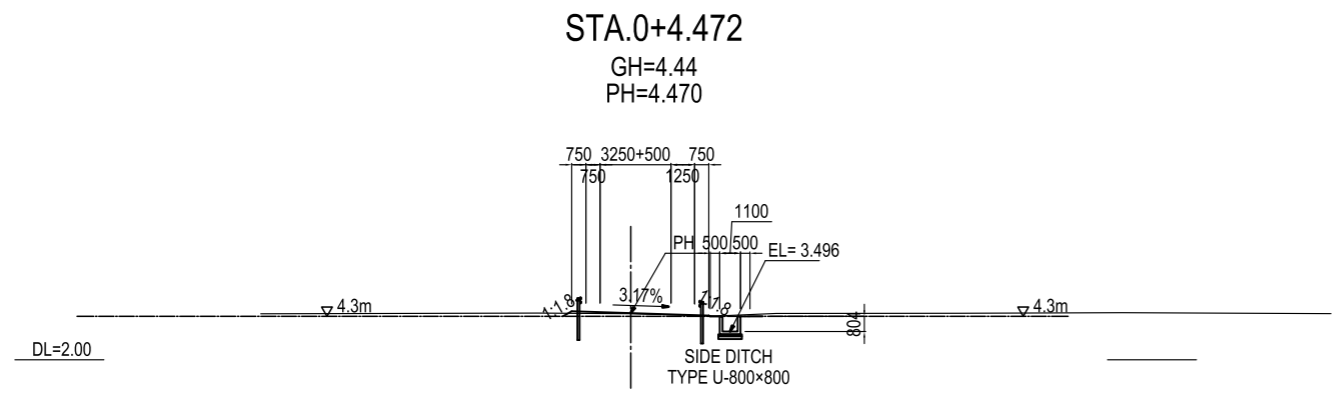
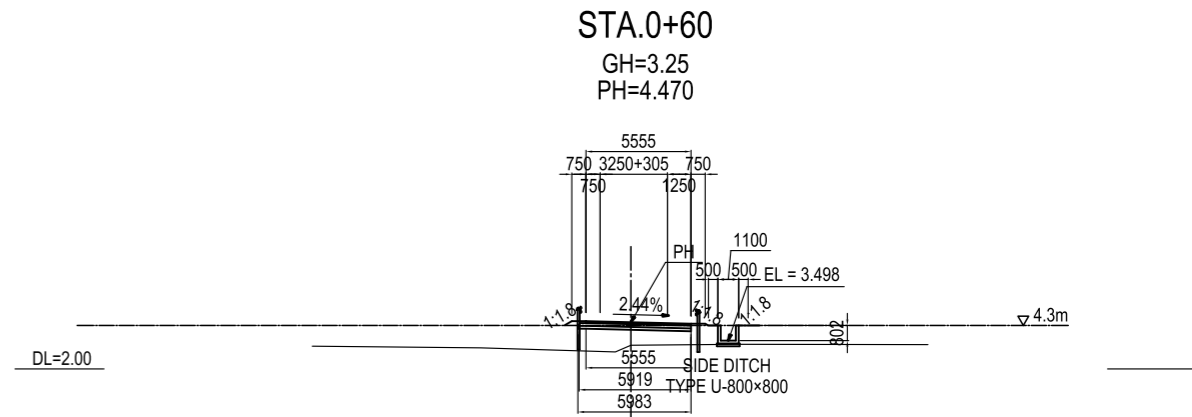
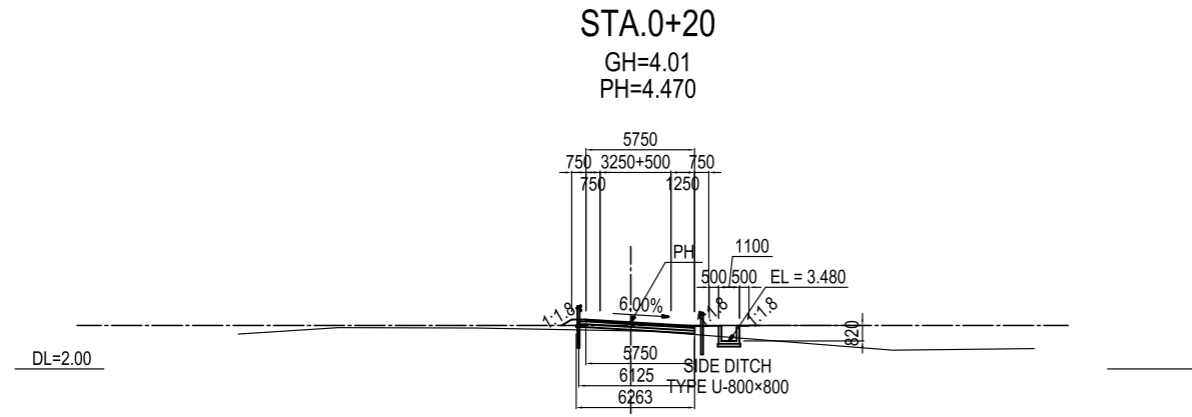
SECTION OF MECHANICALLY-STABILISED WALL AT LEFT SIDE S = 1:200

STA. 0+400 IS LOCATED IN THE TRANSITION SECTION OF 1.000 M WIDENING.

NOTE: ELEVATION IS BASED ON MSL (MEAN SEA LEVEL).
 ELEVATION OF 4.30 M SHOWN IN THE DRAWING IS THE PROPOSED HEIGHT OF CONSTRUCTION YARD.

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE STAR CITY APPROACH ROAD TO BAGO BRIDGE TYPICAL CROSS SECTION	PACKAGE	
				PREPARED BY	E. YOKOTA			15 JUNE 2017	1
				CHECKED BY	T. HAYAKAWA			20 JUNE 2017	DWG No.
				APPROVED BY	Y. SANO			21 JUNE 2017	P1-RD-1010

CROSS SECTION MAIN ROAD (1) S=1:400



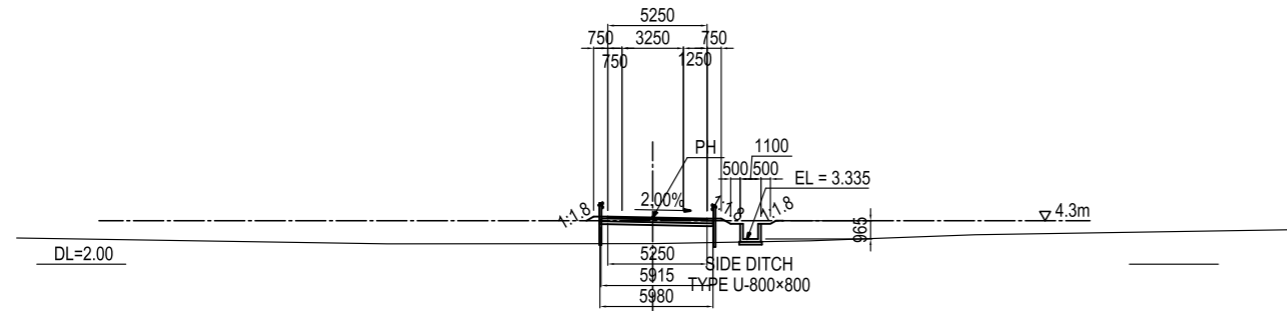
Note: Elevation is based on MSL (Mean Sea Level)

<small>PROJECT NAME</small> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	<small>FINANCED BY</small> JAPAN INTERNATIONAL COOPERATION AGENCY	<small>COUNTERPART</small> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	<small>JICA STUDY TEAM</small> NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: 8px;">PREPARED BY</td> <td style="font-size: 8px;">NAME</td> <td style="font-size: 8px;">SIGNATURE</td> <td style="font-size: 8px;">DATE</td> </tr> <tr> <td style="font-size: 8px;">CHECKED BY</td> <td style="font-size: 8px;">M. TORIU</td> <td style="font-size: 8px;"></td> <td style="font-size: 8px;">15 Jun. 2017</td> </tr> <tr> <td style="font-size: 8px;">APPROVED BY</td> <td style="font-size: 8px;">T. HAYAKAWA</td> <td style="font-size: 8px;"></td> <td style="font-size: 8px;">20 Jun. 2017</td> </tr> <tr> <td style="font-size: 8px;"></td> <td style="font-size: 8px;">Y. SANO</td> <td style="font-size: 8px;"></td> <td style="font-size: 8px;">21 Jun. 2017</td> </tr> </table>	PREPARED BY	NAME	SIGNATURE	DATE	CHECKED BY	M. TORIU		15 Jun. 2017	APPROVED BY	T. HAYAKAWA		20 Jun. 2017		Y. SANO		21 Jun. 2017	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: 10px;">DRAWING TITLE</td> <td style="font-size: 10px;">PACKAGE</td> </tr> <tr> <td style="font-size: 12px; text-align: center;">CROSS SECTION MAIN ROAD (1)</td> <td style="font-size: 12px; text-align: center;">1</td> </tr> <tr> <td></td> <td style="font-size: 10px;">DWG No.</td> </tr> <tr> <td></td> <td style="font-size: 10px;">P1-RD-1020</td> </tr> </table>	DRAWING TITLE	PACKAGE	CROSS SECTION MAIN ROAD (1)	1		DWG No.		P1-RD-1020
PREPARED BY	NAME	SIGNATURE	DATE																										
CHECKED BY	M. TORIU		15 Jun. 2017																										
APPROVED BY	T. HAYAKAWA		20 Jun. 2017																										
	Y. SANO		21 Jun. 2017																										
DRAWING TITLE	PACKAGE																												
CROSS SECTION MAIN ROAD (1)	1																												
	DWG No.																												
	P1-RD-1020																												

CROSS SECTION MAIN ROAD (2) S=1:400

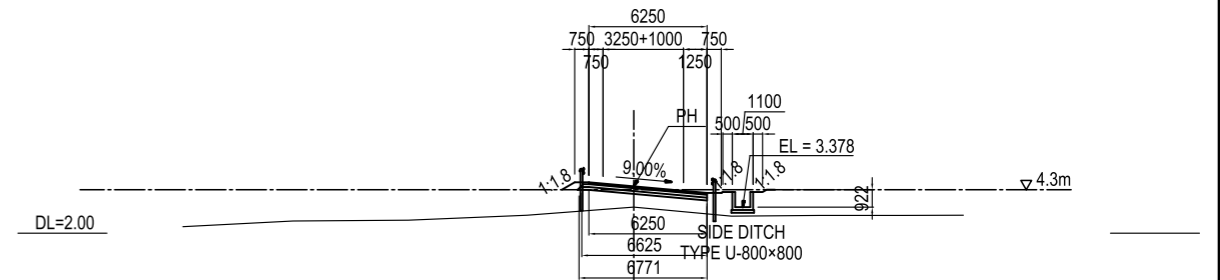
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GH=3.09
PH=4.470



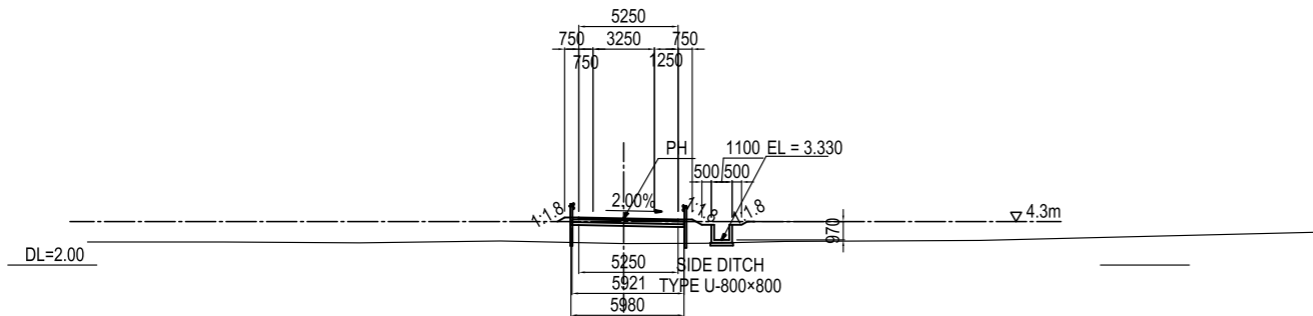
STA.0+148.111

GH=3.38
PH=4.479



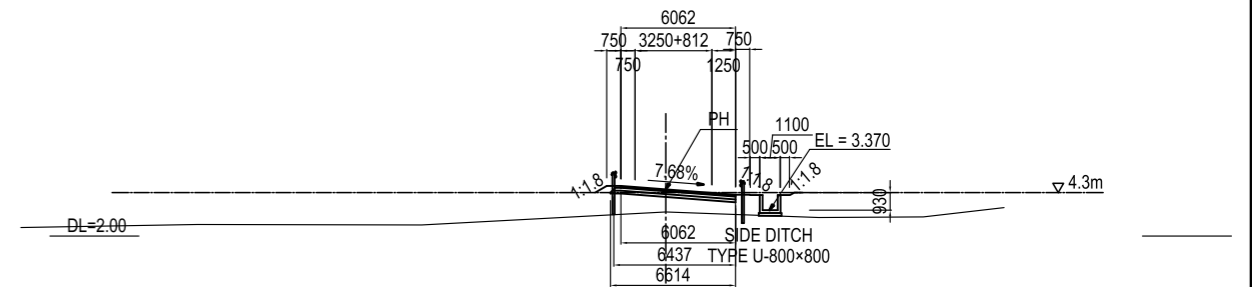
STA.0+100

GH=3.14
PH=4.470



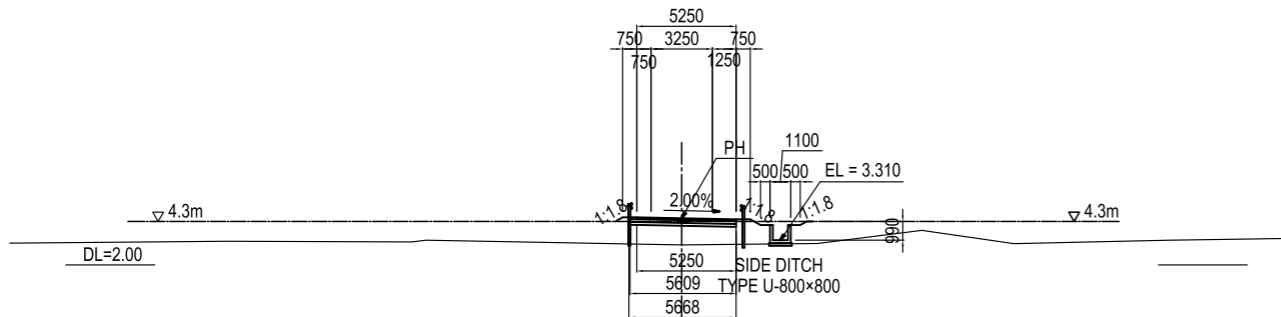
STA.0+140

GH=3.28
PH=4.470



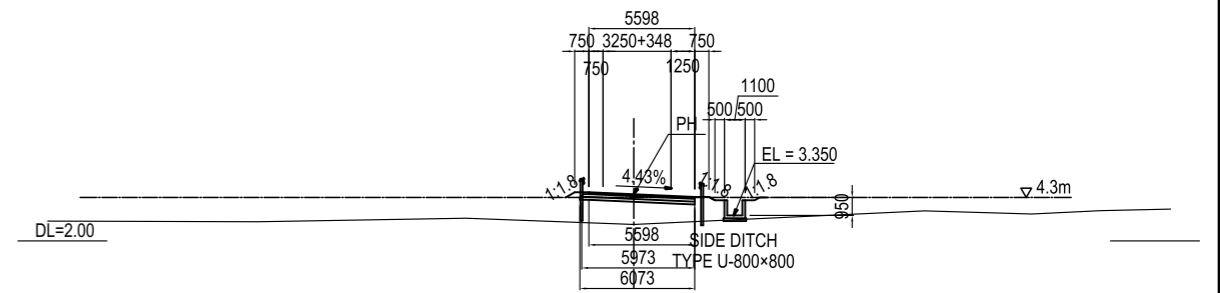
STA.0+80

GH=3.06
PH=4.470



STA.0+120

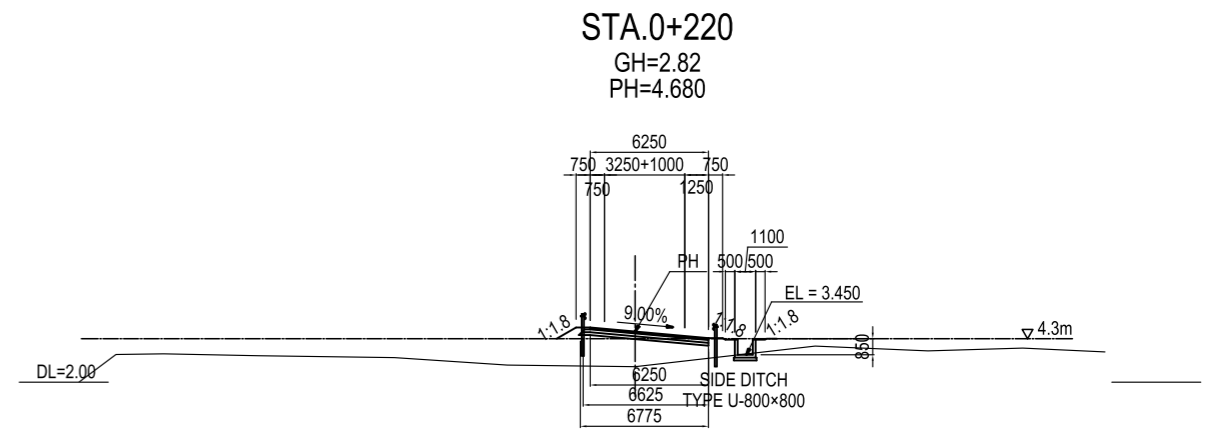
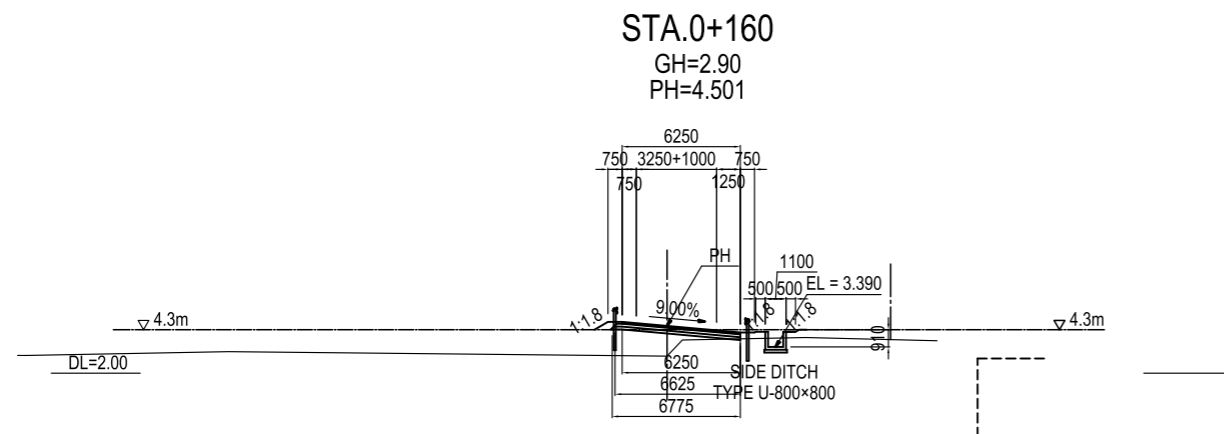
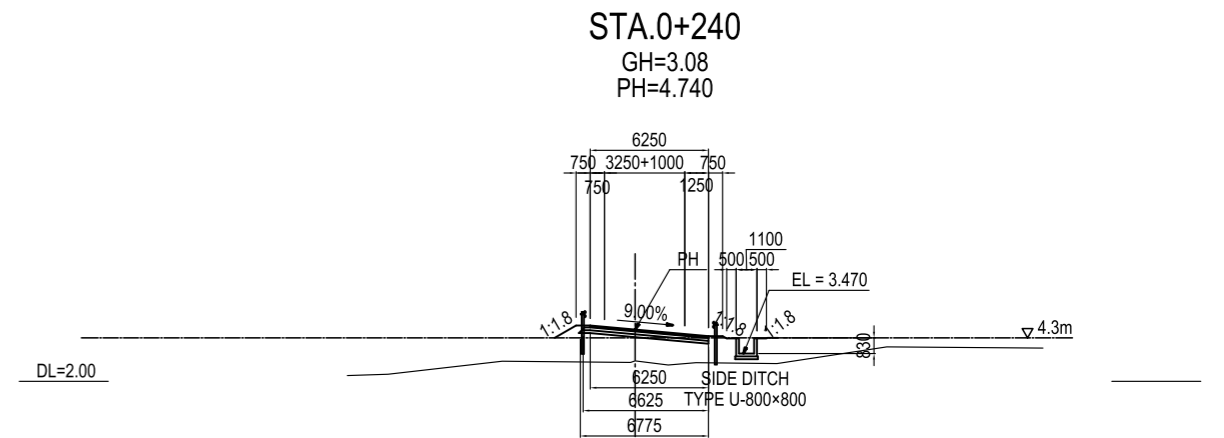
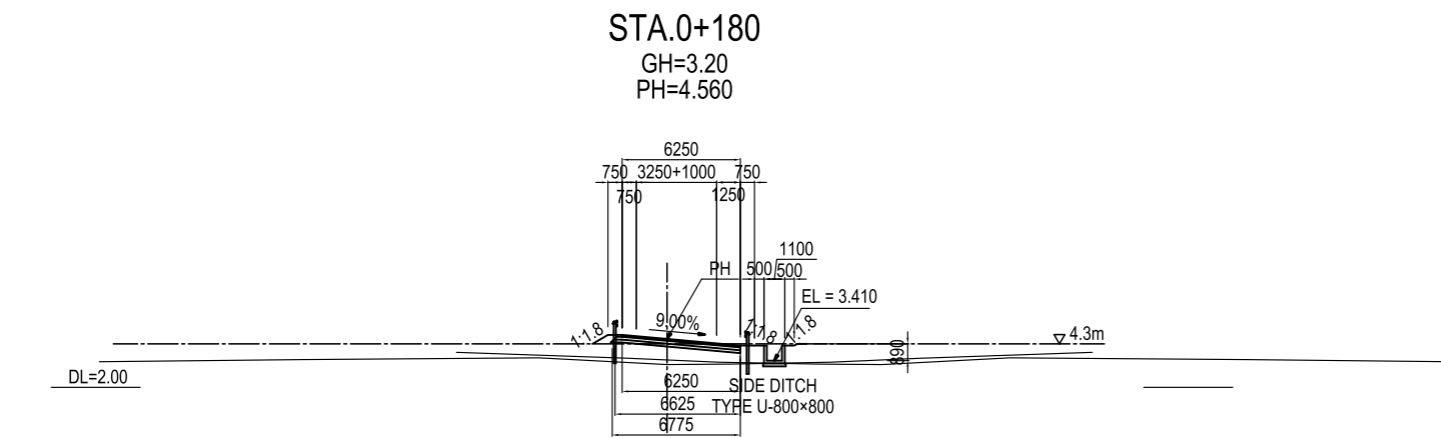
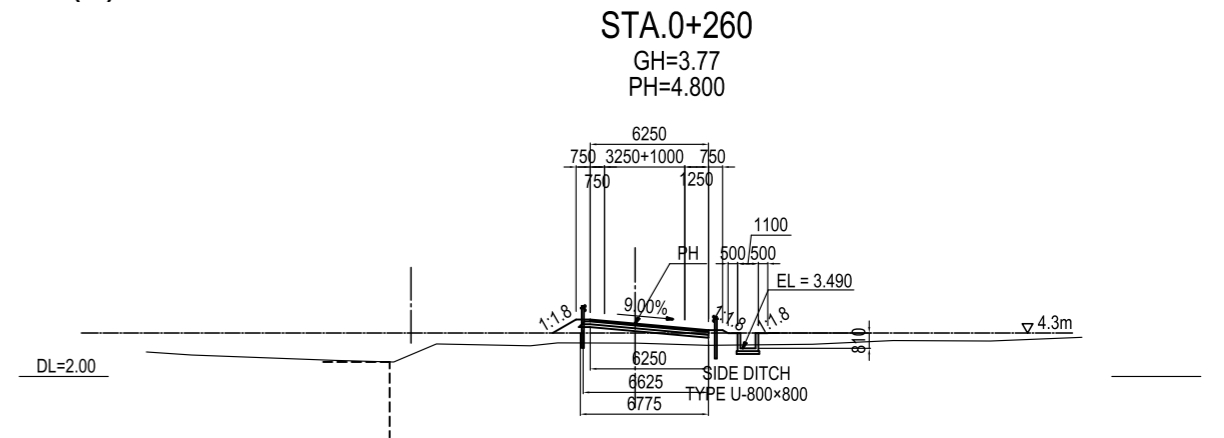
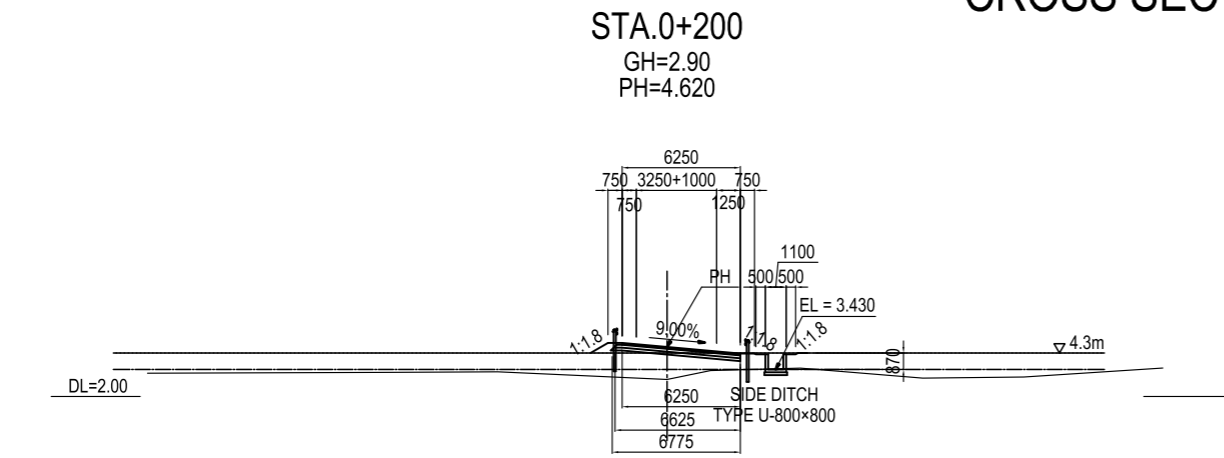
GH=2.87
PH=4.470



Note: Elevation is based on MSL (Mean Sea Level)

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE CROSS SECTION MAIN ROAD (2)	PACKAGE	
				PREPARED BY	M. TORIU			15 Jun. 2017	1
				CHECKED BY	T. HAYAKAWA			20 Jun. 2017	DWG No.
				APPROVED BY	Y. SANO			21 Jun. 2017	P1-RD-1030

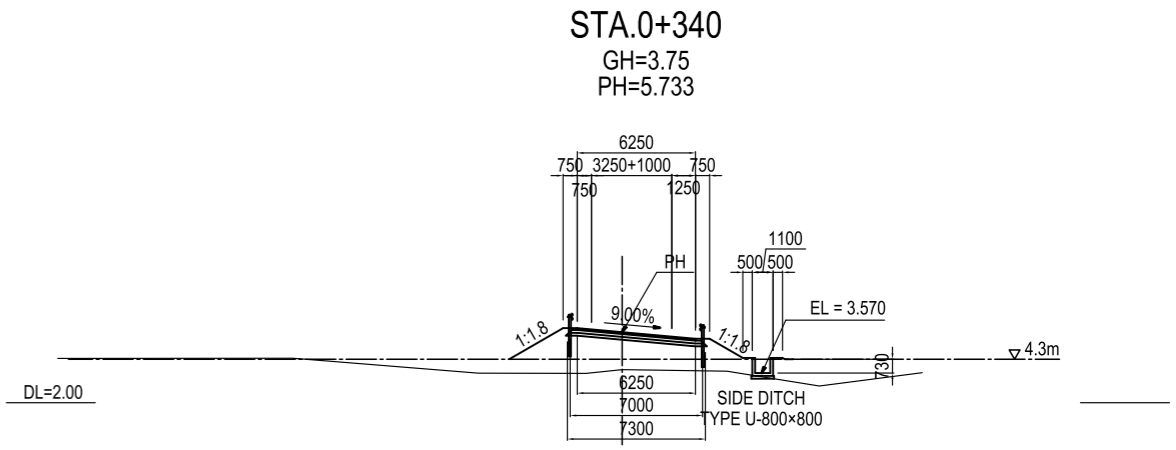
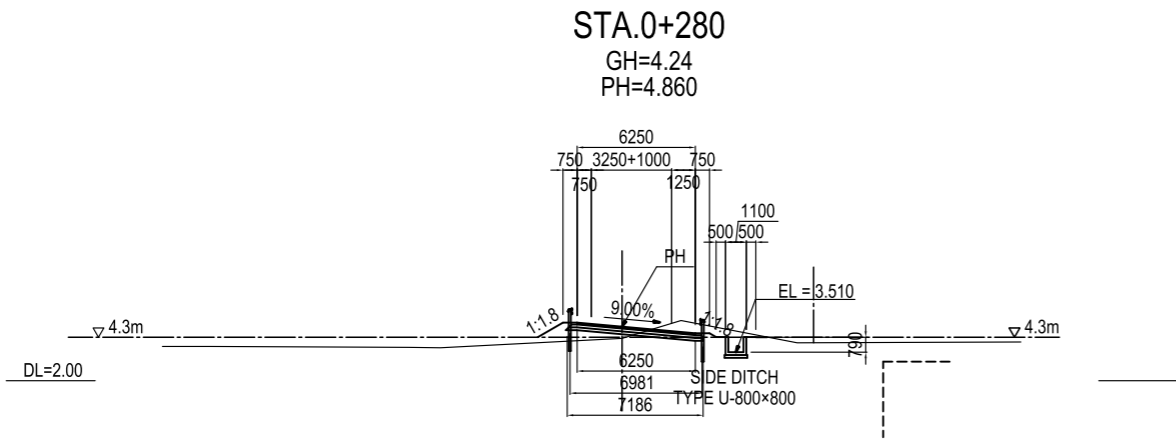
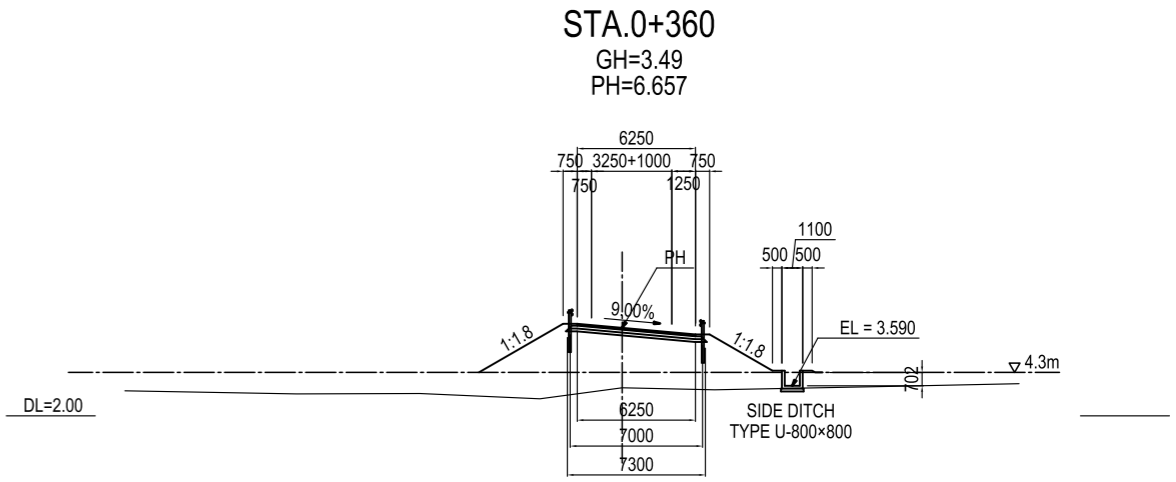
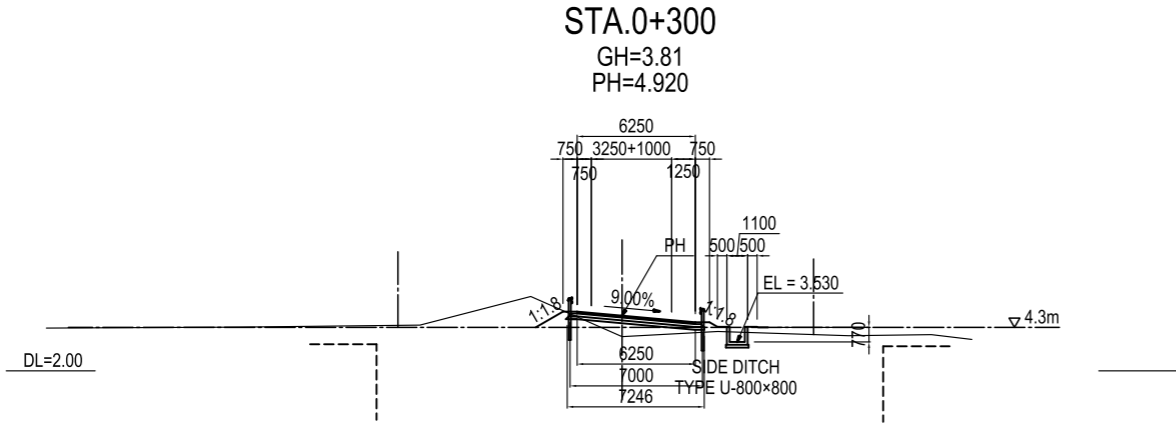
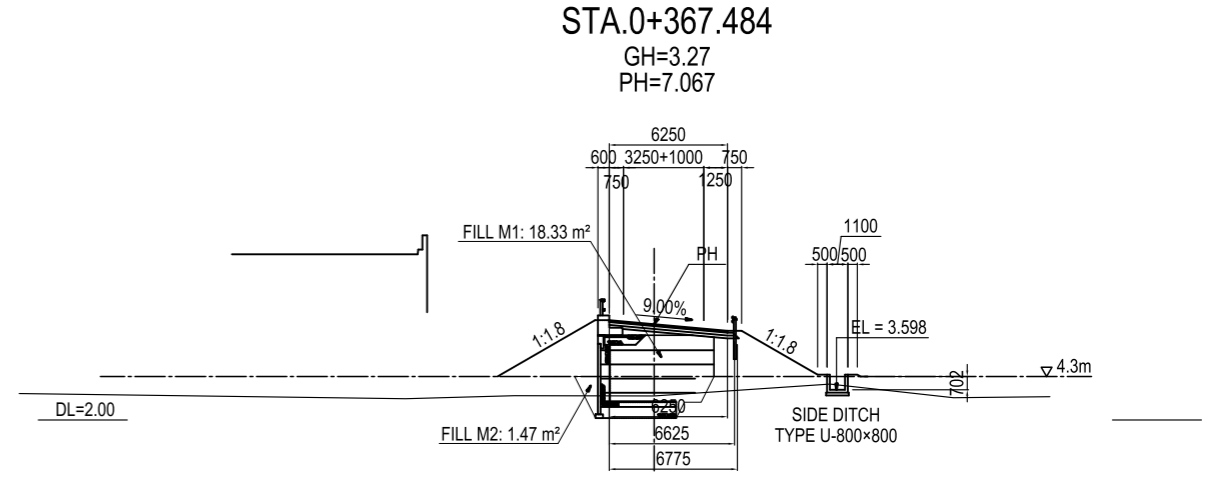
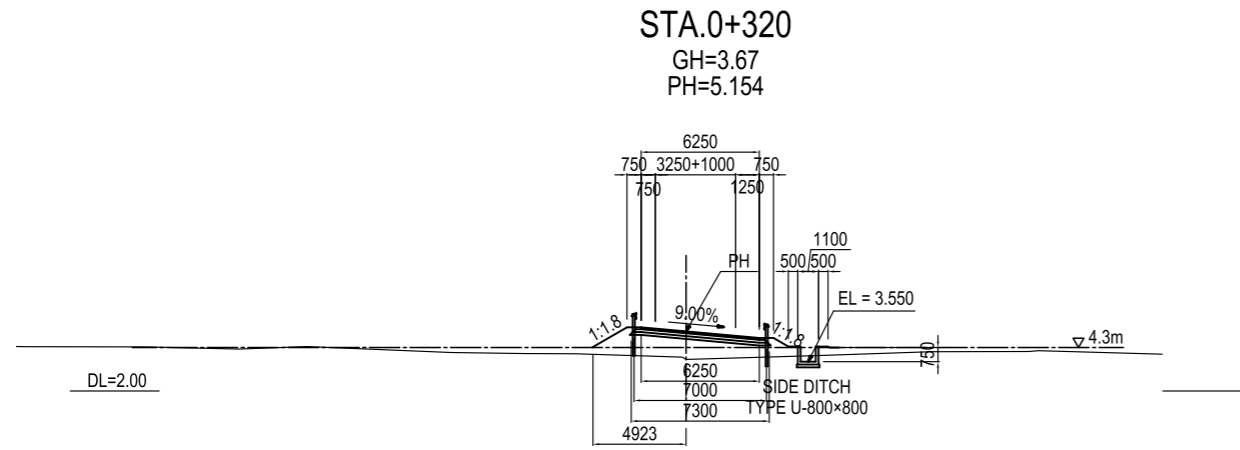
CROSS SECTION MAIN ROAD (3) S=1:400



