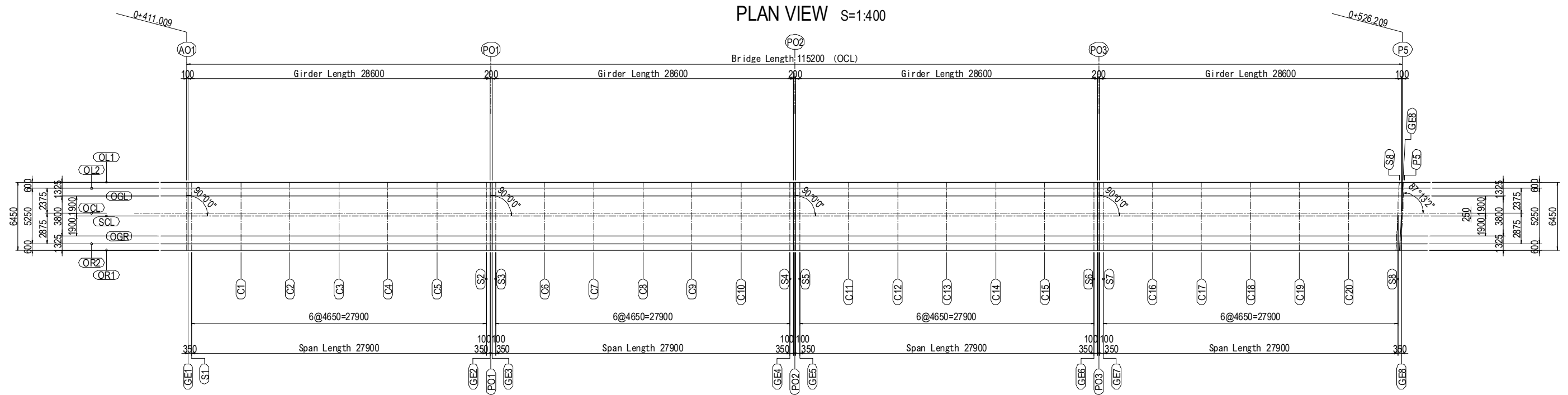


## **F. ON-RAMP BRIDGE**

# COORDINATES OF SUPERSTRUCTURE (1)



COORDINATE LIST (UNIT:m)

	AO1	GE1	S1	C1	C2	C3	C4	C5	S2	GE2	PO1	GE3	S3	C6	C7	C8	C9	C10	S4	GE4	PO2	GE5	S5	C11	C12	C13	C14	C15	
OL1	X	0.0000	0.1000	0.4500	5.1000	9.7500	14.4000	19.0500	23.7000	28.3500	28.7000	28.8000	28.9000	29.2500	33.9000	38.5500	43.2000	47.8500	52.5000	57.1500	57.5000	57.6000	57.7000	58.0500	62.7000	67.3500	72.0000	76.6500	81.3000
	Y	2.9750	2.9750	2.9750	2.9750	2.9750	2.9750	2.9750	2.9750	2.9750	2.9750	2.9750	2.9750	2.9750	2.9750	2.9750	2.9750	2.9750	2.9750	2.9750	2.9750	2.9750	2.9750	2.9750	2.9750	2.9750	2.9750	2.9750	2.9750
	Z	9.7491	9.7546	9.7738	10.0286	10.2834	10.5381	10.7929	11.0477	11.3025	11.3217	11.3271	11.3326	11.3518	11.6066	11.8614	12.1161	12.3709	12.6257	12.8805	12.8799	12.8849	12.8899	12.9073	13.1332	13.3472	13.5493	13.7396	13.9182
OL2	X	0.0000	0.1000	0.4500	5.1000	9.7500	14.4000	19.0500	23.7000	28.3500	28.7000	28.8000	28.9000	29.2500	33.9000	38.5500	43.2000	47.8500	52.5000	57.1500	57.5000	57.6000	57.7000	58.0500	62.7000	67.3500	72.0000	76.6500	81.3000
	Y	2.3750	2.3750	2.3750	2.3750	2.3750	2.3750	2.3750	2.3750	2.3750	2.3750	2.3750	2.3750	2.3750	2.3750	2.3750	2.3750	2.3750	2.3750	2.3750	2.3750	2.3750	2.3750	2.3750	2.3750	2.3750	2.3750	2.3750	2.3750
	Z	9.4991	9.5046	9.5238	9.7786	10.0334	10.2881	10.5429	10.7977	11.0525	11.0717	11.0771	11.0826	11.1018	11.3566	11.6114	11.8661	12.1209	12.3757	12.6305	12.6299	12.6349	12.6399	12.6573	12.8832	13.0972	13.2993	13.4896	13.6682
OGL	X	0.0000	0.1000	0.4500	5.1000	9.7500	14.4000	19.0500	23.7000	28.3500	28.7000	28.8000	28.9000	29.2500	33.9000	38.5500	43.2000	47.8500	52.5000	57.1500	57.5000	57.6000	57.7000	58.0500	62.7000	67.3500	72.0000	76.6500	81.3000
	Y	1.6500	1.6500	1.6500	1.6500	1.6500	1.6500	1.6500	1.6500	1.6500	1.6500	1.6500	1.6500	1.6500	1.6500	1.6500	1.6500	1.6500	1.6500	1.6500	1.6500	1.6500	1.6500	1.6500	1.6500	1.6500	1.6500	1.6500	1.6500
	Z	9.4846	9.4901	9.5093	9.7641	10.0189	10.2736	10.5284	10.7832	11.0380	11.0572	11.0626	11.0681	11.0873	11.3421	11.5969	11.8516	12.1064	12.3578	12.5978	12.6154	12.6204	12.6254	12.6428	12.8687	13.0827	13.2848	13.4751	13.6537
OCL	X	0.0000	0.1000	0.4500	5.1000	9.7500	14.4000	19.0500	23.7000	28.3500	28.7000	28.8000	28.9000	29.2500	33.9000	38.5500	43.2000	47.8500	52.5000	57.1500	57.5000	57.6000	57.7000	58.0500	62.7000	67.3500	72.0000	76.6500	81.3000
	Y	0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000
	Z	9.4516	9.4571	9.4763	9.7311	9.9859	10.2406	10.4954	10.7502	11.0050	11.0242	11.0296	11.0351	11.0543	11.3091	11.5639	11.8186	12.0734	12.3248	12.5648	12.5824	12.5874	12.5924	12.6098	12.8357	13.0497	13.2518	13.4421	13.6207
SCL	X	0.0000	0.1000	0.4500	5.1000	9.7500	14.4000	19.0500	23.7000	28.3500	28.7000	28.8000	28.9000	29.2500	33.9000	38.5500	43.2000	47.8500	52.5000	57.1500	57.5000	57.6000	57.7000	58.0500	62.7000	67.3500	72.0000	76.6500	81.3000
	Y	-0.2500	-0.2500	-0.2500	-0.2500	-0.2500	-0.2500	-0.2500	-0.2500	-0.2500	-0.2500	-0.2500	-0.2500	-0.2500	-0.2500	-0.2500	-0.2500	-0.2500	-0.2500	-0.2500	-0.2500	-0.2500	-0.2500	-0.2500	-0.2500	-0.2500	-0.2500	-0.2500	-0.2500
	Z	9.4466	9.4521	9.4713	9.7261	9.9809	10.2356	10.4904	10.7452	11.0000	11.0192	11.0246	11.0301	11.0493	11.3041	11.5589	11.8136	12.0684	12.3198	12.5598	12.5774	12.5824	12.5874	12.5924	12.6098	12.8357	13.0447	13.2468	13.4371
OGR	X	0.0000	0.1000	0.4500	5.1000	9.7500	14.4000	19.0500	23.7000	28.3500	28.7000	28.8000	28.9000	29.2500	33.9000	38.5500	43.2000	47.8500	52.5000	57.1500	57.5000	57.6000	57.7000	58.0500	62.7000	67.3500	72.0000	76.6500	81.3000
	Y	-2.1500	-2.1500	-2.1500	-2.1500	-2.1500	-2.1500	-2.1500	-2.1500	-2.1500	-2.1500	-2.1500	-2.1500	-2.1500	-2.1500	-2.1500	-2.1500	-2.1500	-2.1500	-2.1500	-2.1500	-2.1500	-2.1500	-2.1500	-2.1500	-2.1500	-2.1500	-2.1500	-2.1500
	Z	9.4086	9.4141	9.4333	9.6881	9.9429	10.1976	10.4524	10.7072	10.9620	10.9812	10.9866	10.9921	11.0113	11.2661	11.5209	11.7756	12.0304	12.2818	12.5218	12.5394	12.5444	12.5494	12.5668	12.7927	13.0067	13.2088	13.3991	13.5777
OR2	X	0.0000	0.1000	0.4500	5.1000	9.7500	14.4000	19.0500	23.7000	28.3500	28.7000	28.8000	28.9000	29.2500	33.9000	38.5500	43.2000	47.8500	52.5000	57.1500	57.5000	57.6000	57.7000	58.0500	62.7000	67.3500	72.0000	76.6500	81.3000
	Y	-2.8750	-2.8750	-2.8750	-2.8750	-2.8750	-2.8750	-2.8750	-2.8750	-2.8750	-2.8750	-2.8750	-2.8750	-2.8750	-2.8750	-2.8750	-2.8750	-2.8750	-2.8750	-2.8750	-2.8750	-2.8750	-2.8750	-2.8750	-2.8750	-2.8750	-2.8750	-2.8750	-2.8750
	Z	9.3941	9.3996	9.4188	9.6736	9.9284	10.1831	10.4379	10.6927	10.9475	10.9667	10.9721	10.9776	10.9968	11.2516	11.5064	11.7611	12.0159	12.2673	12.5073	12.5249	12.5299	12.5349	12.5523	12.7782	12.9922	13.1943	13.3846	13.5632
OR1	X	0.0000	0.1000	0.4500	5.1000	9.7500	14.4000	19.0500	23.7000	28.3500	28.7000	28.8000	28.9000	29.2500	33.9000	38.5500	43.2000	47.8500	52.5000	57.1500	57.5000	57.6000	57.7000	58.0500	62.7000	67.3500	72.0000	76.6500	81.3000
	Y	-3.4750	-3.4750	-3.4750	-3.4750	-3.4750	-3.4750	-3.4750	-3.4750	-3.4750	-3.4750	-3.4750	-3.4750	-3.4750	-3.4750	-3.4750	-3.4750	-3.4750	-3.4750	-3.4750	-3.4750	-3.4750	-3.4750	-3.4750	-3.4750	-3.4750	-3.4750	-3.4750	-3.4750
	Z	9.6441	9.6496	9.6688	9.9236	10.1784	10.4331	10.6879	10.9427	11.1975	11.2167	11.2221	11.2276	11.2468	11.5016	11.7564	12.0111	12.2659	12.5173	12.7573	12.7749	12.7799	12.7849	12.8023	13.0282	13.2422	13.4443	13.6346	13.8132

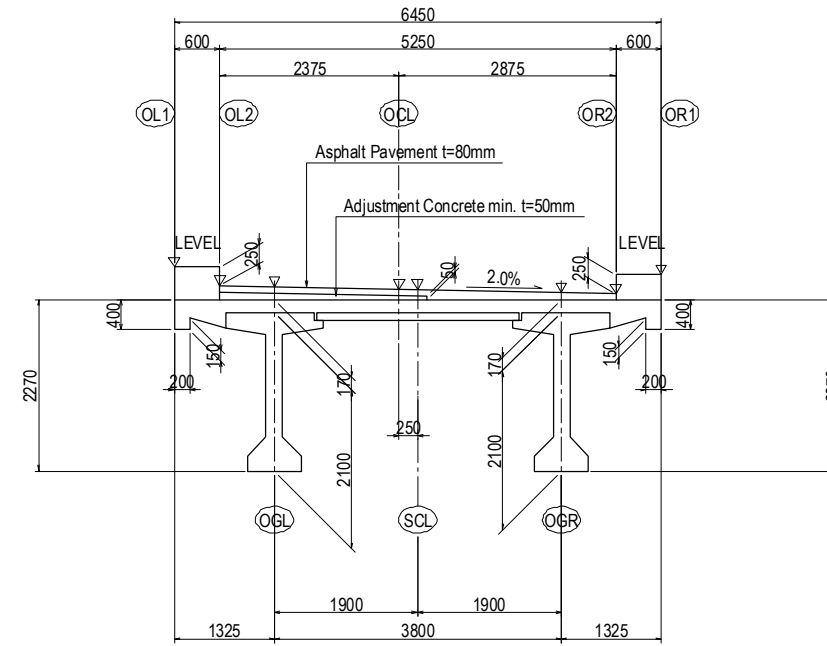
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN 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
							COORDINATES OF SUPERSTRUCTURE (1)	1	
								DWG No.	
								P1-OR-0001	

# COORDINATES OF SUPERSTRUCTURE (2)

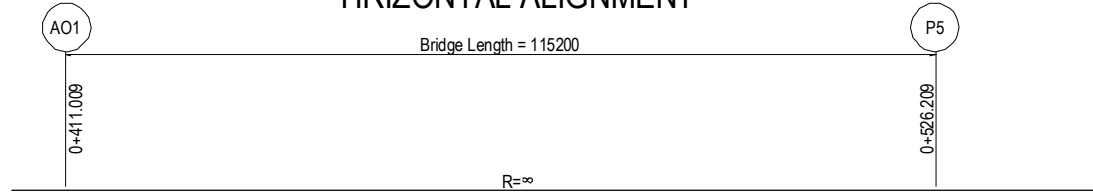
COORDINATE LIST (UNIT :m)

	S6	GE6	PO3	GE7	S7	C16	C17	C18	C19	C20	S8	GE8	P5	
OL1	X	85.9500	86.3000	86.4000	86.5000	86.8500	91.5000	96.1500	100.8000	105.4500	110.1000	114.8946	115.2446	115.3446
	Y	2.9750	2.9750	2.9750	2.9750	2.9750	2.9750	2.9750	2.9750	2.9750	2.9750	2.9750	2.9750	2.9750
OL2	X	85.9500	86.3000	86.4000	86.5000	86.8500	91.5000	96.1500	100.8000	105.4500	110.1000	114.8654	115.2154	115.3154
	Y	2.3750	2.3750	2.3750	2.3750	2.3750	2.3750	2.3750	2.3750	2.3750	2.3750	2.3750	2.3750	2.3750
OGL	X	85.9500	86.3000	86.4000	86.5000	86.8500	91.5000	96.1500	100.8000	105.4500	110.1000	114.8302	115.1802	115.2802
	Y	1.6500	1.6500	1.6500	1.6500	1.6500	1.6500	1.6500	1.6500	1.6500	1.6500	1.6500	1.6500	1.6500
OCL	X	85.9500	86.3000	86.4000	86.5000	86.8500	91.5000	96.1500	100.8000	105.4500	110.1000	114.7500	115.1000	115.2000
	Y	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000
SCL	X	85.9500	86.3000	86.4000	86.5000	86.8500	91.5000	96.1500	100.8000	105.4500	110.1000	114.7378	115.0878	115.1878
	Y	-0.2500	-0.2500	-0.2500	-0.2500	-0.2500	-0.2500	-0.2500	-0.2500	-0.2500	-0.2500	-0.2500	-0.2500	-0.2500
OGR	X	85.9500	86.3000	86.4000	86.5000	86.8500	91.5000	96.1500	100.8000	105.4500	110.1000	114.6455	114.9955	115.0955
	Y	-2.1500	-2.1500	-2.1500	-2.1500	-2.1500	-2.1500	-2.1500	-2.1500	-2.1500	-2.1500	-2.1500	-2.1500	-2.1500
OR2	X	85.9500	86.3000	86.4000	86.5000	86.8500	91.5000	96.1500	100.8000	105.4500	110.1000	114.6103	114.9603	115.0603
	Y	-2.8750	-2.8750	-2.8750	-2.8750	-2.8750	-2.8750	-2.8750	-2.8750	-2.8750	-2.8750	-2.8750	-2.8750	-2.8750
OR1	X	85.9500	86.3000	86.4000	86.5000	86.8500	91.5000	96.1500	100.8000	105.4500	110.1000	114.5811	114.9311	115.0311
	Y	-3.4750	-3.4750	-3.4750	-3.4750	-3.4750	-3.4750	-3.4750	-3.4750	-3.4750	-3.4750	-3.4750	-3.4750	-3.4750
	X	85.9500	86.3000	86.4000	86.5000	86.8500	91.5000	96.1500	100.8000	105.4500	110.1000	114.5500	114.9000	115.0000
	Y	13.9798	13.9919	13.9953	13.9988	14.0107	14.1633	14.3040	14.4329	14.5500	14.6562	14.7570	14.8477	14.9269

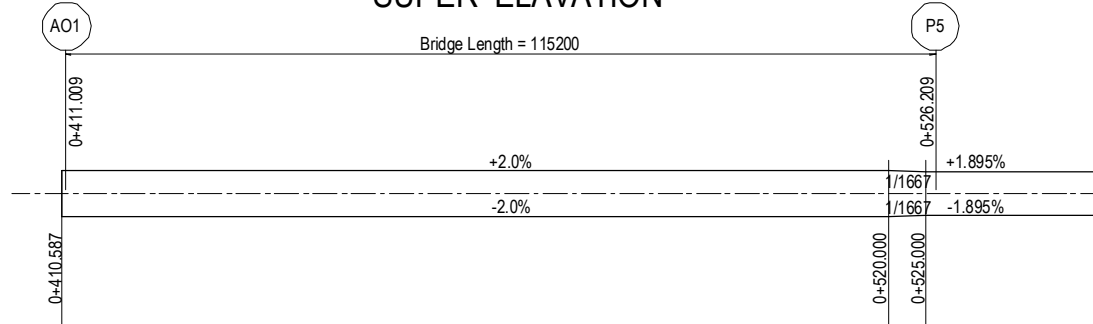
CROSS SECTIONS S=1:100



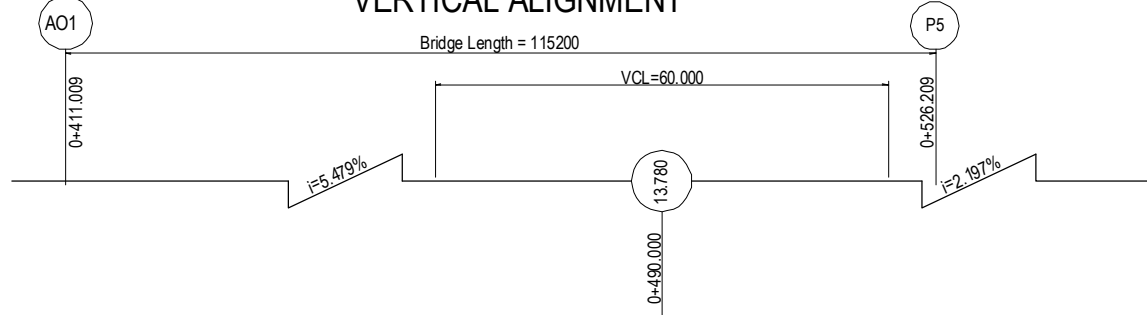
HORIZONTAL ALIGNMENT



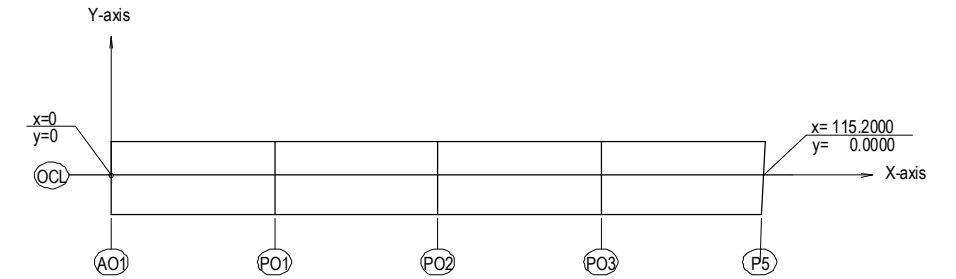
SUPER ELEVATION



VERTICAL ALIGNMENT



COORDINATE SYSTEM

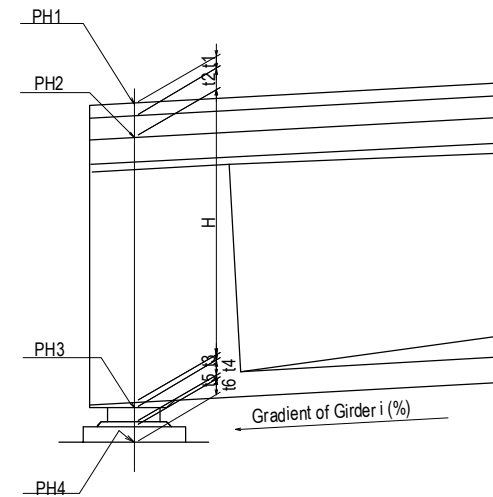


- A line connecting the intersection of road center line OCL and AO1 and P5 in X-axis.
- Intersection Point of AO1 and X-axis(0.000,0.000).
- Y-axis is perpendicular to X-axis through(0.000,0.000).

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 COORDINATES OF SUPERSTRUCTURE (2)	PACKAGE	
				PREPARED BY	M. OHYAMA	大山 満弘		15 Jun.2017	1
				CHECKED BY	T. HAYAKAWA	平川 知邦		20 Jun.2017	DWG No.
				APPROVED BY	Y. SANO	佐野 祐一		21 Jun.2017	P1-OR-002

# COORDINATES OF SUPERSTRUCTURE (3)

## STRUCTURE ELEVATION



## LIST OF STRUCTURE HEIGHT

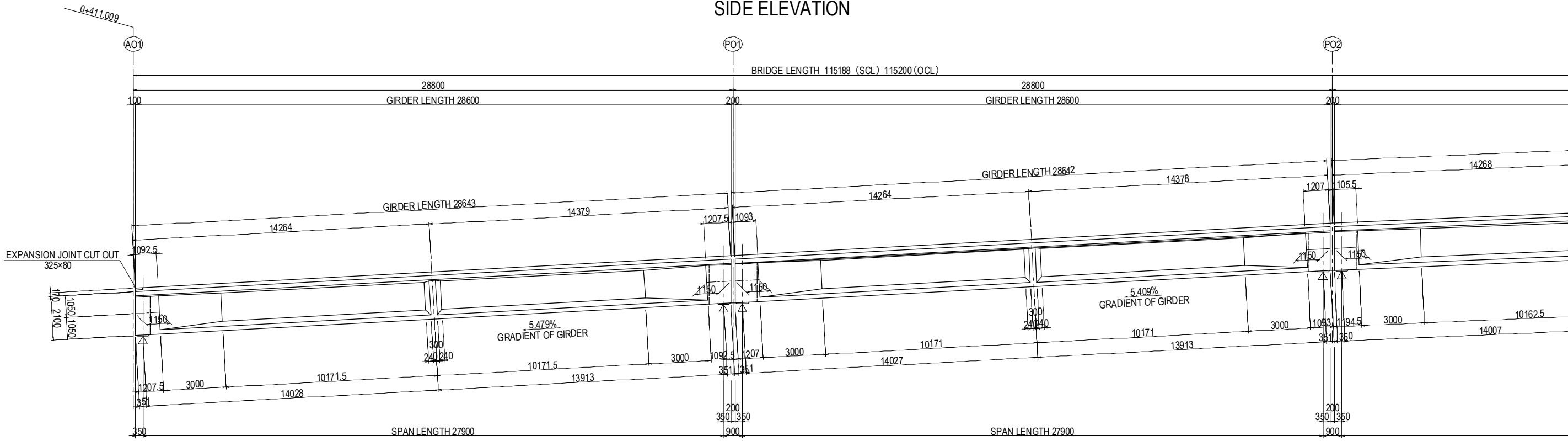
			AO1		PO1				PO2				PO3				P5	
			AO1 side		PO2 side		PO1 side		PO3 side		PO2 side		P5 side		S8			
			S1		S2		S3		S4		S5		S6		S7			
			G1	G2	G1	G2	G1	G2	G1	G2	G1	G2	G1	G2	G1	G2	G1	G2
Gradient of Girder	i	%	5.479				5.409				4.220				2.694			
Road Plan Elevation	PH1	m	9.5093	9.4333	11.0380	10.9620	11.0873	11.0113	12.5978	12.5218	12.6428	12.5668	13.8203	13.7443	13.8512	13.7752	14.5982	14.5221
Pavement Thickness	t1	m	0.1705	0.0945	0.1705	0.0945	0.1708	0.0948	0.1722	0.0962	0.1740	0.0980	0.1740	0.0980	0.1738	0.0978	0.1669	0.0958
RC-Slab Thickness	t2	m	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700
Top of Girder Elevation	PH2	m	9.1688	9.1688	10.6975	10.6975	10.7465	10.7465	12.2556	12.2556	12.2988	12.2988	13.4763	13.4763	13.5074	13.5074	14.2613	14.2563
Girder Height	H	m	2.1031	2.1031	2.1031	2.1031	2.1031	2.1031	2.1031	2.1031	2.1019	2.1019	2.1019	2.1019	2.1008	2.1008	2.1008	2.1008
Adjustment Layer	t3	m	0.0450	0.0450	0.0450	0.0450	0.0450	0.0450	0.0450	0.0450	0.0450	0.0450	0.0450	0.0450	0.0400	0.0400	0.0400	0.0400
Top of Bearing Support	PH3	m	7.0207	7.0207	8.5494	8.5494	8.5984	8.5984	10.1075	10.1075	10.1519	10.1519	11.3294	11.3294	11.3666	11.3666	12.1205	12.1155
Bearing Thickness	t4	m	0.1116	0.1116	0.0884	0.0884	0.0884	0.0884	0.0884	0.0884	0.0884	0.0884	0.0884	0.0884	0.0884	0.0884	0.1348	0.1348
Leveling Thickness	t5	m	0.0340	0.0340	0.0380	0.0380	0.0490	0.0490	0.0370	0.0370	0.0440	0.0440	0.0390	0.0390	0.0380	0.0380	0.0370	0.0320
Base Concrete Thickness	t6	m	0.0000	0.0000	0.1000	0.1000	0.1200	0.1200	0.1000	0.1000	0.1200	0.1200	0.1000	0.1000	0.1200	0.1200	0.0000	0.0000
Top of Substructure Elevation	PH4	m	6.8751	6.8751	8.3230	8.3230	8.3410	8.3410	9.8821	9.8821	9.8995	9.8995	11.1020	11.1020	11.1202	11.1202	11.9487	11.9487

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 COORDINATES OF SUPERSTRUCTURE (3)	PACKAGE	
				PREPARED BY	M. OHYAMA	大山 満弘		15 Jun.2017	1
				CHECKED BY	T. HAYAKAWA	平川 知邦		20 Jun.2017	DWG No.
				APPROVED BY	Y. SANO	佐野 祐一		21 Jun.2017	P1-OR-0003

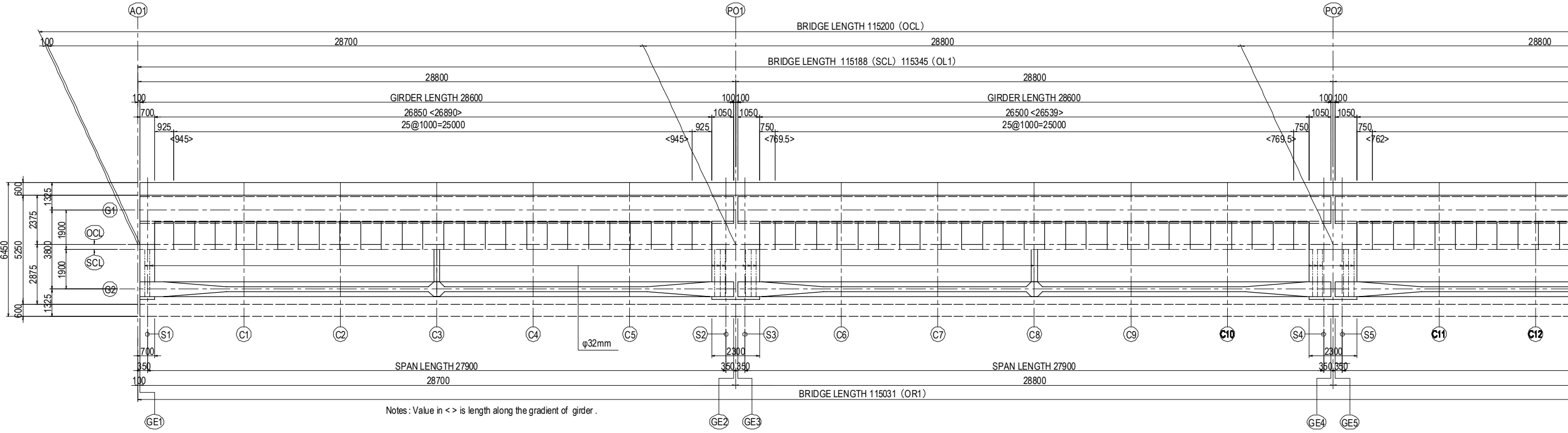


# GENERAL VIEW OF SUPERSTRUCTRE FOR ON-RAMP (1) S=1:200

## SIDE ELEVATION



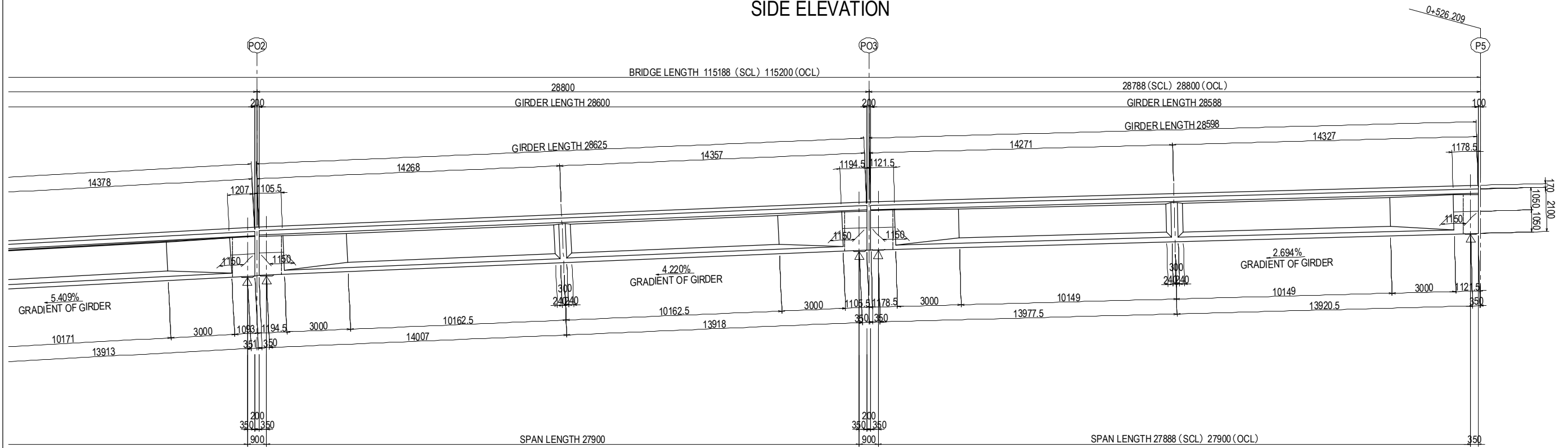
## PLAN VIEW



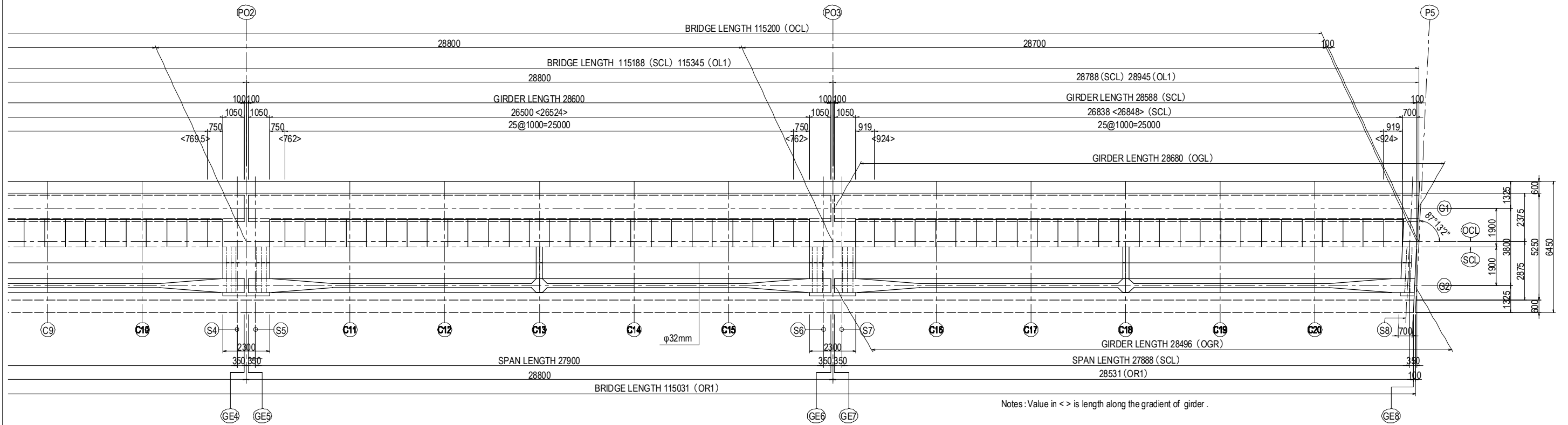
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE GENERAL VIEW OF SUPERSTRUCTURE FOR ON-RAMP (1)	PACKAGE	
				PREPARED BY	M. OHYAMA			15 Jun.2017	1
				CHECKED BY	T. HAYAKAWA			20 Jun.2017	DWG No.
				APPROVED BY	Y. SANO			21 Jun.2017	P1-OR-1001

# GENERAL VIEW OF SUPERSTRUCTRE FOR ON-RAMP (2) S=1:200

## SIDE ELEVATION



## PLAN VIEW



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. OHYAMA		15 Jun.2017
CHECKED BY	T. HAYAKAWA		20 Jun.2017
APPROVED BY	Y. SANO		21 Jun.2017

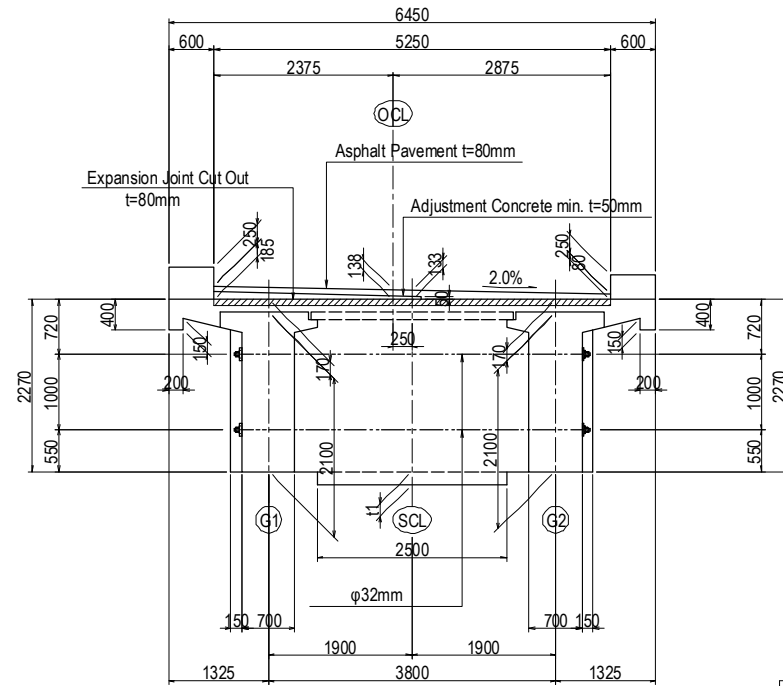
DRAWING TITLE  
 GENERAL VIEW OF SUPERSTRUCTRE  
 FOR ON-RAMP (2)

PACKAGE  
 1  
 DWG No.  
 P1-OR-1002

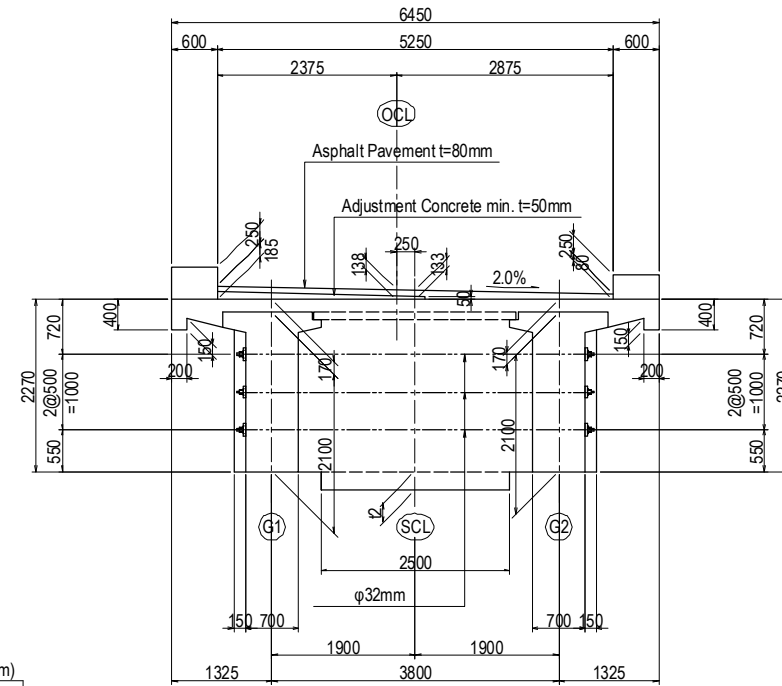
# GENERAL VIEW OF SUPERSTRUCTURE FOR ON-RAMP (3)

CROSS SECTIONS S=1:100

AT AO1 (GE1)