Note: Elevation is based on MSL (Mean Sea Level)

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME M. TORIU T. HAYAKAWA Y. SANO	SIGNATURE 	DATE 15 Jun. 2017 20 Jun. 2017 21 Jun. 2017	DRAWING TITLE CROSS SECTION MAIN ROAD (3)	PACKAGE 1 DWG No. P1-RD-1040
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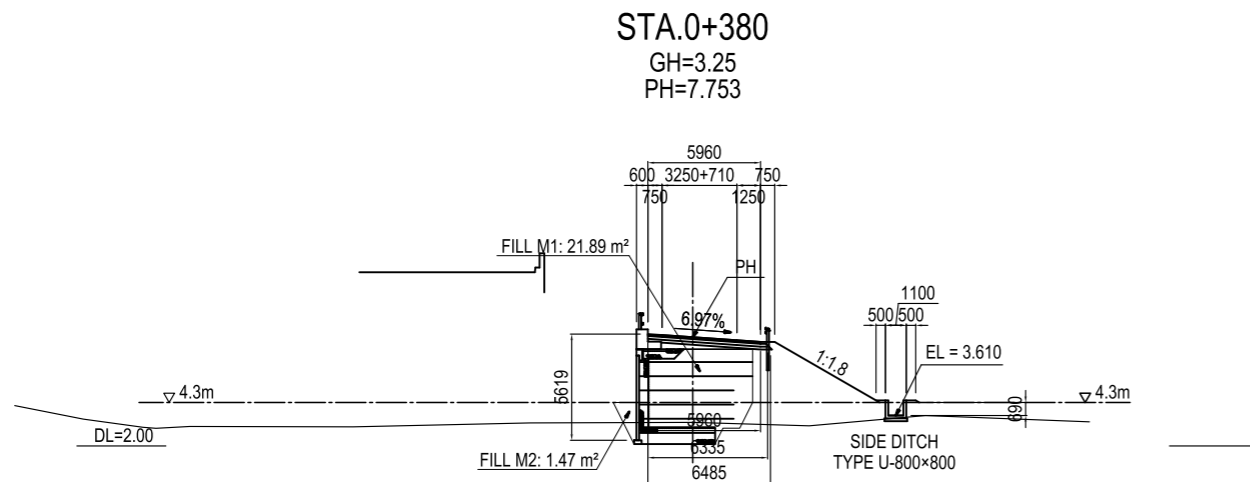
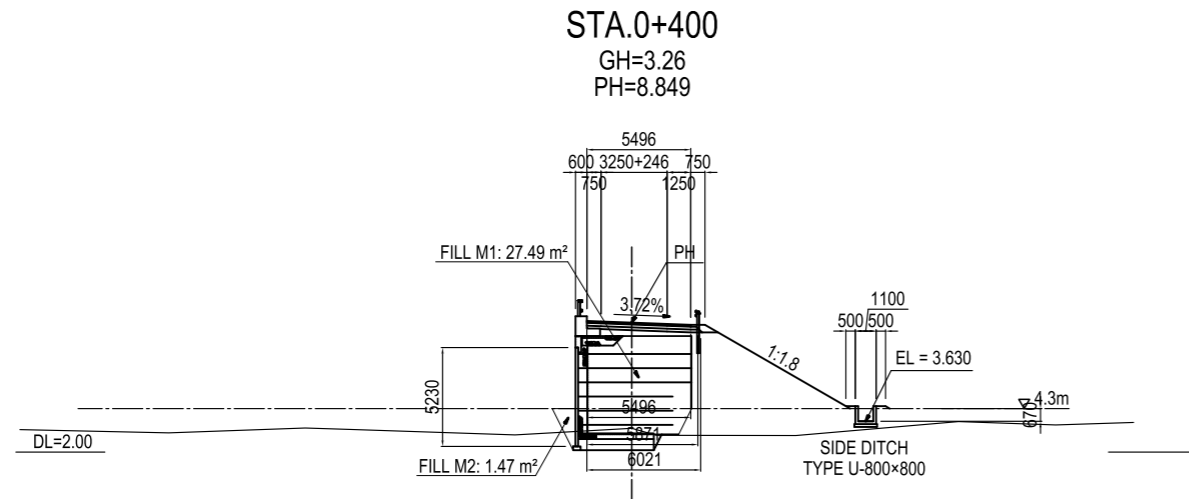
CROSS SECTION MAIN ROAD (4) S=1:400



Note: Elevation is based on MSL (Mean Sea Level)

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME M. TORIU T. HAYAKAWA Y. SANO	SIGNATURE 	DATE 15 Jun. 2017 20 Jun. 2017 21 Jun. 2017	DRAWING TITLE CROSS SECTION MAIN ROAD (4)	PACKAGE 1 DWG No. P1-RD-1050
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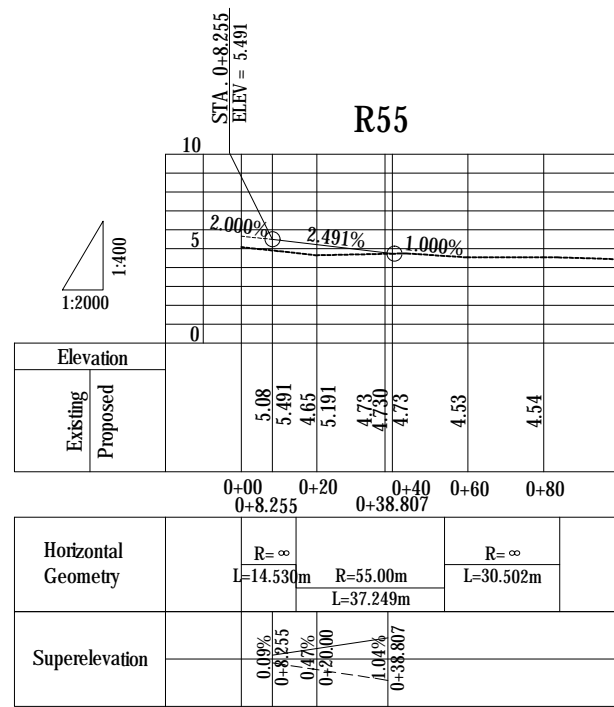
CROSS SECTION MAIN ROAD (5) S=1:400



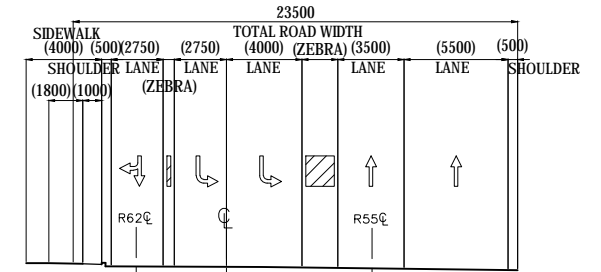
Note: Elevation is based on MSL (Mean Sea Level)

<small>PROJECT NAME</small> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	<small>FINANCED BY</small> JAPAN INTERNATIONAL COOPERATION AGENCY	<small>COUNTERPART</small> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	<small>JICA STUDY TEAM</small> NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">NAME</th> <th style="text-align: left;">SIGNATURE</th> <th style="text-align: left;">DATE</th> </tr> <tr> <td>PREPARED BY M. TORIU</td> <td></td> <td>15 Jun. 2017</td> </tr> <tr> <td>CHECKED BY T. HAYAKAWA</td> <td></td> <td>20 Jun. 2017</td> </tr> <tr> <td>APPROVED BY Y. SANO</td> <td></td> <td>21 Jun. 2017</td> </tr> </table>	NAME	SIGNATURE	DATE	PREPARED BY M. TORIU		15 Jun. 2017	CHECKED BY T. HAYAKAWA		20 Jun. 2017	APPROVED BY Y. SANO		21 Jun. 2017	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">DRAWING TITLE</th> <th style="text-align: left;">PACKAGE</th> </tr> <tr> <td rowspan="3" style="text-align: center; vertical-align: middle;"> CROSS SECTION MAIN ROAD (5) </td> <td style="text-align: center;">1</td> </tr> <tr> <td style="text-align: center;">DWG No.</td> </tr> <tr> <td style="text-align: center;">P1-RD-1060</td> </tr> </table>	DRAWING TITLE	PACKAGE	CROSS SECTION MAIN ROAD (5)	1	DWG No.	P1-RD-1060
NAME	SIGNATURE	DATE																					
PREPARED BY M. TORIU		15 Jun. 2017																					
CHECKED BY T. HAYAKAWA		20 Jun. 2017																					
APPROVED BY Y. SANO		21 Jun. 2017																					
DRAWING TITLE	PACKAGE																						
CROSS SECTION MAIN ROAD (5)	1																						
	DWG No.																						
	P1-RD-1060																						

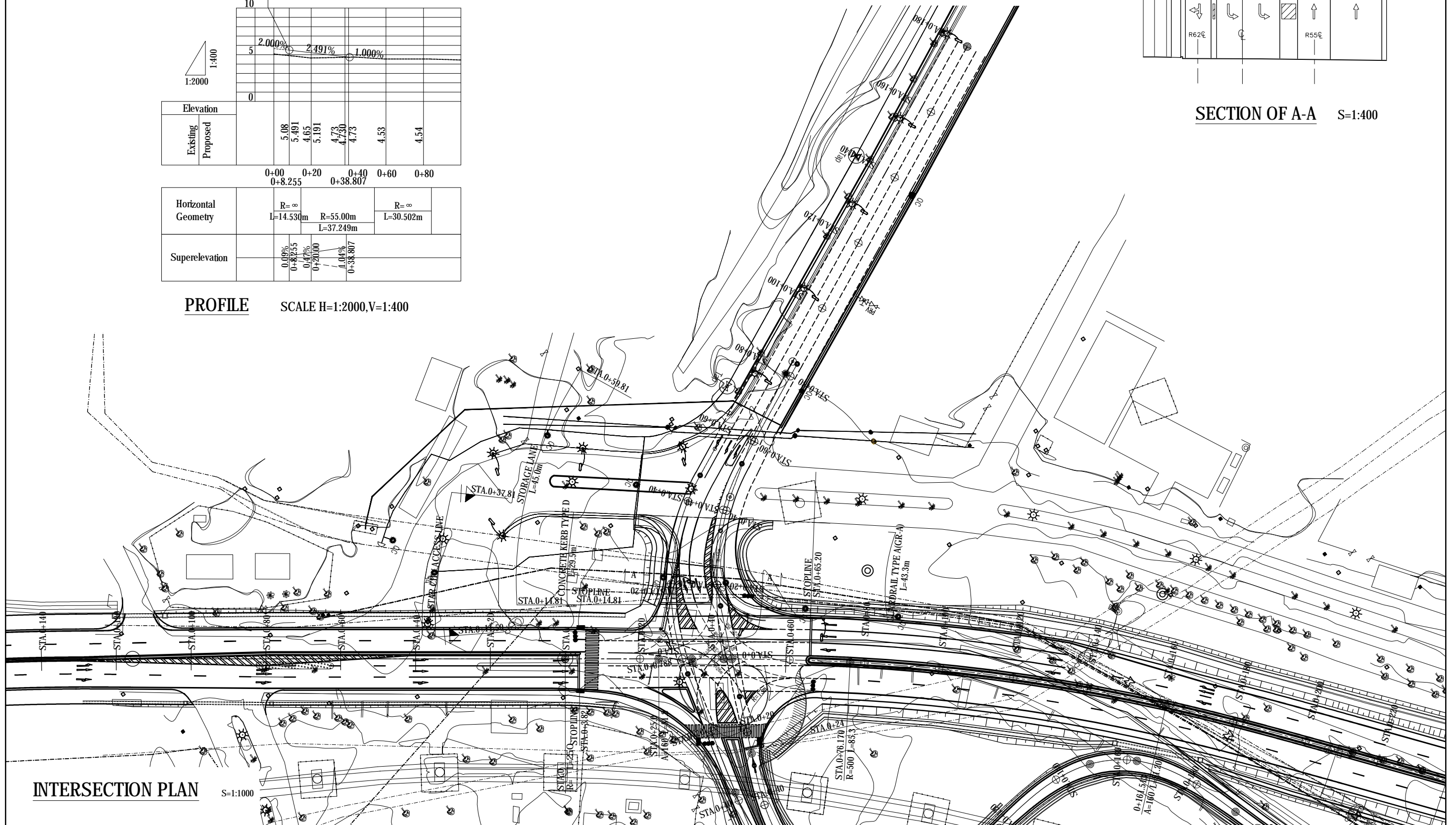
PLAN & PROFILE (1) Star City Access Line



PROFILE SCALE H=1:2000,V=1:400



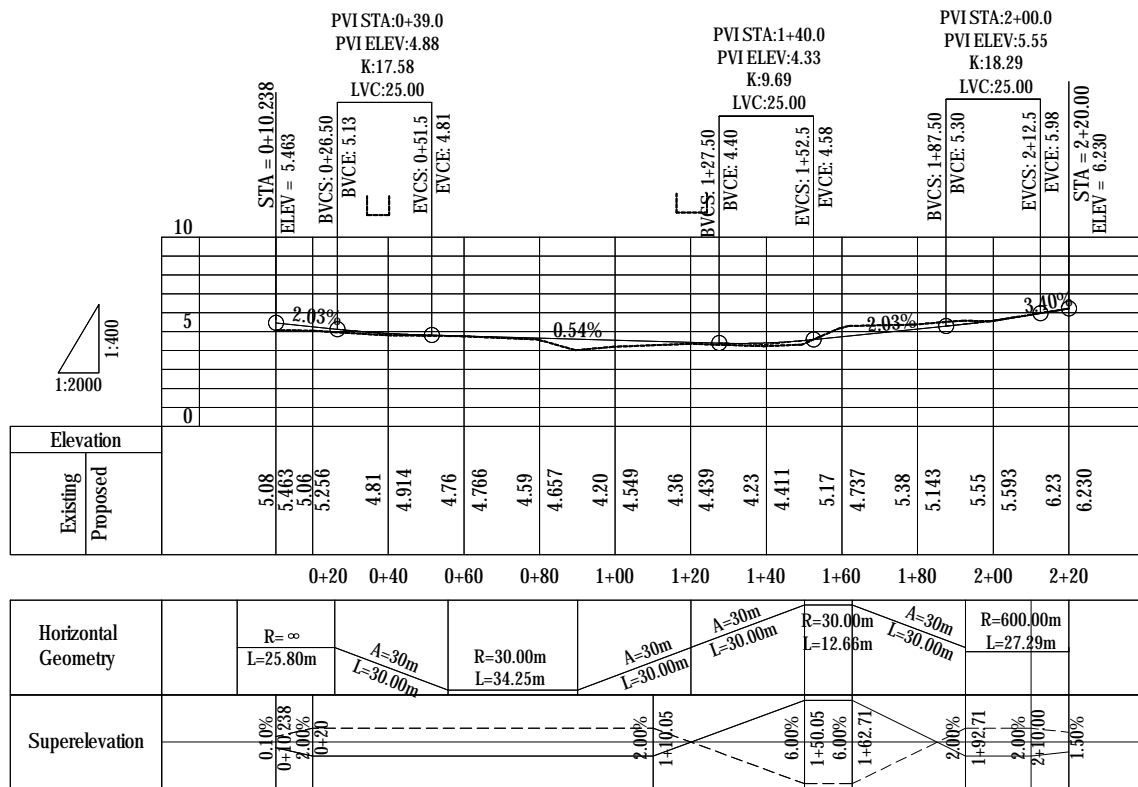
SECTION OF A-A S=1:400



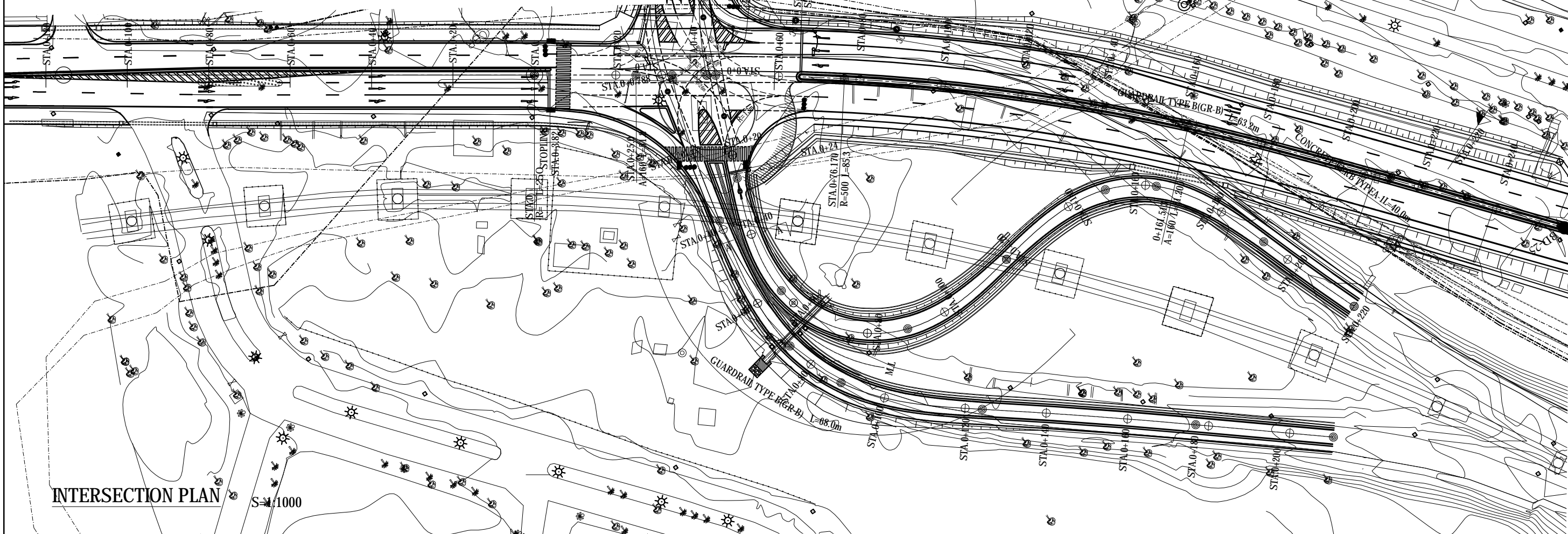
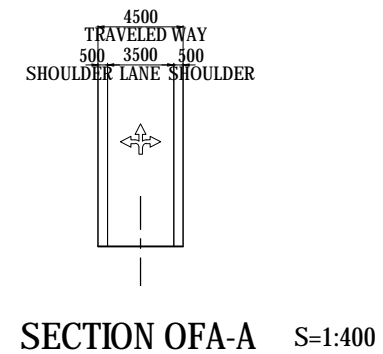
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PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE PLAN & PROFILE (1) Star City Access Line	PACKAGE 1 DWG No. P1-RD-2000	
				PREPARED BY	M. TOMITA				27 NOV. 2017
				CHECKED BY	T. HAYAKAWA				28 NOV. 2017
				APPROVED BY	Y. SANO				29 NOV. 2017

PLAN & PROFILE (2) Thilawa Access Line

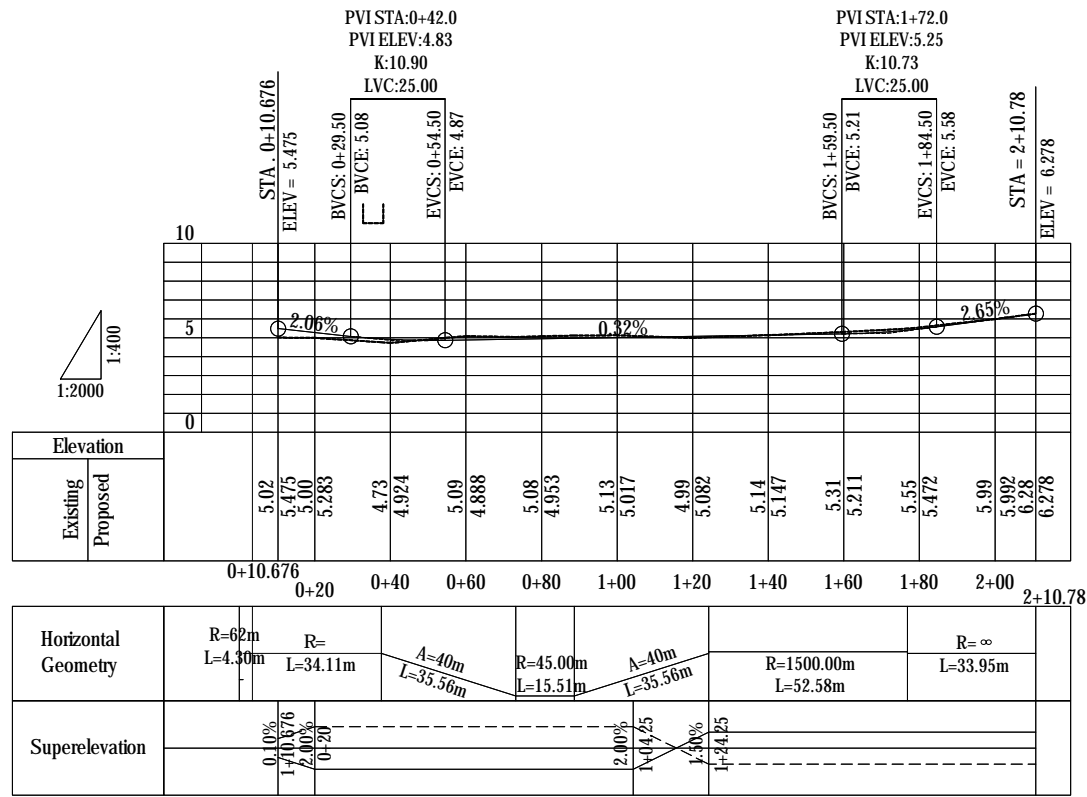


PROFILE SCALE H=1:2000, V=1:400

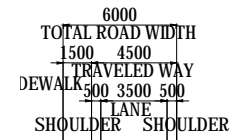


PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	ICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE PLAN & PROFILE (2) Thilawa Access Line	PACKAGE 1 DWG No. P1-RD-2010	
				PREPARED BY	M. TOMITA				27 NOV. 2017
				CHECKED BY	T. HAYAKAWA				28 NOV. 2017
				APPROVED BY	Y. SANO				29 NOV. 2017

PLAN & PROFILE (3) Yangon Access Line

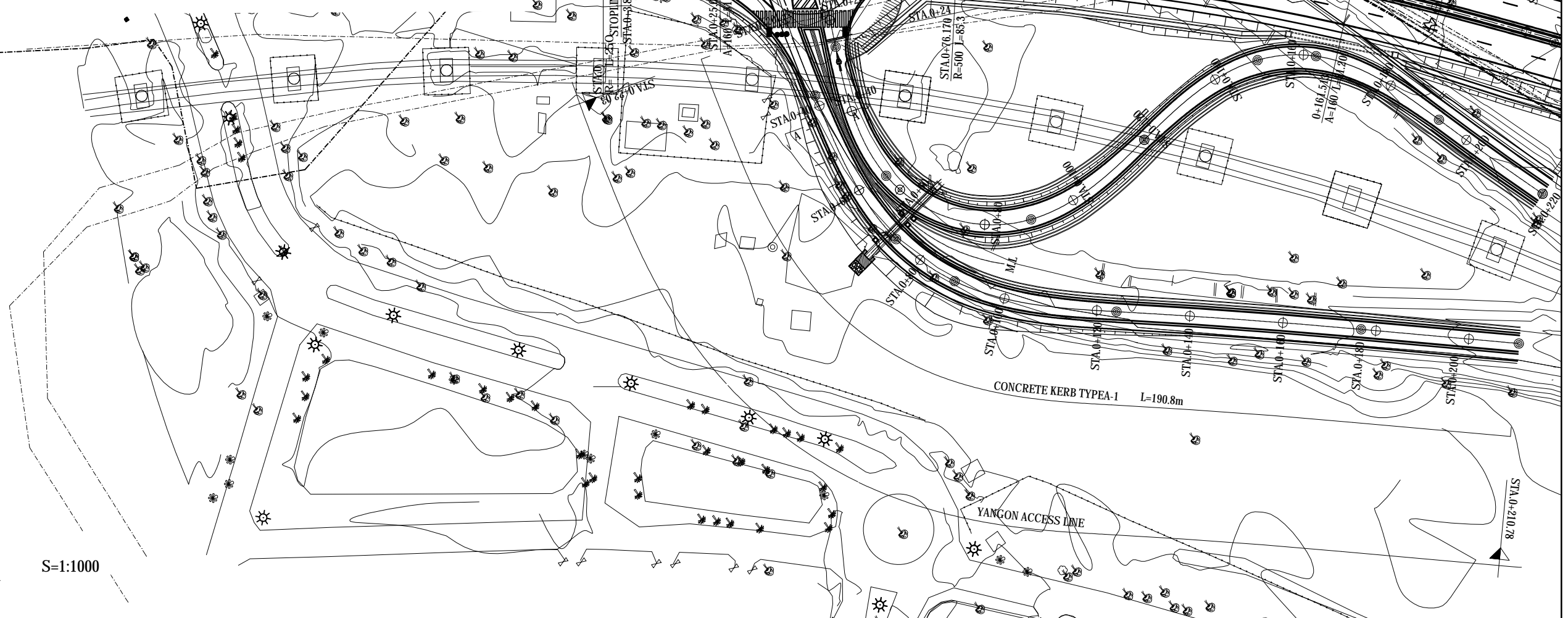


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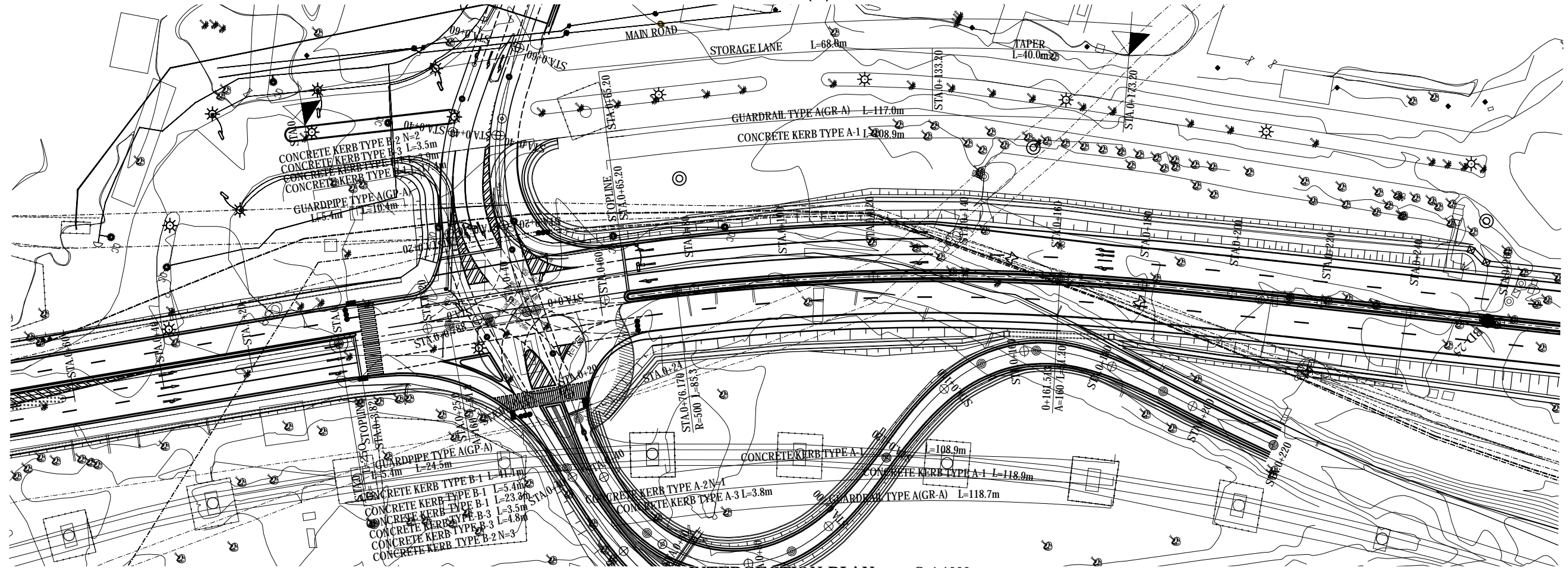
SECTION OF A-A S=1:400

INTERSECTION PLAN S=1:1000

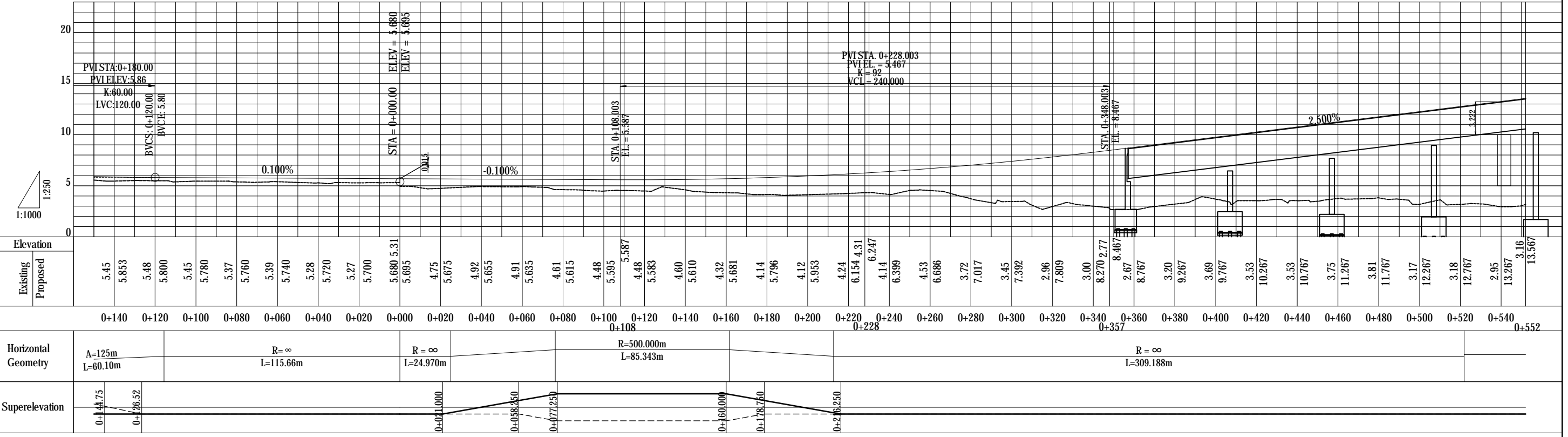


PROJECT NAME	FINANCED BY	COUNTERPART	IECA STUDY TEAM	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE
DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	JICA JAPAN INTERNATIONAL COOPERATION AGENCY	REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	PREPARED BY M. TOMITA	[Signature]	27 NOV. 2017	PLAN & PROFILE (3) Yangon Access Line	1
				CHECKED BY T. HAYAKAWA	[Signature]	28 NOV. 2017		DWG No.
				APPROVED BY Y. SANO	[Signature]	29 NOV. 2017		P1-RD-2020