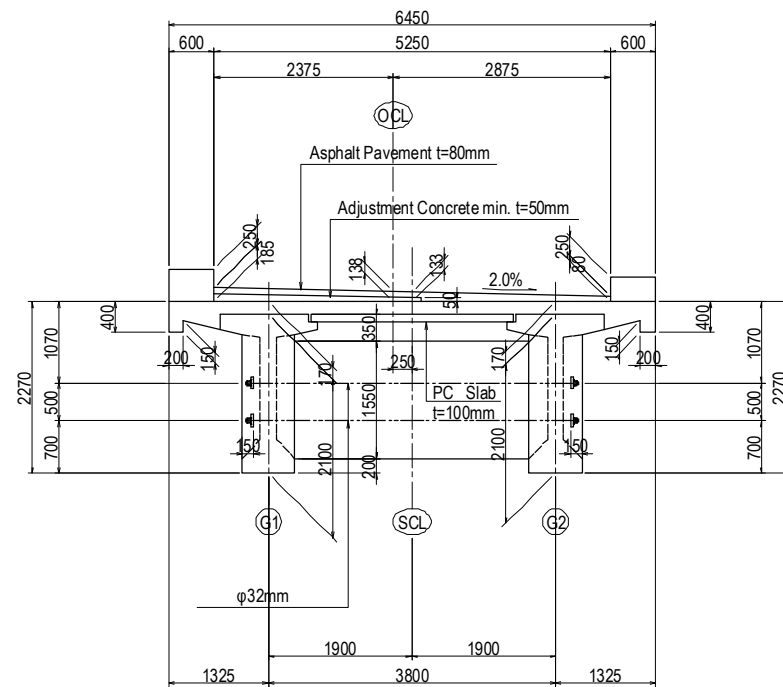
AT CROSS BEAM SECTION (PO1)



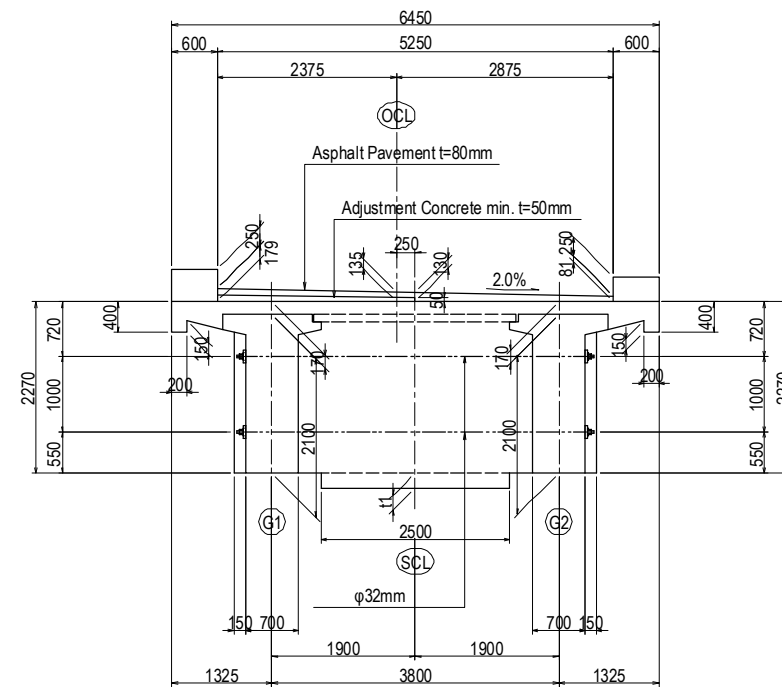
MEMBER DIMENSIONS

	AO1	P01	P02	P03	P5	(mm)
t1	171	—	—	—	189	on bearing support line
t2	—	267	263	259	—	on center of pier

AT INTERMEDIATE CROSS BEAM SECTION (C3)



AT P5 (GE8)



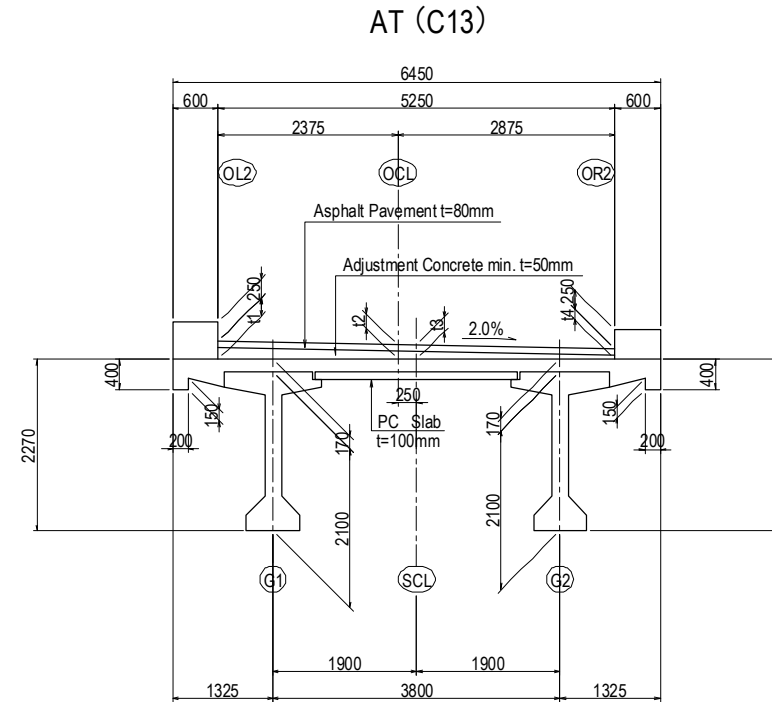
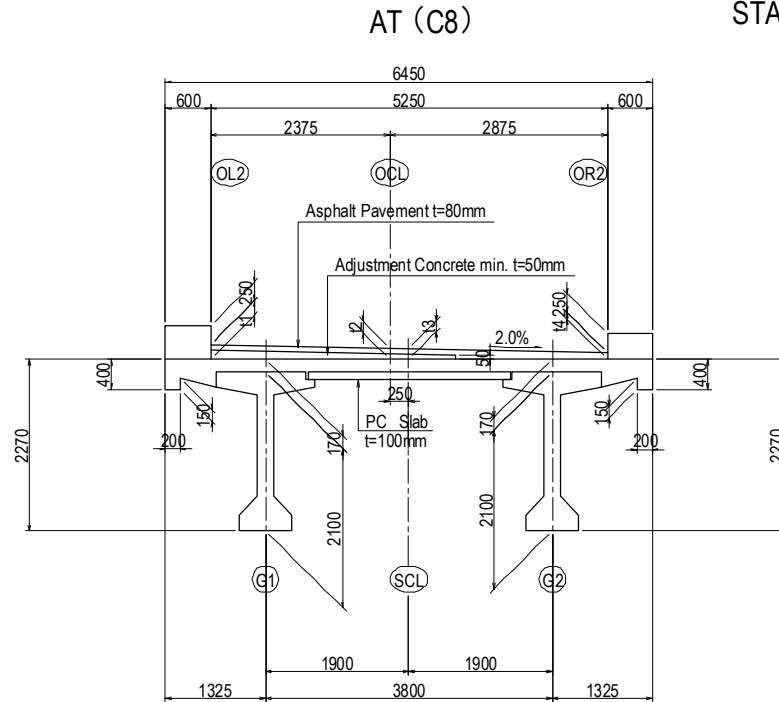
Notes:

- Unless otherwise indicated in drawing, transverse PC bars shall be tensioned from one side alternately.
- Reinforcement for tendon anchorage such as grid rebar shall be arranged sufficiently.
- 800 N/mm<sup>2</sup> is assumed as jacking force of  $\phi 32$ mm in design stage. Jacking force considering jacking sequence shall be indicated on shop drawings and shall be approved by Engineer.

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 SUPERSTRUCTURE FOR ON-RAMP(3)	PACKAGE 1 DWG No. P1-OR-1003	
				PREPARED BY	M. OHYAMA				15 Jun.2017
				CHECKED BY	T. HAYAKAWA				20 Jun.2017
				APPROVED BY	Y. SANO				21 Jun.2017

# GENERAL VIEW OF SUPERSTRUCTURE FOR ON-RAMP (4)

CROSS SECTIONS S=1:100  
STANDARD SECTION



MEMBER DIMENSIONS

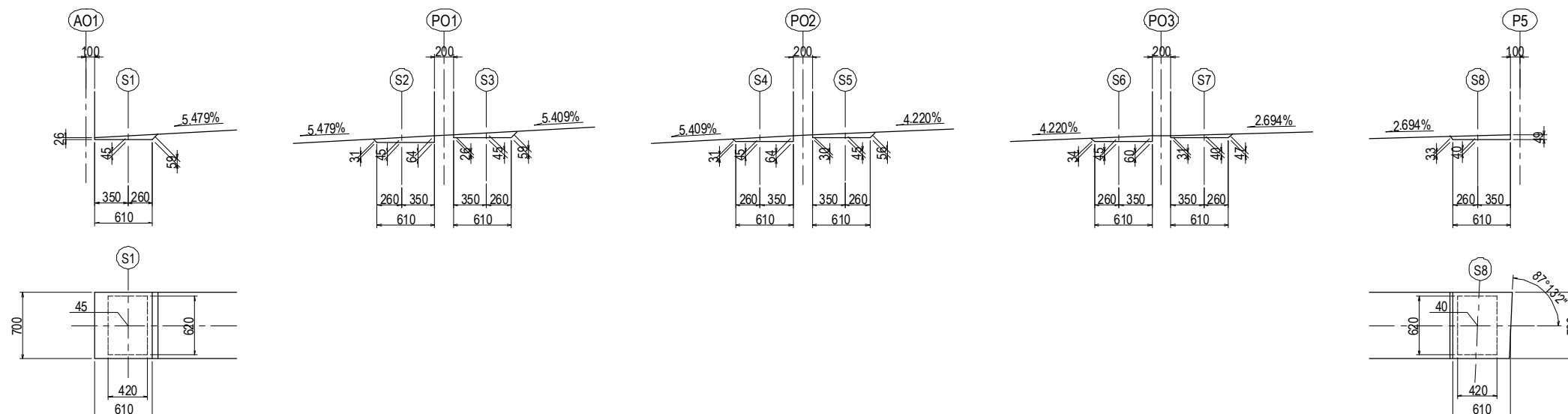
		AO1	GE1	S1	C1	C2	C3	C4	C5	S2	GE2	PO1	GE3	S3	C6	C7	C8	C9	C10	S4	GE4	PO2	GE5	S5	C11	C12	C13	C14	C15	S6	GE6
OL2	t1	185	185	185	185	185	185	185	185	185	185	185	185	185	189	192	195	198	198	187	185	185	186	189	218	236	242	236	218	189	186
OCL	t2	138	138	138	138	138	138	138	138	138	138	138	138	138	141	144	148	151	151	139	138	138	138	141	171	188	194	188	171	141	138
SCL	t3	133	133	133	133	133	133	133	133	133	133	133	133	133	136	139	143	146	146	134	133	133	133	136	166	183	189	183	166	136	133
OR2	t4	80	80	80	80	80	80	80	80	80	80	80	80	80	84	87	90	93	93	82	80	80	81	84	113	131	137	131	113	84	81

(UNIT: mm)

		PO3	GE7	S7	C16	C17	C18	C19	C20	S8	GE8	P5
OL2	t1	185	186	188	216	231	235	226	206	181	179	178
OCL	t2	138	138	141	168	184	187	179	159	136	134	134
SCL	t3	133	133	136	163	179	182	174	154	131	130	129
OR2	t4	80	81	83	111	126	130	121	102	82	81	80

(UNIT: mm)

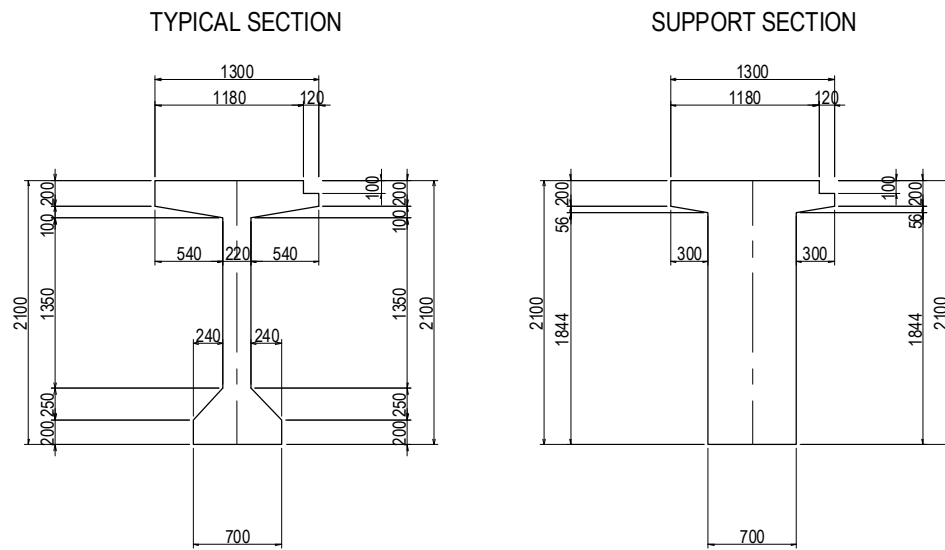
DETAIL OF ADJUSTMENT LAYER S=1:30



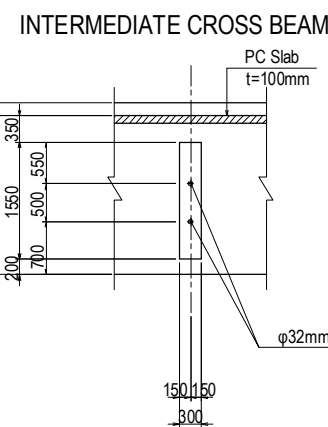
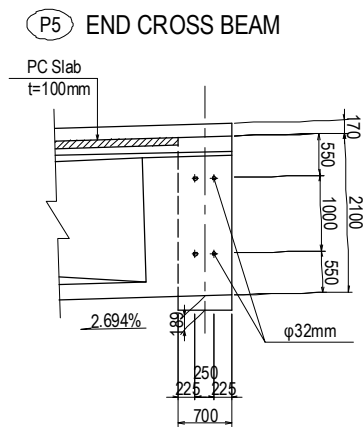
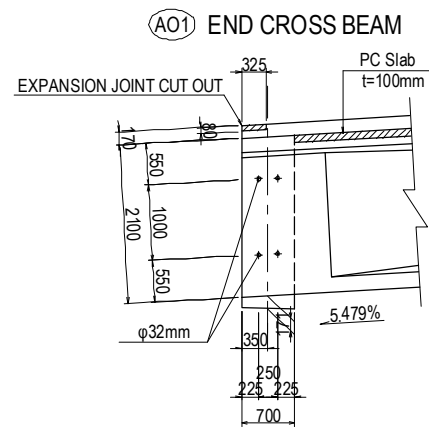
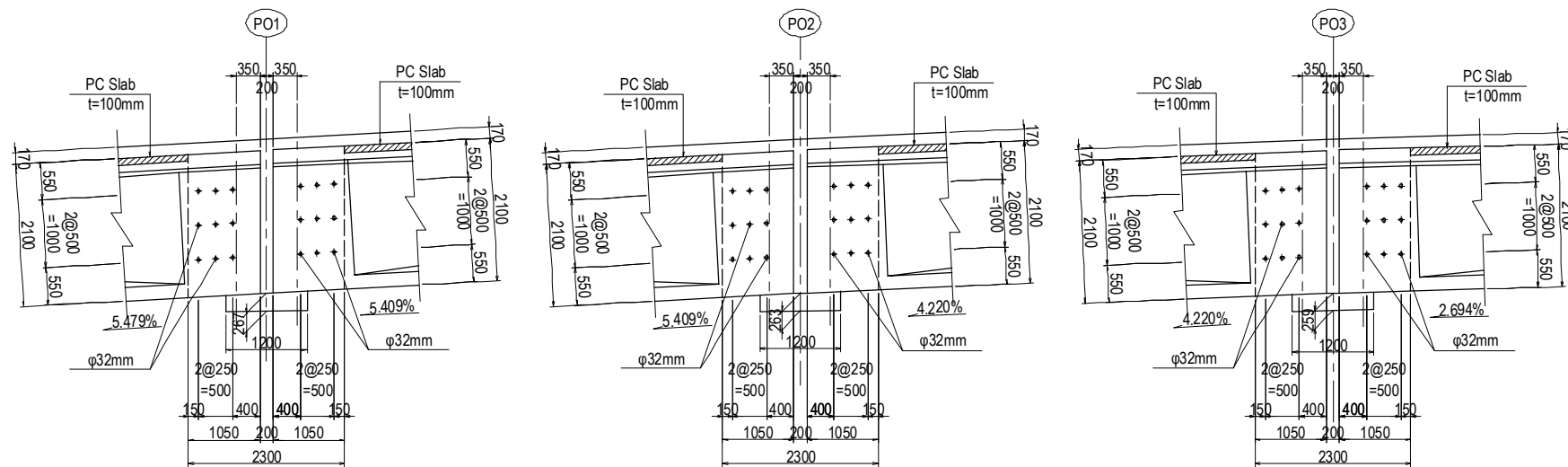
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE <b>GENERAL VIEW OF SUPERSTRUCTURE FOR ON-RAMP (4)</b>	PACKAGE 1 DWG No. P1-OR-1004	
				PREPARED BY	M. OHYAMA				15 Jun.2017
				CHECKED BY	T. HAYAKAWA				20 Jun.2017
				APPROVED BY	Y. SANO				21 Jun.2017

# GENERAL VIEW OF SUPERSTRUCTURE FOR ON-RAMP (5)

CROSS SECTION S=1:30



DETAIL OF CROSS BEAM CONNECTION PART S=1:50



DESIGN DONDITION

ROAD GARDE	Equivalent to CLASS C
BRIDGE TYPE	4 span continuous PC-I girder bridge with composite deck(PC board and RC deck)
BRIDGE LENGTH	L = 115.200m
SPAN LENGTH	L = 27.900 + 27.900 + 27.900 + 27.900m
WIDTH OF THE ROAD	TOTAL : 6.450m L = 0.600 + 0.750 + 3.250 + 1.250 + 0.600m
HORIZONTAL ALIGNMENT	R = ∞
LONGITUDINAL SLOPE	5.479% ~ 2.197%
SUPERELEVATION	2.00%
ANGLE OF SKEW	AO1, PO1, PO2, PO3 : 90°00'00" , P5 : 87°13'02"
PAVEMENT	ASPHALT PAVEMENT t = 80 mm
SLAB	REINFORCED CONCRETE t = 170 mm
PLATE	PRESTRESS CONCRETE BOARD t = 100 mm
LIVE ROAD	AASHTO HL-93
DESIGN STANDARD	AASHTO LRFD BRIDGE DESIGN 2014(LIVE LOAD) Specifications for highway bridges (Japan Road Association) Part I Common, Part III Concrete Bridges, Part V Seismic Design (April 2012)

MATERIALS LIST

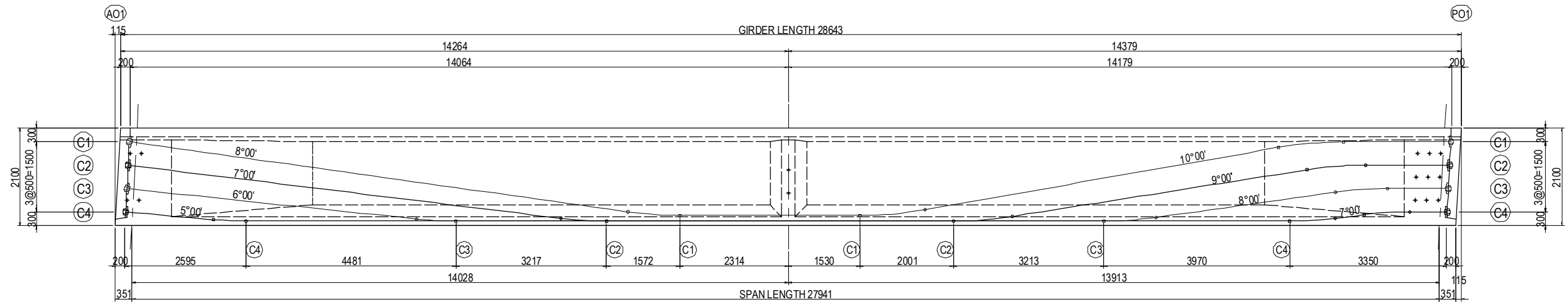
		(N/mm <sup>2</sup> )				
CONCRETE		MAIN GIRDER	CROSS BEAM	PC BOARD	RC SLAB	COUPLING CONCRETE
DESIGN STRENGTH OF CONCRETE		40.0	30.0	40.0	30.0	30.0
ALLOWABLE FLEXURAL COMPRESSIVE STRESS	IMMEDIATELY AFTER PRESTRESSING	19.0	15.0	19.0	—	—
	OTHERS	14.0	11.0	14.0	10.0	10.0
ALLOWABLE FLEXURAL TENSILE STRESS	IMMEDIATELY AFTER PRESTRESSING	-1.5	-1.2	-1.5	—	—
	DEAD LOAD	0.0	0.0	—	—	—
		OTHERS	-1.5	-1.2	0.0	—
MEAN SHEAR STRESS CONCRETE CAN CARRY		0.55	0.45	—	—	—
MAXIMUM MEAN CONCRETE SHEAR STRESS	IN CASE WHERE ONLY SHEAR FORCES	5.3	4.0	—	—	—
ALLOWABLE DIAGONAL TENSILE STRESS (DEAD LOAD)	IN CASE WHERE ONLY SHEAR FORCES	-1.0	-0.8	—	—	—
ALLOWABLE DIAGONAL TENSILE STRESS (DESIGN LOAD)	IN CASE WHERE ONLY SHEAR FORCES	-2.0	-1.7	—	—	—

		(N/mm <sup>2</sup> )		
PC STRAND		SWPR7BL 12S12.7mm	SBPR930/1080 φ 32mm	SWPR7 1S9.3mm
TENSILE STRENGTH		1850	1080	1700
YIELD POINT		1600	980	1450
ALLOWABLE TENSILE STRESS	DURING PRESTRESSING	1440	837	1305
	IMMEDIATELY AFTER PRESTRESSING	1295	756	1190
	UNDER DESIGN LOAD	1110	648	1020

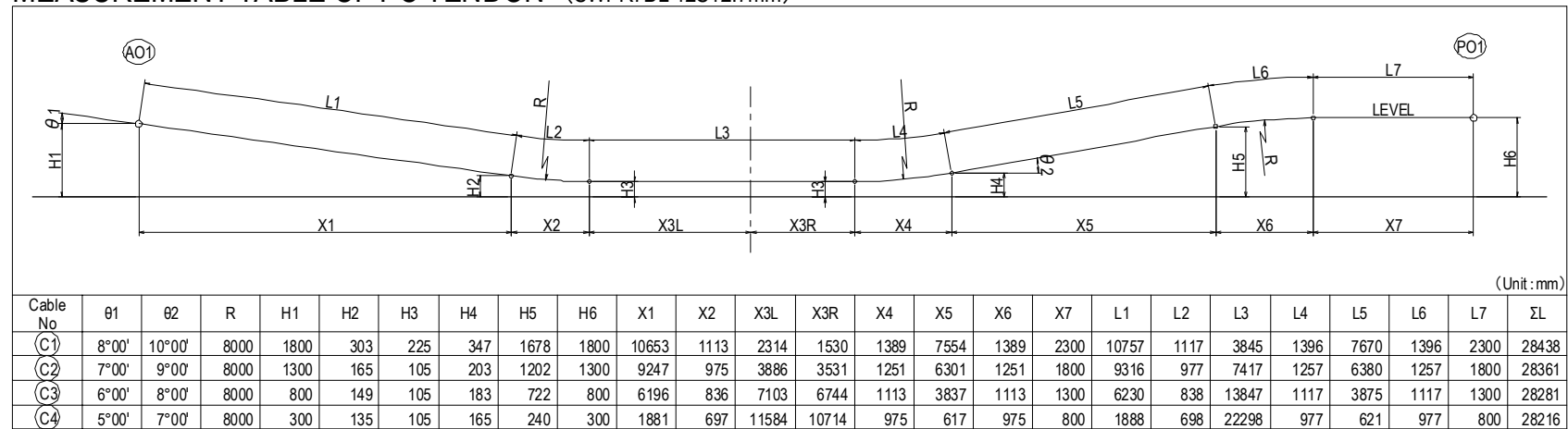
		(N/mm <sup>2</sup> )			
REINFORCING STEEL		MAIN GIRDER	CROSS BEAM	RC SLAB	COUPLING CONCRETE
STEEL TYPE		SD345	SD345	SD345	SD345
YIELD POINT		345	345	345	345
ALLOWABLE TENSILE STRESS	DEAD LOAD	—	—	100	100
	DESIGN LOAD	180	180	140	160

# TENDON ARRANGEMENT OF PRECAST BEAM FOR ON-RAMP (1)

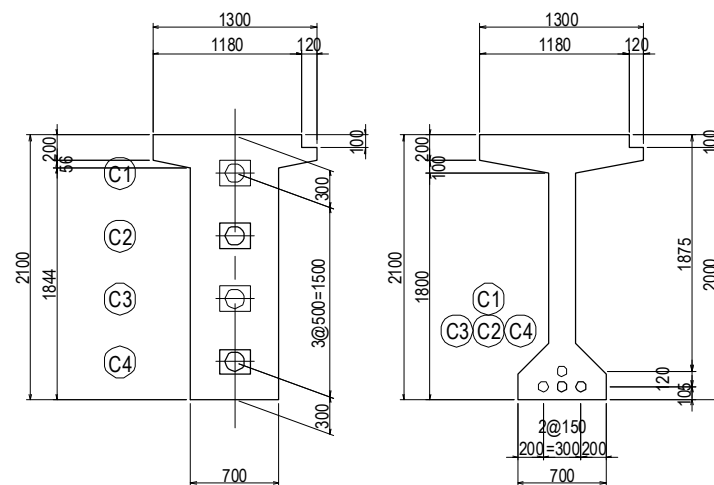
SIDE ELEVATION S=1:100



MEASUREMENT TABLE OF PC TENDON (SWPR7BL 12S12.7mm)



CROSS SECTION S=1:60



Notes:

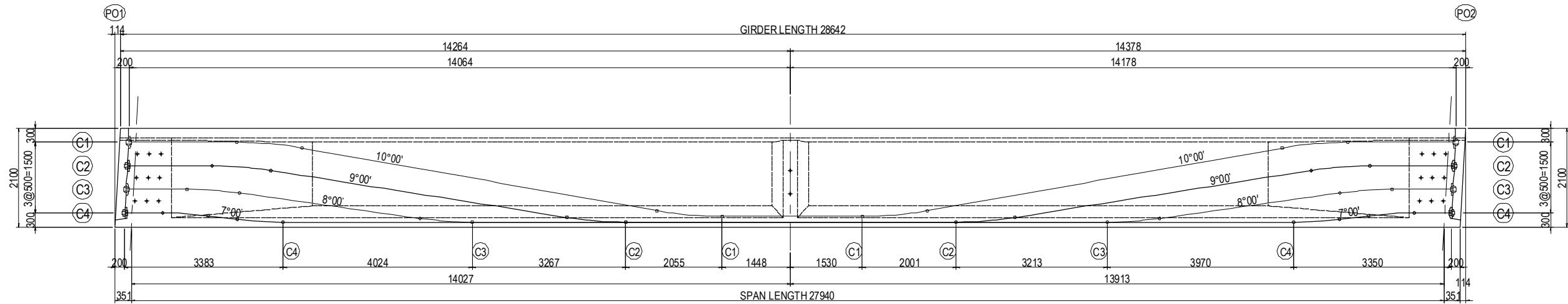
- Unless otherwise indicated in drawing, longitudinal PC tendons shall be tensioned from both ends simultaneously.
- Reinforcement for tendon anchorage such as grid rebar shall be arranged sufficiently.
- 1340 N/mm<sup>2</sup> is assumed as jacking force of 12S12.7mm tendons in design stage. Jacking force considering jacking sequence shall be indicated on shop drawings and shall be approved by Engineer.

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 TENDON ARRANGEMENT OF PRECAST BEAM FOR ON-RAMP (1)	PACKAGE	
				PREPARED BY	M. OHYAMA	大山 満弘		15 Jun.2017	1
				CHECKED BY	T. HAYAKAWA	平川 知邦		20 Jun.2017	DWG No.
				APPROVED BY	Y. SANO	佐野 祐一		21 Jun.2017	P1-OR-1101

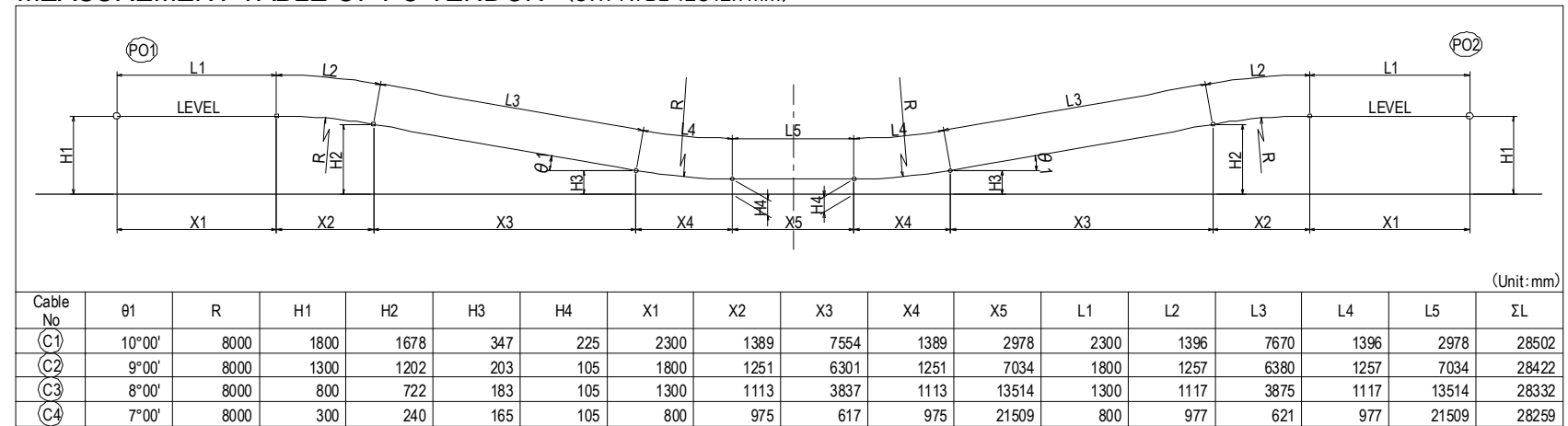


# TENDON ARRANGEMENT OF PRECAST BEAM FOR ON-RAMP (2)

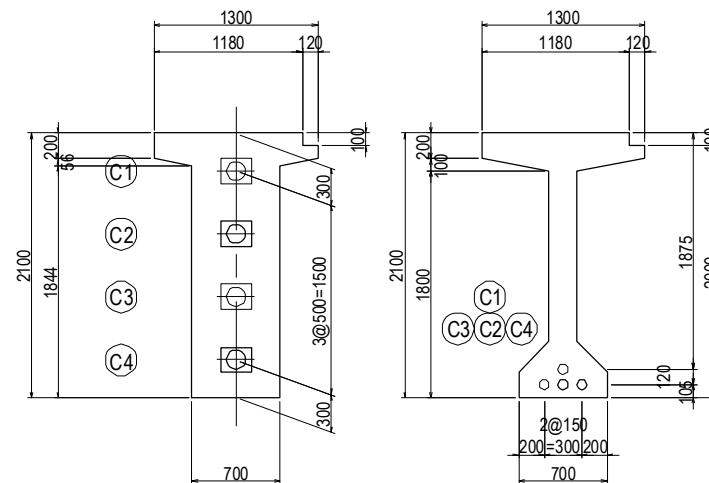
SIDE ELEVATION S=1:100



MEASUREMENT TABLE OF PC TENDON (SWPR7BL 12S12.7mm)



## CROSS SECTION S=1:60



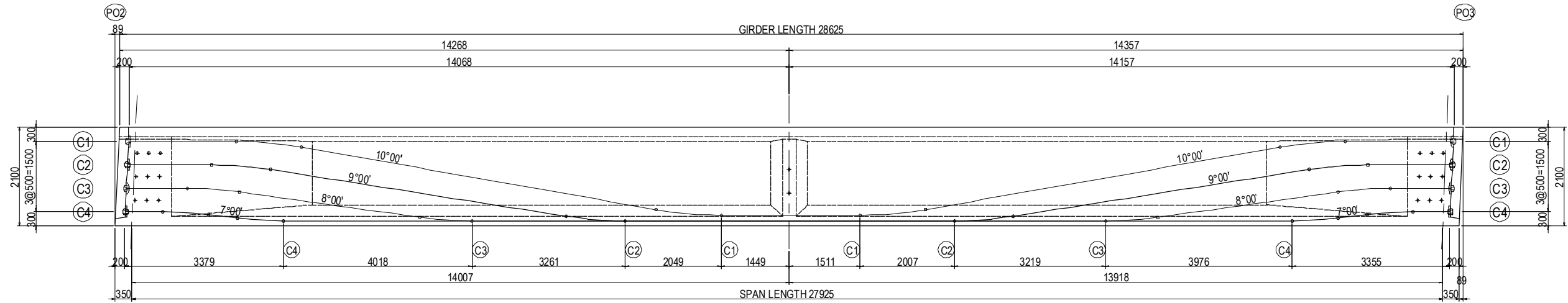
Notes:

- Unless otherwise indicated in drawing, longitudinal PC tendons shall be tensioned from both ends simultaneously.
- Reinforcement for tendon anchorage such as grid rebar shall be arranged sufficiently.
- 1340 N/mm<sup>2</sup> is assumed as jacking force of 12S12.7mm tendons in design stage. Jacking force considering jacking sequence shall be indicated on shop drawings and shall be approved by Engineer.

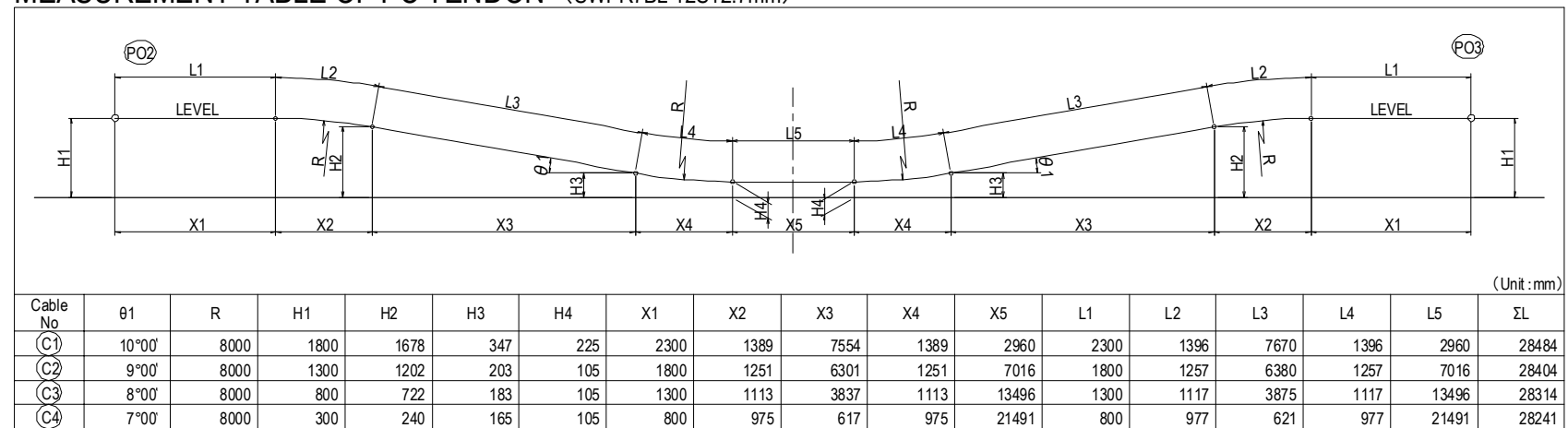
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JICA JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE TENDON ARRANGEMENT OF PRECAST BEAM FOR ON-RAMP (2)	PACKAGE	
				PREPARED BY	M. OHYAMA	大山 満弘		15 Jun. 2017	1
				CHECKED BY	T. HAYAKAWA	平川 知邦		20 Jun. 2017	DWG No.
				APPROVED BY	Y. SANO	佐野 祐一		21 Jun. 2017	P1-OR-1102

# TENDON ARRANGEMENT OF PRECAST BEAM FOR ON-RAMP (3)

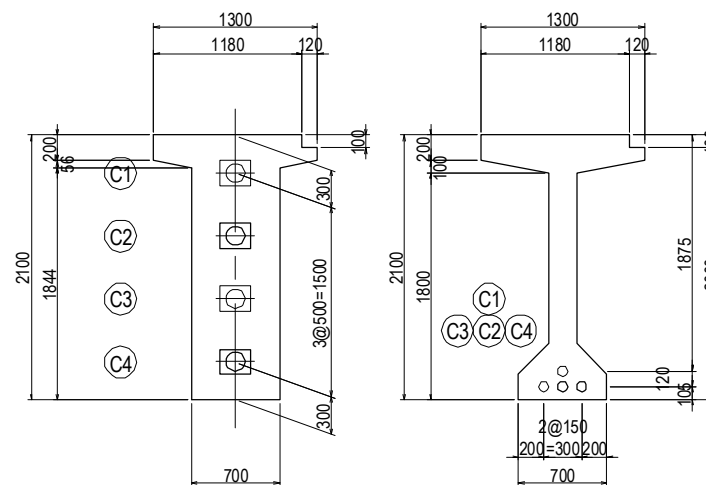
SIDE ELEVATION S=1:100



MEASUREMENT TABLE OF PC TENDON (SWPR7BL 12S12.7mm)



CROSS SECTION S=1:60



Notes:

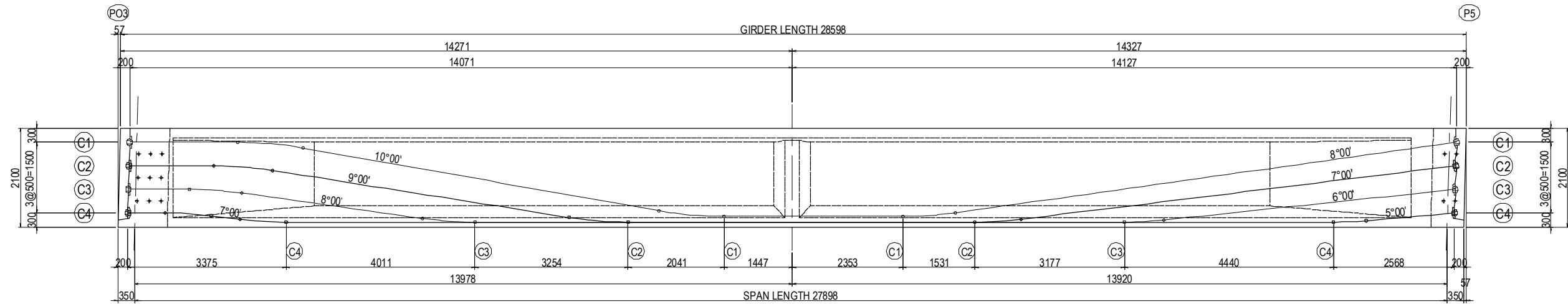
- Unless otherwise indicated in drawing, longitudinal PC tendons shall be tensioned from both ends simultaneously.
- Reinforcement for tendon anchorage such as grid rebar shall be arranged sufficiently.
- 1340 N/mm<sup>2</sup> is assumed as jacking force of 12S12.7mm tendons in design stage. Jacking force considering jacking sequence shall be indicated on shop drawings and shall be approved by Engineer.