PLAN & PROFILE (4) Main Road



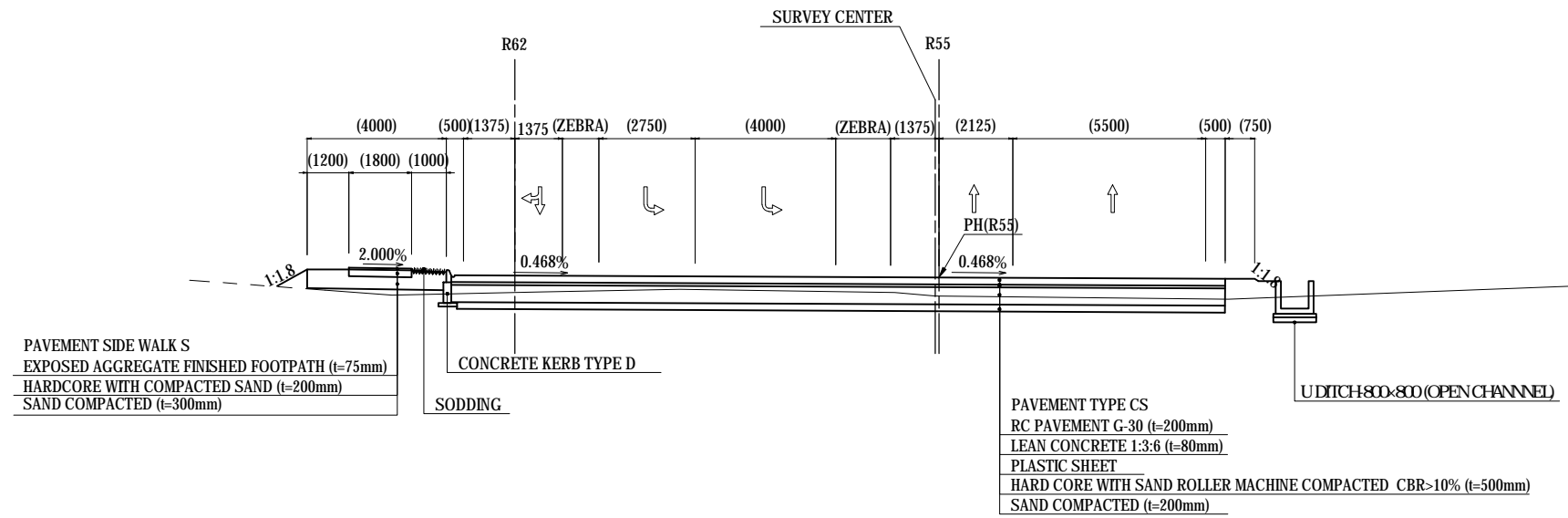
INTERSECTION PLAN S=1:1000



PROFILE OF SUBROAD SCALE H=1:2000,V=1:400

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE PLAN & PROFILE (4) Main Road	PACKAGE 1 DWG No. P1-RD-2025	
				PREPARED BY	M. TOMITA				27 NOV. 2017
				CHECKED BY	T. HAYAKAWA				28 NOV. 2017
				APPROVED BY	Y. SANO				29 NOV. 2017

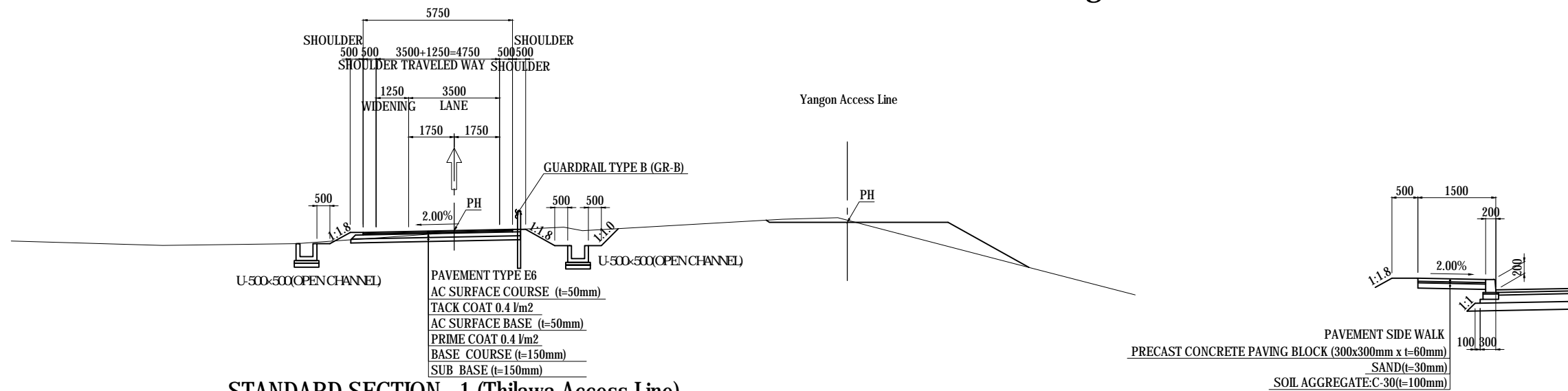
TYPICAL CROSS SECTION (1) Star City Access Line S=1:200



IN/OUT FLOW SECTION OF SIGNALIZED INTERSECTION WITH LEFT TURN LANE

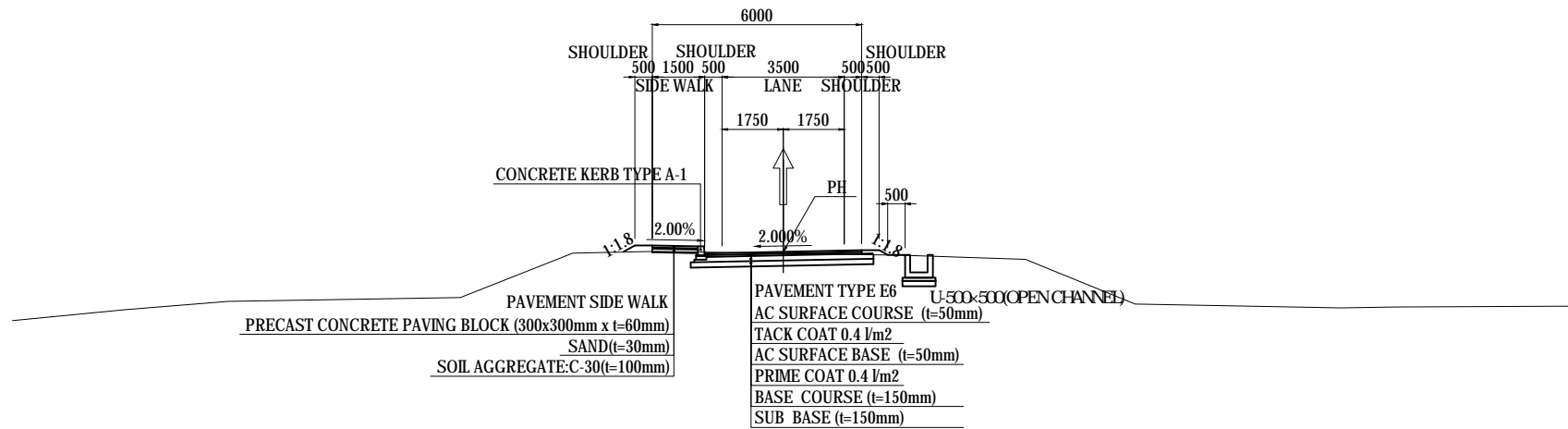
PROJECT NAME	FINANCED BY	COUNTERPART	JICA STUDY TEAM	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE
DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	JAPAN INTERNATIONAL COOPERATION AGENCY	REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	PREPARED BY CHECKED BY APPROVED BY	M. TOMITA T. HAYAKAWA Y. SANO	 	27 NOV. 2017 28 NOV. 2017 29 NOV. 2017	TYPICAL CROSS SECTION (1) Star City Access Line
								1 DWG No. P1-RD-2030

TYPICAL CROSS SECTION (2) Thilawa Access Line / Yangon Access Line S=1:200

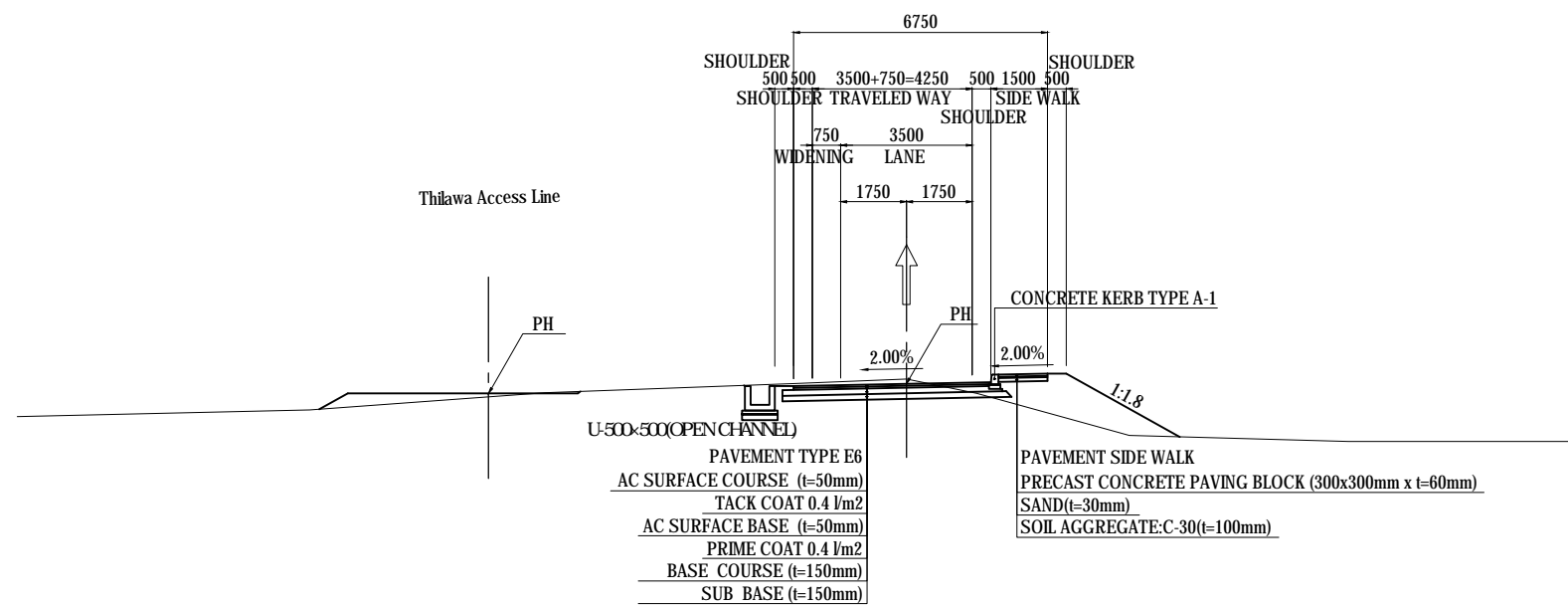


STANDARD SECTION - 1 (Thilawa Access Line)

SIDEWALK STANDARD SECTION S = 1:100



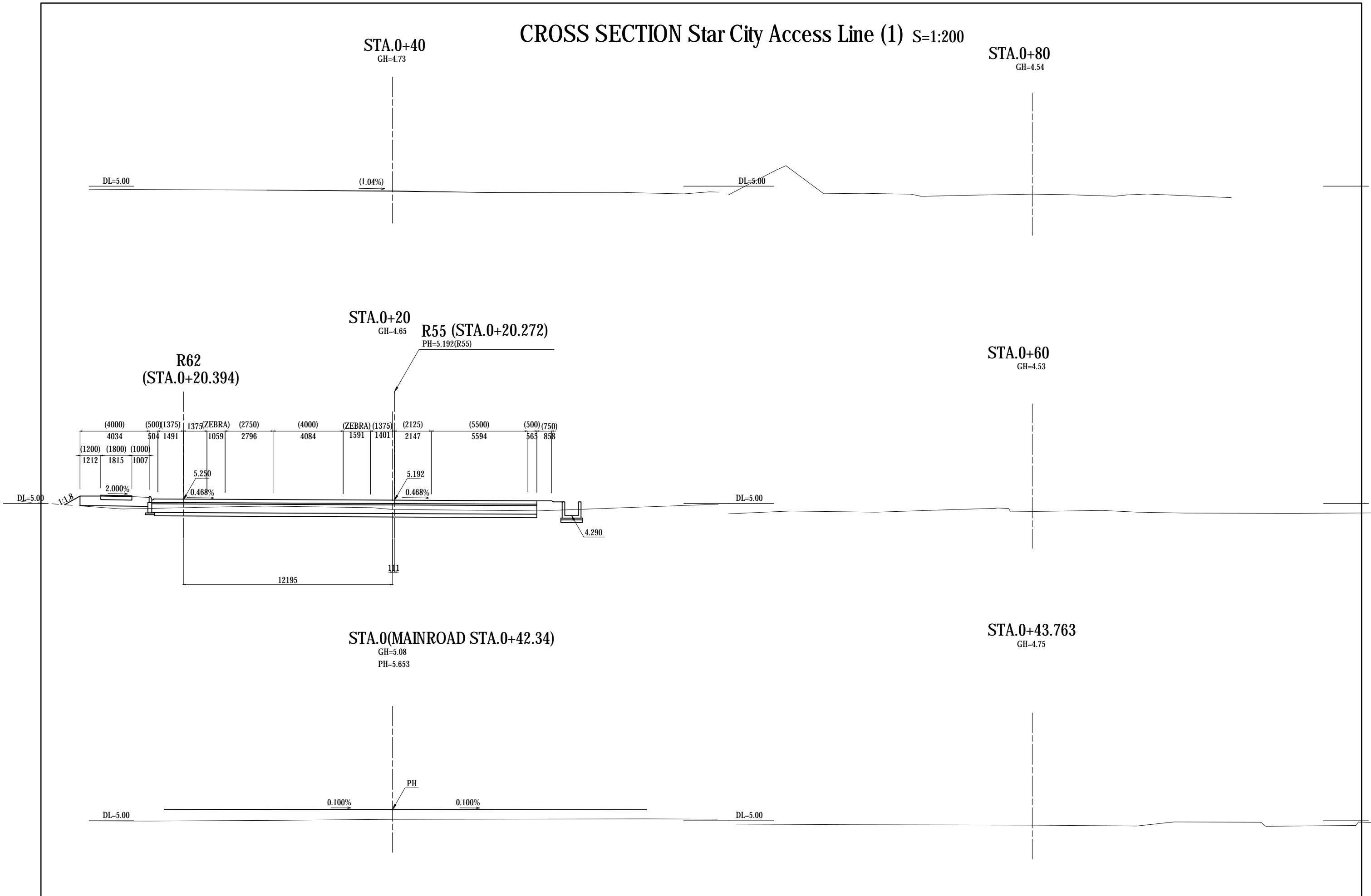
STANDARD SECTION - 2 (Thilawa Access Line)



STANDARD SECTION (Yangon Access Line)

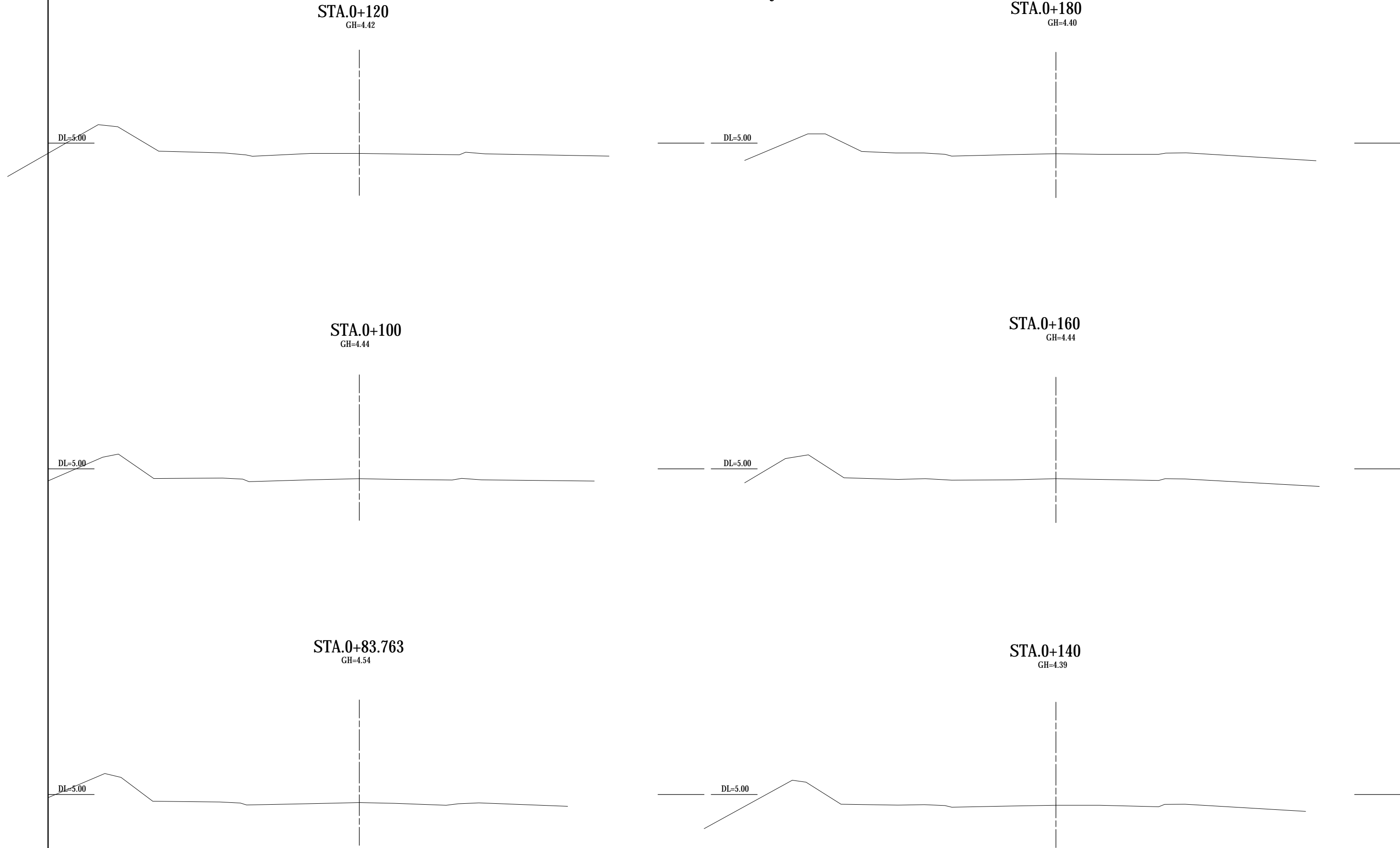
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE TYPICAL CROSS SECTION (2) Thilawa Access Line/Yangon Access Line	PACKAGE 1 DWG No. P1-RD-2040	
				PREPARED BY	M. TOMITA				27 NOV. 2017
				CHECKED BY	T. HAYAKAWA				28 NOV. 2017
				APPROVED BY	Y. SANO				29 NOV. 2017

CROSS SECTION Star City Access Line (1) S=1:200



<small>PROJECT NAME</small> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	<small>FINANCED BY</small> JAPAN INTERNATIONAL COOPERATION AGENCY	<small>COUNTERPART</small> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	<small>JICA STUDY TEAM</small> NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO.,LTD. NIPPON ENGINEERING CONSULTANTS CO.,LTD.		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;"></th> <th style="width: 15%;">NAME</th> <th style="width: 15%;">SIGNATURE</th> <th style="width: 10%;">DATE</th> </tr> </thead> <tbody> <tr> <td>PREPARED BY</td> <td>M. TOMITA</td> <td></td> <td>27 NOV. 2017</td> </tr> <tr> <td>CHECKED BY</td> <td>T. HAYAKAWA</td> <td></td> <td>28 NOV. 2017</td> </tr> <tr> <td>APPROVED BY</td> <td>Y. SANO</td> <td></td> <td>29 NOV. 2017</td> </tr> </tbody> </table>		NAME	SIGNATURE	DATE	PREPARED BY	M. TOMITA		27 NOV. 2017	CHECKED BY	T. HAYAKAWA		28 NOV. 2017	APPROVED BY	Y. SANO		29 NOV. 2017	<small>DRAWING TITLE</small> CROSS SECTION Star City Access Line (1)	<small>PACKAGE</small> 1 DWG No. P1-RD-2050
	NAME	SIGNATURE	DATE																				
PREPARED BY	M. TOMITA		27 NOV. 2017																				
CHECKED BY	T. HAYAKAWA		28 NOV. 2017																				
APPROVED BY	Y. SANO		29 NOV. 2017																				

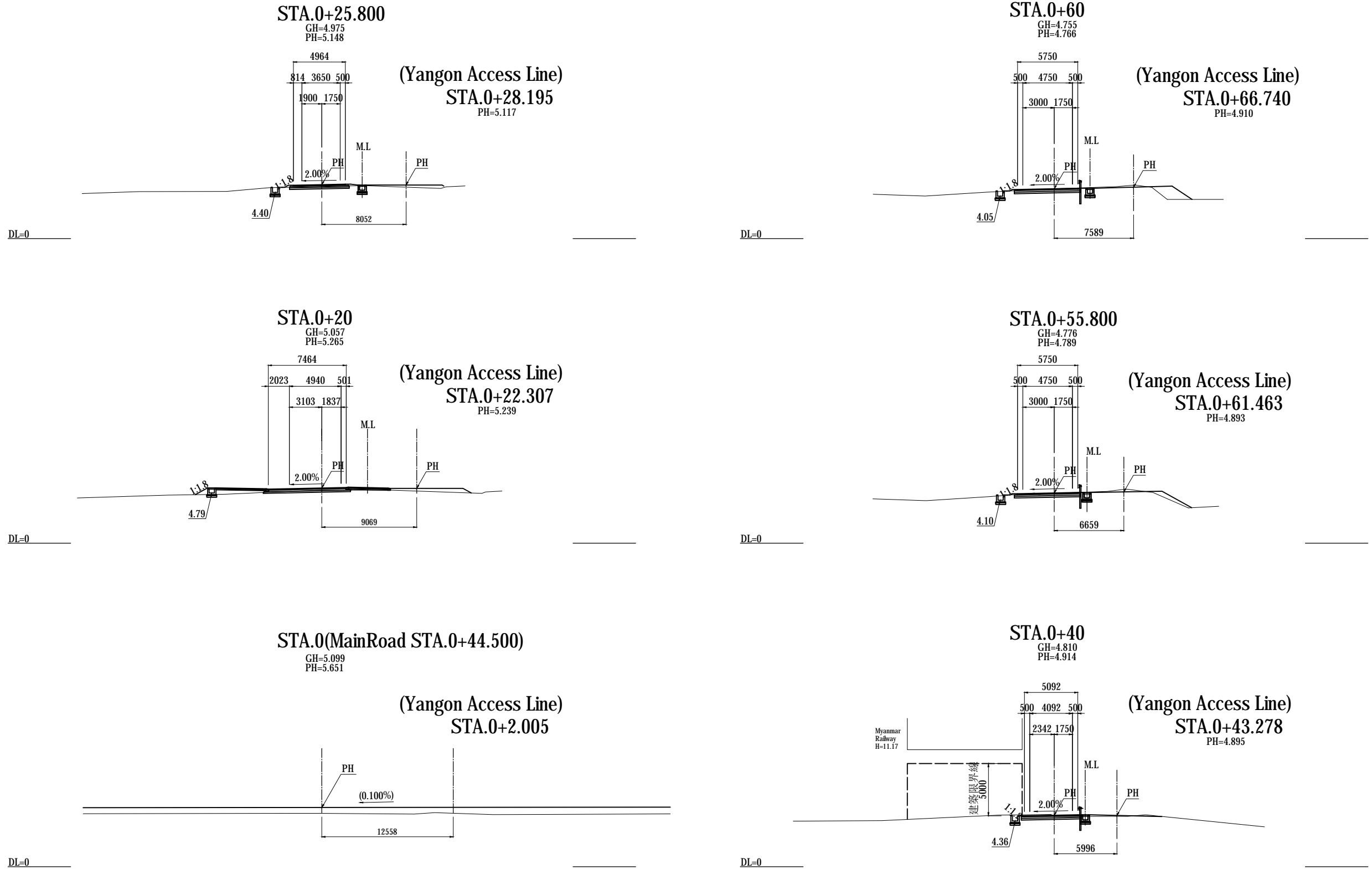
CROSS SECTION Star City Access Line (2) S=1:200



<small>PROJECT NAME</small> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	<small>FINANCED BY</small> JAPAN INTERNATIONAL COOPERATION AGENCY	<small>COUNTERPART</small> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	<small>JICA STUDY TEAM</small> NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO.,LTD. NIPPON ENGINEERING CONSULTANTS CO.,LTD.		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>NAME</th> <th>SIGNATURE</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>PREPARED BY</td> <td>M. TOMITA</td> <td></td> <td>27 NOV. 2017</td> </tr> <tr> <td>CHECKED BY</td> <td>T. HAYAKAWA</td> <td></td> <td>28 NOV. 2017</td> </tr> <tr> <td>APPROVED BY</td> <td>Y. SANO</td> <td></td> <td>29 NOV. 2017</td> </tr> </tbody> </table>		NAME	SIGNATURE	DATE	PREPARED BY	M. TOMITA		27 NOV. 2017	CHECKED BY	T. HAYAKAWA		28 NOV. 2017	APPROVED BY	Y. SANO		29 NOV. 2017	<small>DRAWING TITLE</small> CROSS SECTION Star City Access Line (2)	<small>PACKAGE</small> 1 DWG No. P1-RD-2060
	NAME	SIGNATURE	DATE																				
PREPARED BY	M. TOMITA		27 NOV. 2017																				
CHECKED BY	T. HAYAKAWA		28 NOV. 2017																				
APPROVED BY	Y. SANO		29 NOV. 2017																				

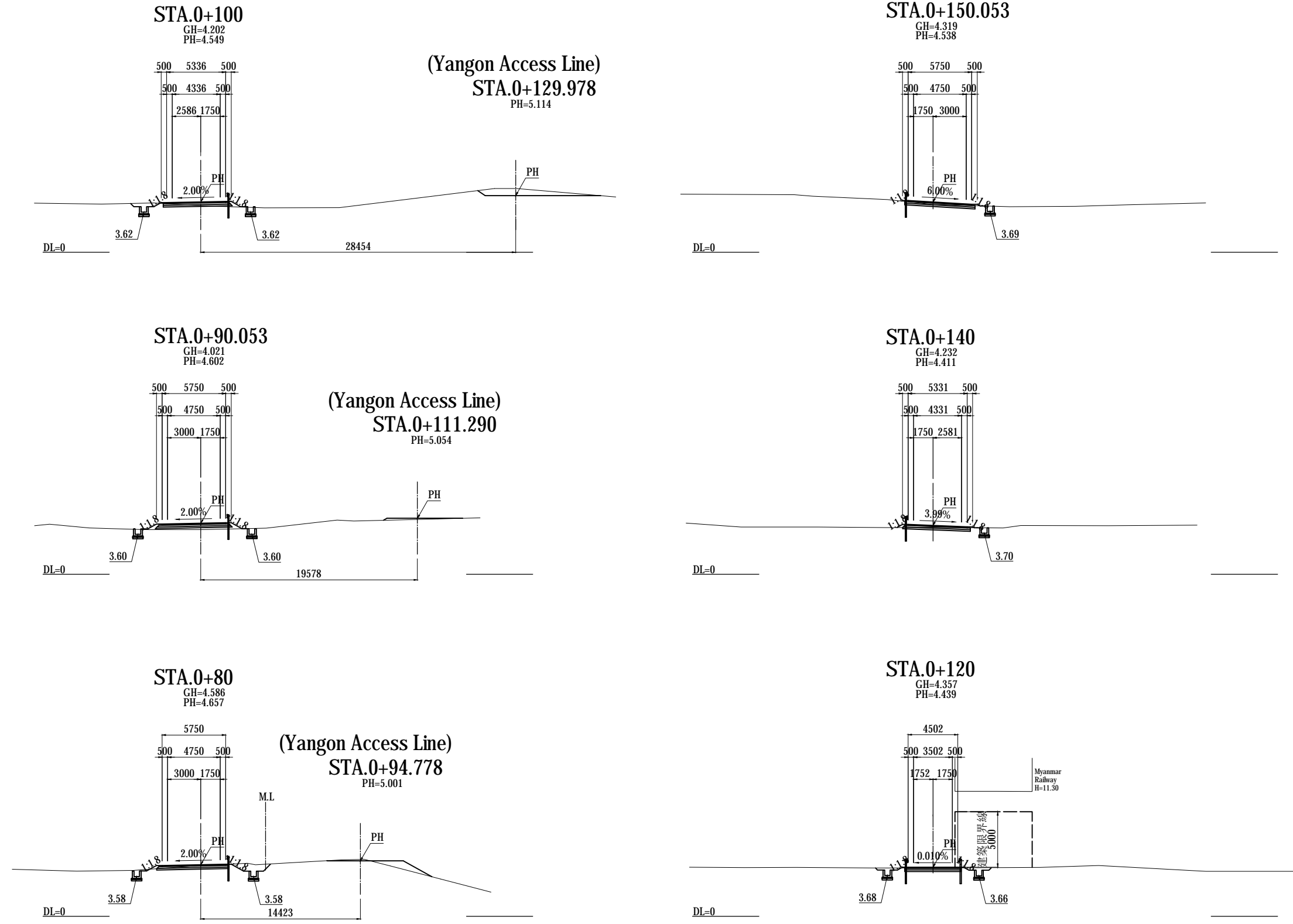
CROSS SECTION Thilawa Access Line(1)

S=1:400



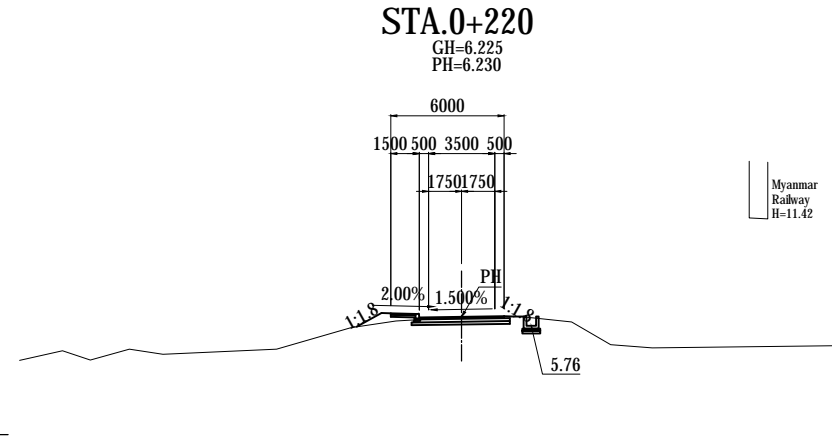
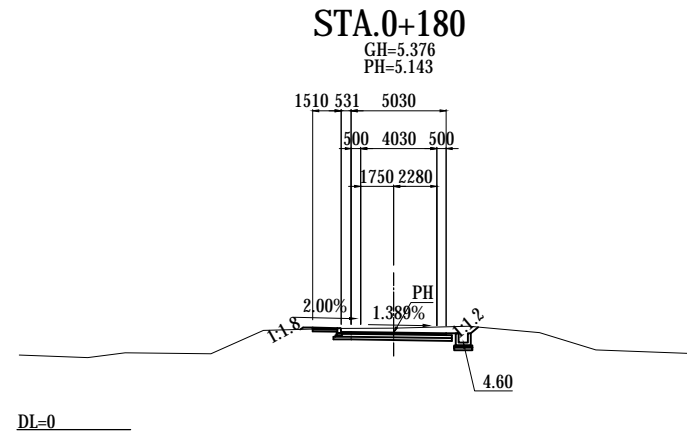
PROJECT NAME	FINANCED BY	COUNTERPART	JICA STUDY TEAM	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE
DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	JICA JAPAN INTERNATIONAL COOPERATION AGENCY	REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO.,LTD. NIPPON ENGINEERING CONSULTANTS CO.,LTD.	M. TOMITA		27 NOV. 2017	CROSS SECTION Thilawa Access Line(1)	1
				T. HAYAKAWA		28 NOV. 2017		DWG No.
				Y. SANO		29 NOV. 2017		P1-RD-2070