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. OHYAMA	大山 満弘	15 Jun.2017	TENDON ARRANGEMENT OF PRECAST BEAM FOR ON-RAMP (3)	1
				T. HAYAKAWA	平川 知邦	20 Jun.2017		DWG No.
				Y. SANO	佐野 祐一	21 Jun.2017		P1-OR-1103

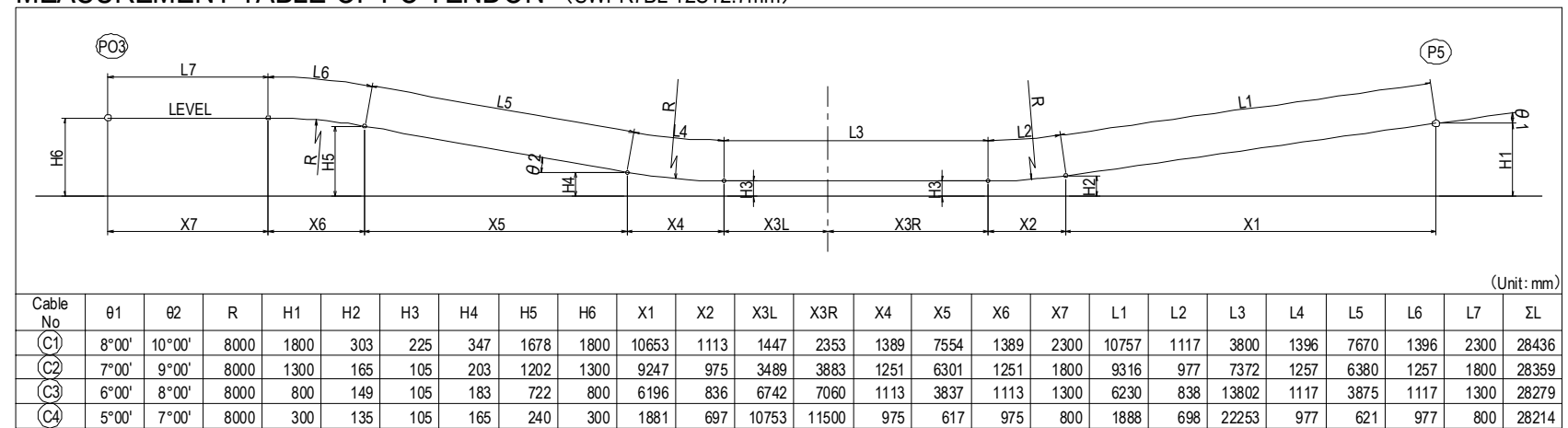


# TENDON ARRANGEMENT OF PRECAST BEAM FOR ON-RAMP (4)

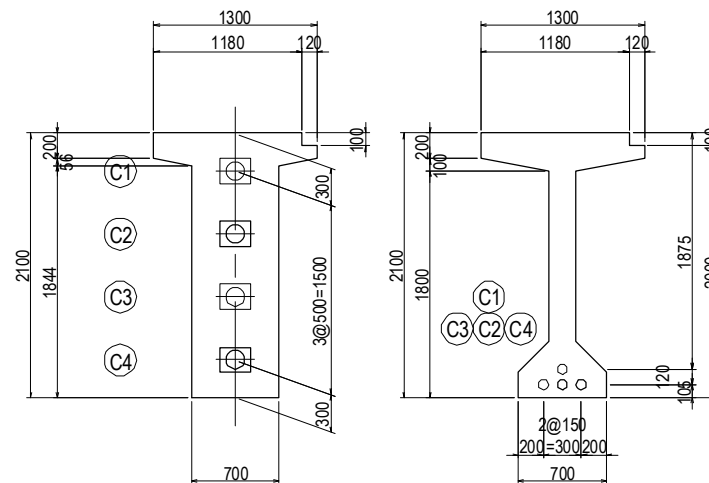
SIDE ELEVATION S=1:100



MEASUREMENT TABLE OF PC TENDON (SWPR7BL 12S12.7mm)



CROSS SECTION S=1:60



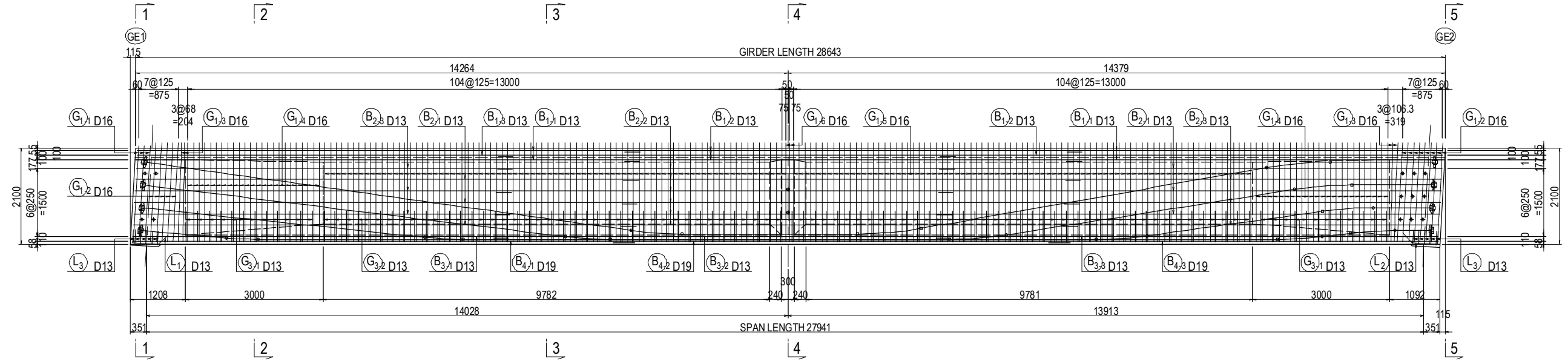
Notes:

- Unless otherwise indicated in drawing, longitudinal PC tendons shall be tensioned from both ends simultaneously.
- Reinforcement for tendon anchorage such as grid rebar shall be arranged sufficiently.
- 1340 N/mm<sup>2</sup> is assumed as jacking force of 12S12.7mm tendons in design stage. Jacking force considering jacking sequence shall be indicated on shop drawings and shall be approved by Engineer.

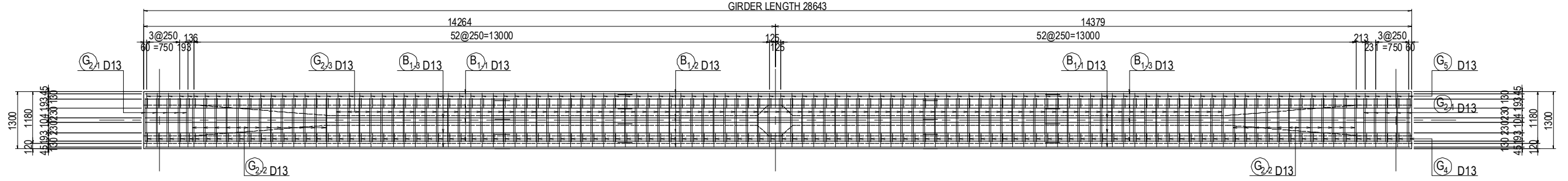
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE TENDON ARRANGEMENT OF PRECAST BEAM FOR ON-RAMP (4)	PACKAGE	
				PREPARED BY	M. OHYAMA			15 Jun.2017	1
				CHECKED BY	T. HAYAKAWA			20 Jun.2017	DWG No.
				APPROVED BY	Y. SANO			21 Jun.2017	P1-OR-1104

# BAR ARRANGEMENT OF PRECAST BEAM FOR ON-RAMP (1)

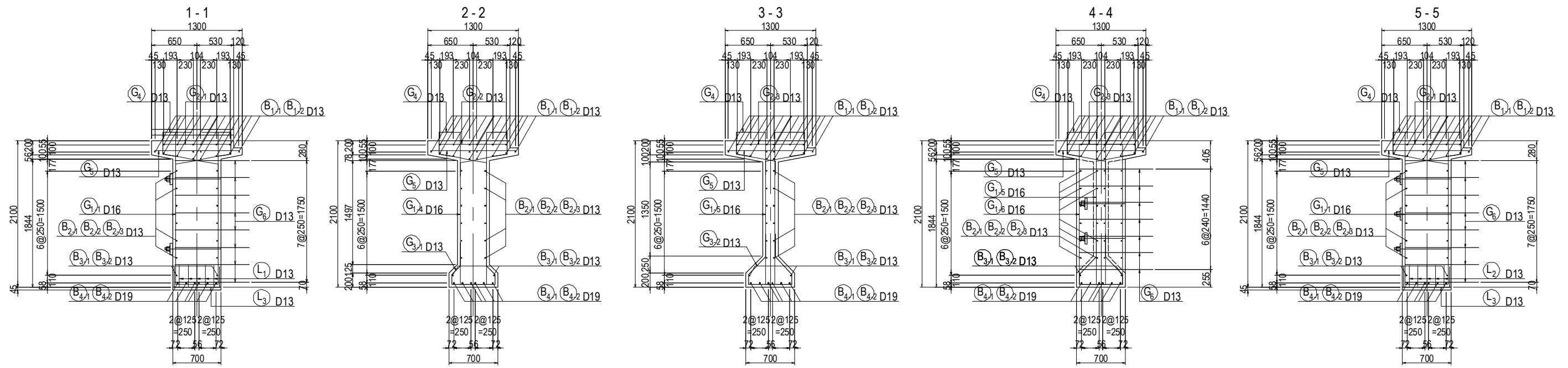
SIDE ELEVATION S=1:100



PLAN VIEW S=1:100



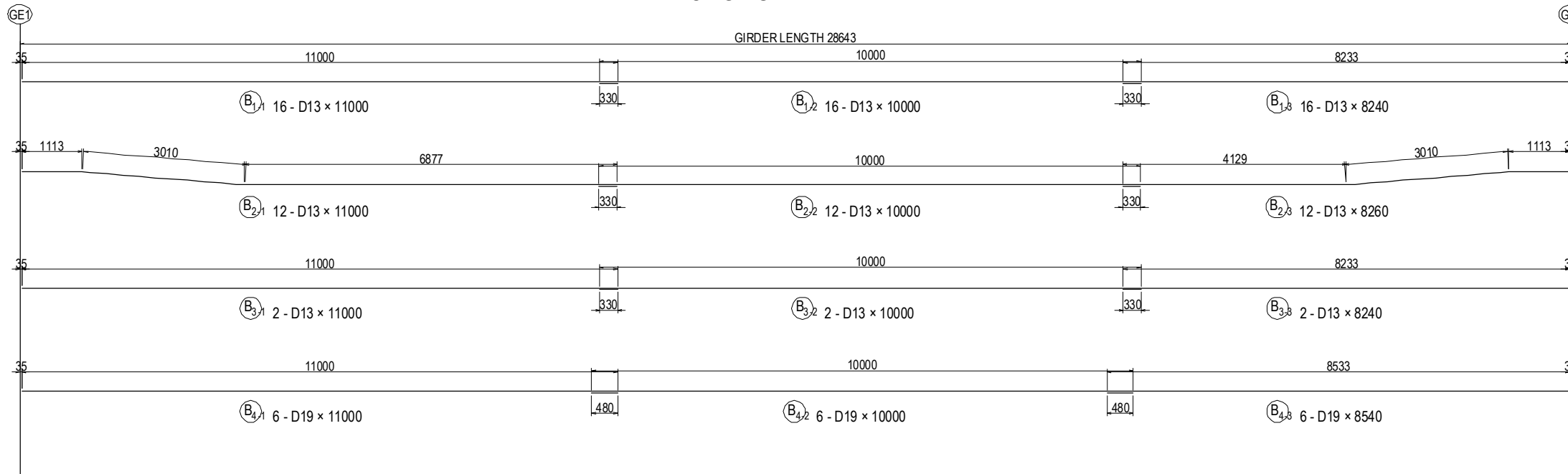
CROSS SECTION S=1:60



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 <b>BAR ARRANGEMENT OF          PRECAST BEAM FOR ON-RAMP(1)</b>	PACKAGE	
				PREPARED BY	M. OHYAMA			15 Jun.2017	1
				CHECKED BY	T. HAYAKAWA			20 Jun.2017	DWG No.
				APPROVED BY	Y. SANO			21 Jun.2017	P1-OR-1201

# BAR ARRANGEMENT OF PRECAST BEAM FOR ON-RAMP (2)

## LONGITUDINAL REBAR S=1:100

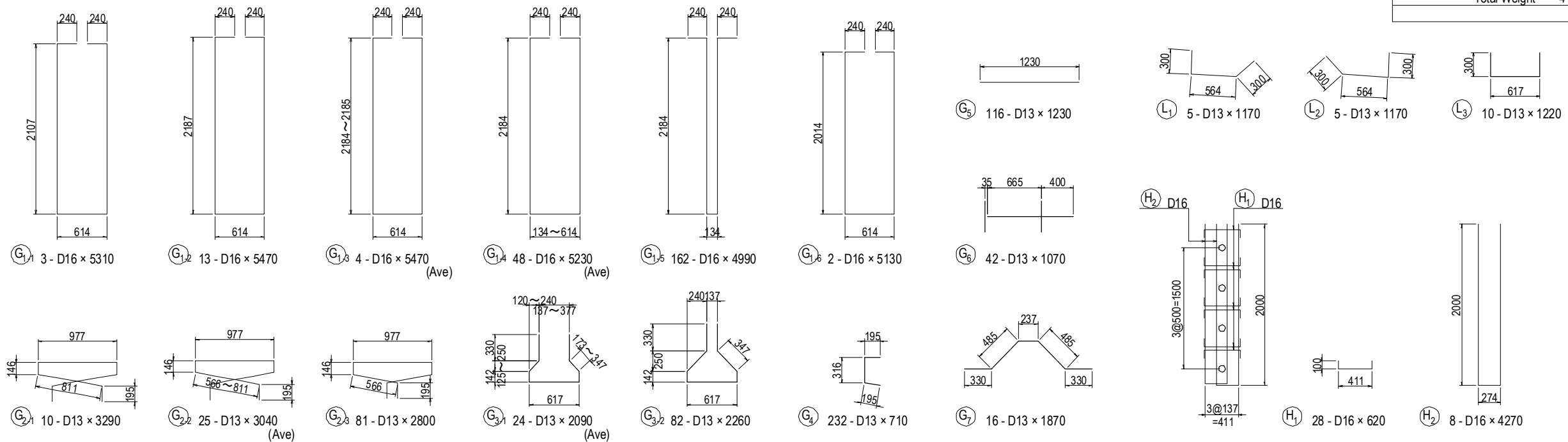


## BAR STATISTICS TABLE

(For 1 Girder)

Mark	Size	Length (mm)	No. (Nos)	Unit Wt (kg/m)	Rod Wt (kg)	Total Weight (kg)	Shape
B 1-1	D13	11000	16	0.995	10.95	175	—
1-2	D13	10000	16	0.995	9.95	159	—
1-3	D13	8240	16	0.995	8.20	131	—
2-1	D13	11000	12	0.995	10.95	131	—
2-2	D13	10000	12	0.995	9.95	119	—
2-3	D13	8260	12	0.995	8.22	99	—
3-1	D13	11000	2	0.995	10.95	22	—
3-2	D13	10000	2	0.995	9.95	20	—
3-3	D13	8240	2	0.995	8.20	16	—
4-1	D19	11000	6	2.25	24.75	149	—
4-2	D19	10000	6	2.25	22.50	135	—
4-3	D19	8540	6	2.25	19.22	115	—
G 1-1	D16	5310	3	1.56	8.28	25	□
1-2	D16	5470	13	1.56	8.53	111	□
1-3	D16	5470	4	1.56	8.53	34	□ (Ave)
1-4	D16	5230	48	1.56	8.16	392	□ (Ave)
1-5	D16	4990	162	1.56	7.78	1260	□
1-6	D16	5130	2	1.56	8.00	16	□
2-1	D13	3290	10	0.995	3.27	33	□
2-2	D13	3040	25	0.995	3.02	76	□ (Ave)
2-3	D13	2800	81	0.995	2.79	226	□ (Ave)
3-1	D13	2090	24	0.995	2.08	50	□ (Ave)
3-2	D13	2260	82	0.995	2.25	185	□
4	D13	710	232	0.995	0.71	165	□
5	D13	1230	116	0.995	1.22	142	□
6	D13	1070	42	0.995	1.06	45	□
7	D13	1870	16	0.995	1.86	30	□
L 1	D13	1170	5	0.995	1.16	6	□
2	D13	1170	5	0.995	1.16	6	□
3	D13	1220	10	0.995	1.21	12	□
H 1	D16	620	28	1.56	0.97	27	□
2	D16	4270	8	1.56	6.66	53	□
				D13	1848 kg		
				D16	1918 kg		
				D19	399 kg		
				Total Weight	4165 kg		