CROSS SECTION Thilawa Access Line(2) S=1:400

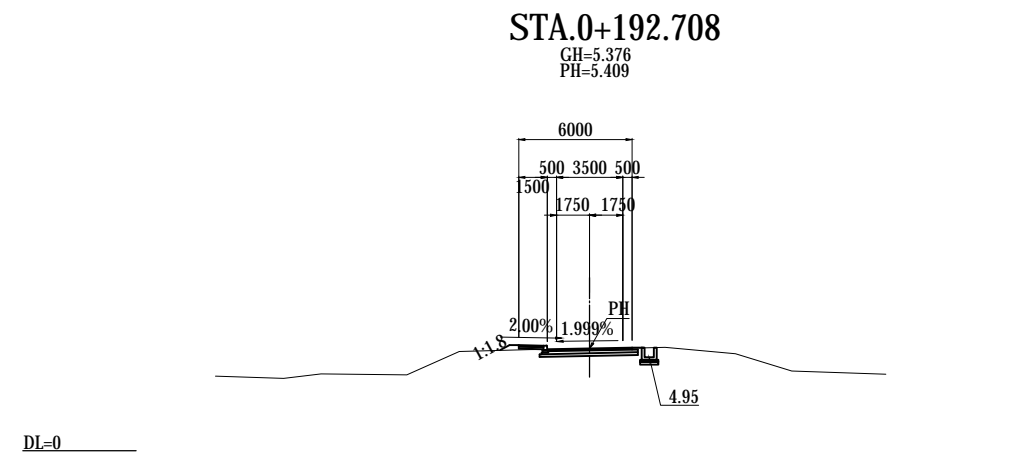
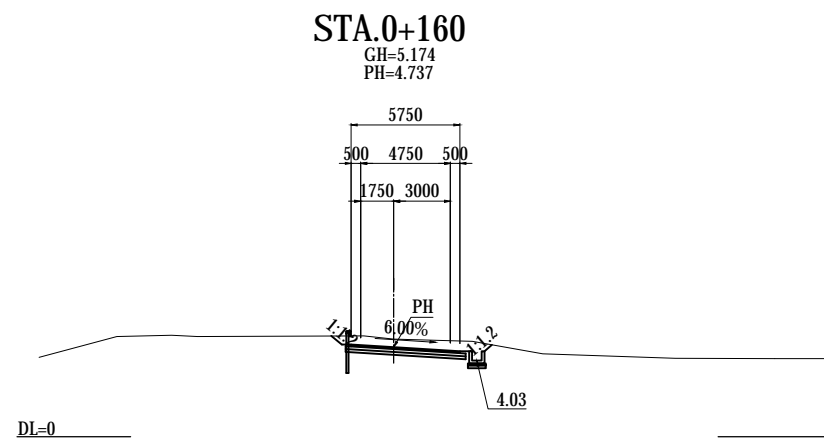
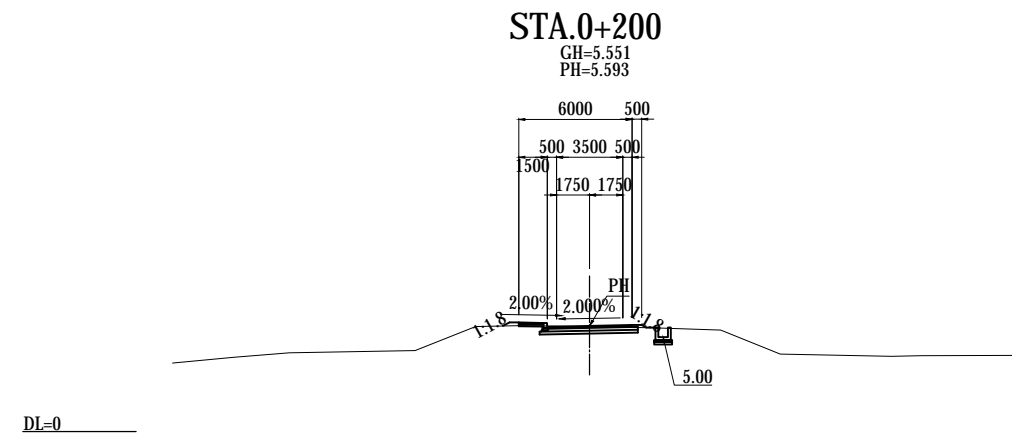
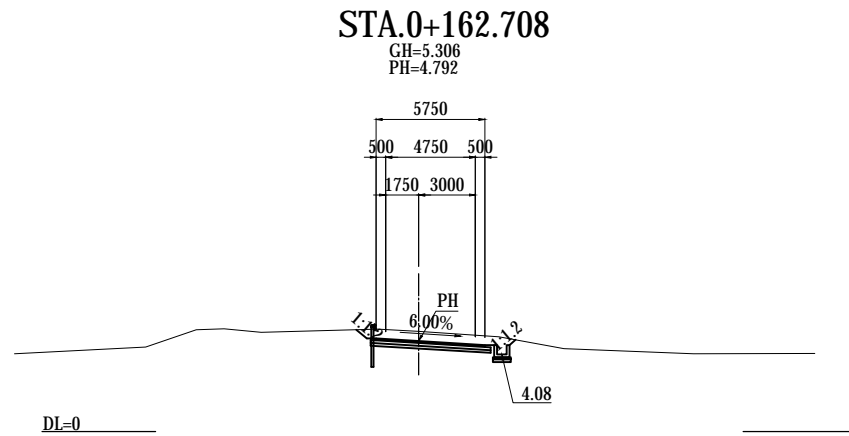


PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.		NAME M. TOMITA T. HAYAKAWA Y. SANO	SIGNATURE 	DATE 27 NOV. 2017 28 NOV. 2017 29 NOV. 2017	DRAWING TITLE CROSS SECTION Thilawa Access Line(2)	PACKAGE 1 DWG No. P1-RD-2080
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CROSS SECTION Thilawa Access Line(3) S=1:400

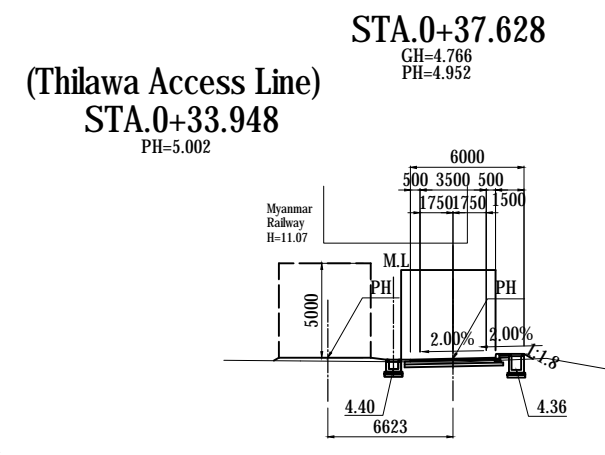
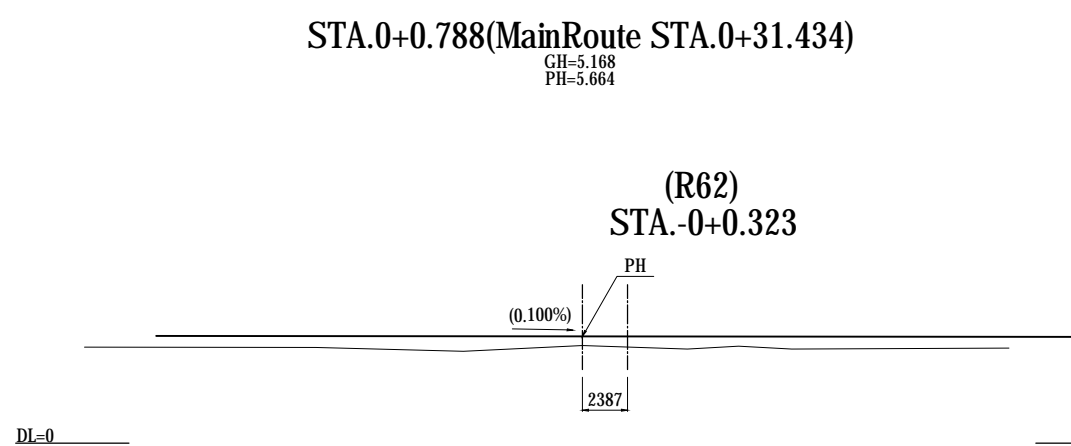
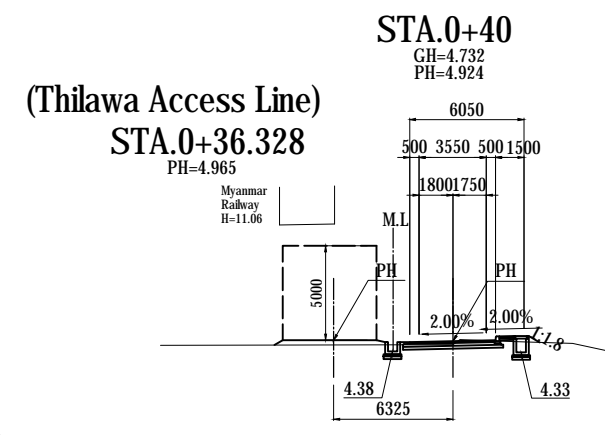
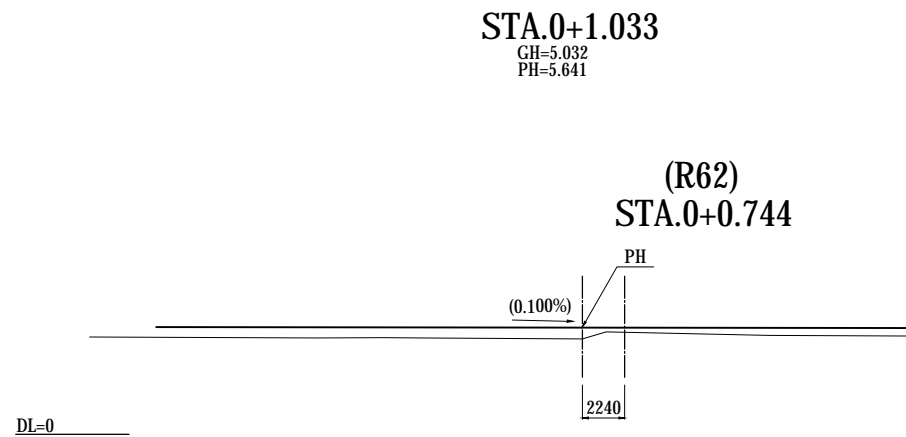
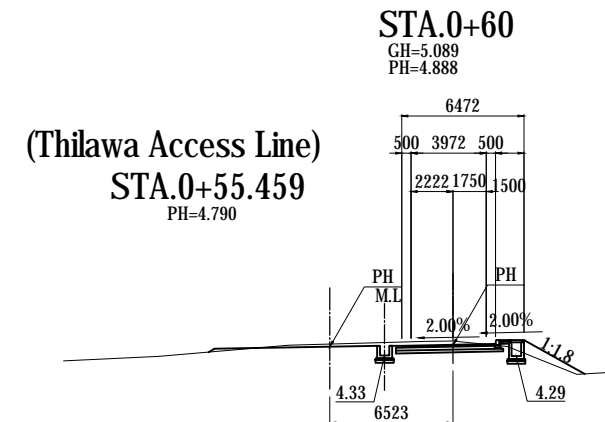
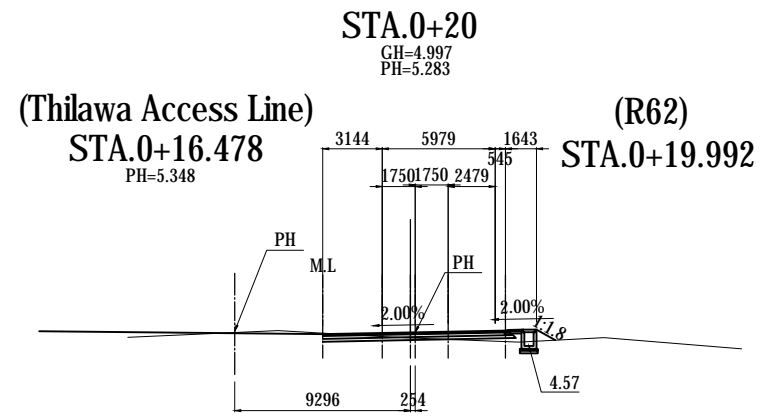


Myanmar
Railway
H=11.42



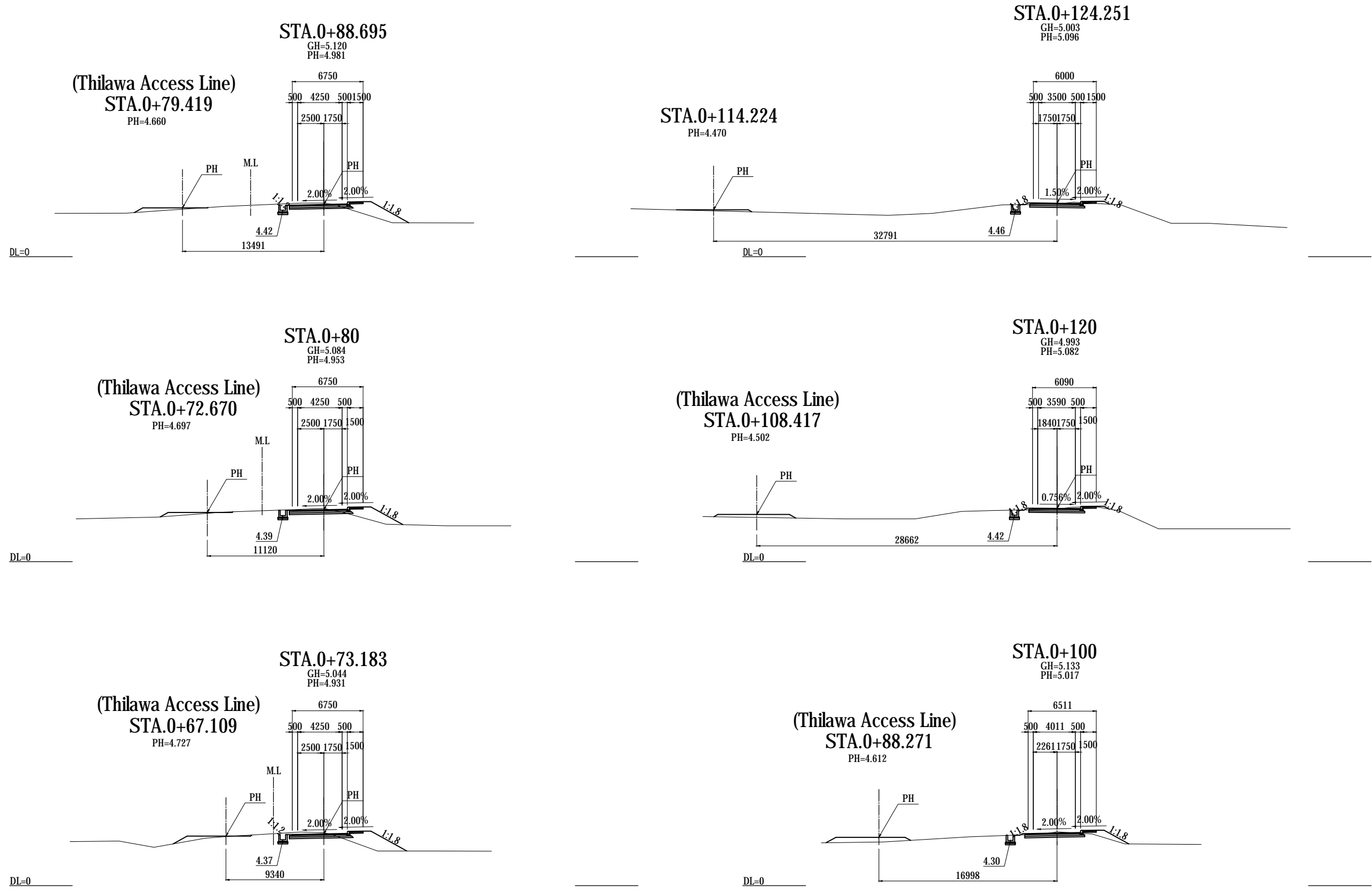
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE CROSS SECTION Thilawa Access Line(3)	PACKAGE	
				PREPARED BY	M. TOMITA			27 NOV. 2017	1
				CHECKED BY	T. HAYAKAWA			28 NOV. 2017	DWG No.
				APPROVED BY	Y. SANO			29 NOV. 2017	P1-RD-2090

CROSS SECTION Yangon Access Line (1) S=1:400



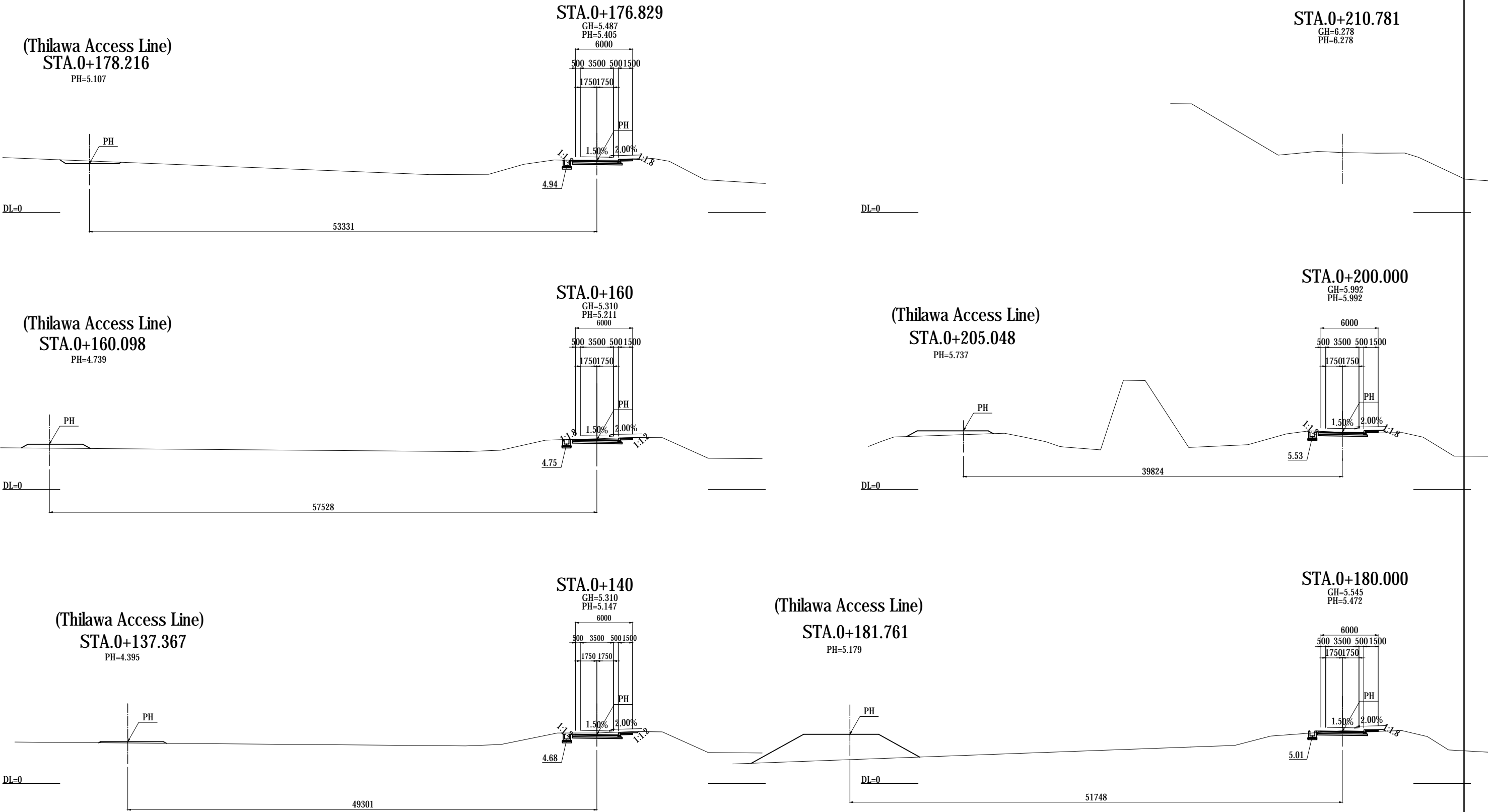
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	PREPARED BY M. TOMITA	SIGNATURE 	DATE 27 NOV. 2017	DRAWING TITLE CROSS SECTION Yangon Access Line (1)	PACKAGE 1
				CHECKED BY T. HAYAKAWA		28 NOV. 2017		DWG No.
				APPROVED BY Y. SANO		29 NOV. 2017		PI-RD-2100

CROSS SECTION Yangon Access Line (2) S=1:400



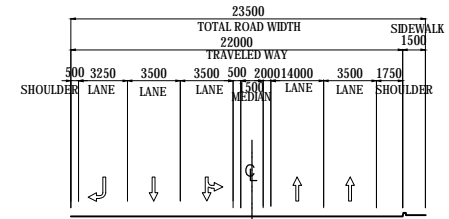
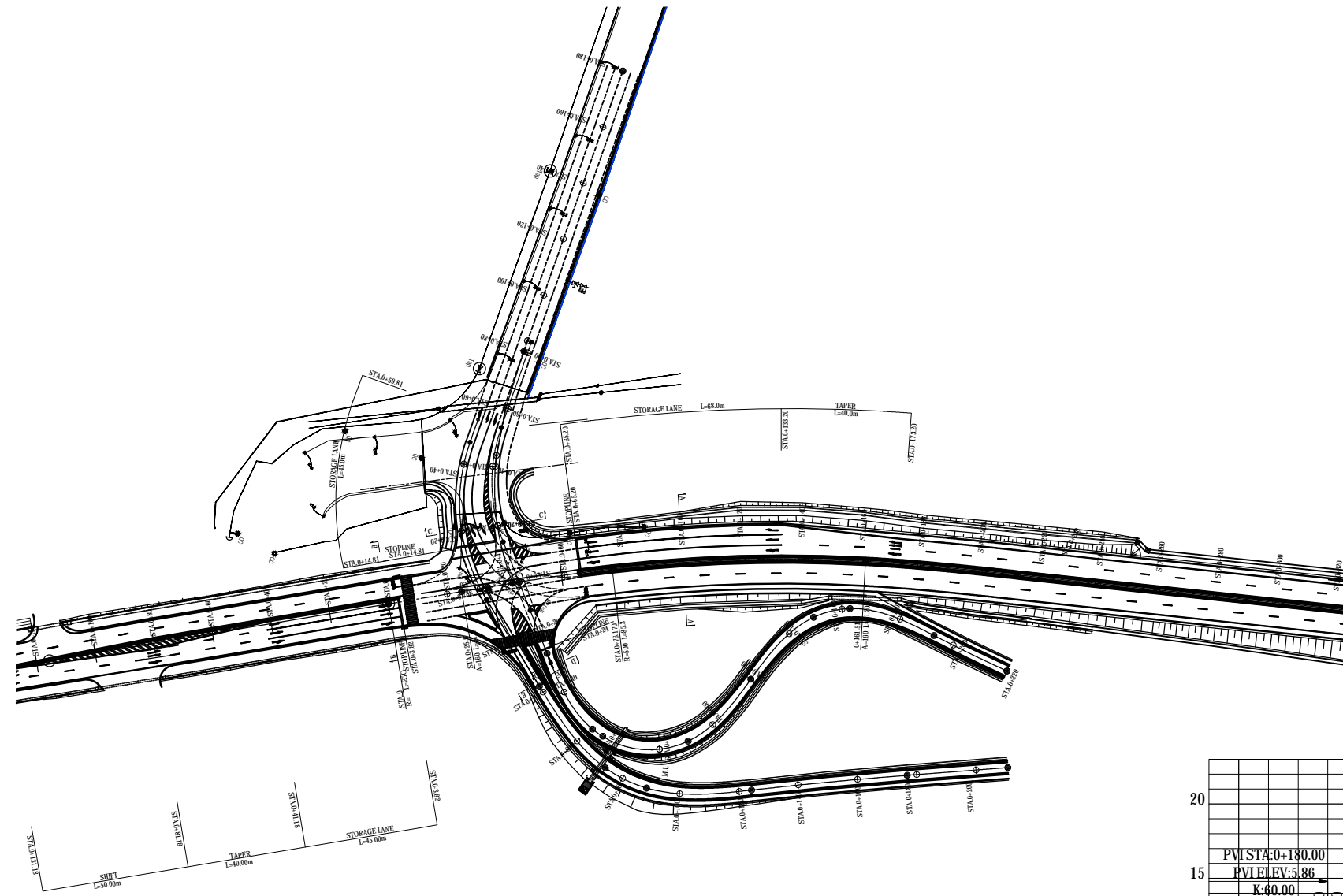
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 15%;">NAME</th> <th style="width: 15%;">SIGNATURE</th> <th style="width: 15%;">DATE</th> </tr> <tr> <td>PREPARED BY</td> <td>M. TOMITA</td> <td>27 NOV. 2017</td> </tr> <tr> <td>CHECKED BY</td> <td>T. HAYAKAWA</td> <td>28 NOV. 2017</td> </tr> <tr> <td>APPROVED BY</td> <td>Y. SANO</td> <td>29 NOV. 2017</td> </tr> </table>	NAME	SIGNATURE	DATE	PREPARED BY	M. TOMITA	27 NOV. 2017	CHECKED BY	T. HAYAKAWA	28 NOV. 2017	APPROVED BY	Y. SANO	29 NOV. 2017	DRAWING TITLE CROSS SECTION Yangon Access Line (2)	PACKAGE 1 DWG No. P1-RD-2110
NAME	SIGNATURE	DATE																
PREPARED BY	M. TOMITA	27 NOV. 2017																
CHECKED BY	T. HAYAKAWA	28 NOV. 2017																
APPROVED BY	Y. SANO	29 NOV. 2017																

CROSS SECTION Yangon Access Line (3) S=1:400



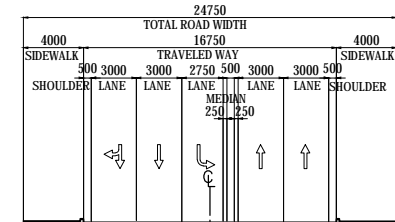
<small>PROJECT NAME</small> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	<small>FINANCED BY</small> JAPAN INTERNATIONAL COOPERATION AGENCY	<small>COUNTERPART</small> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	<small>JICA STUDY TEAM</small> NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">NAME</th> <th style="text-align: left;">SIGNATURE</th> <th style="text-align: left;">DATE</th> </tr> <tr> <td>PREPARED BY M. TOMITA</td> <td></td> <td>27 NOV. 2017</td> </tr> <tr> <td>CHECKED BY T. HAYAKAWA</td> <td></td> <td>28 NOV. 2017</td> </tr> <tr> <td>APPROVED BY Y. SANO</td> <td></td> <td>29 NOV. 2017</td> </tr> </table>	NAME	SIGNATURE	DATE	PREPARED BY M. TOMITA		27 NOV. 2017	CHECKED BY T. HAYAKAWA		28 NOV. 2017	APPROVED BY Y. SANO		29 NOV. 2017	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">DRAWING TITLE</th> <th style="text-align: left;">PACKAGE</th> </tr> <tr> <td rowspan="3" style="text-align: center;">CROSS SECTION Yangon Access Line (3)</td> <td>1</td> </tr> <tr> <td>DWG No.</td> </tr> <tr> <td>P1-RD-2120</td> </tr> </table>	DRAWING TITLE	PACKAGE	CROSS SECTION Yangon Access Line (3)	1	DWG No.	P1-RD-2120
NAME	SIGNATURE	DATE																					
PREPARED BY M. TOMITA		27 NOV. 2017																					
CHECKED BY T. HAYAKAWA		28 NOV. 2017																					
APPROVED BY Y. SANO		29 NOV. 2017																					
DRAWING TITLE	PACKAGE																						
CROSS SECTION Yangon Access Line (3)	1																						
	DWG No.																						
	P1-RD-2120																						

INTERSECTION PLAN , PLOFILE AND SECTION (STA.0+040) S=1:2000



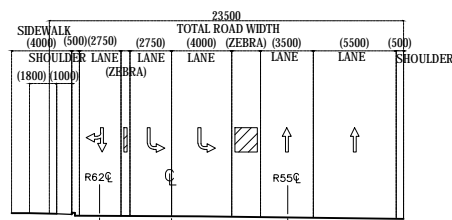
SECTION OF A-A

S=1:400

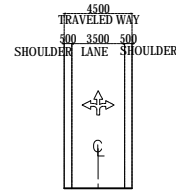


SECTION OF B-B

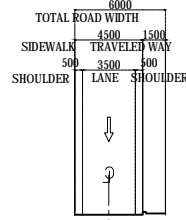
S=1:400



C-C



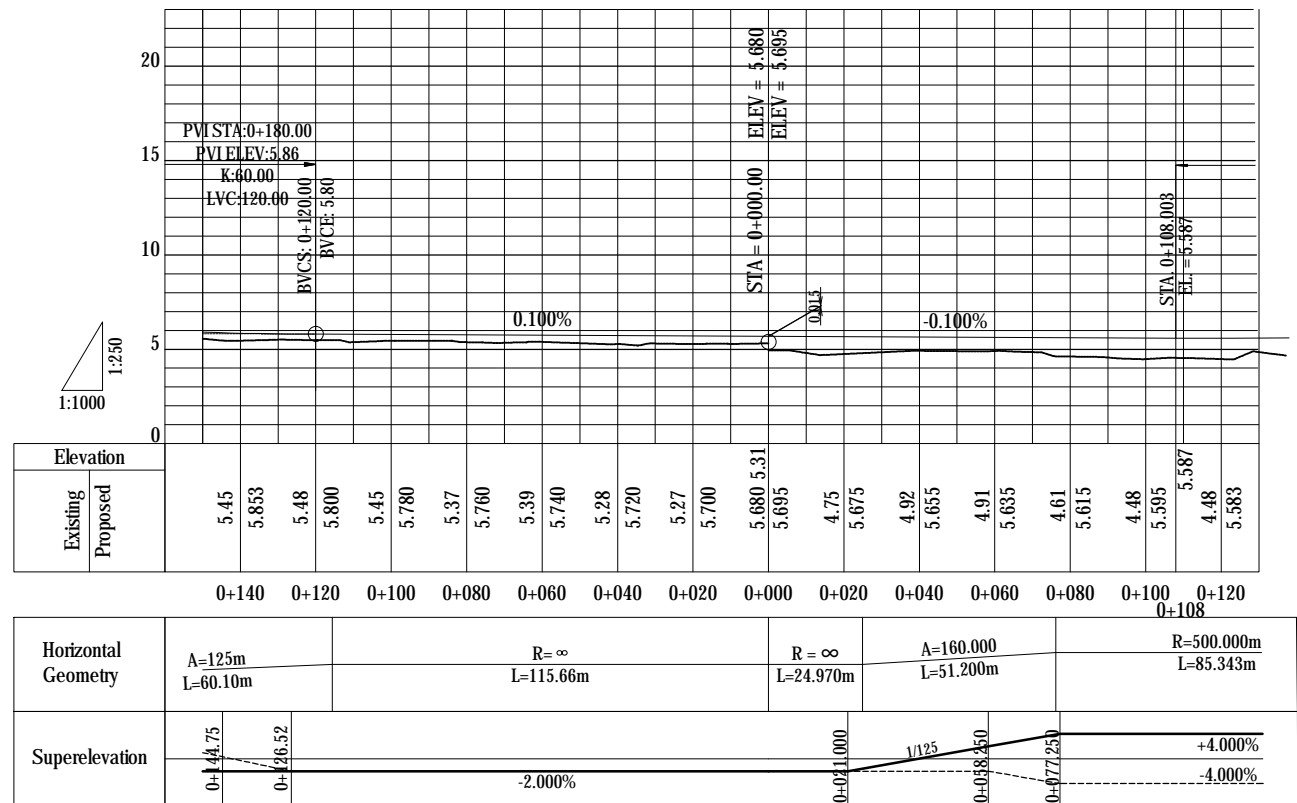
D-D



E-E

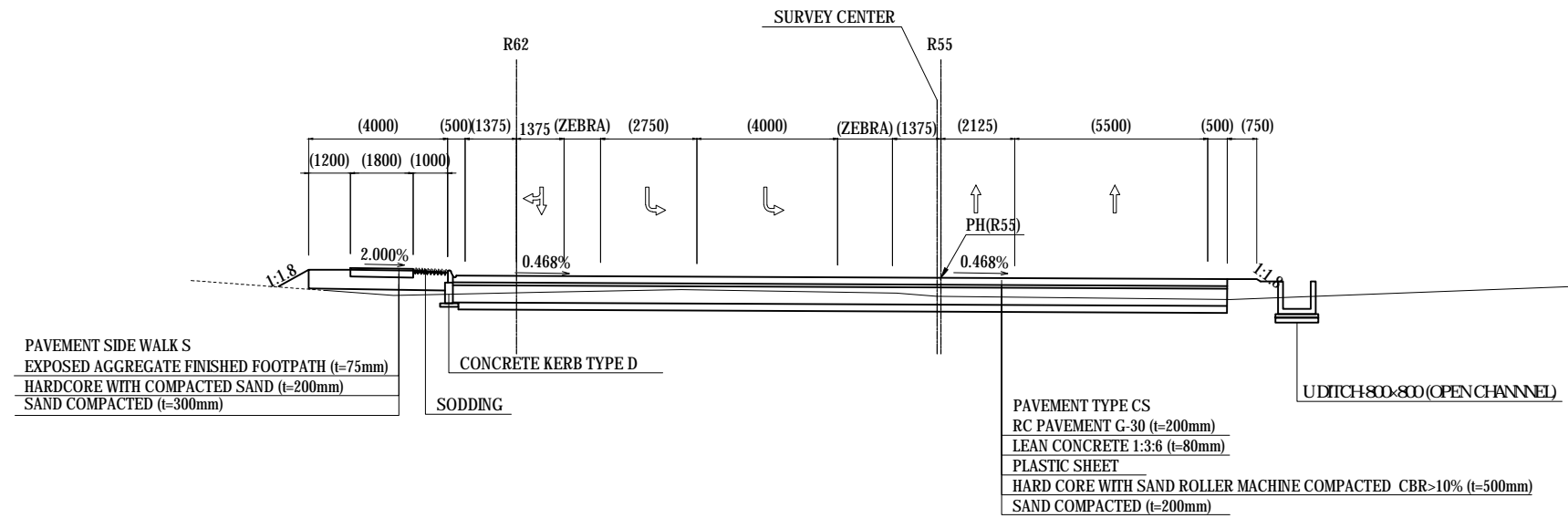
SECTION OF SUBROAD

S=1:400

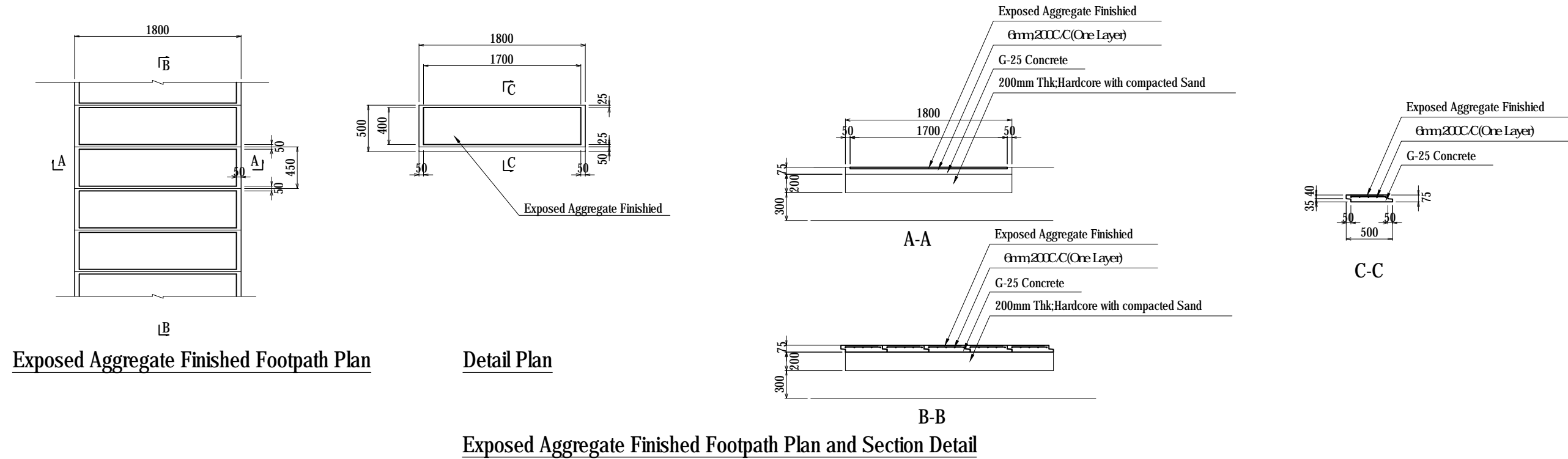


DETAIL OF CONCRETE PAVEMENT (1)

S=1:1000



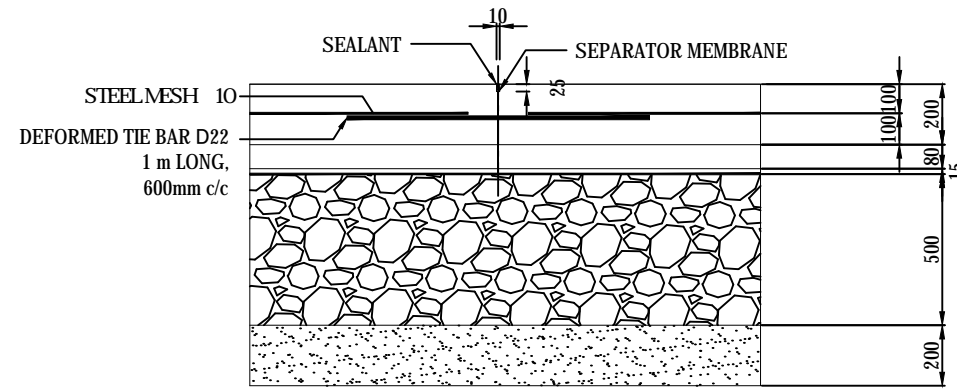
Connection Road Section



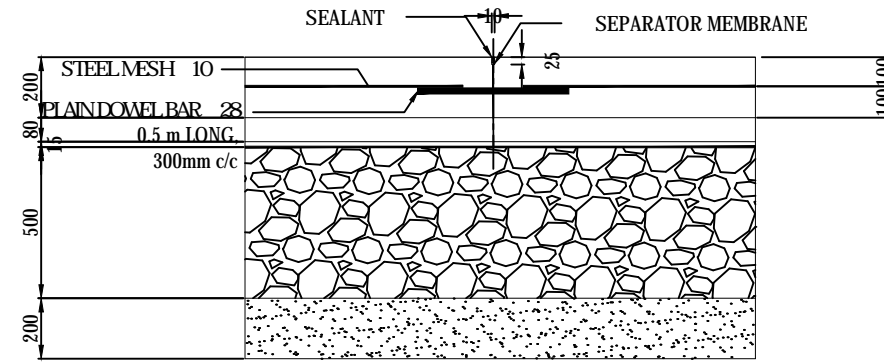
PROJECT NAME	FINANCED BY	COUNTERPART	JICA STUDY TEAM	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE
DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	JICA JAPAN INTERNATIONAL COOPERATION AGENCY	REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	M. TOMITA		27 NOV. 2017	DETAIL OF CONCRETE PAVEMENT (1)	1
				T. HAYAKAWA		28 NOV. 2017		DWG No.
				Y. SANO		29 NOV. 2017		P1-RD-2140

DETAIL OF CONCRETE PAVEMENT (2)

S=1:1000

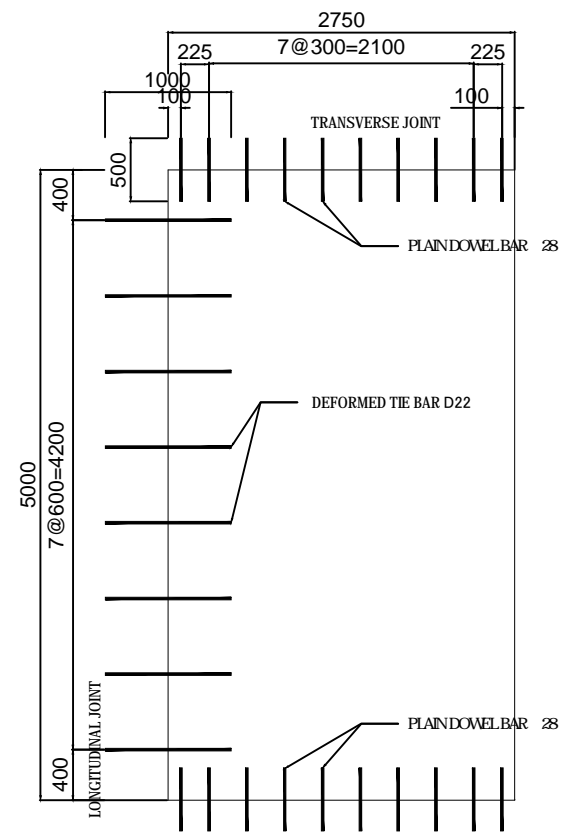


RC Pavement G-30 (t=200mm)
Lean Concrete 1:3:6 (t=80mm)
PLASTIC SHEET
Hard Core with Sand (t=500mm)
Sand Compacted (t=200mm)

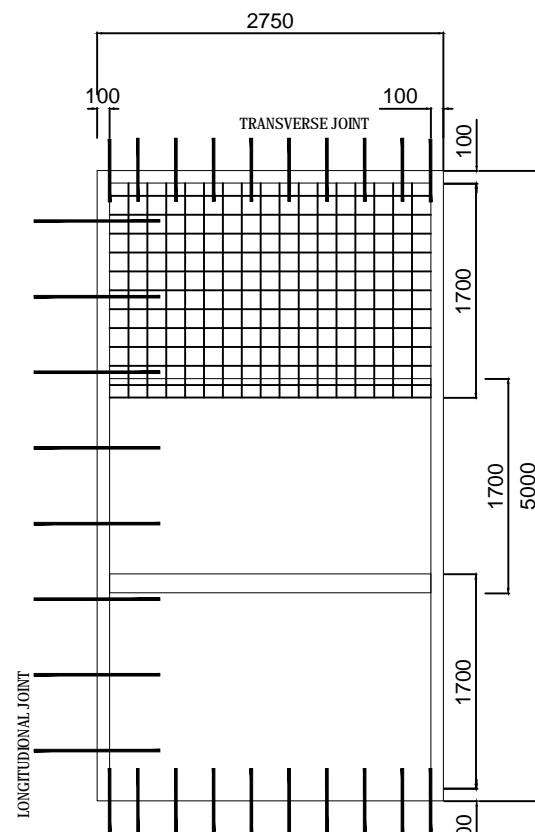


SECTION OF LONGITUDINAL JOINT S = 1:20

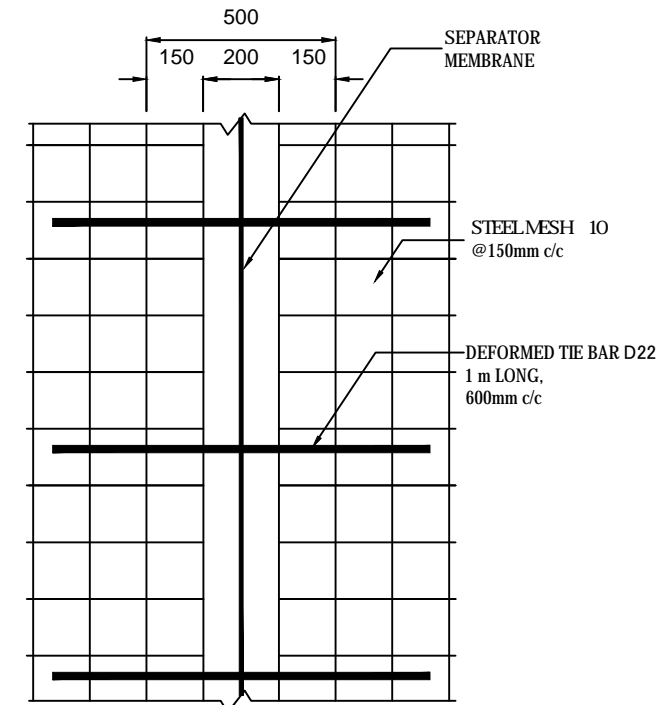
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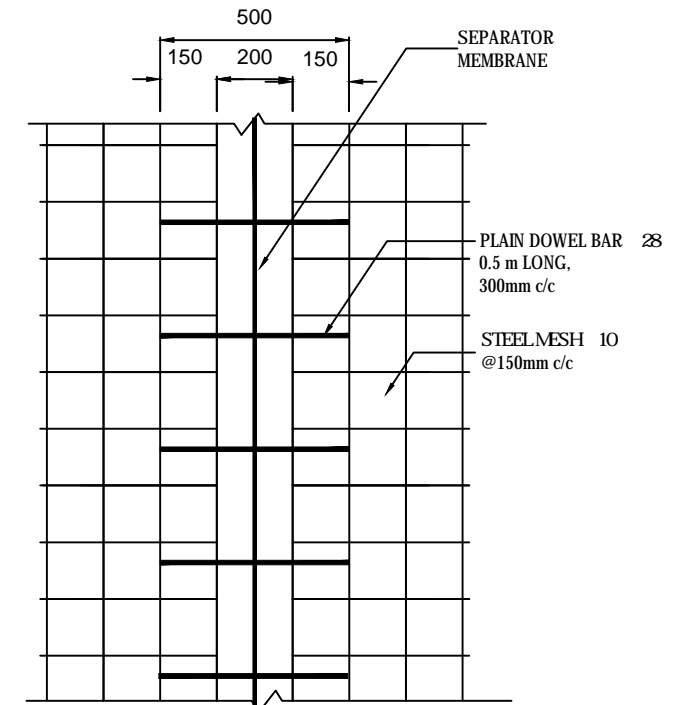
JOINT ARRANGEMENT S = 1:50



STEEL MESH ARRANGEMENT S = 1:50



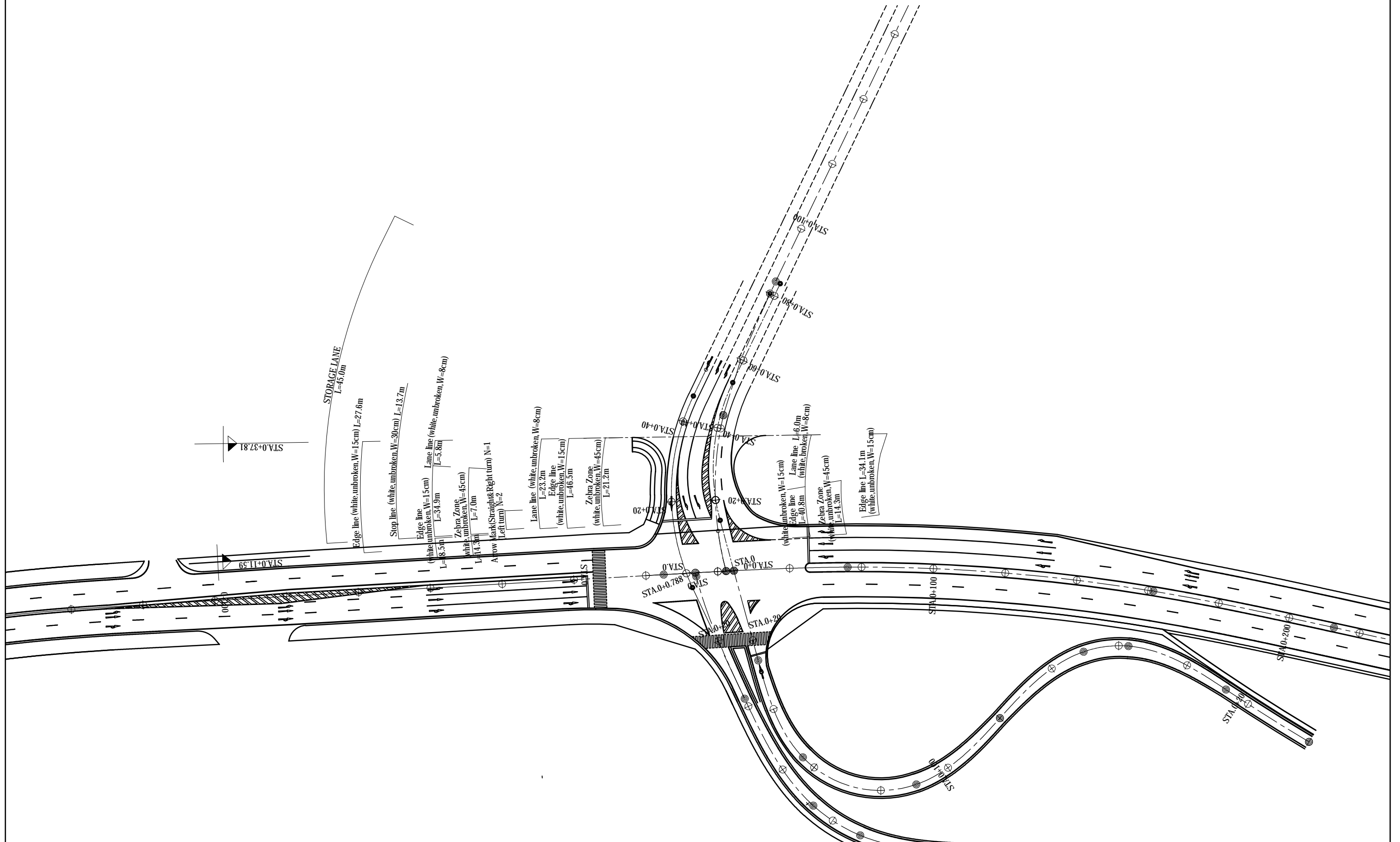
PLAN VIEW OF LONGITUDINAL JOINT S = 1:20



PLAN VIEW OF TRANSVERSE JOINT S = 1:20

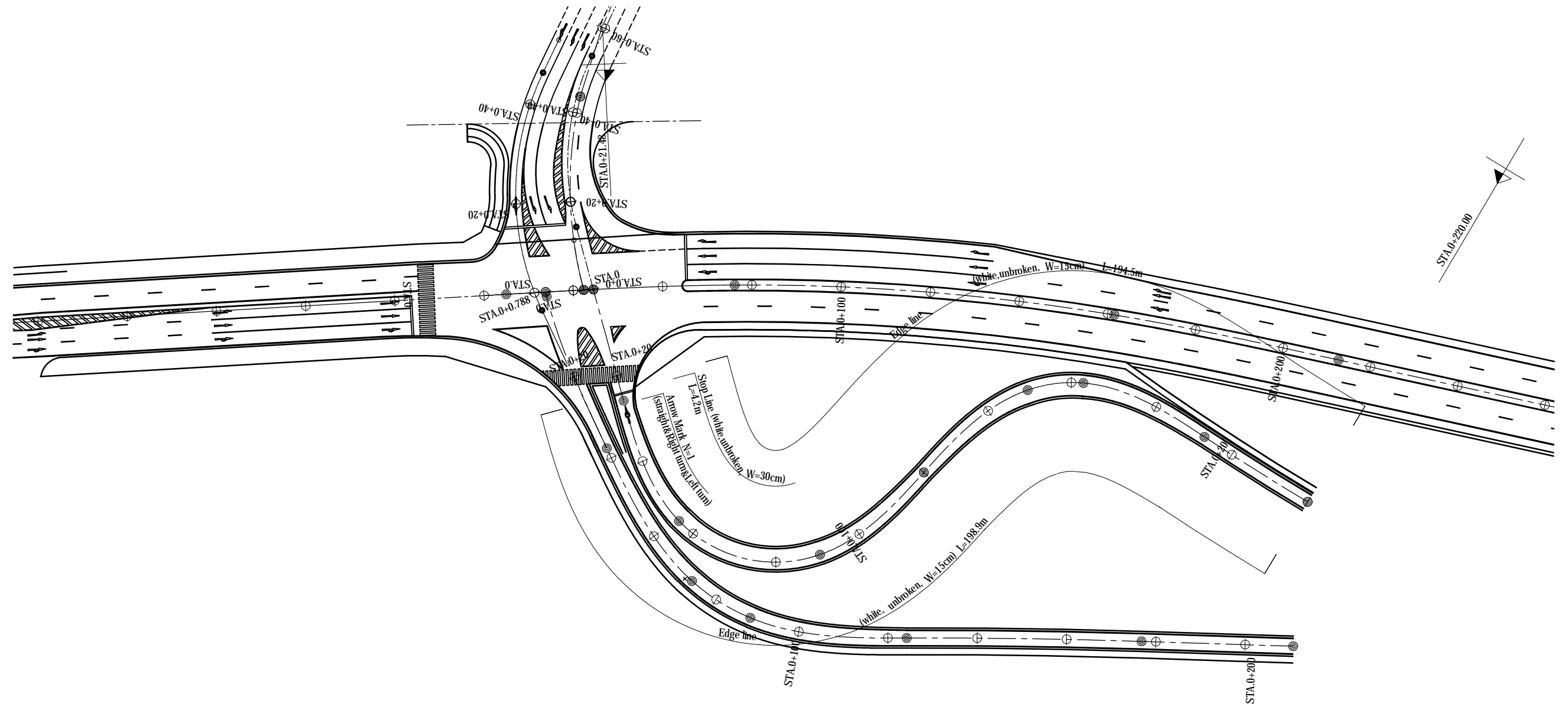
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE DETAIL OF CONCRETE PAVEMENT (2)	PACKAGE	
				PREPARED BY	M. TOMITA			27 NOV. 2017	1
				CHECKED BY	T. HAYAKAWA			28 NOV. 2017	DWG No.
				APPROVED BY	Y. SANO			29 NOV. 2017	P1-RD-2150

ROAD MARKINGS PLAN (1) Star City Access Line S=1:1000



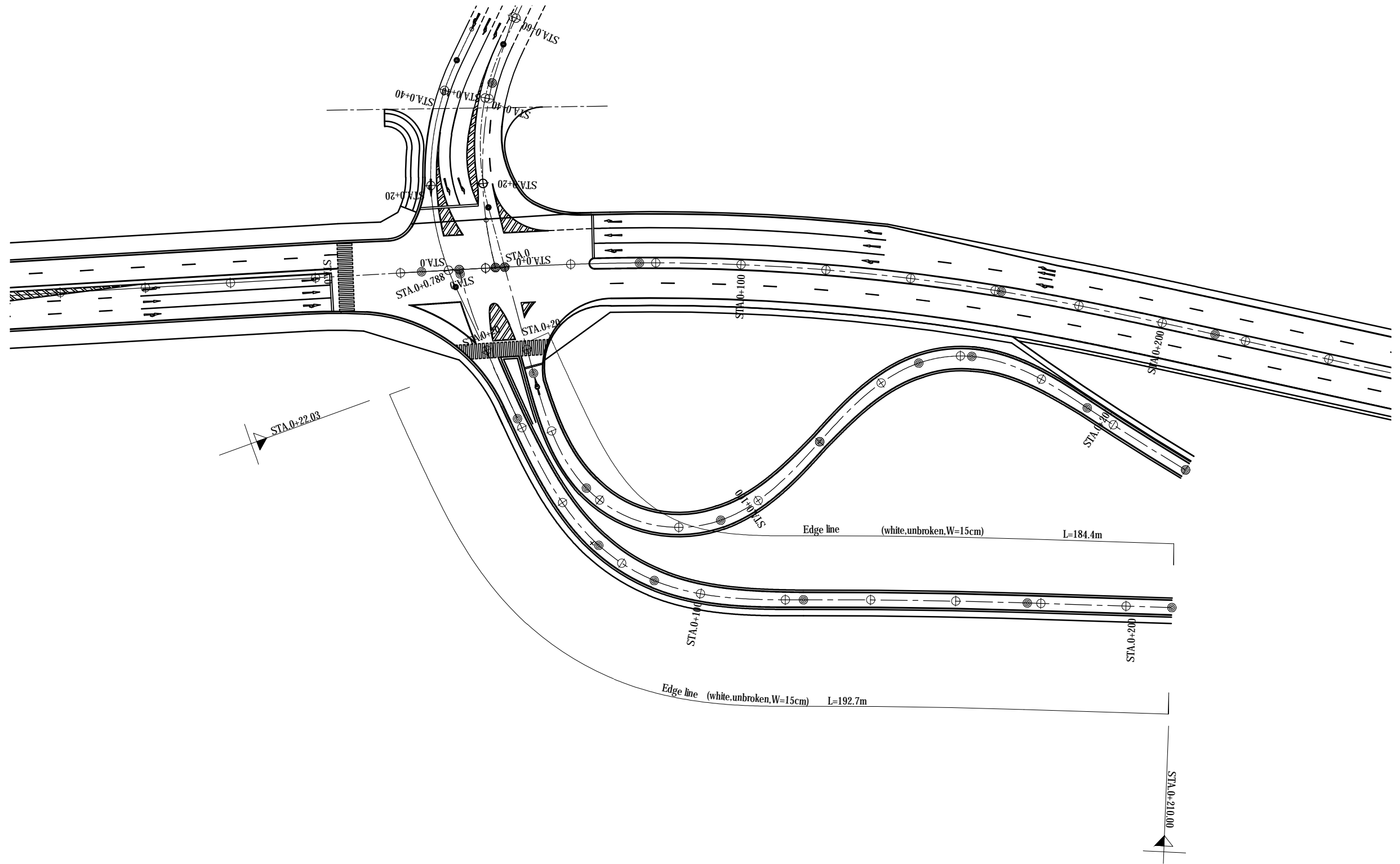
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	PREPARED BY CHECKED BY APPROVED BY	NAME M. TOMITA T. HAYAKAWA Y. SANO	SIGNATURE 	DATE 27 NOV. 2017 28 NOV. 2017 29 NOV. 2017	DRAWING TITLE ROAD MARKINGS PLAN (1) Star City Access Line	PACKAGE 1 DWG No. P1-RD-2160
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ROAD MARKINGS PLAN (2) Thilawa Access Line S=1:1000



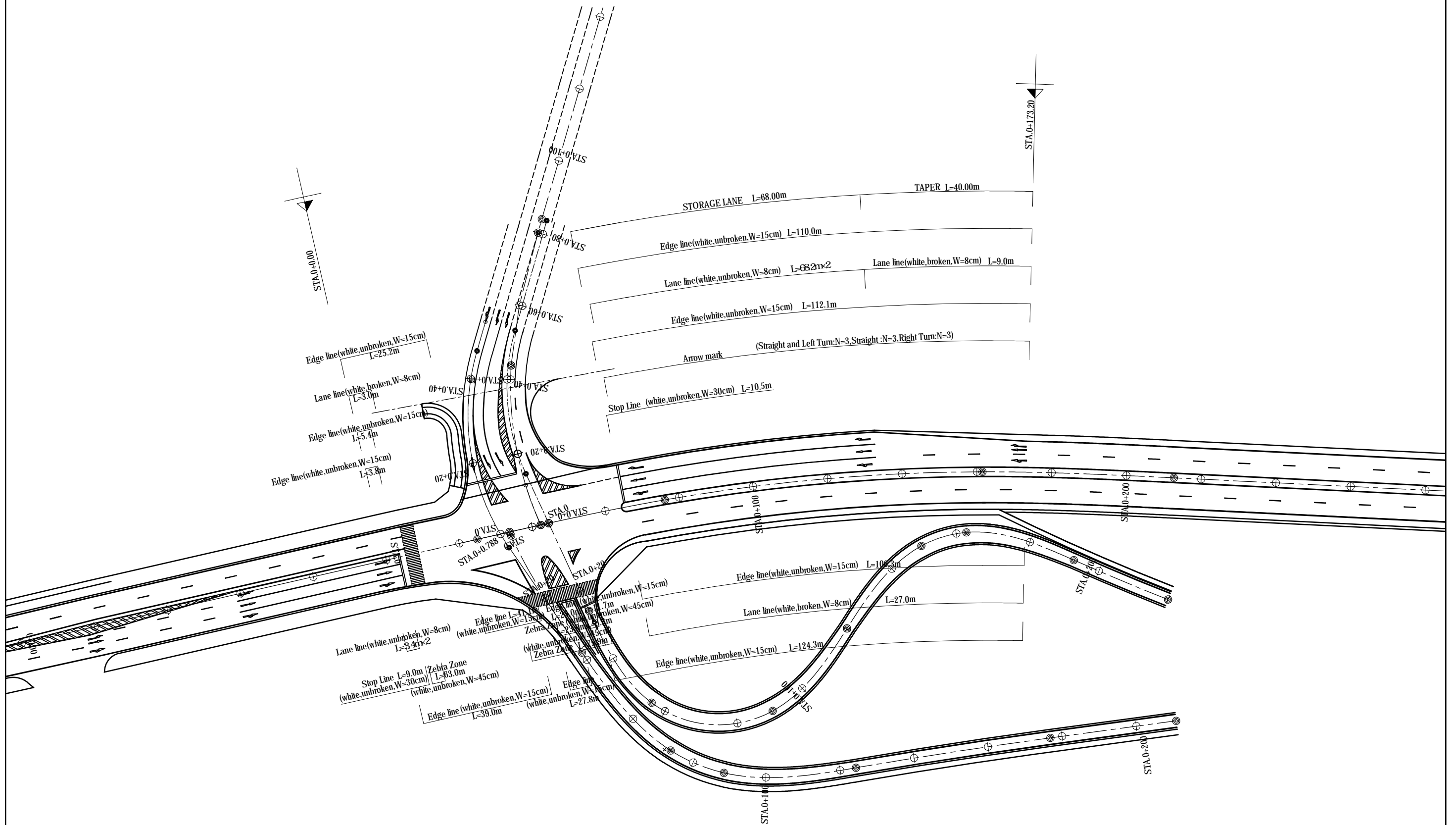
<small>PROJECT NAME</small> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	<small>FINANCED BY</small> JAPAN INTERNATIONAL COOPERATION AGENCY	<small>COUNTERPART</small> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	<small>JICA STUDY TEAM</small> NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO.,LTD. NIPPON ENGINEERING CONSULTANTS CO.,LTD.	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;"></th> <th style="width: 25%;">NAME</th> <th style="width: 25%;">SIGNATURE</th> <th style="width: 35%;">DATE</th> </tr> </thead> <tbody> <tr> <td>PREPARED BY</td> <td>M. TOMITA</td> <td></td> <td>27 NOV. 2017</td> </tr> <tr> <td>CHECKED BY</td> <td>T. HAYAKAWA</td> <td></td> <td>28 NOV. 2017</td> </tr> <tr> <td>APPROVED BY</td> <td>Y. SANO</td> <td></td> <td>29 NOV. 2017</td> </tr> </tbody> </table>		NAME	SIGNATURE	DATE	PREPARED BY	M. TOMITA		27 NOV. 2017	CHECKED BY	T. HAYAKAWA		28 NOV. 2017	APPROVED BY	Y. SANO		29 NOV. 2017	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;">DRAWING TITLE</th> <th style="width: 40%;">PACKAGE</th> </tr> </thead> <tbody> <tr> <td rowspan="3" style="text-align: center; vertical-align: middle;">ROAD MARKINGS PLAN (2) Thilawa Access Line</td> <td style="text-align: center;">1</td> </tr> <tr> <td style="text-align: center;">DWG No.</td> </tr> <tr> <td style="text-align: center;">P1-RD-2170</td> </tr> </tbody> </table>	DRAWING TITLE	PACKAGE	ROAD MARKINGS PLAN (2) Thilawa Access Line	1	DWG No.	P1-RD-2170
	NAME	SIGNATURE	DATE																								
PREPARED BY	M. TOMITA		27 NOV. 2017																								
CHECKED BY	T. HAYAKAWA		28 NOV. 2017																								
APPROVED BY	Y. SANO		29 NOV. 2017																								
DRAWING TITLE	PACKAGE																										
ROAD MARKINGS PLAN (2) Thilawa Access Line	1																										
	DWG No.																										
	P1-RD-2170																										

ROAD MARKINGS PLAN (3) Yangon Access Line S=1:1000



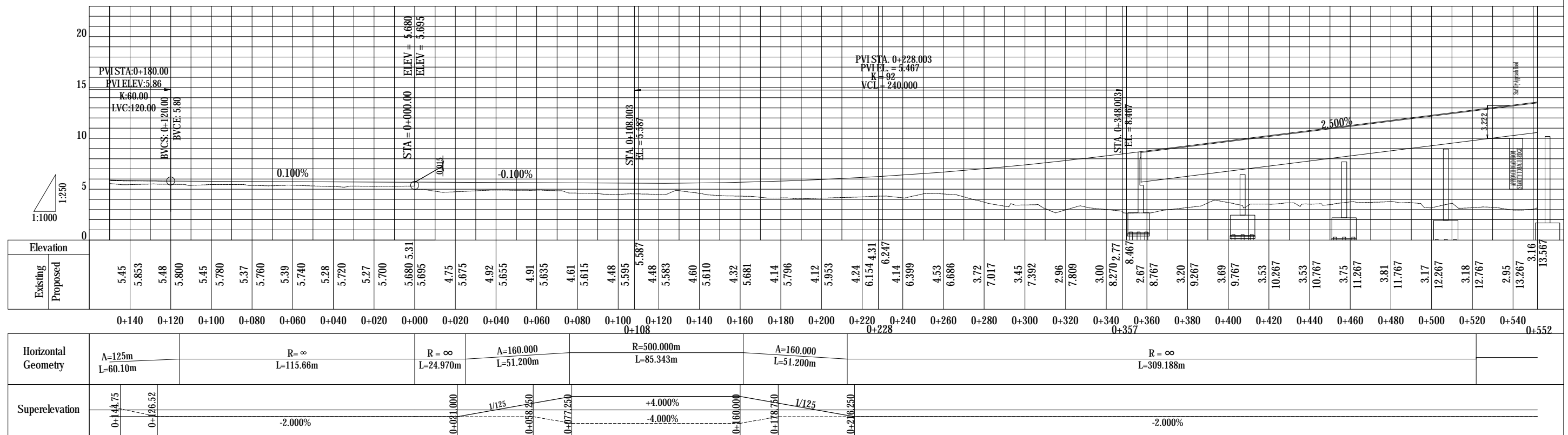
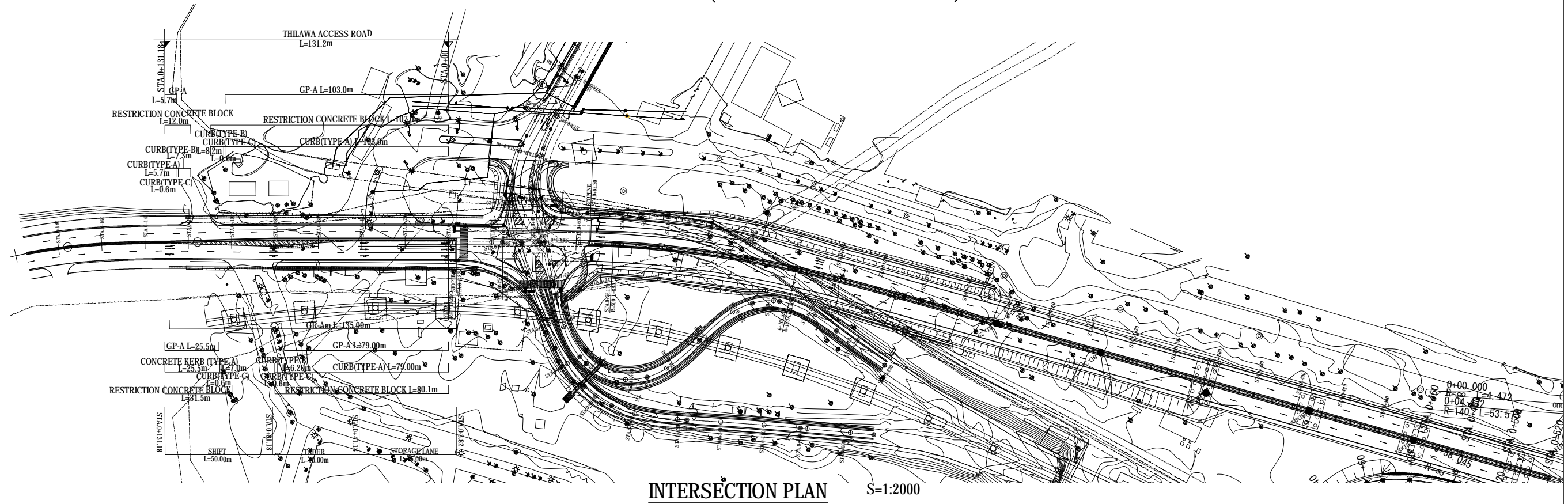
<small>PROJECT NAME</small> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	<small>FINANCED BY</small> JAPAN INTERNATIONAL COOPERATION AGENCY	<small>COUNTERPART</small> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	<small>JICA STUDY TEAM</small> NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO.,LTD. NIPPON ENGINEERING CONSULTANTS CO.,LTD.	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;"></th> <th style="width: 25%;">NAME</th> <th style="width: 25%;">SIGNATURE</th> <th style="width: 35%;">DATE</th> </tr> </thead> <tbody> <tr> <td>PREPARED BY</td> <td>M. TOMITA</td> <td></td> <td>27 NOV. 2017</td> </tr> <tr> <td>CHECKED BY</td> <td>T. HAYAKAWA</td> <td></td> <td>28 NOV. 2017</td> </tr> <tr> <td>APPROVED BY</td> <td>Y. SANO</td> <td></td> <td>29 NOV. 2017</td> </tr> </tbody> </table>		NAME	SIGNATURE	DATE	PREPARED BY	M. TOMITA		27 NOV. 2017	CHECKED BY	T. HAYAKAWA		28 NOV. 2017	APPROVED BY	Y. SANO		29 NOV. 2017	<small>DRAWING TITLE</small> ROAD MARKINGS PLAN (3) Yangon Access Line	<small>PACKAGE</small> 1 DWG No. P1-RD-2180
	NAME	SIGNATURE	DATE																			
PREPARED BY	M. TOMITA		27 NOV. 2017																			
CHECKED BY	T. HAYAKAWA		28 NOV. 2017																			
APPROVED BY	Y. SANO		29 NOV. 2017																			

ROAD MARKINGS PLAN Main Road S=1:1000



<small>PROJECT NAME</small> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	<small>FINANCED BY</small> JAPAN INTERNATIONAL COOPERATION AGENCY	<small>COUNTERPART</small> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	<small>JICA STUDY TEAM</small> NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;"></th> <th style="width: 20%;">NAME</th> <th style="width: 20%;">SIGNATURE</th> <th style="width: 10%;">DATE</th> </tr> </thead> <tbody> <tr> <td>PREPARED BY</td> <td>M. TOMITA</td> <td></td> <td>27 NOV. 2017</td> </tr> <tr> <td>CHECKED BY</td> <td>T. HAYAKAWA</td> <td></td> <td>28 NOV. 2017</td> </tr> <tr> <td>APPROVED BY</td> <td>Y. SANO</td> <td></td> <td>29 NOV. 2017</td> </tr> </tbody> </table>		NAME	SIGNATURE	DATE	PREPARED BY	M. TOMITA		27 NOV. 2017	CHECKED BY	T. HAYAKAWA		28 NOV. 2017	APPROVED BY	Y. SANO		29 NOV. 2017	<small>DRAWING TITLE</small> ROAD MARKINGS PLAN (4) Main Road	<small>PACKAGE</small> 1 DWG No. P1-RD-2185
	NAME	SIGNATURE	DATE																			
PREPARED BY	M. TOMITA		27 NOV. 2017																			
CHECKED BY	T. HAYAKAWA		28 NOV. 2017																			
APPROVED BY	Y. SANO		29 NOV. 2017																			