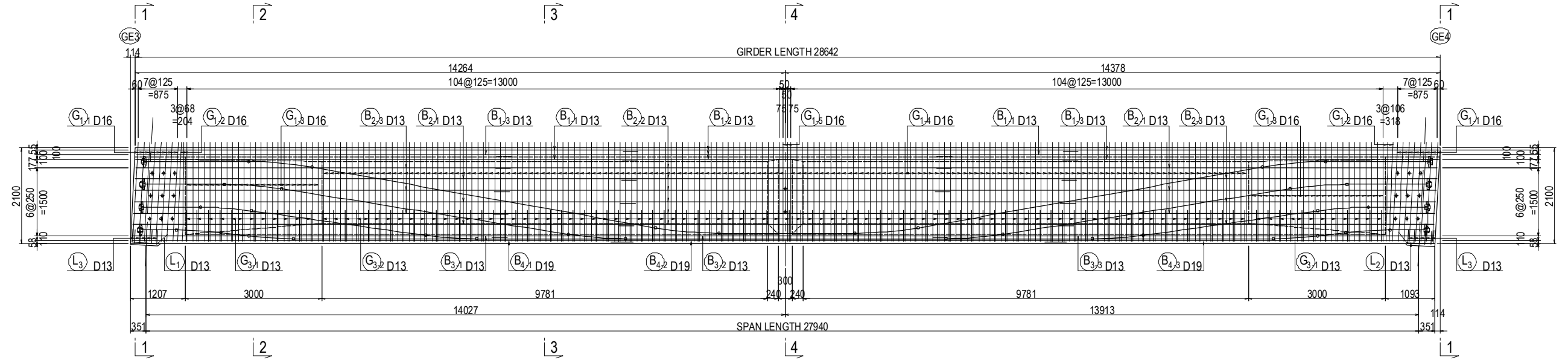
## TRANSVERSE REBAR S=1:60



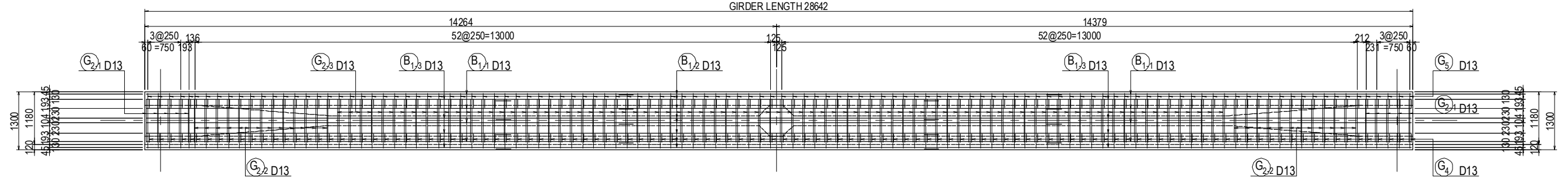
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JICA JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO. LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE BAR ARRANGEMENT OF PRECAST BEAM FOR ON-RAMP (2)	PACKAGE 1 DWG No. P1-OR-1202	
				PREPARED BY	M. OHYAMA	大山 満弘			15 Jun.2017
				CHECKED BY	T. HAYAKAWA	平川 知邦			20 Jun.2017
				APPROVED BY	Y. SANO	佐野 祐一			21 Jun.2017

# BAR ARRANGEMENT OF PRECAST BEAM FOR ON-RAMP (3)

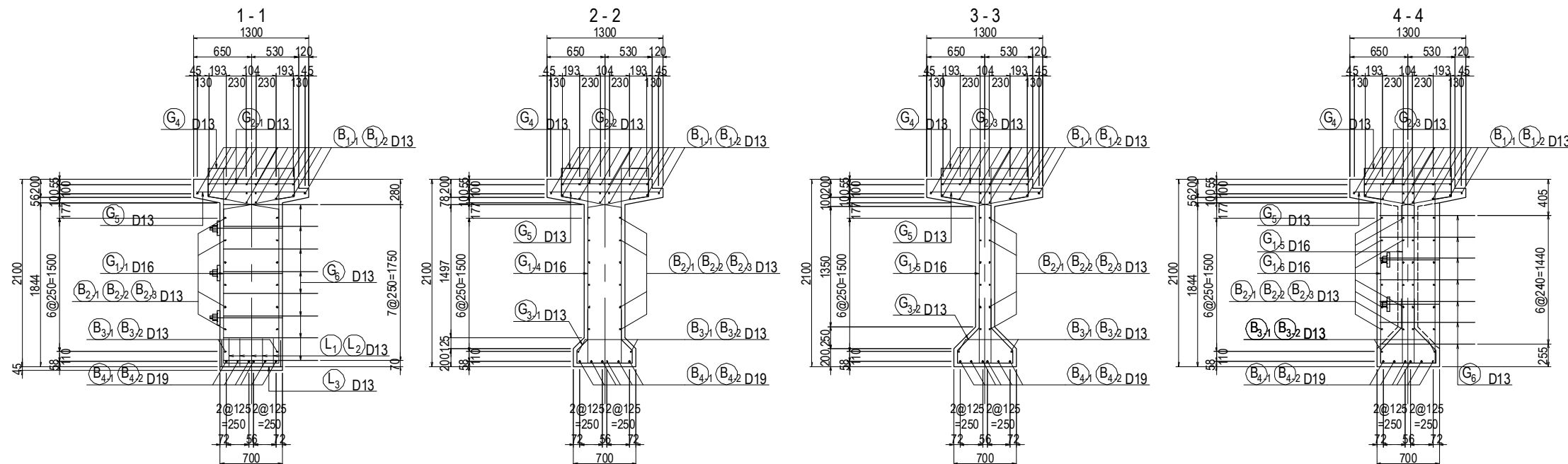
SIDE ELEVATION S=1:100



PLAN VIEW S=1:100



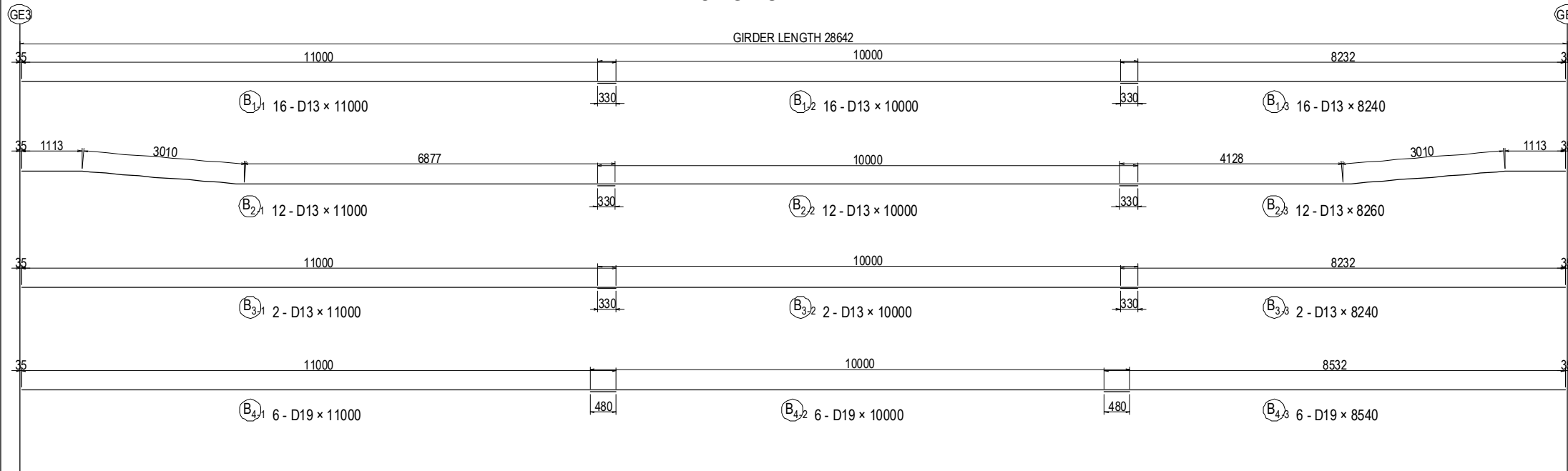
CROSS SECTION S=1:60



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 BAR ARRANGEMENT OF PRECAST BEAM FOR ON-RAMP (3)	PACKAGE	
				PREPARED BY	M. OHYAMA			15 Jun.2017	1
				CHECKED BY	T. HAYAKAWA			20 Jun.2017	DWG No.
				APPROVED BY	Y. SANO			21 Jun.2017	P1-OR-1203

# BAR ARRANGEMENT OF PRECAST BEAM FOR ON-RAMP (4)

## LONGITUDINAL REBAR S=1:100

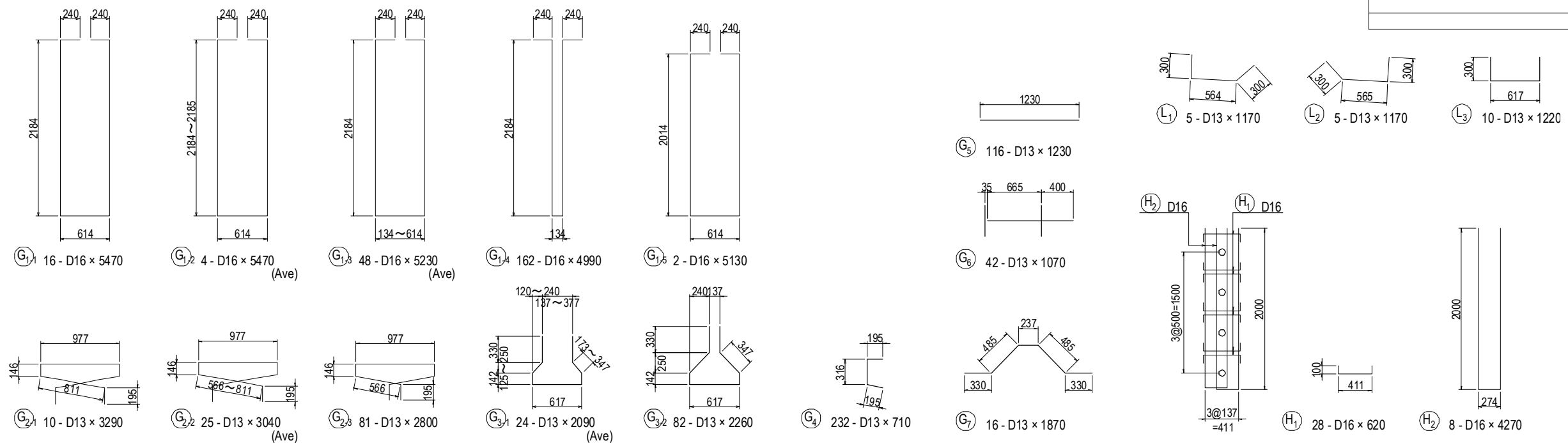


## BAR STATISTICS TABLE

(For 1 Girder)

Mark	Size	Length (mm)	No. (Nos)	Unit Wt (kg/m)	Rod Wt (kg)	Total Weight (kg)	Shape
B 1-1	D13	11000	16	0.995	10.95	175	—
1-2	D13	10000	16	0.995	9.95	159	—
1-3	D13	8240	16	0.995	8.20	131	—
2-1	D13	11000	12	0.995	10.95	131	—
2-2	D13	10000	12	0.995	9.95	119	—
2-3	D13	8260	12	0.995	8.22	99	—
3-1	D13	11000	2	0.995	10.95	22	—
3-2	D13	10000	2	0.995	9.95	20	—
3-3	D13	8240	2	0.995	8.20	16	—
4-1	D19	11000	6	2.25	24.75	149	—
4-2	D19	10000	6	2.25	22.50	135	—
4-3	D19	8540	6	2.25	19.22	115	—
G 1-1	D16	5470	16	1.56	8.53	136	□
1-2	D16	5470	4	1.56	8.53	34	□ (Ave)
1-3	D16	5230	48	1.56	8.16	392	□ (Ave)
1-4	D16	4990	162	1.56	7.78	1260	□
1-5	D16	5130	2	1.56	8.00	16	□
2-1	D13	3290	10	0.995	3.27	33	□
2-2	D13	3040	25	0.995	3.02	76	□ (Ave)
2-3	D13	2800	81	0.995	2.79	226	□
3-1	D13	2090	24	0.995	2.08	50	□ (Ave)
3-2	D13	2260	82	0.995	2.25	185	□
4	D13	710	232	0.995	0.71	165	□
5	D13	1230	116	0.995	1.22	142	—
6	D13	1070	42	0.995	1.06	45	—
7	D13	1870	16	0.995	1.86	30	—
L 1	D13	1170	5	0.995	1.16	6	□
2	D13	1170	5	0.995	1.16	6	□
3	D13	1220	10	0.995	1.21	12	□
H 1	D16	620	28	1.56	0.97	27	□
2	D16	4270	8	1.56	6.66	53	□
				D13	1848 kg		
				D16	1918 kg		
				D19	399 kg		
				Total Weight	4165 kg		

## TRANSVERSE REBAR S=1:60



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
PREPARED BY	M. OHYAMA	大山 満弘	15 Jun.2017
CHECKED BY	T. HAYAKAWA	平川 知邦	20 Jun.2017
APPROVED BY	Y. SANO	佐野 祐一	21 Jun.2017

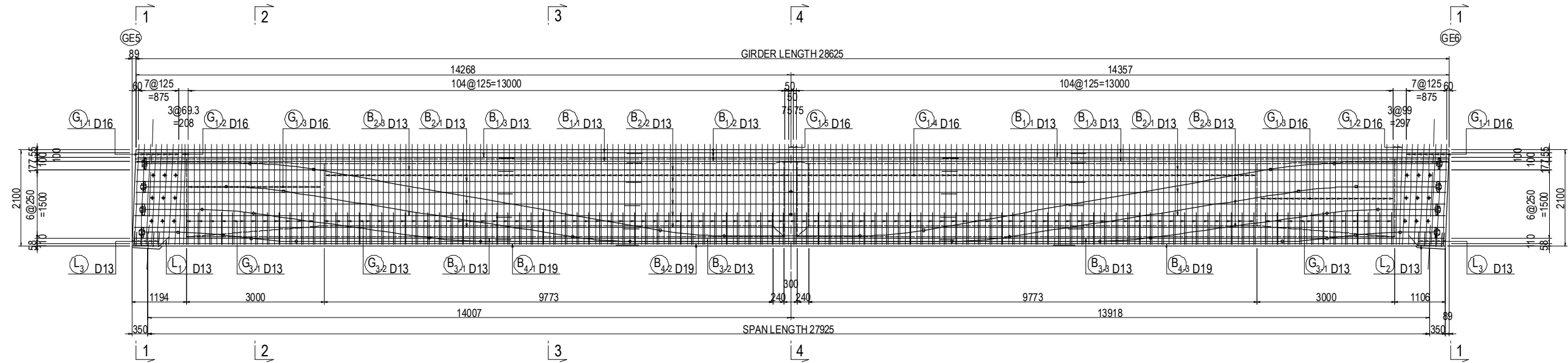
DRAWING TITLE  
BAR ARRANGEMENT OF  
PRECAST BEAM FOR ON-RAMP (4)

PACKAGE  
1  
DWG No.  
P1-OR-1204

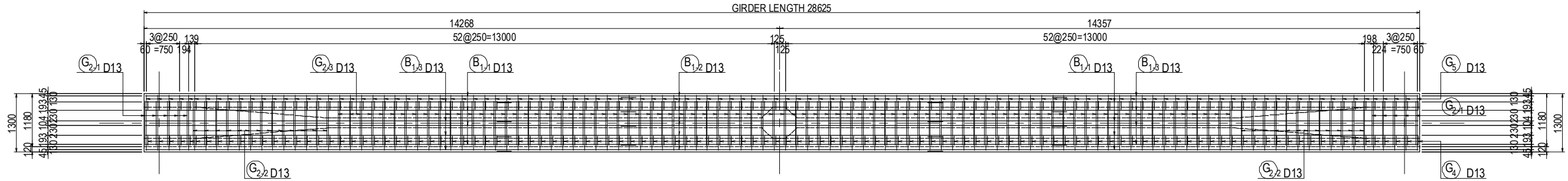


# BAR ARRANGEMENT OF PRECAST BEAM FOR ON-RAMP (5)

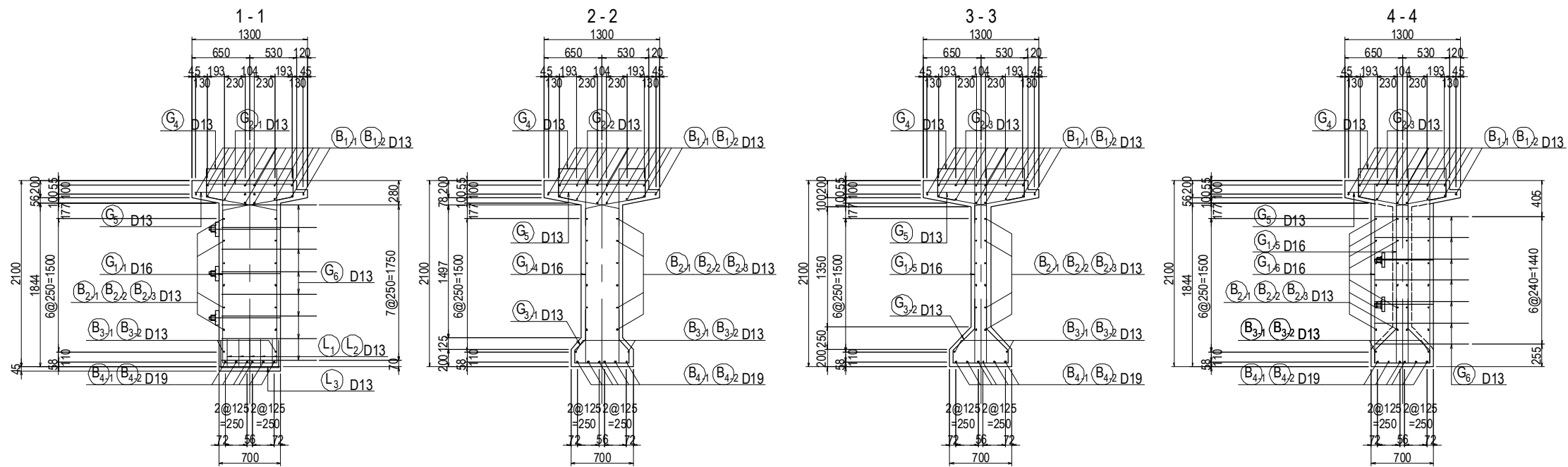
SIDE ELEVATION S=1:100



PLAN VIEW S=1:100



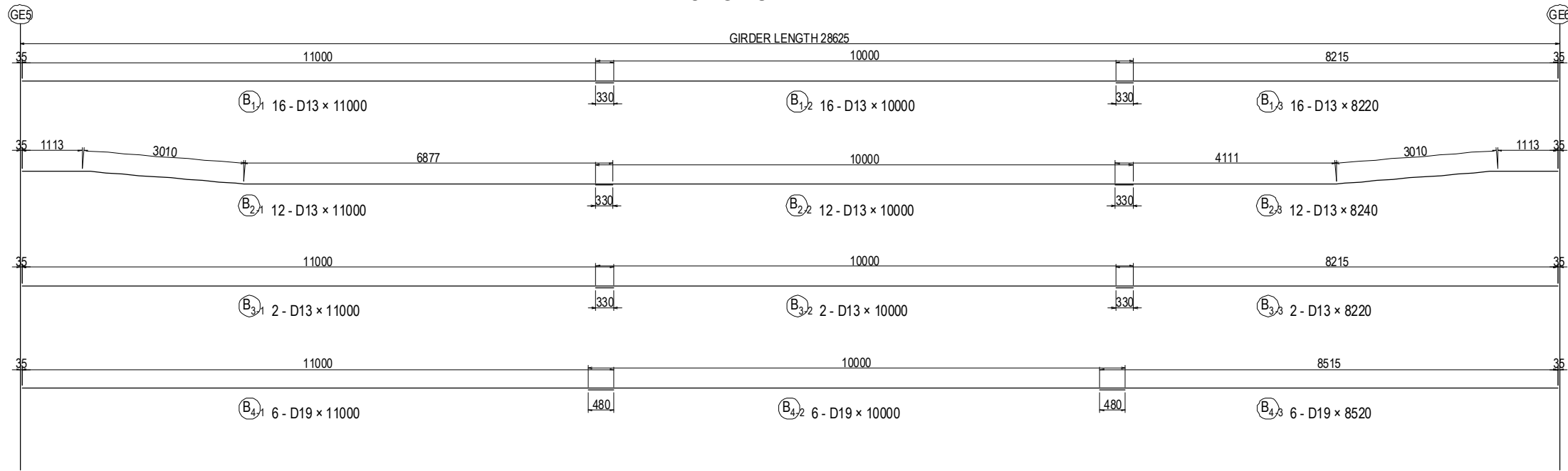
CROSS SECTION S=1:60



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 BAR ARRANGEMENT OF PRECAST BEAM FOR ON-RAMP (5)	PACKAGE
				PREPARED BY	M. OHYAMA 	15 Jun.2017		1
				CHECKED BY	T. HAYAKAWA 	20 Jun.2017		DWG No.
				APPROVED BY	Y. SANO 	21 Jun.2017		P1-OR-1205