PLAN & PROFILE (Thilawa Access Road)

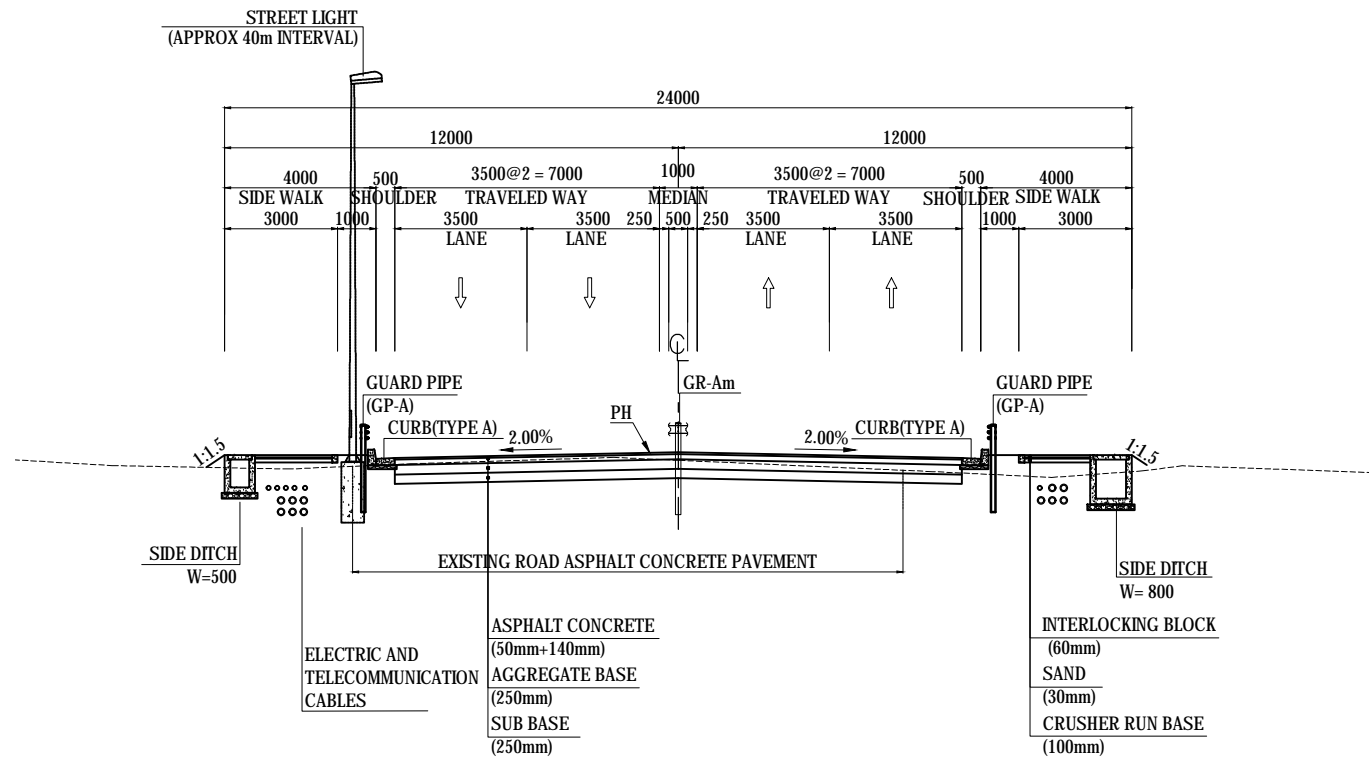


PROFILE OF SUBROAD

SCALE H=1:2000,V=1:400

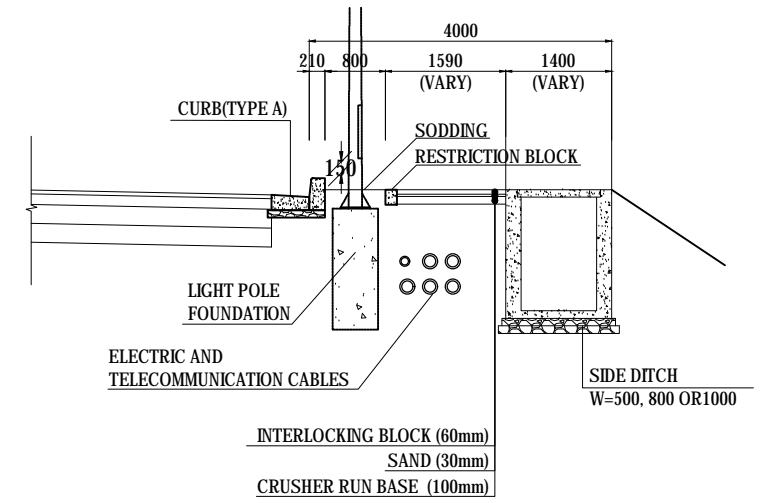
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE PLAN & PROFILE (Thilawa Access Road)	PACKAGE 1 DWG No. P1-RD-2190	
				PREPARED BY	M. TOMITA				27 Nov. 2017
				CHECKED BY	T. HAYAKAWA				28 Nov. 2017
				APPROVED BY	Y. SANO				29 Nov. 2017

TYPICAL CROSS SECTION (Thilawa Access Road) S=1:200



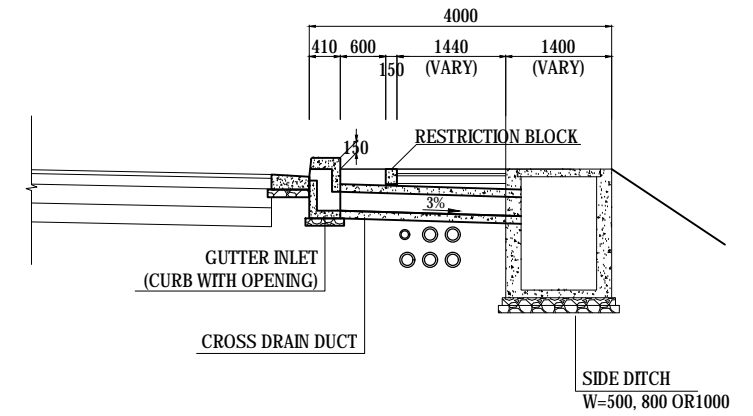
STANDARD SECTION

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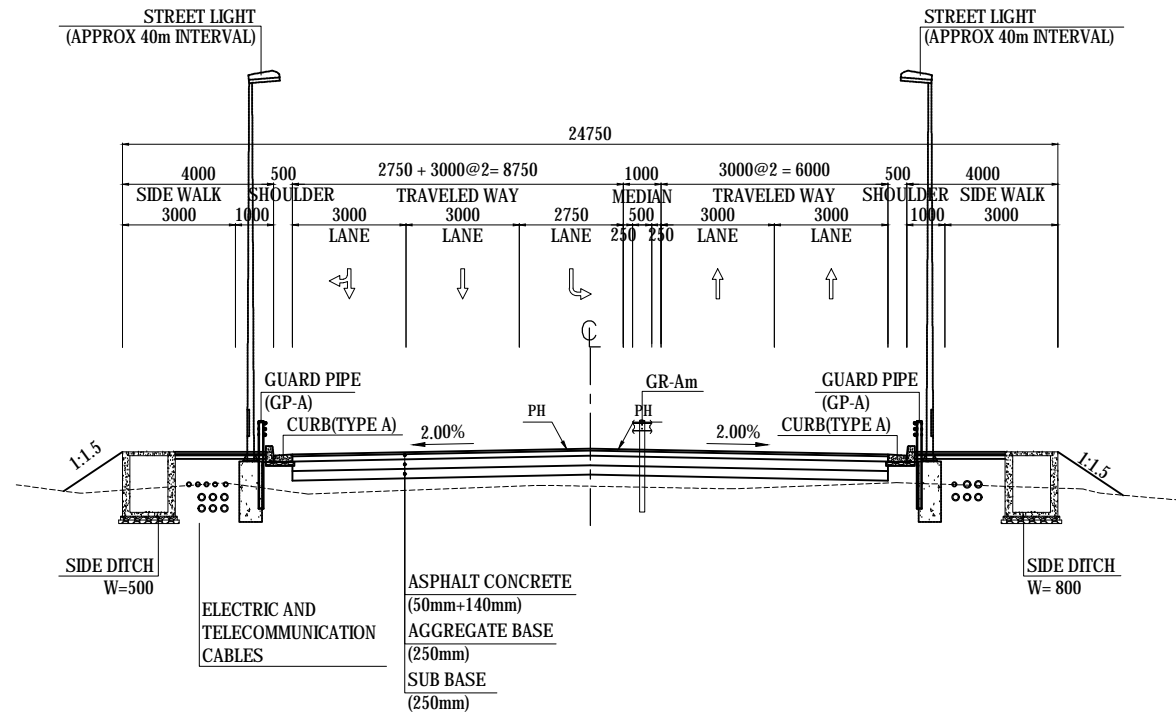
SIDEWALK STANDARD SECTION

S = 1:100



SIDEWALK WITH CROSS DRAINAGE DUCT SECTION
(APPROX EVERY 10m)

S = 1:100

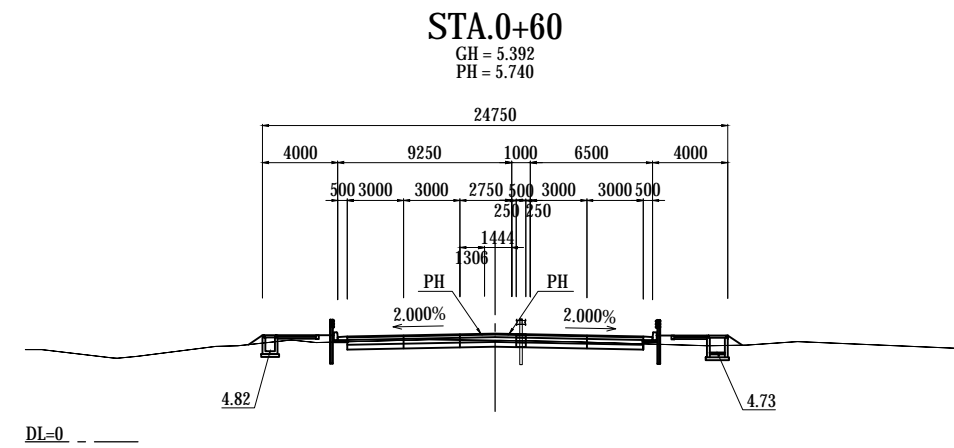
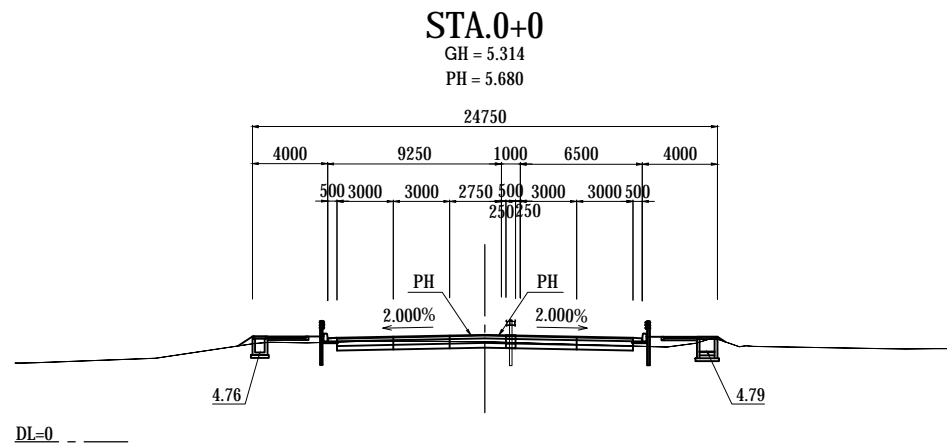
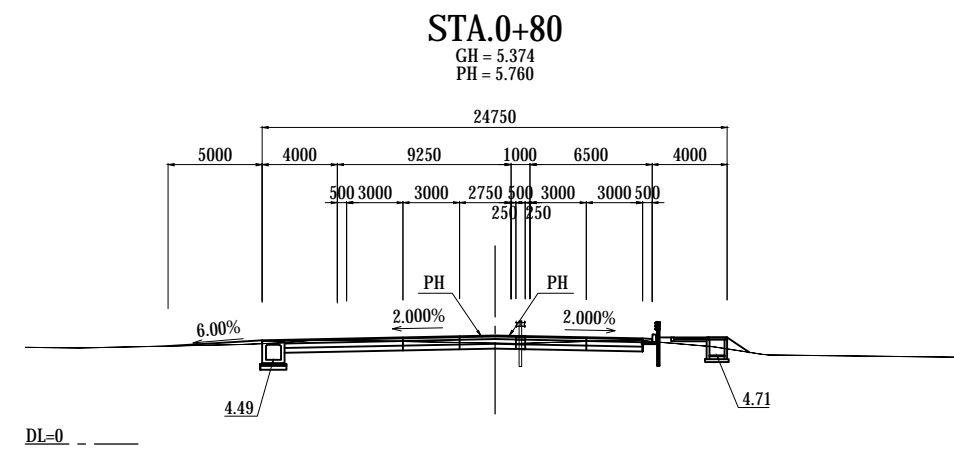
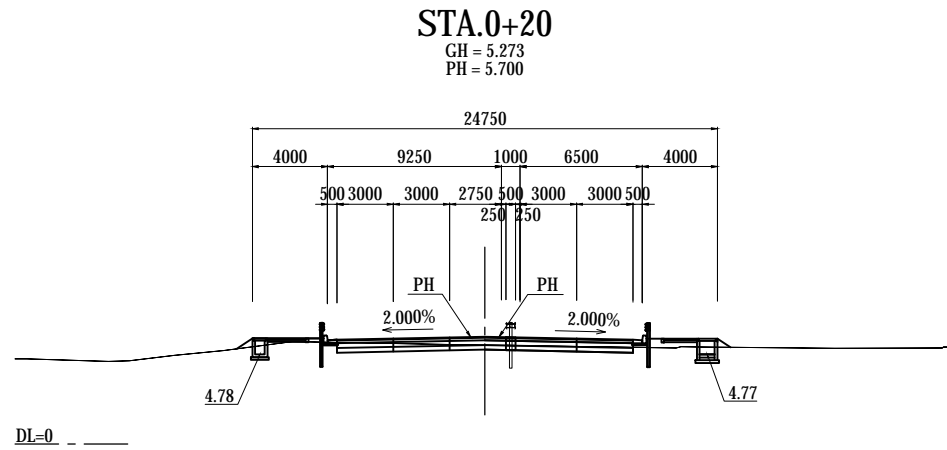
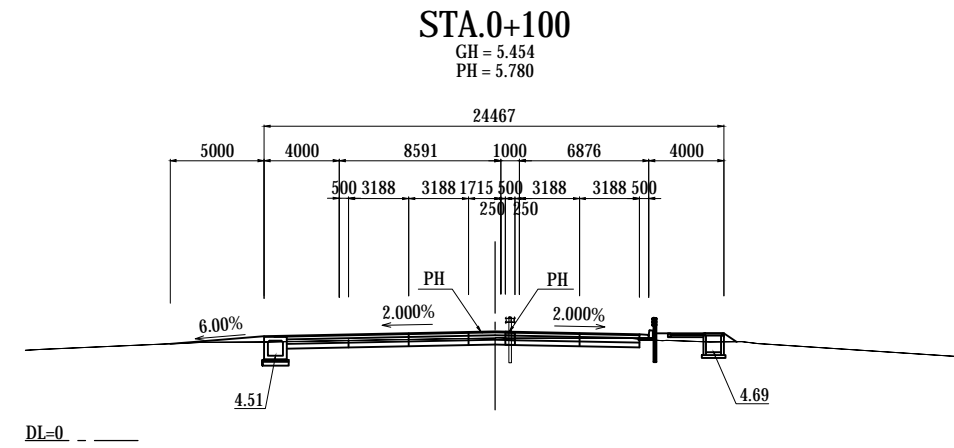
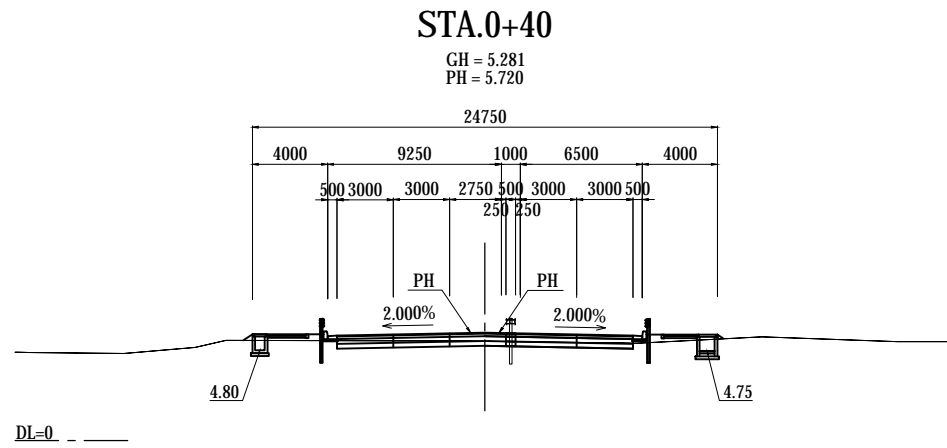


IN/OUT FLOW SECTION OF SIGNALIZED INTERSECTION WITH LEFT TURN LANE

S = 1:200

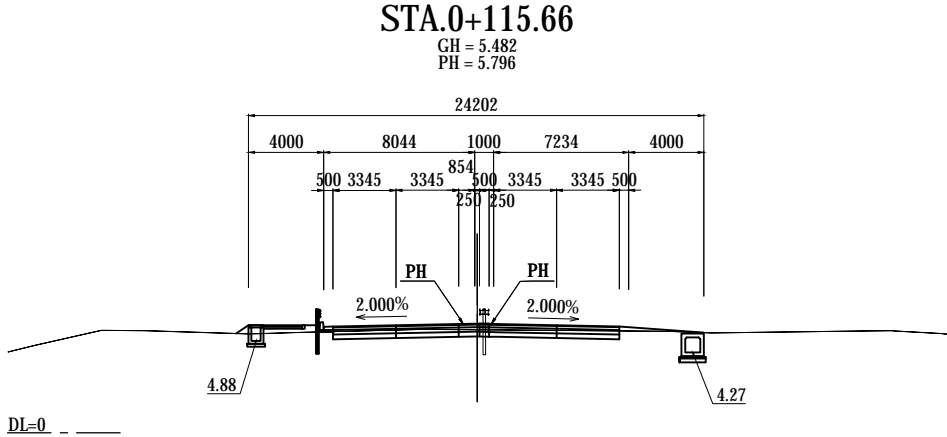
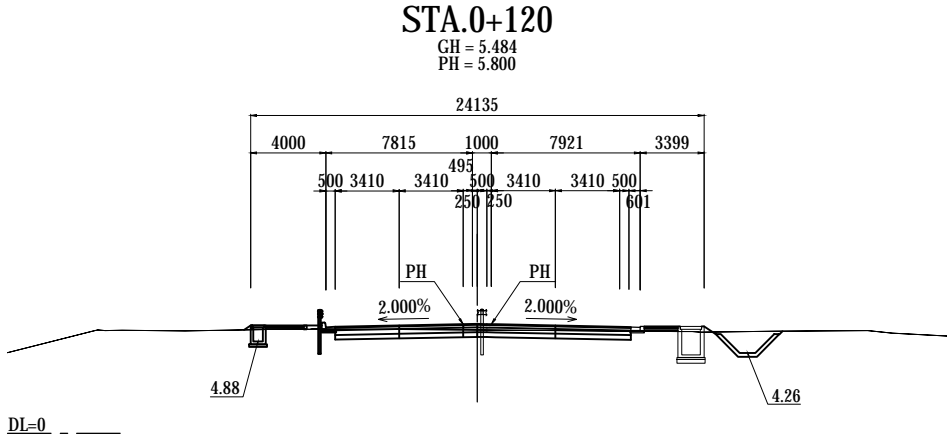
PROJECT NAME	FINANCED BY	COUNTERPART	JICA STUDY TEAM	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE
DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	JICA JAPAN INTERNATIONAL COOPERATION AGENCY	REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	M. TOMITA		27 Nov. 2017	TYPICAL CROSS SECTION (Thilawa Access Road)	1
				T. HAYAKAWA		28 Nov. 2017		DWG No.
				Y. SANO		29 Nov. 2017		P1-RD-2200

CROSS SECTION (1) (Thilawa Access Road) S=1:400



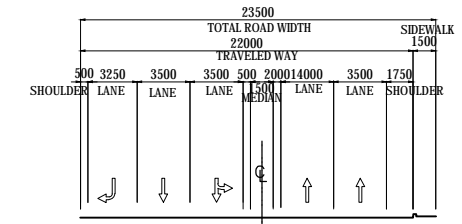
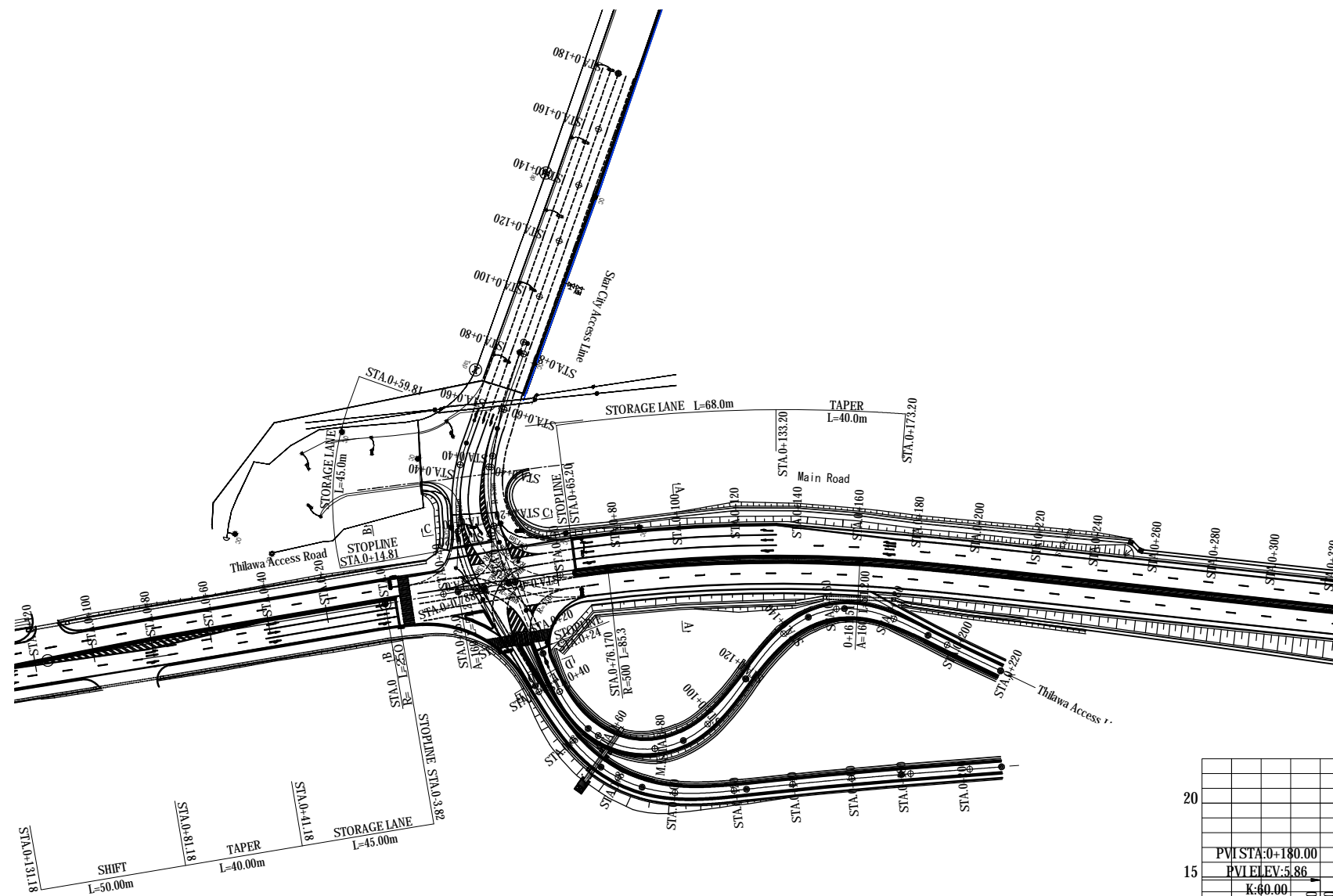
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE CROSS SECTION (1) (Thilawa Access Road)	PACKAGE	
				PREPARED BY	M. TOMITA			27 Nov. 2017	1
				CHECKED BY	T. HAYAKAWA			28 Nov. 2017	DWG No.
				APPROVED BY	Y. SANO			29 Nov. 2017	P1-RD-2210

CROSS SECTION (2) (Thilawa Access Road) S=1:400



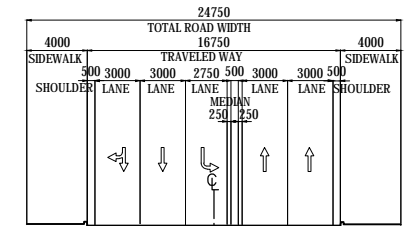
<small>PROJECT NAME</small> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	<small>FINANCED BY</small> JAPAN INTERNATIONAL COOPERATION AGENCY	<small>COUNTERPART</small> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	<small>JICA STUDY TEAM</small> NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO.,LTD. NIPPON ENGINEERING CONSULTANTS CO.,LTD.		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;"></th> <th style="width: 20%;">NAME</th> <th style="width: 20%;">SIGNATURE</th> <th style="width: 20%;">DATE</th> </tr> </thead> <tbody> <tr> <td>PREPARED BY</td> <td>M. TOMITA</td> <td></td> <td>27 Nov. 2017</td> </tr> <tr> <td>CHECKED BY</td> <td>T. HAYAKAWA</td> <td></td> <td>28 Nov. 2017</td> </tr> <tr> <td>APPROVED BY</td> <td>Y. SANO</td> <td></td> <td>29 Nov. 2017</td> </tr> </tbody> </table>		NAME	SIGNATURE	DATE	PREPARED BY	M. TOMITA		27 Nov. 2017	CHECKED BY	T. HAYAKAWA		28 Nov. 2017	APPROVED BY	Y. SANO		29 Nov. 2017	<small>DRAWING TITLE</small> CROSS SECTION (2) (Thilawa Access Road)	<small>PACKAGE</small> 1 DWG No. P1-RD-2220
	NAME	SIGNATURE	DATE																				
PREPARED BY	M. TOMITA		27 Nov. 2017																				
CHECKED BY	T. HAYAKAWA		28 Nov. 2017																				
APPROVED BY	Y. SANO		29 Nov. 2017																				

INTERSECTION PLAN , PROFILE AND SECTION (Thilawa Access Road ,Main Road) S=1:2000



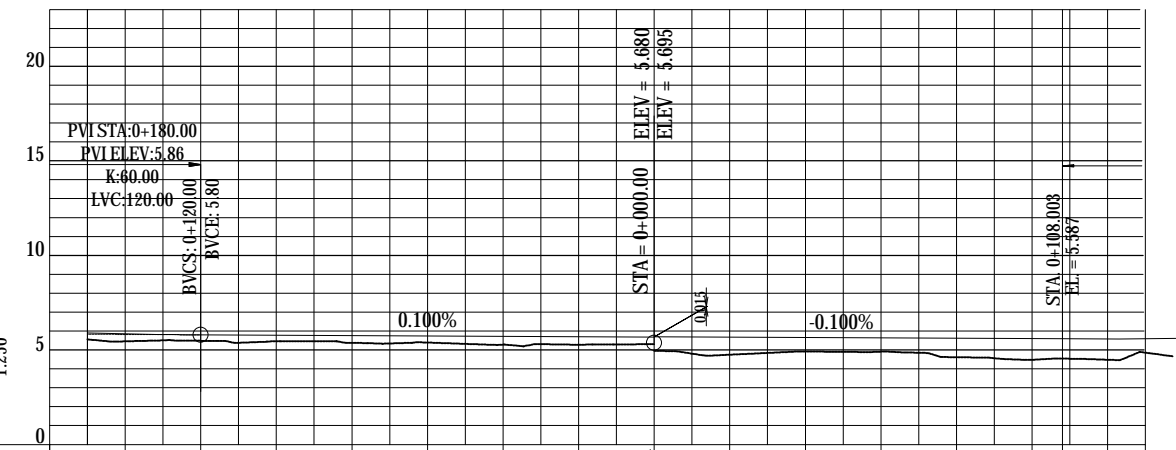
SECTION OF A-A

S=1:400

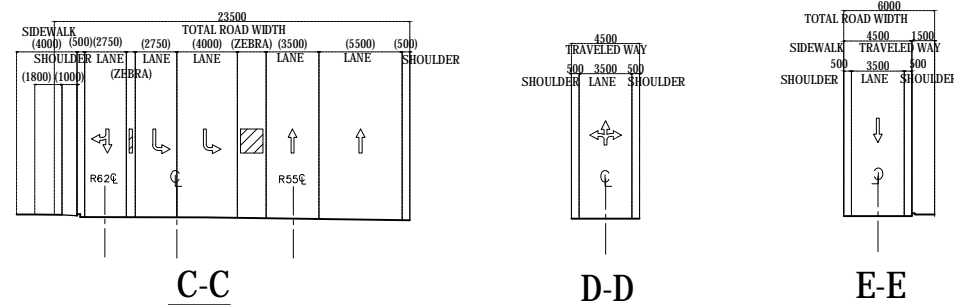


SECTION OF B-B

S=1:400



Elevation	Stationing													
	0+140	0+120	0+100	0+080	0+060	0+040	0+020	0+000	0+020	0+040	0+060	0+080	0+100	0+120
Existing	5.45	5.853	5.48	5.800	5.45	5.780	5.37	5.760	5.39	5.740	5.28	5.720	5.27	5.700
Proposed	5.45	5.853	5.48	5.800	5.45	5.780	5.37	5.760	5.39	5.740	5.28	5.720	5.27	5.700
Horizontal Geometry	A=125m, L=60.10m		R=∞, L=115.66m						R=∞, L=24.970m		A=160.000, L=51.200m		R=500.000m, L=85.343m	
Superelevation	0+144.75, 0+26.52		-2.000%						0+021.000, 0+038.450		0+077.250		+4.000%, -4.000%	

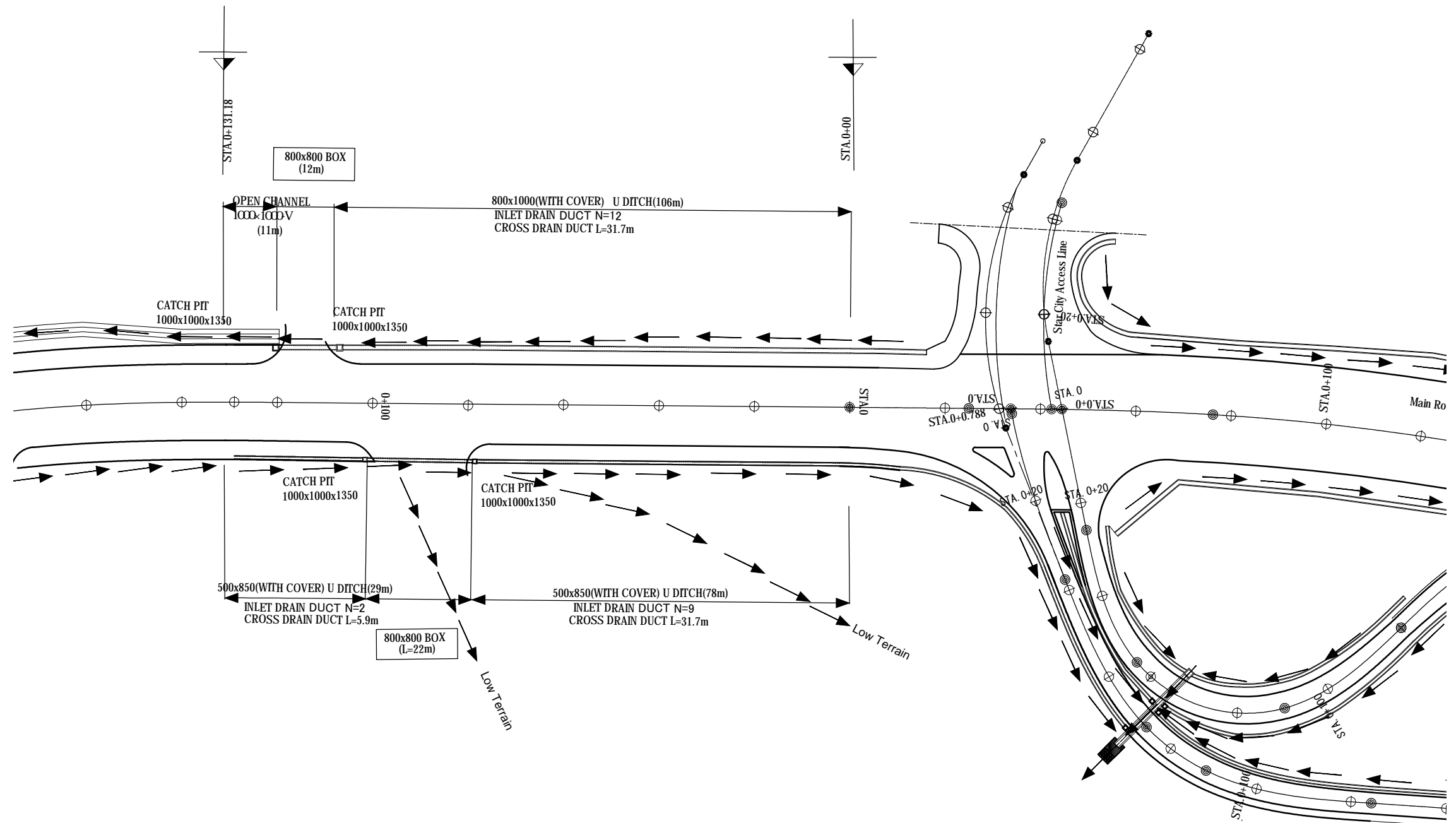


SECTION OF SUBROAD

S=1:400

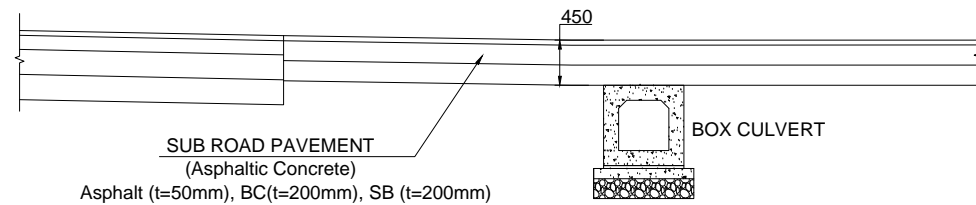
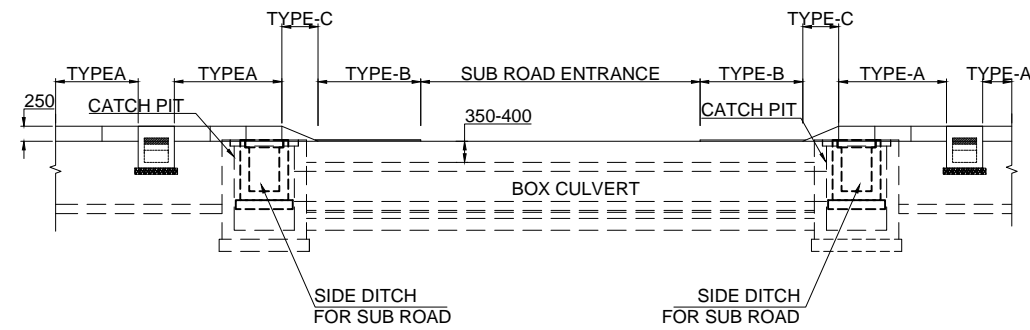
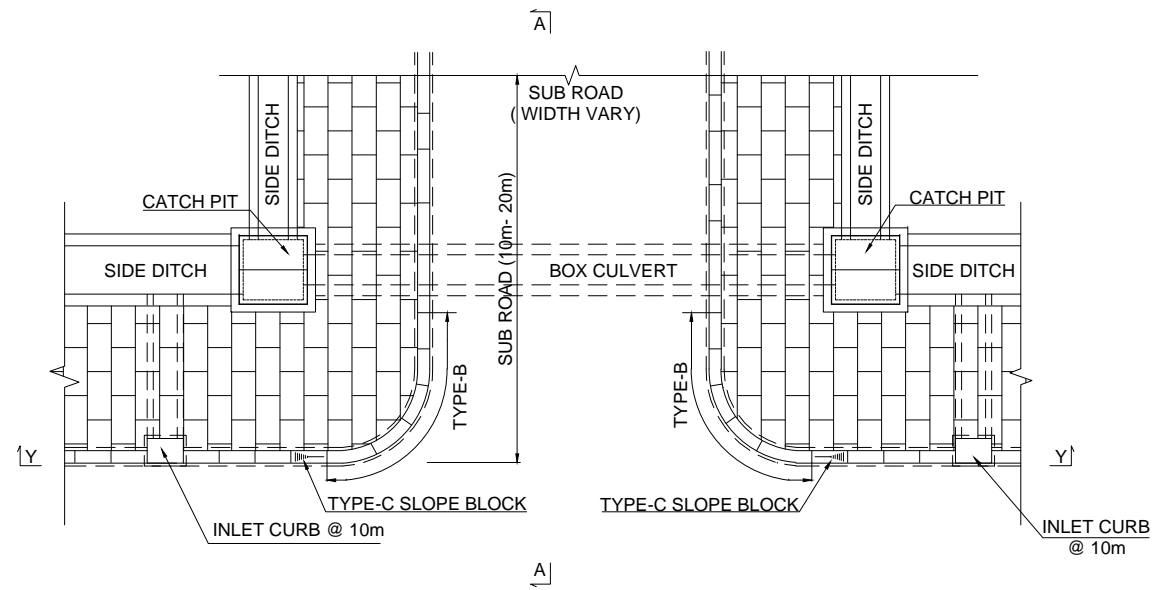
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JICA JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE INTERSECTION PLAN , PROFILE AND SECTION (Thilawa Access Road ,Main Road)	PACKAGE 1 DWG No. P1-RD-2230
				PREPARED BY	M. TOMITA	27 Nov. 2017		
				CHECKED BY	T. HAYAKAWA	28 Nov. 2017		
				APPROVED BY	Y. SANO	29 Nov. 2017		

DRAINAGE SYSTEM PLAN (Thilawa Access Road) S=1:1000



<small>PROJECT NAME</small> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	<small>FINANCED BY</small> JAPAN INTERNATIONAL COOPERATION AGENCY	<small>COUNTERPART</small> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	<small>JICA STUDY TEAM</small> NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.		<small>NAME</small> M. TOMITA	<small>SIGNATURE</small> 	<small>DATE</small> 27 Nov. 2017	<small>DRAWING TITLE</small> DRAINAGE SYSTEM PLAN(Thilawa Access Road)	<small>PACKAGE</small> 1 DWG No. P1-RD-2240
					<small>PREPARED BY</small> T. HAYAKAWA		28 Nov. 2017		
					<small>APPROVED BY</small> Y. SANO		29 Nov. 2017		

GENERAL PLAN AND SECTION OF ROAD ACCESS

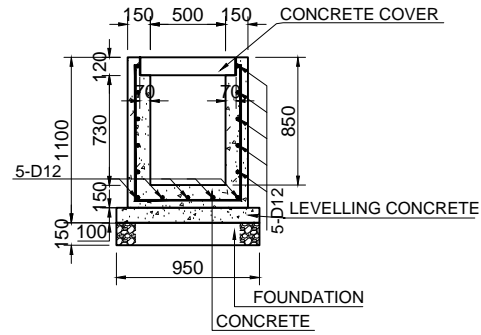


PROJECT NAME	FINANCED BY	COUNTERPART	JICA STUDY TEAM	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE	
DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	JAPAN INTERNATIONAL COOPERATION AGENCY	REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	PREPARED BY	M. TOMITA		27 Nov. 2017	GENERAL PLAN AND SECTION OF ROAD ACCESS	1
				CHECKED BY	T. HAYAKAWA		28 Nov. 2017		DWG No.
				APPROVED BY	Y. SANO		29 Nov. 2017		P1-RD-2250

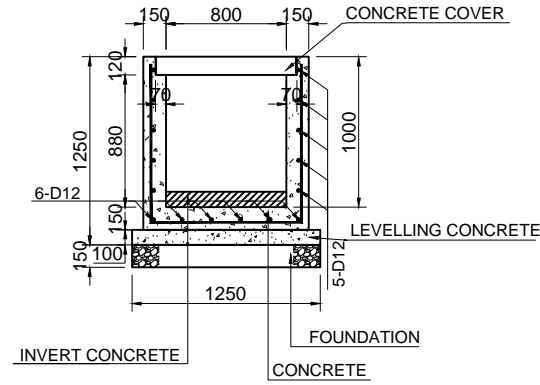
DETAIL OF SIDE DITCH

- Notes:**
1. Concrete Class A4
 2. Steel Reinforcement Grade 40

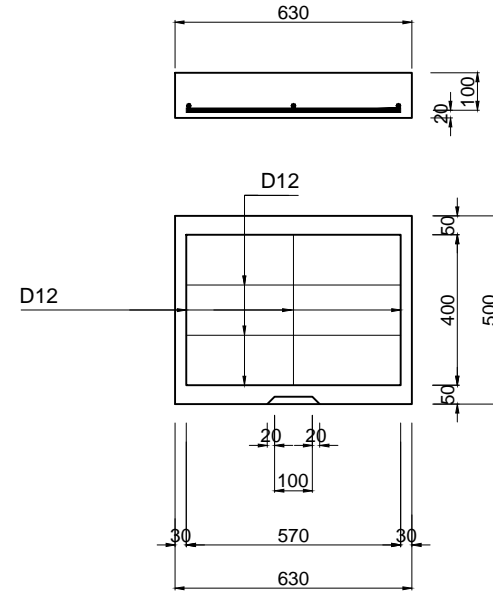
U-500x850 WITH COVER
S=1:50



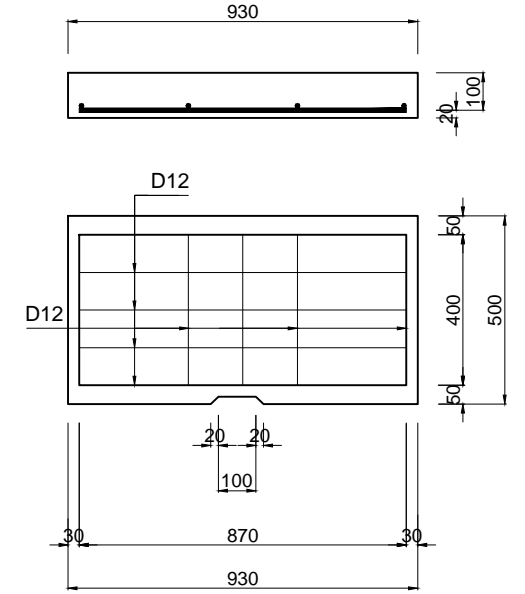
U-800x1000 WITH COVER
S=1:50



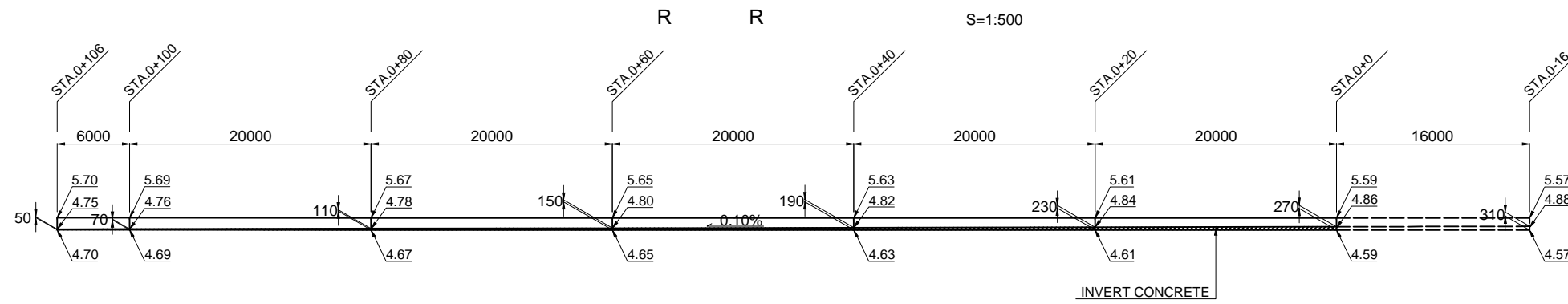
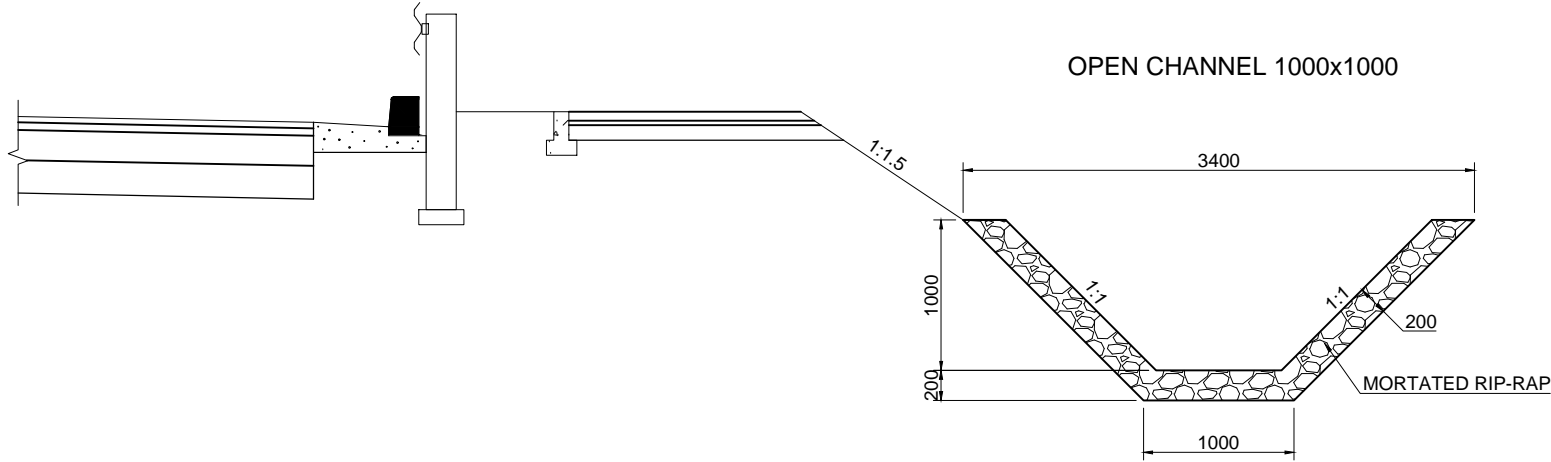
U-500 S=1:20



U-800 S=1:20



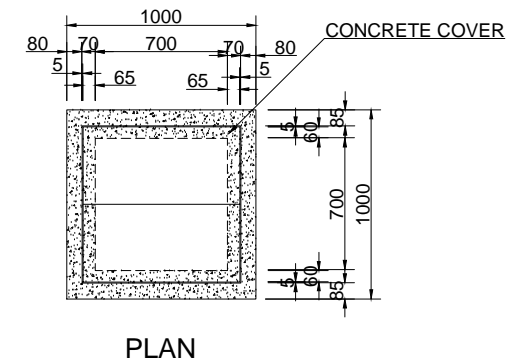
OPEN CHANNEL 1000x1000



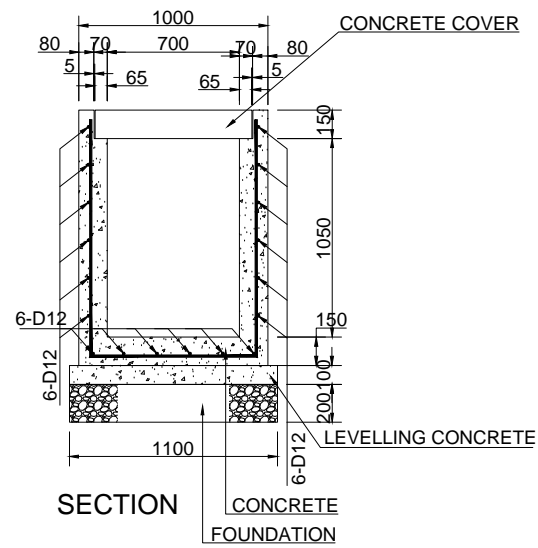
<p><small>PROJECT NAME</small></p> <p>DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT</p>	<p><small>FINANCED BY</small></p> <p> JAPAN INTERNATIONAL COOPERATION AGENCY</p>	<p><small>COUNTERPART</small></p> <p> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE</p>	<p><small>JICA STUDY TEAM</small></p> <p>NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.</p>	<p><small>PREPARED BY</small></p> <p>M. TOMITA</p>	<p><small>SIGNATURE</small></p> <p></p>	<p><small>DATE</small></p> <p>27 Nov. 2017</p>	<p><small>DRAWING TITLE</small></p> <p style="text-align: center;">DETAIL OF SIDE DITCH</p>	<p><small>PACKAGE</small></p> <p>1 DWG No. P1-RD-2260</p>
<p><small>APPROVED BY</small></p> <p>T. HAYAKAWA</p>					<p></p>	<p>28 Nov. 2017</p>		
<p><small>APPROVED BY</small></p> <p>Y. SANO</p>					<p></p>	<p>29 Nov. 2017</p>		

DETAIL OF CATCH PIT

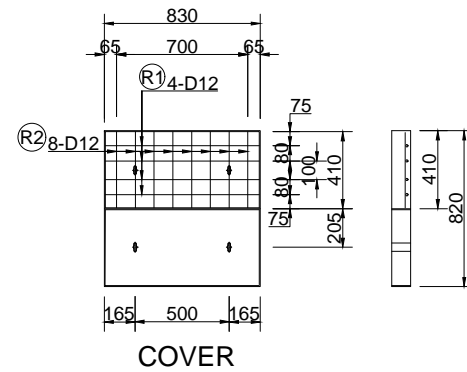
CATCH PIT (0.7X0.7X1.050)



PLAN

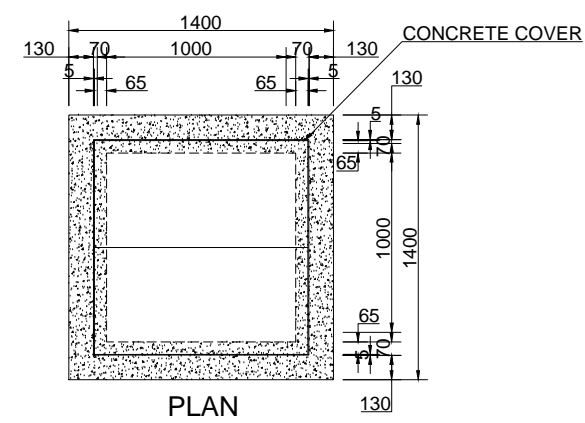


SECTION

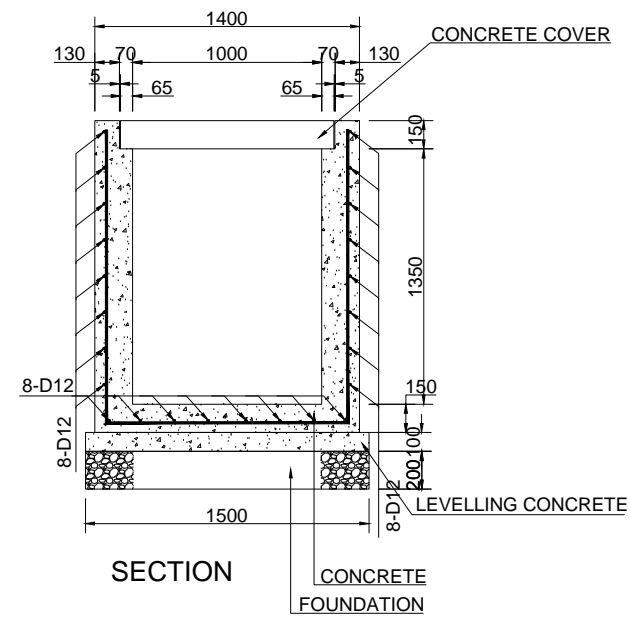


COVER

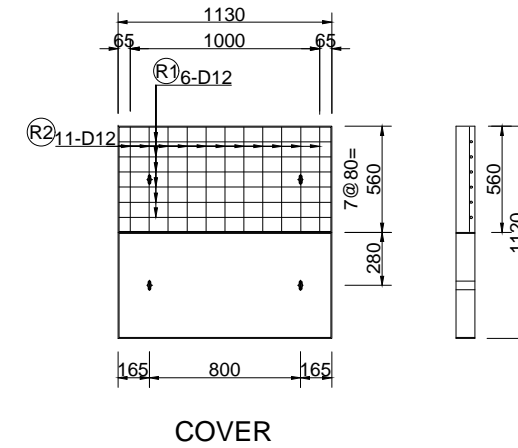
CATCH PIT (1.0X1.0X1.350)



PLAN



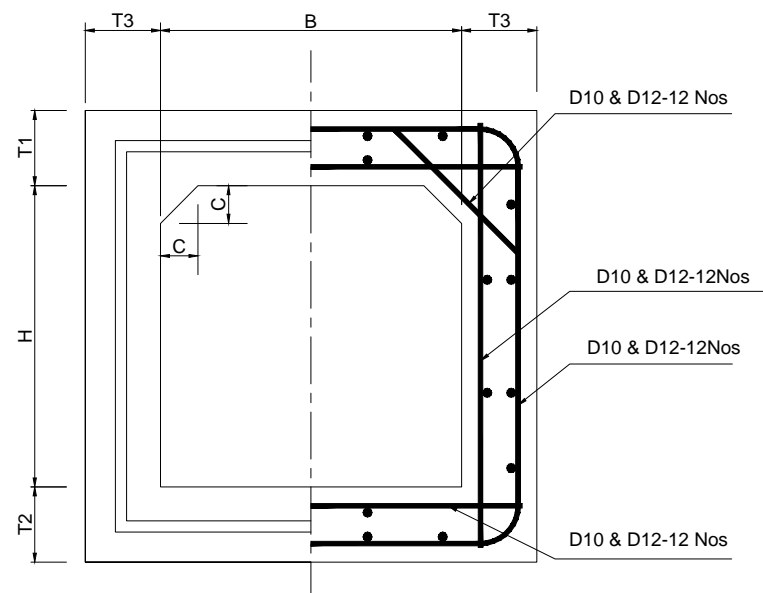
SECTION



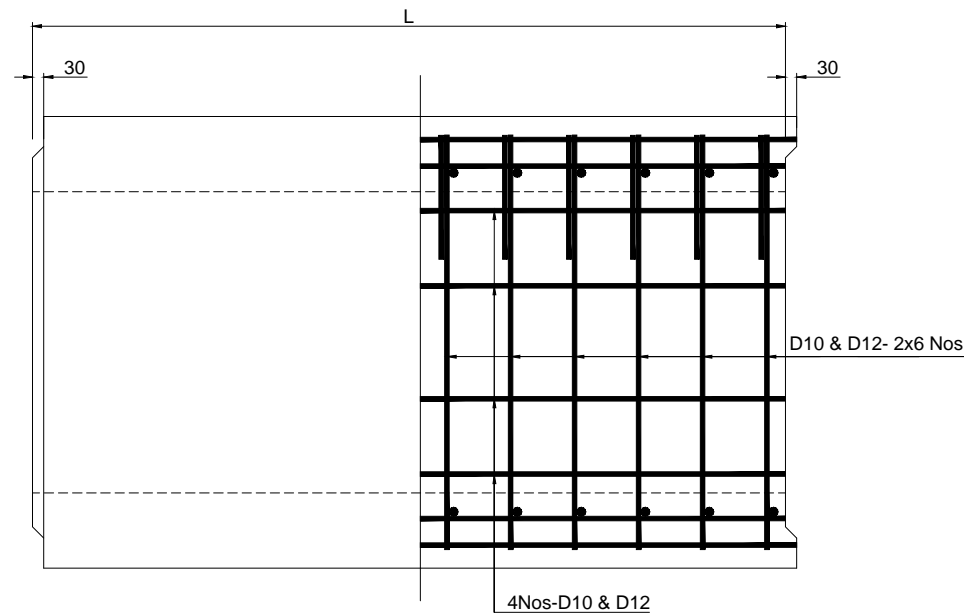
COVER

PROJECT NAME	FINANCED BY	COUNTERPART	JICA STUDY TEAM	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE
DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	JICA JAPAN INTERNATIONAL COOPERATION AGENCY	REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	M. TOMITA		27 Nov. 2017	DETAIL OF CATCH PIT	1
				T. HAYAKAWA		28 Nov. 2017		DWG No.
				Y. SANO		29 Nov. 2017		P1-RD-2270

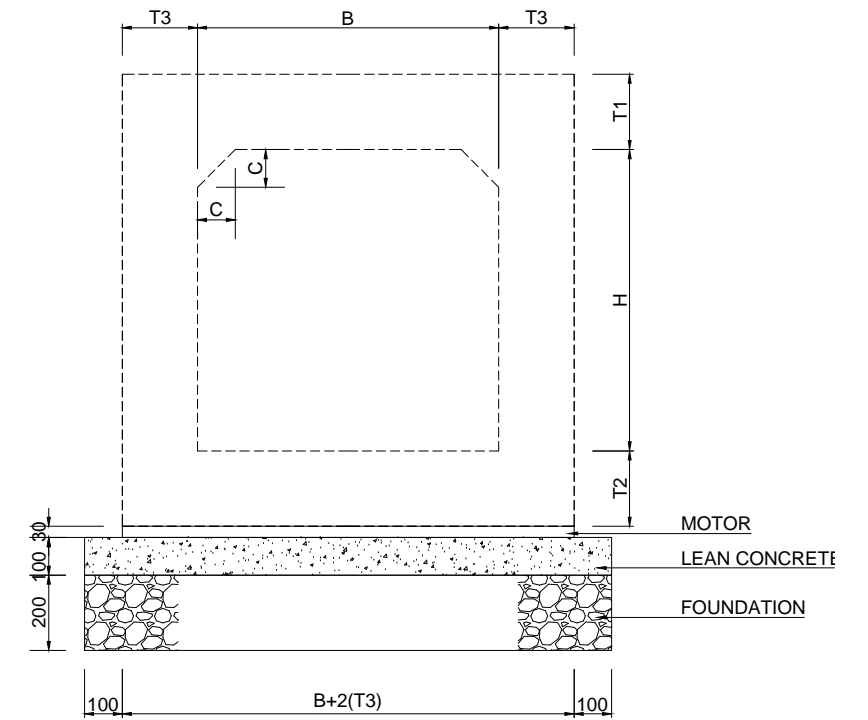
DETAIL OF BOX CULVERT FOR ROAD ACCESS



BOX CULVERT SECTION S=1:20



SIDE ELEVATION S=1:20



ELEVATION WITH FOUNDATION SECTION S=1:20

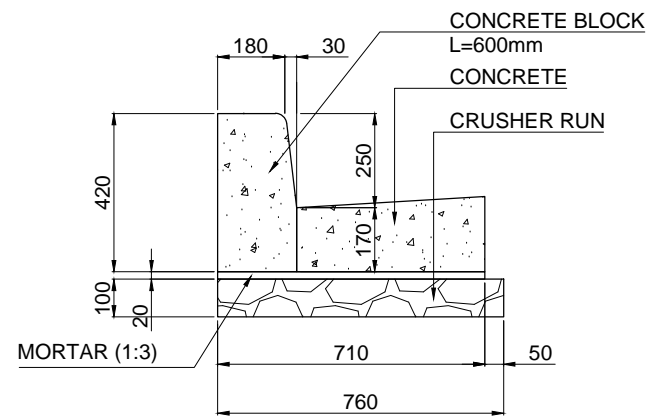
BOX CULVERT SIZE	B	H	T1	T2	T3	C	L	BAR DIAMETER
800x800	800	800	200	200	200	100	2000	D-12

Notes :

1. Concrete Strength may be Class A4 (240kg/m²) for Cast Insitu
2. Steel Reinforcement Grade 40

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE DETAIL OF BOX CULVERT FOR ROAD ACCESS	PACKAGE	
				PREPARED BY	M. TOMITA			27 Nov. 2017	1
				CHECKED BY	T. HAYAKAWA			28 Nov. 2017	DWG No.
				APPROVED BY	Y. SANO			29 Nov. 2017	P1-RD-2280

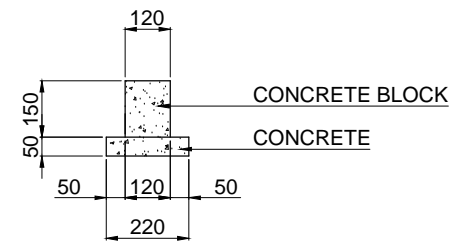
DETAIL OF CURB



CURB TYPE A MATERIAL LIST

CLASSIFICATION	STANDARD
CONCRETE BLOCK	180/210XH420XL600
MORTAR (1:3)	1:3
CONCRETE	CLASS A 20/40

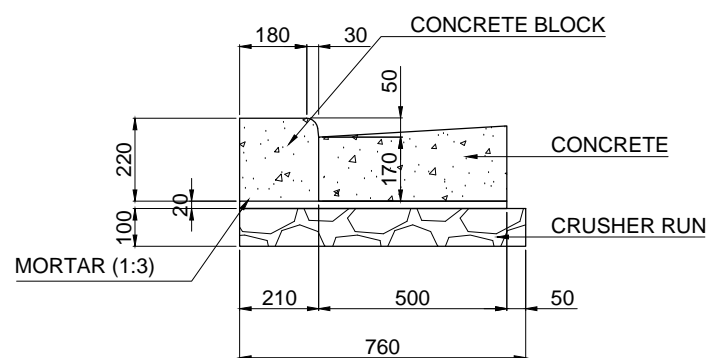
TYPE A



RESTRICTION CONCRETE BLOCK MATERIAL LIST

CLASSIFICATION	STANDARD
CONCRETE BLOCK	150xH120xL600
MORTAR (1:3)	1:3
CONCRETE	CLASS A 20/40

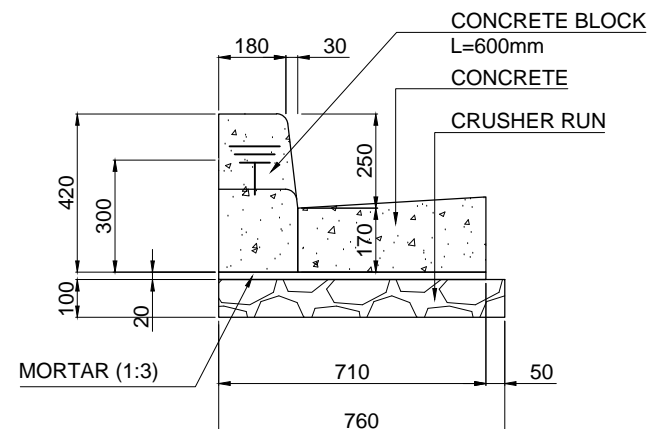
RESTRICTION CONCRETE BLOCK S = 1:20



CURB TYPE B MATERIAL LIST

CLASSIFICATION	STANDARD
CONCRETE BLOCK	180/210XH250XL600
MORTAR (1:3)	1:3
CONCRETE	CLASS A 20/40

TYPE B



CURB TYPE C MATERIAL LIST

CLASSIFICATION	STANDARD
CONCRETE BLOCK	180/210XH420XL600
MORTAR (1:3)	1:3
CONCRETE	CLASS A 20/40

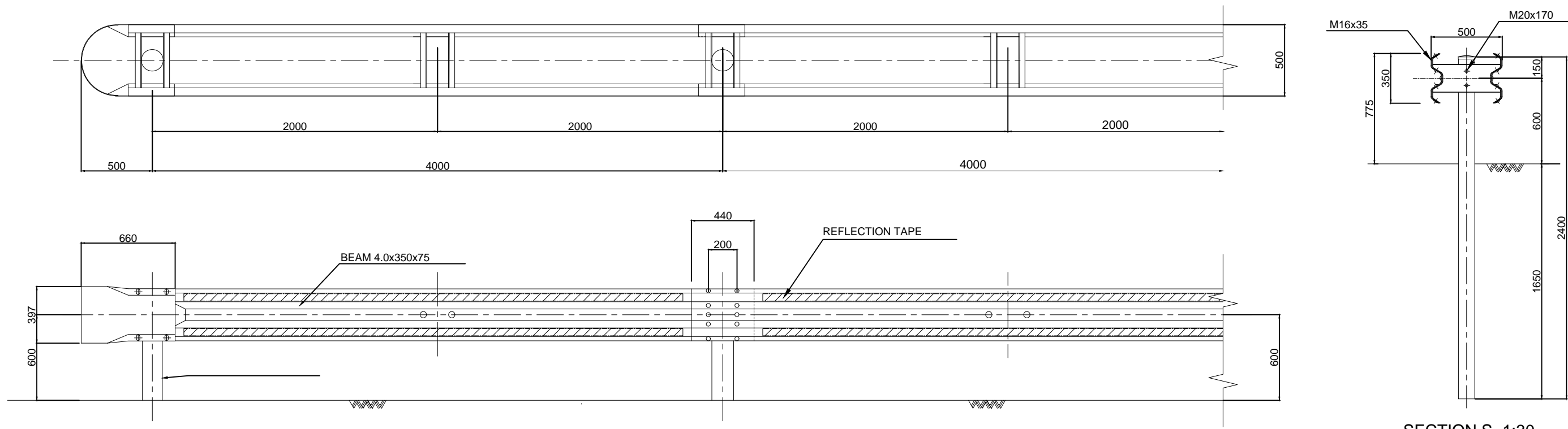
TYPE C

COMBINATION OF CONCRETE CURB & GUTTER

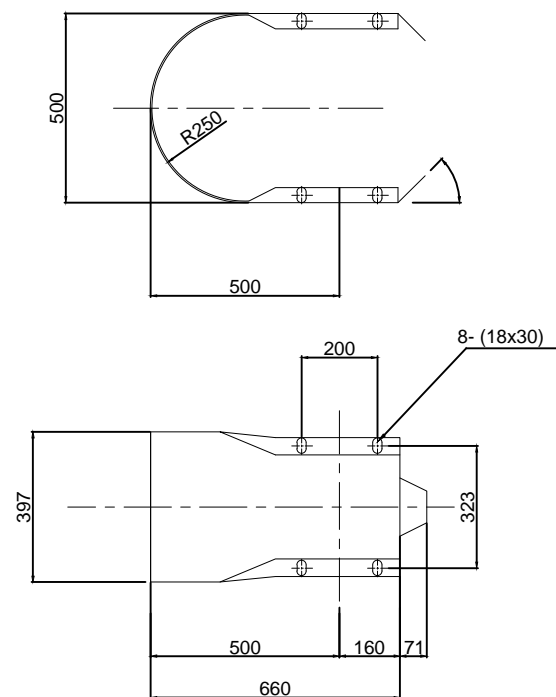
S = 1:20

<small>PROJECT NAME</small> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	<small>FINANCED BY</small> JAPAN INTERNATIONAL COOPERATION AGENCY	<small>COUNTERPART</small> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	<small>JICA STUDY TEAM</small> NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;"></td> <td style="width: 20%;">NAME</td> <td style="width: 20%;">SIGNATURE</td> <td style="width: 20%;">DATE</td> </tr> <tr> <td>PREPARED BY</td> <td>M. TOMITA</td> <td></td> <td>27 Nov. 2017</td> </tr> <tr> <td>CHECKED BY</td> <td>T. HAYAKAWA</td> <td></td> <td>28 Nov. 2017</td> </tr> <tr> <td>APPROVED BY</td> <td>Y. SANO</td> <td></td> <td>29 Nov. 2017</td> </tr> </table>		NAME	SIGNATURE	DATE	PREPARED BY	M. TOMITA		27 Nov. 2017	CHECKED BY	T. HAYAKAWA		28 Nov. 2017	APPROVED BY	Y. SANO		29 Nov. 2017	<small>DRAWING TITLE</small> DETAIL OF CURB	<small>PACKAGE</small> 1 DWG No. P1-RD-2290
	NAME	SIGNATURE	DATE																			
PREPARED BY	M. TOMITA		27 Nov. 2017																			
CHECKED BY	T. HAYAKAWA		28 Nov. 2017																			
APPROVED BY	Y. SANO		29 Nov. 2017																			