# BAR ARRANGEMENT OF PRECAST BEAM FOR ON-RAMP (6)

## LONGITUDINAL REBAR S=1:100

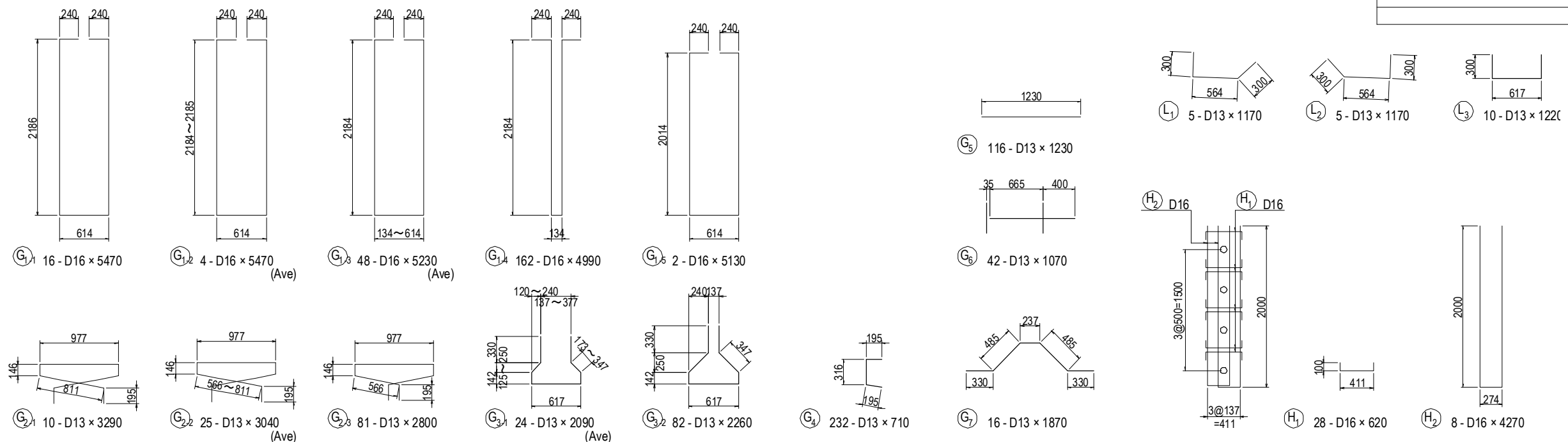


## BAR STATISTICS TABLE

(For 1 Girder)

Mark	Size	Length (mm)	No. (Nos)	Unit Wt (kg/m)	Rod Wt (kg)	Total Weight (kg)	Shape
B 1-1	D13	11000	16	0.995	10.95	175	—
1-2	D13	10000	16	0.995	9.95	159	—
1-3	D13	8220	16	0.995	8.18	131	—
2-1	D13	11000	12	0.995	10.95	131	—
2-2	D13	10000	12	0.995	9.95	119	—
2-3	D13	8240	12	0.995	8.20	98	—
3-1	D13	11000	2	0.995	10.95	22	—
3-2	D13	10000	2	0.995	9.95	20	—
3-3	D13	8220	2	0.995	8.18	16	—
4-1	D19	11000	6	2.25	24.75	149	—
4-2	D19	10000	6	2.25	22.50	135	—
4-3	D19	8520	6	2.25	19.17	115	—
G 1-1	D16	5470	16	1.56	8.53	136	□
1-2	D16	5470	4	1.56	8.53	34	□ (Ave)
1-3	D16	5230	48	1.56	8.16	392	□ (Ave)
1-4	D16	4990	162	1.56	7.78	1260	□
1-5	D16	5130	2	1.56	8.00	16	□
2-1	D13	3290	10	0.995	3.27	33	□
2-2	D13	3040	25	0.995	3.02	76	□ (Ave)
2-3	D13	2800	81	0.995	2.79	226	□
3-1	D13	2090	24	0.995	2.08	50	□ (Ave)
3-2	D13	2260	82	0.995	2.25	185	□
4	D13	710	232	0.995	0.71	165	□
5	D13	1230	116	0.995	1.22	142	—
6	D13	1070	42	0.995	1.06	45	—
7	D13	1870	16	0.995	1.86	30	—
L 1	D13	1170	5	0.995	1.16	6	□
2	D13	1170	5	0.995	1.16	6	□
3	D13	1220	10	0.995	1.21	12	□
H 1	D16	620	28	1.56	0.97	27	□
2	D16	4270	8	1.56	6.66	53	□
				D13	1847 kg		
				D16	1918 kg		
				D19	399 kg		
				<b>Total Weight</b>	<b>4164 kg</b>		

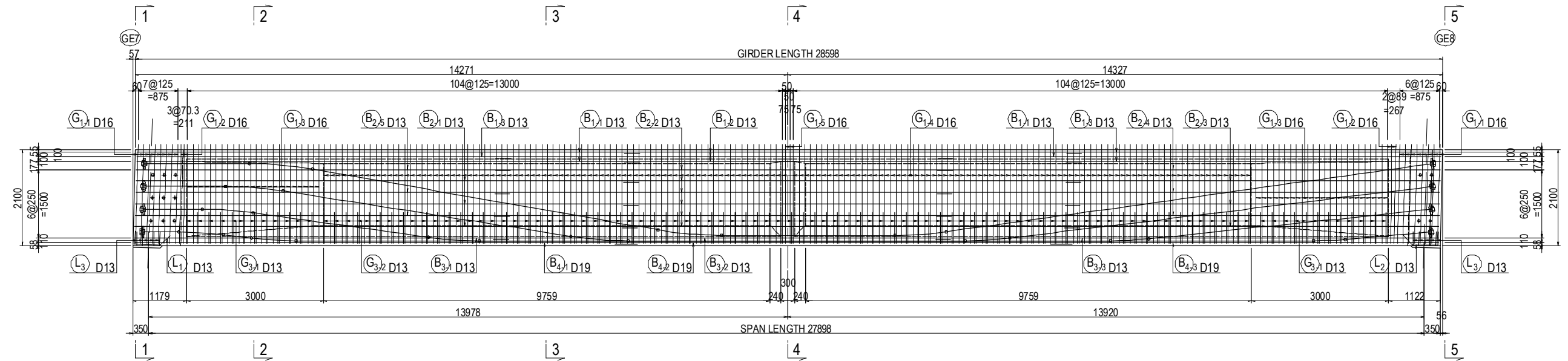
## TRANSVERSE REBAR S=1:60



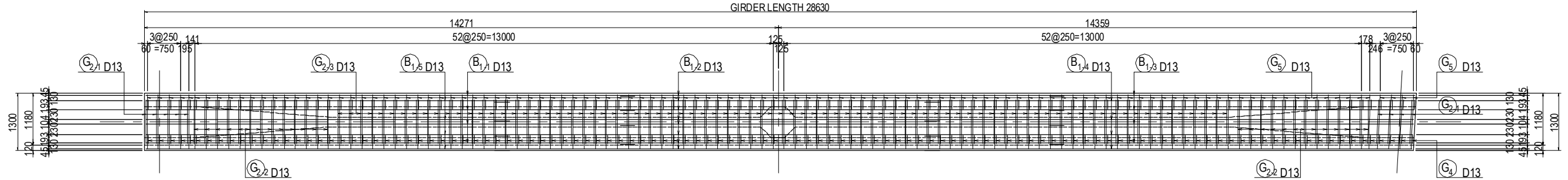
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE <b>BAR ARRANGEMENT OF          PRECAST BEAM FOR ON-RAMP (6)</b>	PACKAGE	
				PREPARED BY	M. OHYAMA			15 Jun.2017	1
				CHECKED BY	T. HAYAKAWA			20 Jun.2017	DWG No.
				APPROVED BY	Y. SANO			21 Jun.2017	P1-OR-1206

# BAR ARRANGEMENT OF PRECAST BEAM FOR ON-RAMP (7)

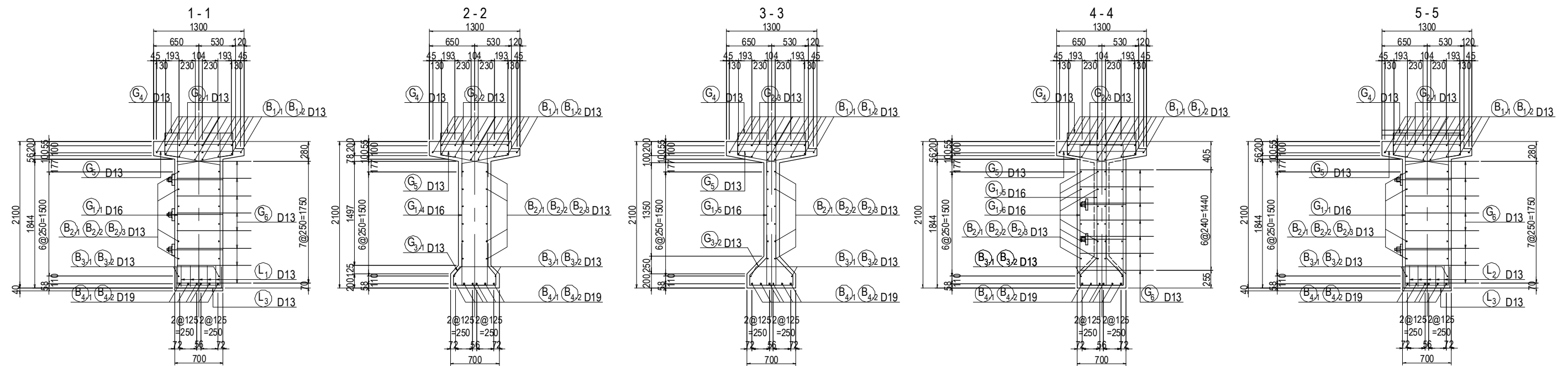
SIDE ELEVATION S=1:100



PLAN VIEW S=1:100



CROSS SECTION S=1:60

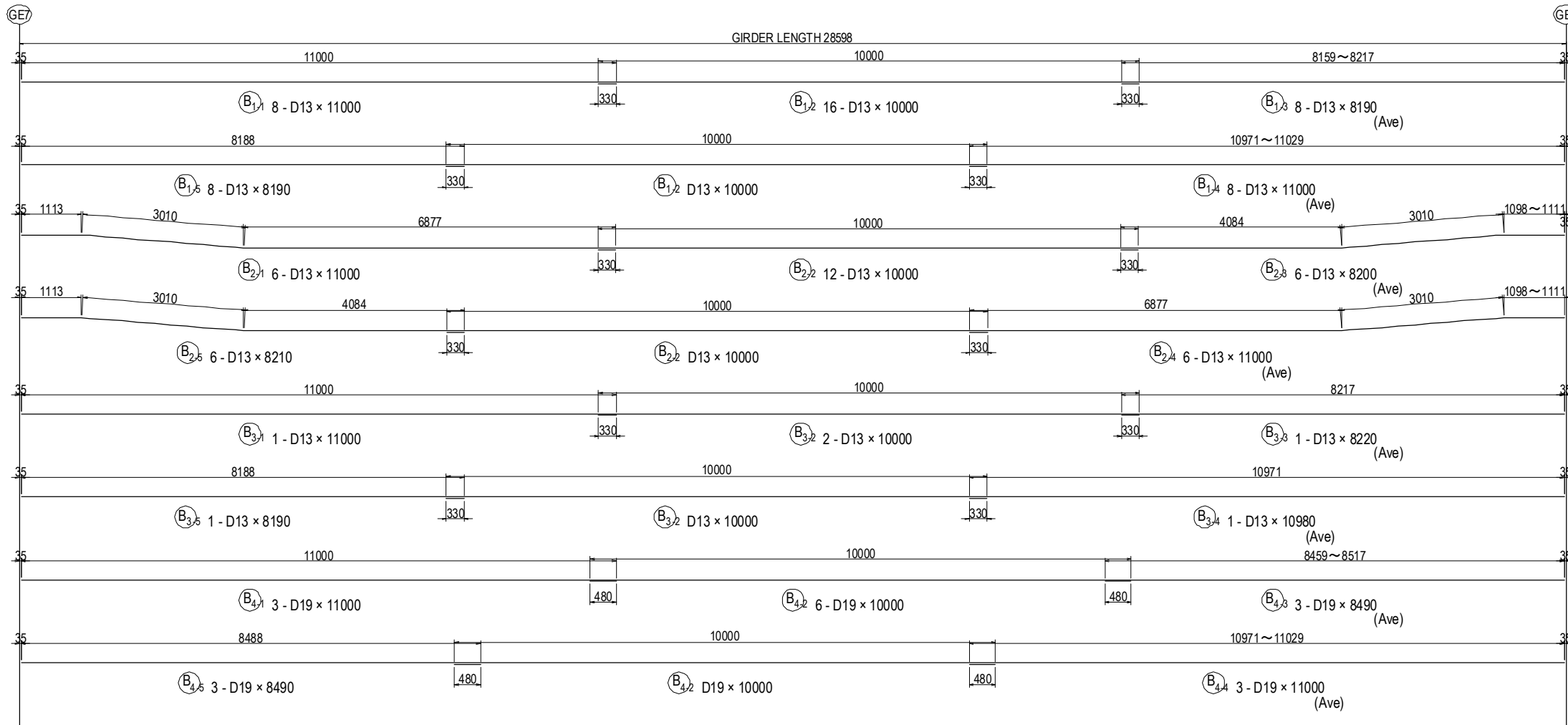


PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO. LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE BAR ARRANGEMENT OF PRECAST BEAM FOR ON-RAMP (7)	PACKAGE 1 DWG No. P1-OR-1207
				PREPARED BY	M. OHYAMA <i>大山 満弘</i>	15 Jun.2017		
				CHECKED BY	T. HAYAKAWA <i>平川 知邦</i>	20 Jun.2017		
				APPROVED BY	Y. SANO <i>佐野 祐一</i>	21 Jun.2017		