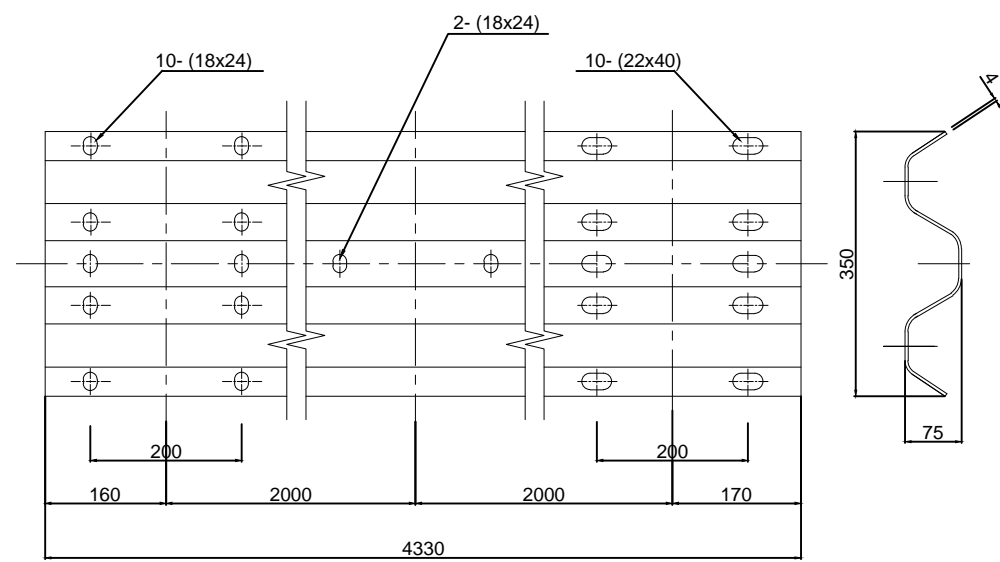
DETAIL OF GUARD RAIL (GR-Am)



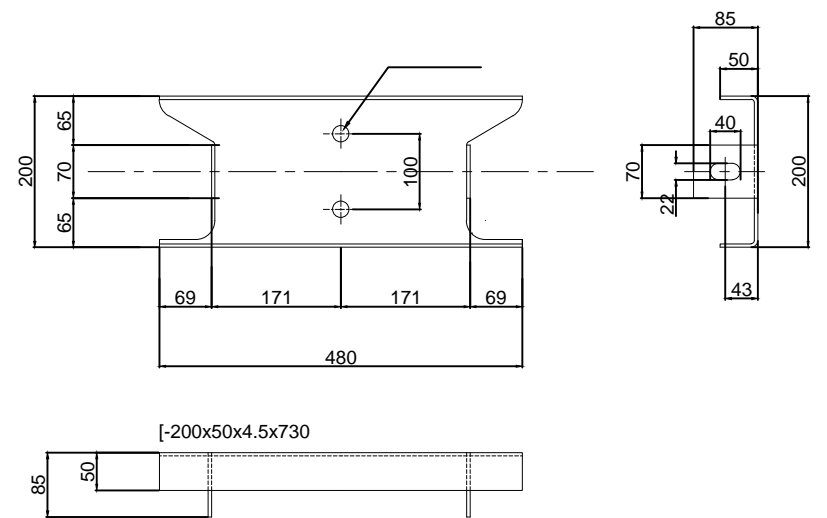
GUARD RAIL (GR-Am) S=1:30



ENDPIECE DETAIL S=1:20



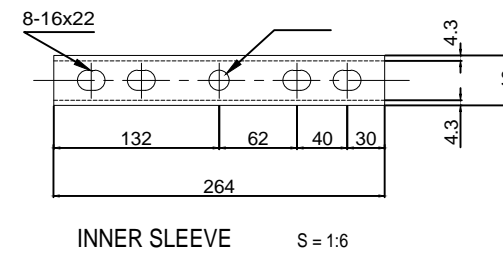
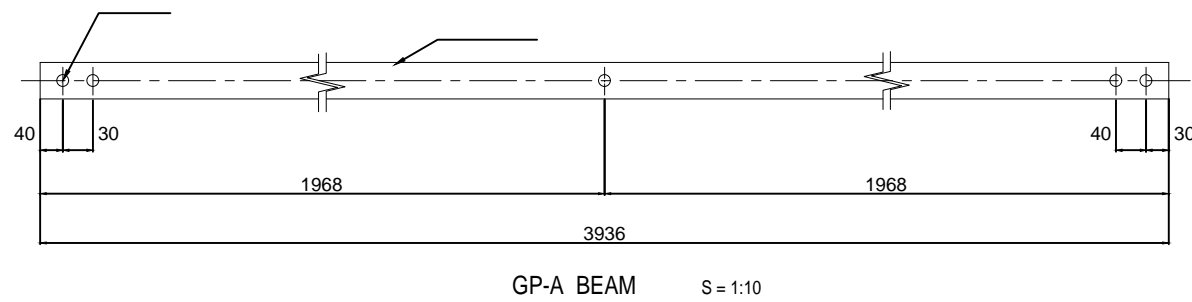
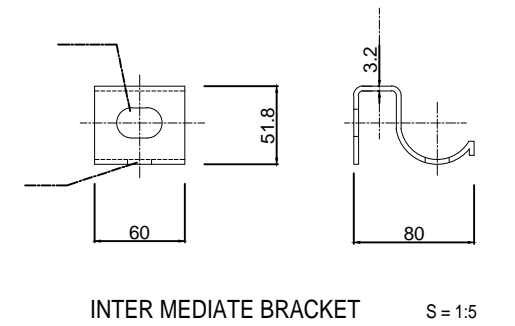
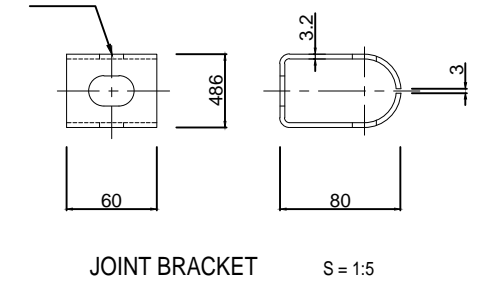
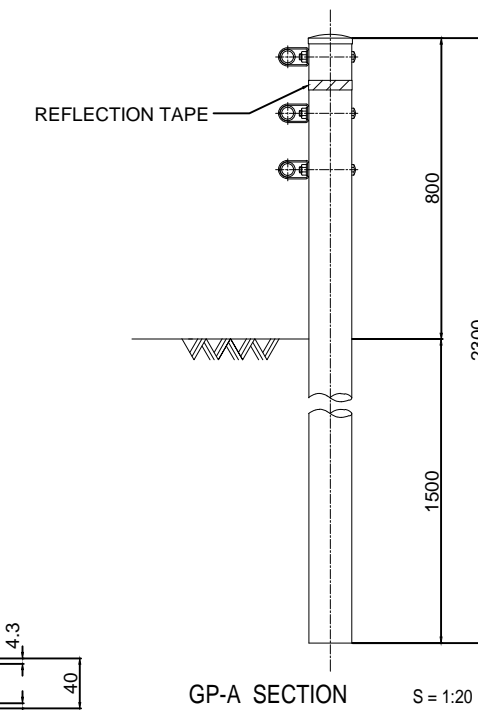
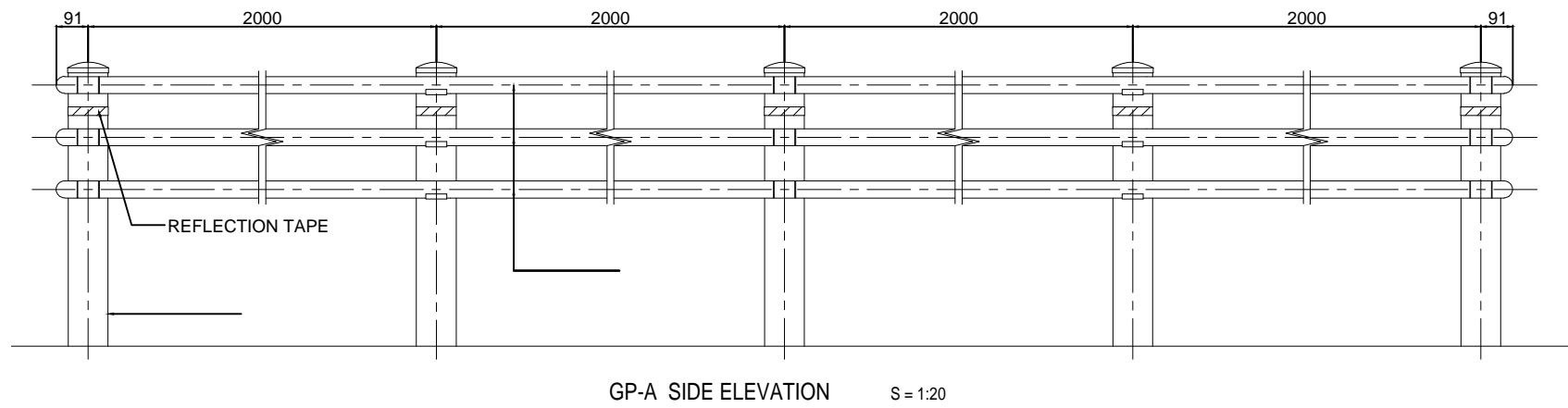
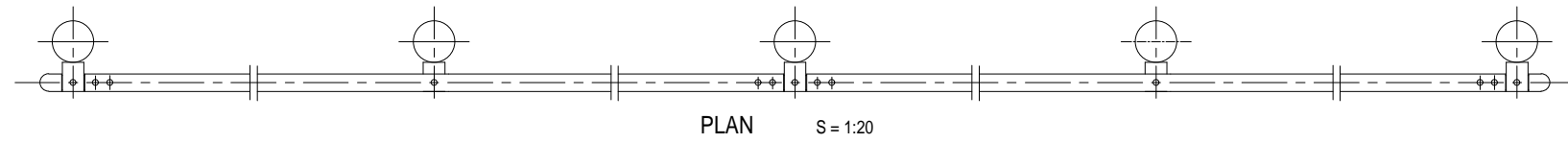
BEAM (SS400) S=1:10



BRACKET (SS400) S=1:10

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE DETAIL OF GUARD RAIL (GR-Am)	PACKAGE	
				PREPARED BY	M. TOMITA			27 Nov. 2017	1
				CHECKED BY	T. HAYAKAWA			28 Nov. 2017	DWG No.
				APPROVED BY	Y. SANO			29 Nov. 2017	P1-RD-2300

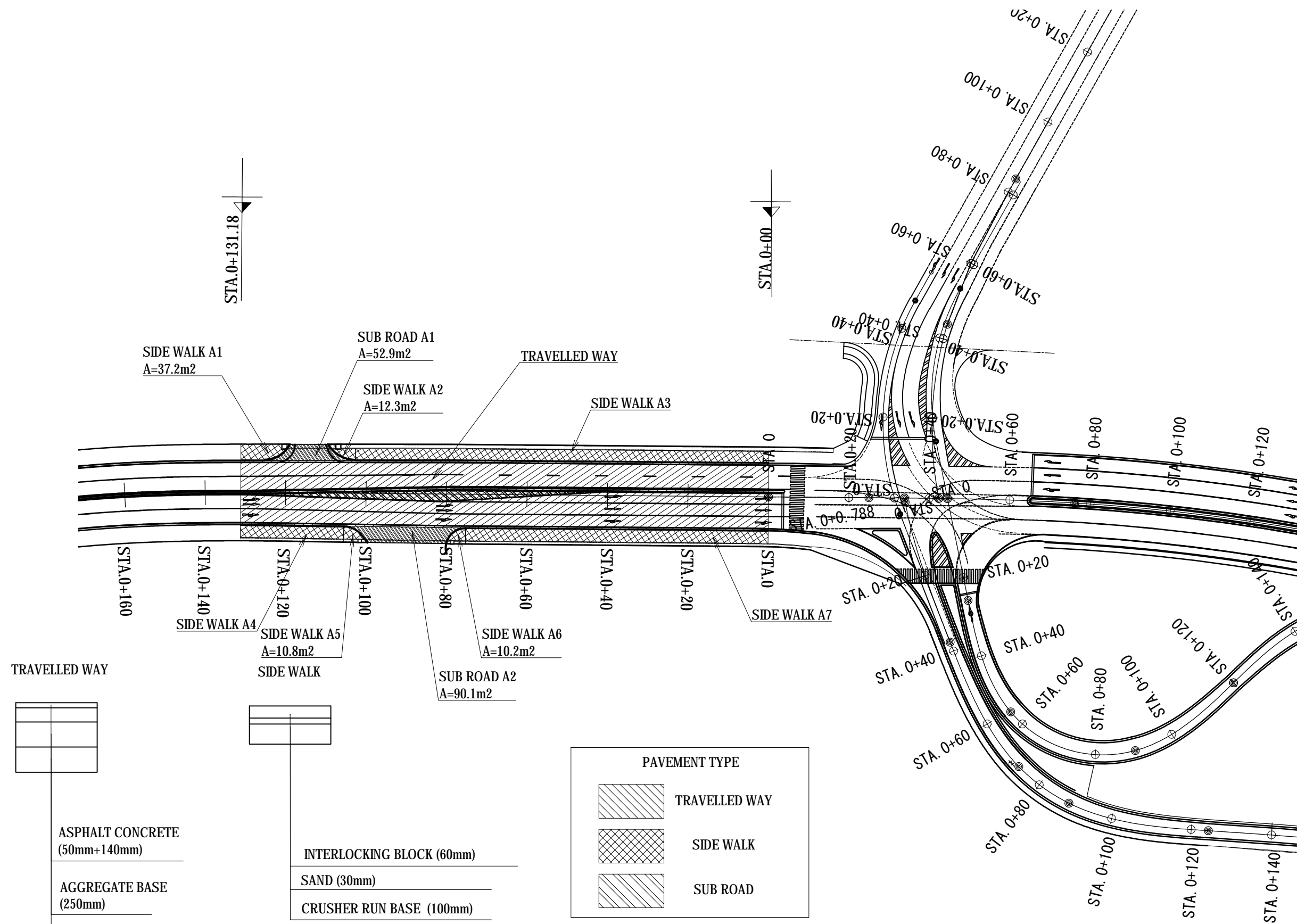
DETAIL OF GUARD PIPE (GP-A)



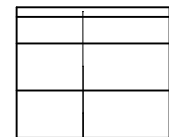
<small>PROJECT NAME</small> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	<small>FINANCED BY</small> JAPAN INTERNATIONAL COOPERATION AGENCY	<small>COUNTERPART</small> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	<small>JICA STUDY TEAM</small> NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">NAME</th> <th style="text-align: left;">SIGNATURE</th> <th style="text-align: left;">DATE</th> </tr> <tr> <td>PREPARED BY M. TOMITA</td> <td></td> <td>27 Nov. 2017</td> </tr> <tr> <td>CHECKED BY T. HAYAKAWA</td> <td></td> <td>28 Nov. 2017</td> </tr> <tr> <td>APPROVED BY Y. SANO</td> <td></td> <td>29 Nov. 2017</td> </tr> </table>	NAME	SIGNATURE	DATE	PREPARED BY M. TOMITA		27 Nov. 2017	CHECKED BY T. HAYAKAWA		28 Nov. 2017	APPROVED BY Y. SANO		29 Nov. 2017	<small>DRAWING TITLE</small> DETAIL OF GUARD PIPE (GP-A)	<small>PACKAGE</small> 1 DWG No. P1-RD-2310
NAME	SIGNATURE	DATE																
PREPARED BY M. TOMITA		27 Nov. 2017																
CHECKED BY T. HAYAKAWA		28 Nov. 2017																
APPROVED BY Y. SANO		29 Nov. 2017																

PAVEMENT PLAN (Thilawa Access Road)

S=1:1000



TRAVELLED WAY



ASPHALT CONCRETE
(50mm+140mm)

AGGREGATE BASE
(250mm)

SUB BASE
(250mm)



INTERLOCKING BLOCK (60mm)

SAND (30mm)

CRUSHER RUN BASE (100mm)

PAVEMENT TYPE



TRAVELLED WAY



SIDE WALK



SUB ROAD

PROJECT NAME
DETAILED DESIGN ON
BAGO RIVER BRIDGE
CONSTRUCTION PROJECT

FINANCED BY
 JAPAN INTERNATIONAL
COOPERATION AGENCY

COUNTERPART
 REPUBLIC OF THE UNION OF MYANMAR
MINISTRY OF CONSTRUCTION
DEPARTMENT OF BRIDGE

JICA STUDY TEAM
 NIPPON KOEI CO., LTD.
 ORIENTAL CONSULTANTS GLOBAL CO., LTD.
 METROPOLITAN EXPRESSWAY COMPANY LIMITED
 CHODAI CO., LTD.
 NIPPON ENGINEERING CONSULTANTS CO., LTD.

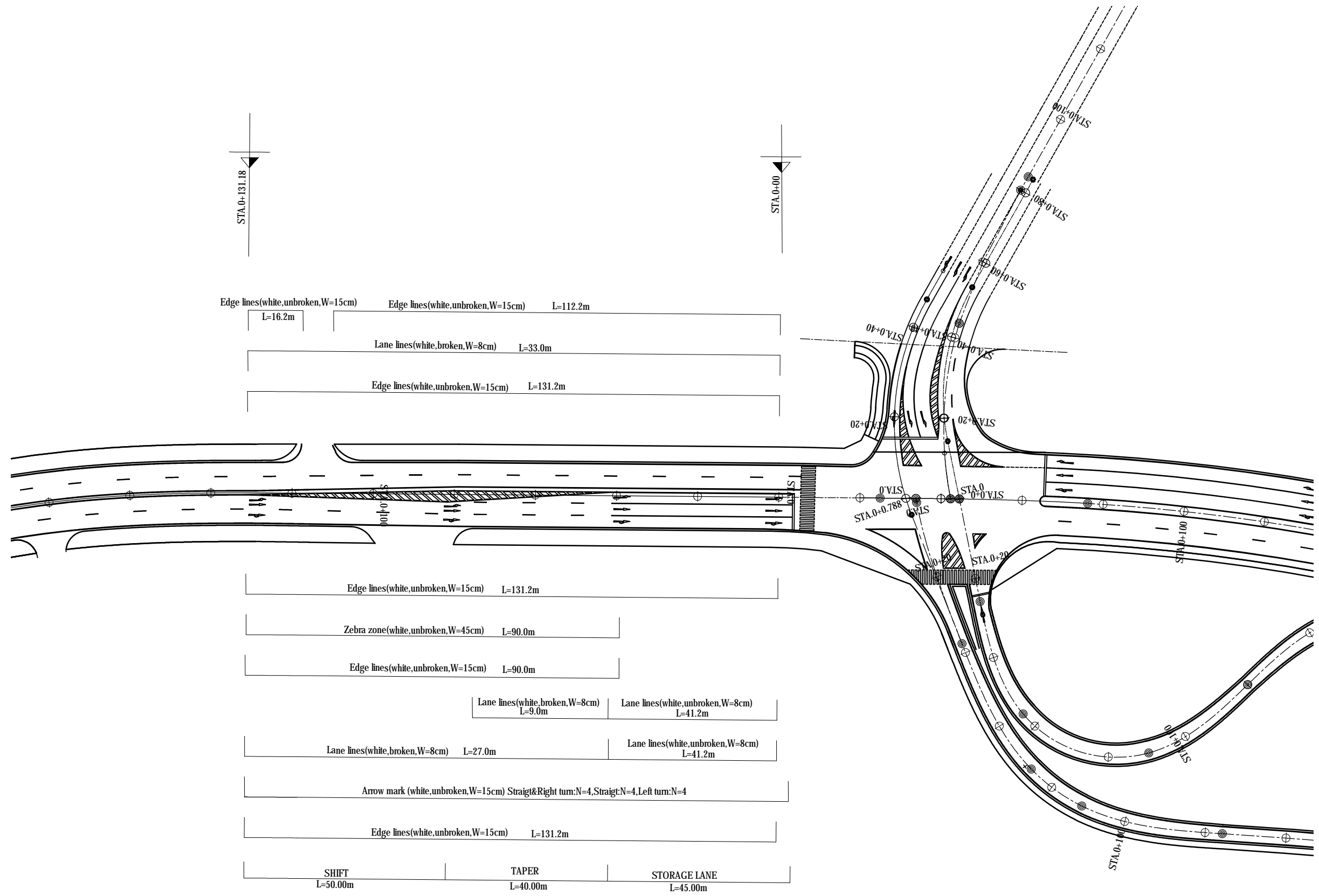
	NAME	SIGNATURE	DATE
PREPARED BY	M. TOMITA		27 Nov. 2017
CHECKED BY	T. HAYAKAWA		28 Nov. 2017
APPROVED BY	Y. SANO		29 Nov. 2017

DRAWING TITLE
PAVEMENT PLAN(Thilawa Access Road)

PACKAGE
1
DWG No.
P1-RD-2320

ROAD MARKINGS PLAN (Thilawa Access Road)

S=1:1000



Edge lines(white,unbroken,W=15cm) L=16.2m	Edge lines(white,unbroken,W=15cm) L=112.2m
Lane lines(white,broken,W=8cm) L=33.0m	
Edge lines(white,unbroken,W=15cm) L=131.2m	
Edge lines(white,unbroken,W=15cm) L=131.2m	
Zebra zone(white,unbroken,W=45cm) L=90.0m	
Edge lines(white,unbroken,W=15cm) L=90.0m	
Lane lines(white,broken,W=8cm) L=9.0m	Lane lines(white,unbroken,W=8cm) L=41.2m
Lane lines(white,broken,W=8cm) L=27.0m	Lane lines(white,unbroken,W=8cm) L=41.2m
Arrow mark (white,unbroken,W=15cm) Straigt&Right turn:N=4,Straigt:N=4,Left turn:N=4	
Edge lines(white,unbroken,W=15cm) L=131.2m	
SHIFT L=50.00m	TAPER L=40.00m
	STORAGE LANE L=45.00m

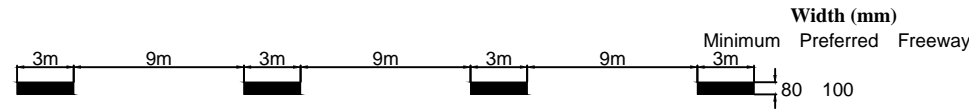
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO.,LTD. NIPPON ENGINEERING CONSULTANTS CO.,LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE ROAD MARKINGS PLAN(Thilawa Access Road)	PACKAGE	
				PREPARED BY	M. TOMITA			27 Nov. 2017	1
				CHECKED BY	T. HAYAKAWA			28 Nov. 2017	DWG No.
				APPROVED BY	Y. SANO			29 Nov. 2017	P1-RD-2330

DETAIL OF ROAD MARKING (1)

LOGITUDINAL LINES

1. Separation lines

(a) two-lane roads (Note 1)



(b) (i) narrow two-line road in lieu of barrier line (Note 2)
(ii) curves and crests on local and collector roads



(c) multilane roads (Note 3)



2. Barrier lines

(a) one direction

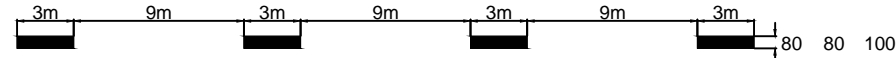


(b) both directions



3. Lane lines

(a) broken



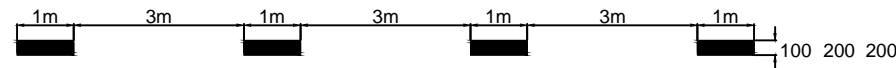
(b) unbroken (Note 4)



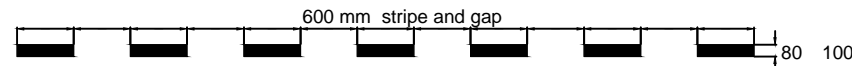
4. Edge lines (including transition lines)



5. Continuity lines



6. Turn lines

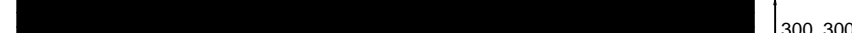


7. Outline markings

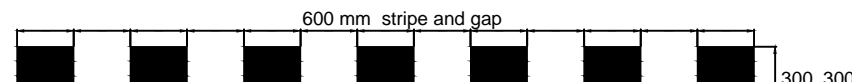


TRANSVERSE LINES

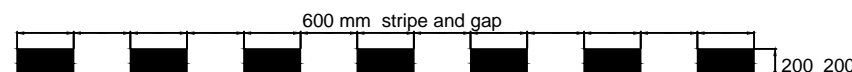
8. Stop lines



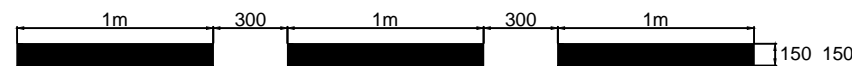
9. Holding lines



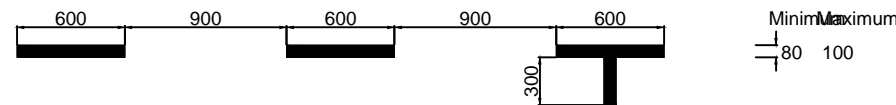
10. Give way lines



11. Crosswalk lines



12. Parking bay (yellow if restricted)

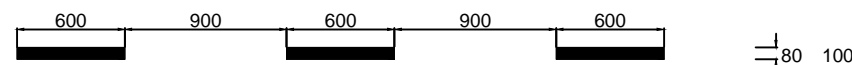


13. No stopping (yellow)

(a) all vehicle types

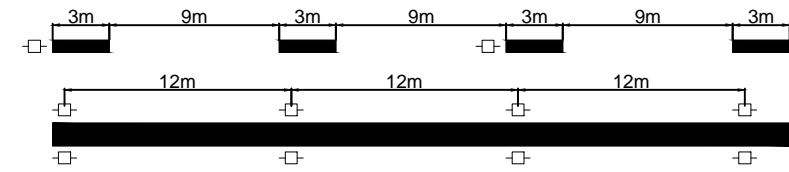


(b) some vehicle types



Separation lines

(a) two-lane rural roads (unit)



(b) multilane roads

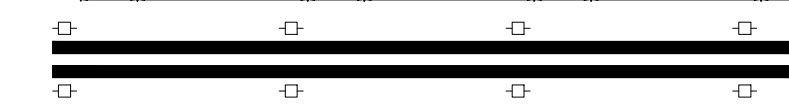


Barrier lines

(a) one direction

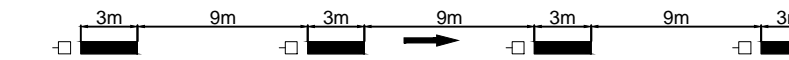


(b) both directions



Lane lines

(a) broken



(b) unbroken



Edge lines

(a) left side



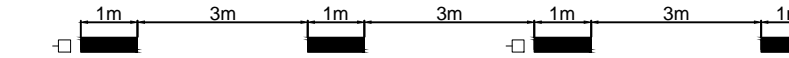
(b) left side at freeway ramps



(c) right side of one-way carriageway



Continuity lines (except freeway)



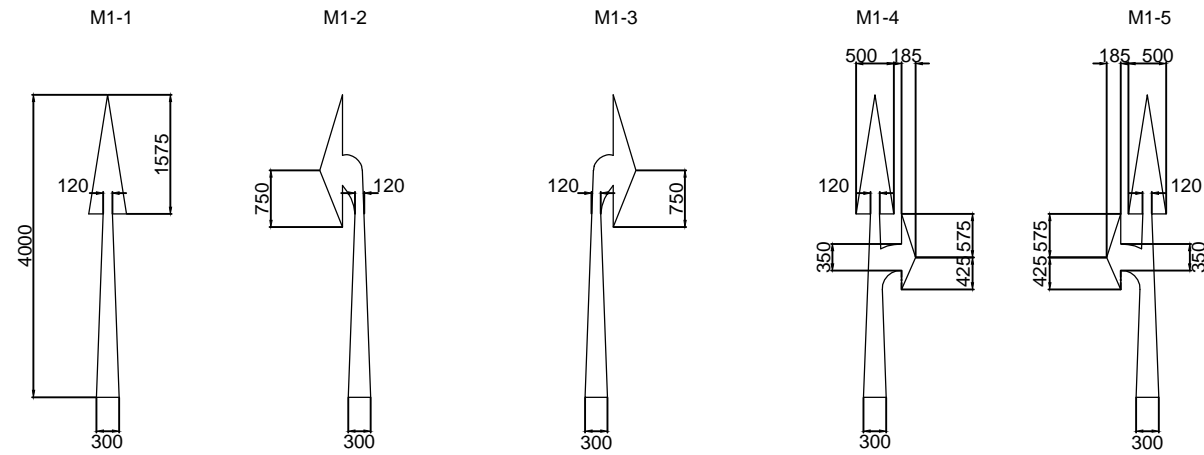
Key to RRPM types:

Notes:

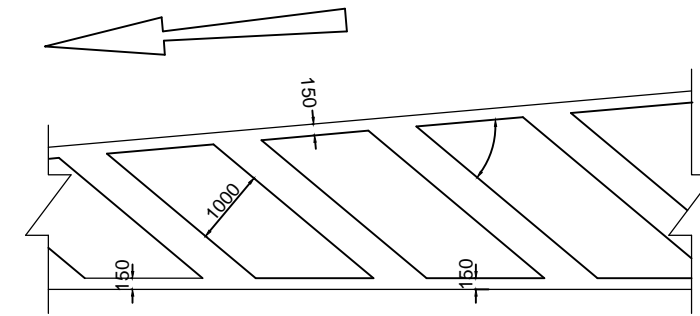
- Separation line on two-lane, two-way urban roads may be 6 m line/ 6 m gap marking where added emphasis of the line is needed.
- See Section for use of this marking.
- Separation lines for separating pedestrians and bicycles on a separated path are unbroken lines 80mm wide.
- The width of a bicycle lane line (unbroken line) is 100mm.

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				PREPARED BY	M. TOMITA				27 Nov. 2017
				CHECKED BY	T. HAYAKAWA				28 Nov. 2017
				APPROVED BY	Y. SANO				29 Nov. 2017

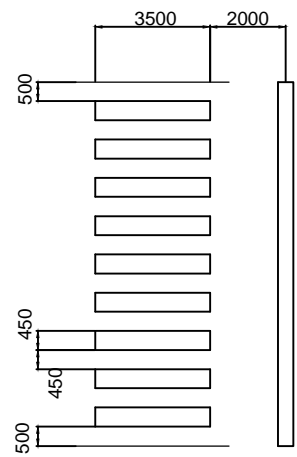
DETAIL OF ROAD MARKING (2)



ARROW MARK S = 1:100

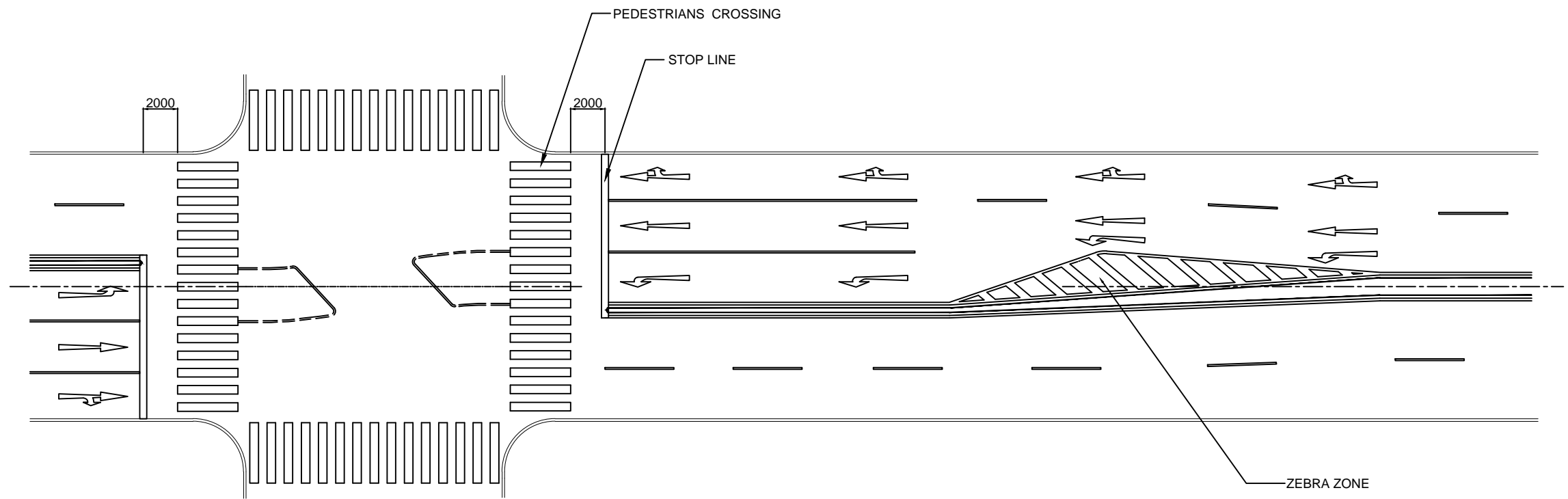


ZEBRA ZONE S = 1:100
(TRAFFIC ISLAND AROUND BENDS)



DRIVERS MUST GIVE WAY TO PEDESTRIANS ON THE CROSSING
F2

PEDESTRIANS CROSSING AND STOPPING LINE S = 1:200



TRAFFIC SIGN AT CROSS ROAD S = NTS

PROJECT NAME	FINANCED BY	COUNTERPART	JICA STUDY TEAM	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE
DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	JAPAN INTERNATIONAL COOPERATION AGENCY	REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	M. TOMITA		27 Nov. 2017	DETAIL OF ROAD MARKING (2)	1
				T. HAYAKAWA		28 Nov. 2017		DWG No.
				Y. SANO		29 Nov. 2017		P1-RD-2350