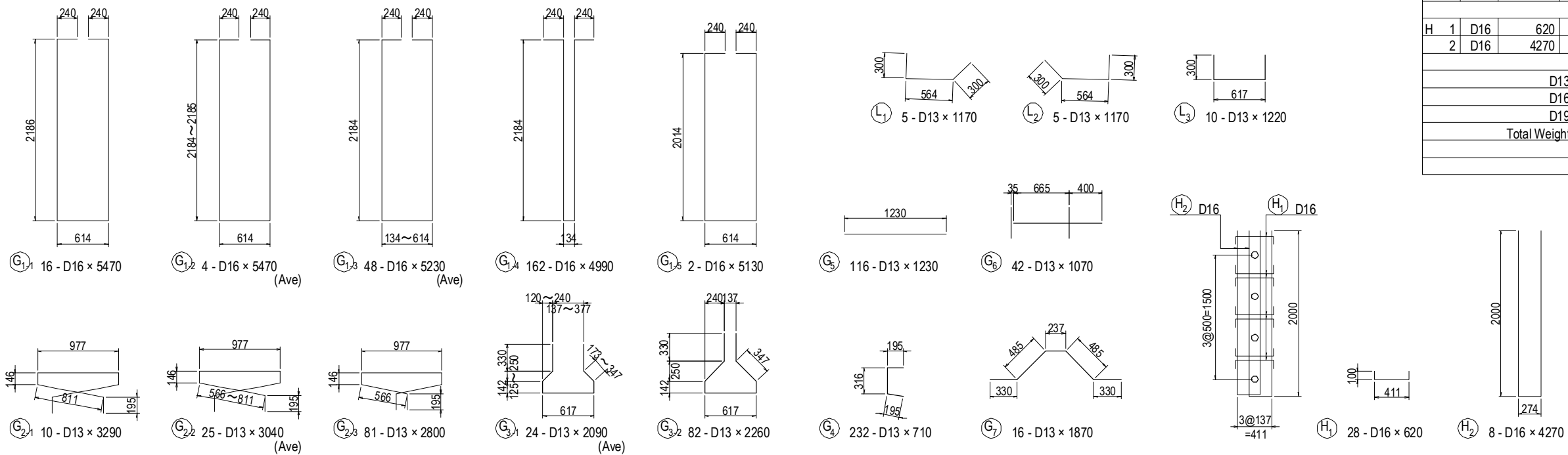


# BAR ARRANGEMENT OF PRECAST BEAM FOR ON-RAMP (8)

## LONGITUDINAL REBAR S=1:100



## TRANSVERSE REBAR S=1:60

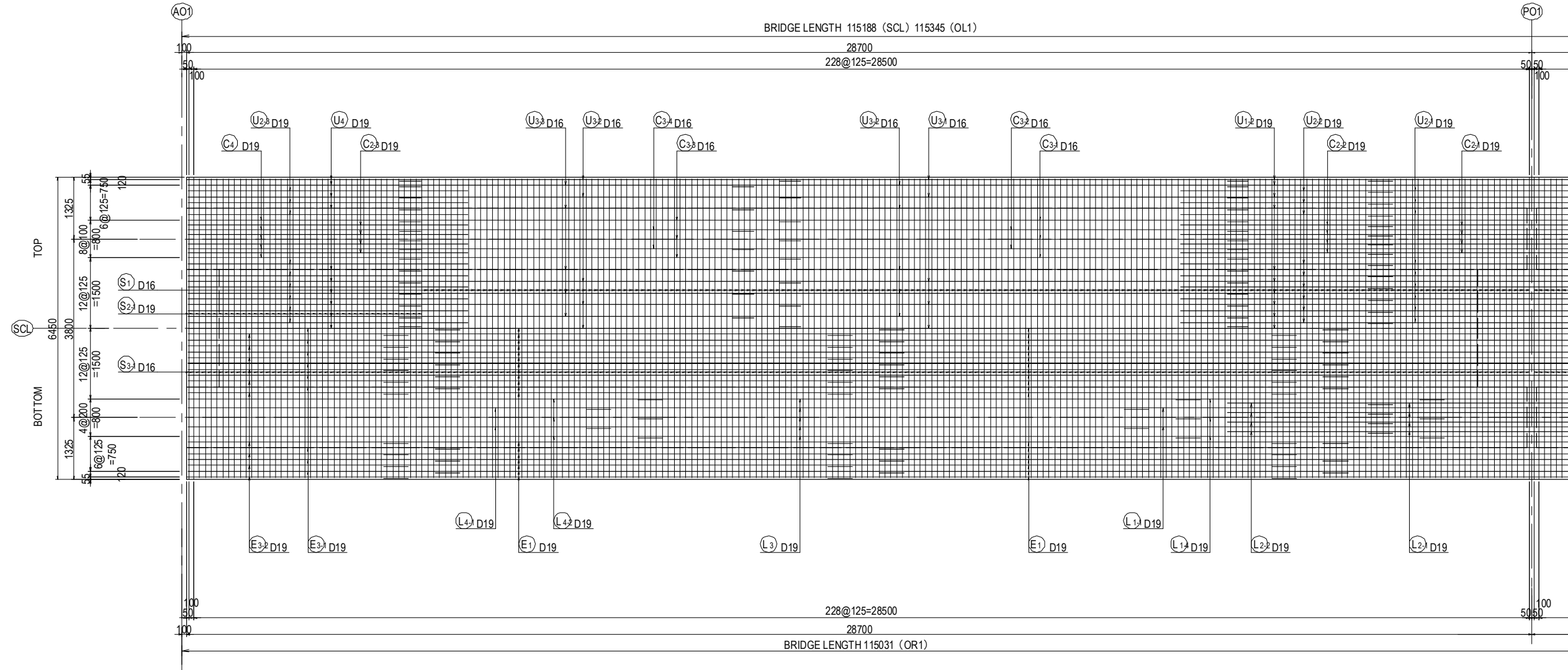


## BAR STATISTICS TABLE (For 1 Girder)

Mark	Size	Length (mm)	No. (Nos)	Unit Wt (kg/m)	Rod Wt (kg)	Total Weight (kg)	Shape
B 1-1	D13	11000	8	0.995	10.95	88	—
1-2	D13	10000	16	0.995	9.95	159	—
1-3	D13	8190	8	0.995	8.15	65	—
1-4	D13	11000	8	0.995	10.95	88	—
1-5	D13	8190	8	0.995	8.15	65	—
2-1	D13	11000	6	0.995	10.95	66	—
2-2	D13	10000	12	0.995	9.95	119	—
2-3	D13	8200	6	0.995	8.16	49	—
2-4	D13	11000	6	0.995	10.95	66	—
2-5	D13	8210	6	0.995	8.17	49	—
3-1	D13	11000	1	0.995	10.95	11	—
3-2	D13	10000	2	0.995	9.95	20	—
3-3	D13	8220	1	0.995	8.18	8	—
3-4	D13	10980	1	0.995	10.93	11	—
3-5	D13	8190	1	0.995	8.15	8	—
4-1	D19	11000	3	2.25	24.75	74	—
4-2	D19	10000	6	2.25	22.50	135	—
4-3	D19	8490	3	2.25	19.10	57	—
4-4	D19	11000	3	2.25	24.75	74	—
4-5	D19	8490	3	2.25	19.10	57	—
G 1-1	D16	5470	16	1.56	8.53	136	□
1-2	D16	5470	4	1.56	8.53	34	□ (Ave)
1-3	D16	5230	48	1.56	8.16	392	□ (Ave)
1-4	D16	4990	162	1.56	7.78	1260	□
1-5	D16	5130	2	1.56	8.00	16	□
2-1	D13	3290	10	0.995	3.27	33	□
2-2	D13	3040	25	0.995	3.02	76	□ (Ave)
2-3	D13	2800	81	0.995	2.79	226	□
3-1	D13	2090	24	0.995	2.08	50	□ (Ave)
3-2	D13	2260	82	0.995	2.25	185	□
4	D13	710	232	0.995	0.71	165	□
5	D13	1230	116	0.995	1.22	142	—
6	D13	1070	42	0.995	1.06	45	—
7	D13	1870	16	0.995	1.86	30	—
L 1	D13	1170	5	0.995	1.16	6	□
2	D13	1170	5	0.995	1.16	6	□
3	D13	1220	10	0.995	1.21	12	□
H 1	D16	620	28	1.56	0.97	27	□
2	D16	4270	8	1.56	6.66	53	□
				D13	1848 kg		
				D16	1918 kg		
				D19	397 kg		
				Total Weight	4163 kg		

# BAR ARRANGEMENT OF SLAB FOR ON-RAMP (1) S=1:100

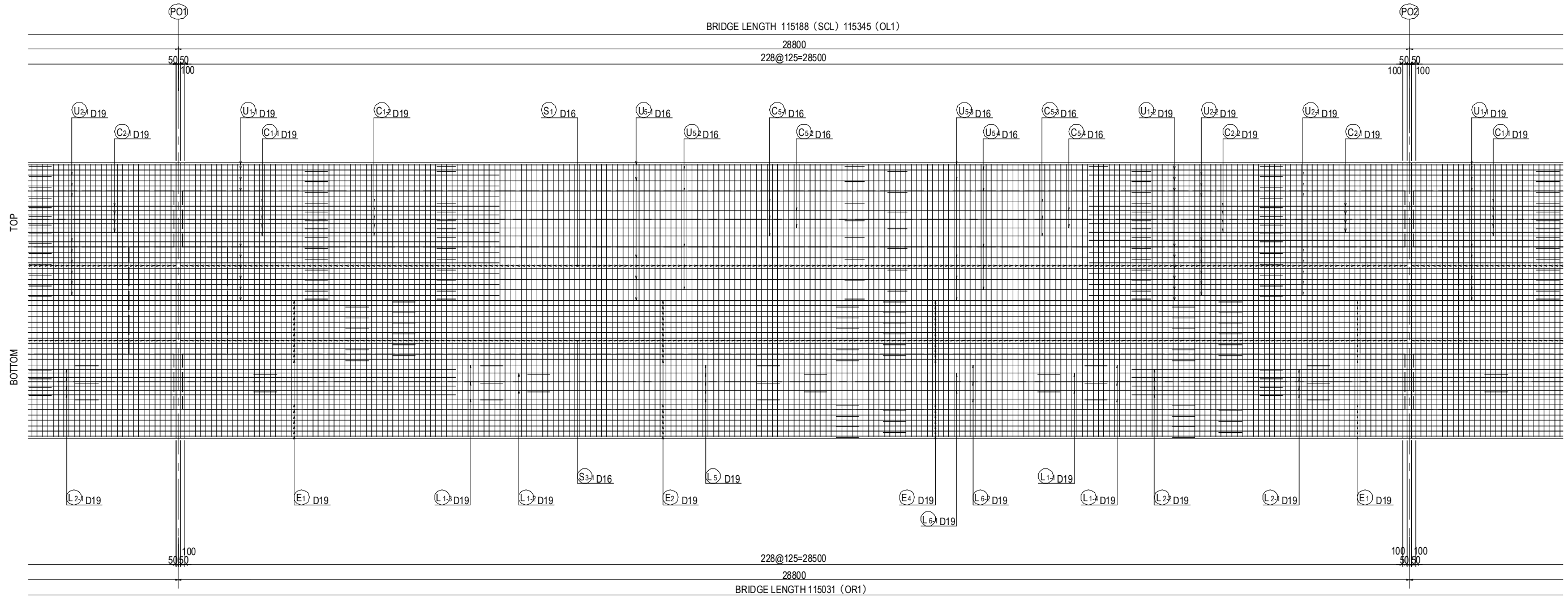
## PLAN VIEW



<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>M. OHYAMA</td> <td></td> <td>15 Jun.2017</td> </tr> <tr> <td>CHECKED BY</td> <td>T. HAYAKAWA</td> <td></td> <td>20 Jun.2017</td> </tr> <tr> <td>APPROVED BY</td> <td>Y. SANO</td> <td></td> <td>21 Jun.2017</td> </tr> </tbody> </table>		NAME	SIGNATURE	DATE	PREPARED BY	M. OHYAMA		15 Jun.2017	CHECKED BY	T. HAYAKAWA		20 Jun.2017	APPROVED BY	Y. SANO		21 Jun.2017	<small>DRAWING TITLE</small> <b>BAR ARRANGEMENT OF SLAB FOR ON-RAMP (1)</b>	<small>PACKAGE</small> 1 <small>DWG No.</small> P1-OR-1301
	NAME	SIGNATURE	DATE																				
PREPARED BY	M. OHYAMA		15 Jun.2017																				
CHECKED BY	T. HAYAKAWA		20 Jun.2017																				
APPROVED BY	Y. SANO		21 Jun.2017																				

# BAR ARRANGEMENT OF SLAB FOR ON-RAMP (2) S=1:100

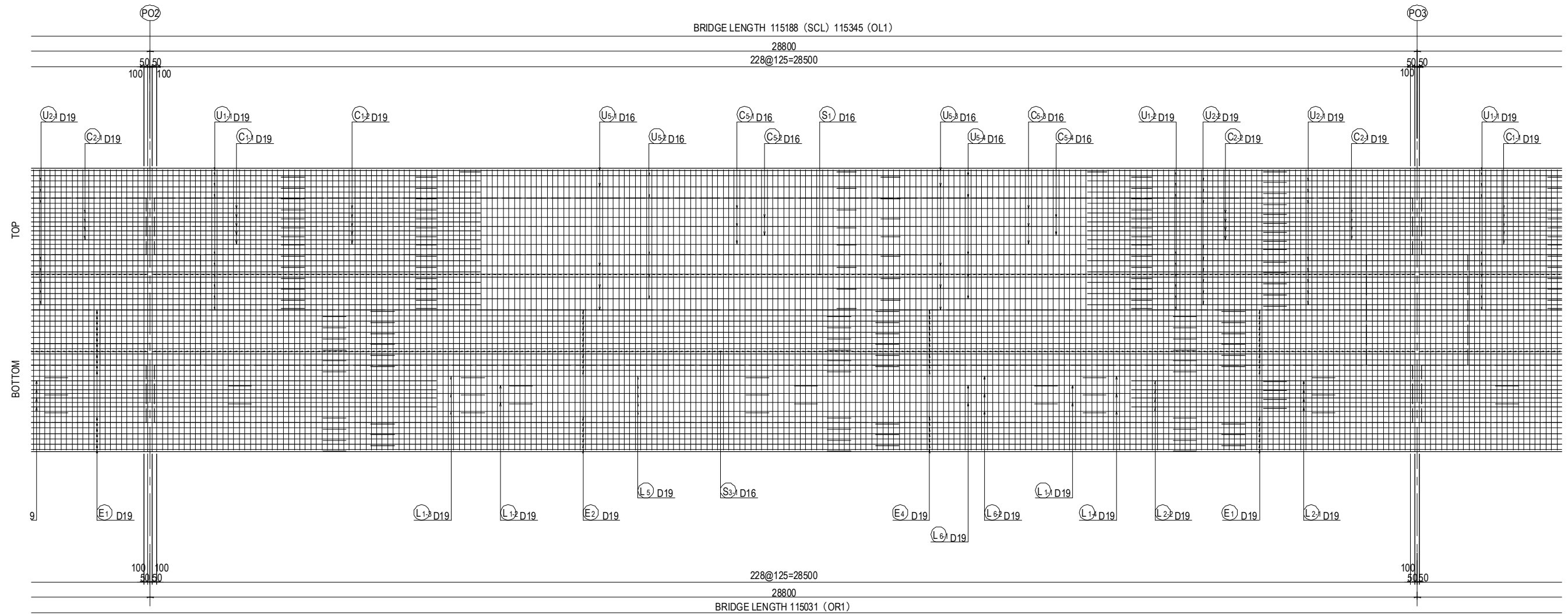
## PLAN VIEW



<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%;">NAME</th> <th style="width: 15%;">SIGNATURE</th> <th style="width: 15%;">DATE</th> </tr> </thead> <tbody> <tr> <td>PREPARED BY M. OHYAMA</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> </tbody> </table>	NAME	SIGNATURE	DATE	PREPARED BY M. OHYAMA		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;"> <thead> <tr> <th style="width: 100%;">DRAWING TITLE</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">BAR ARRANGEMENT OF SLAB FOR ON-RAMP (2)</td> </tr> </tbody> </table>	DRAWING TITLE	BAR ARRANGEMENT OF SLAB FOR ON-RAMP (2)	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 100%;">PACKAGE</th> </tr> </thead> <tbody> <tr> <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-OR-1302</td> </tr> </tbody> </table>	PACKAGE	1	DWG No.	P1-OR-1302
NAME	SIGNATURE	DATE																							
PREPARED BY M. OHYAMA		15 Jun.2017																							
CHECKED BY T. HAYAKAWA		20 Jun.2017																							
APPROVED BY Y. SANO		21 Jun.2017																							
DRAWING TITLE																									
BAR ARRANGEMENT OF SLAB FOR ON-RAMP (2)																									
PACKAGE																									
1																									
DWG No.																									
P1-OR-1302																									

# BAR ARRANGEMENT OF SLAB FOR ON-RAMP (3) S=1:60

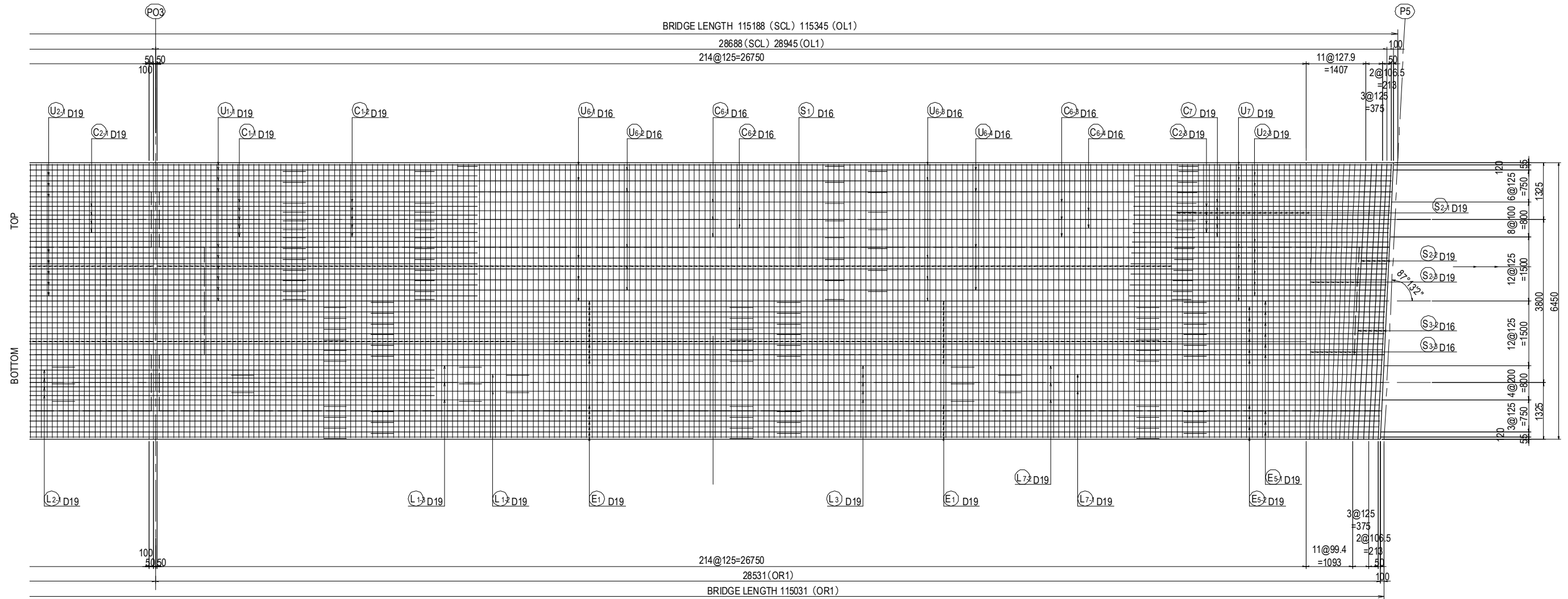
## PLAN VIEW



<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>	<small>SIGNATURE</small>	<small>DATE</small>	<small>DRAWING TITLE</small> BAR ARRANGEMENT OF SLAB FOR ON-RAMP (3)	<small>PACKAGE</small>
				PREPARED BY	M. OHYAMA		15 Jun.2017		1
				CHECKED BY	T. HAYAKAWA		20 Jun.2017		DWG No.
				APPROVED BY	Y. SANO		21 Jun.2017		P1-OR-1303

# BAR ARRANGEMENT OF SLAB FOR ON-RAMP (4) S=1:100

## PLAN VIEW

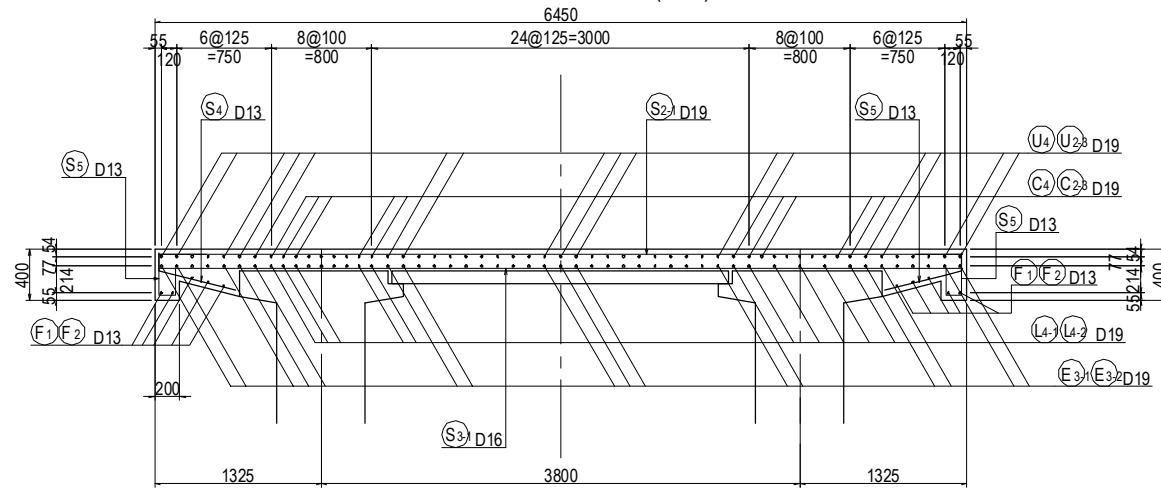


<small>PROJECT NAME</small> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	<small>FINANCED BY</small> JAPAN INTERNATIONAL COOPERATION AGENCY	<small>COUNTERPART</small> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	<small>JICA STUDY TEAM</small> NIPPON KOEI 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. OHYAMA</td> <td></td> <td>15 Jun.2017</td> </tr> <tr> <td>CHECKED BY</td> <td>T. HAYAKAWA</td> <td></td> <td>20 Jun.2017</td> </tr> <tr> <td>APPROVED BY</td> <td>Y. SANO</td> <td></td> <td>21 Jun.2017</td> </tr> </tbody> </table>		NAME	SIGNATURE	DATE	PREPARED BY	M. OHYAMA		15 Jun.2017	CHECKED BY	T. HAYAKAWA		20 Jun.2017	APPROVED BY	Y. SANO		21 Jun.2017	<small>DRAWING TITLE</small> BAR ARRANGEMENT OF SLAB FOR ON-RAMP (4)	<small>PACKAGE</small> 1 DWG No. P1-OR-1304
	NAME	SIGNATURE	DATE																			
PREPARED BY	M. OHYAMA		15 Jun.2017																			
CHECKED BY	T. HAYAKAWA		20 Jun.2017																			
APPROVED BY	Y. SANO		21 Jun.2017																			

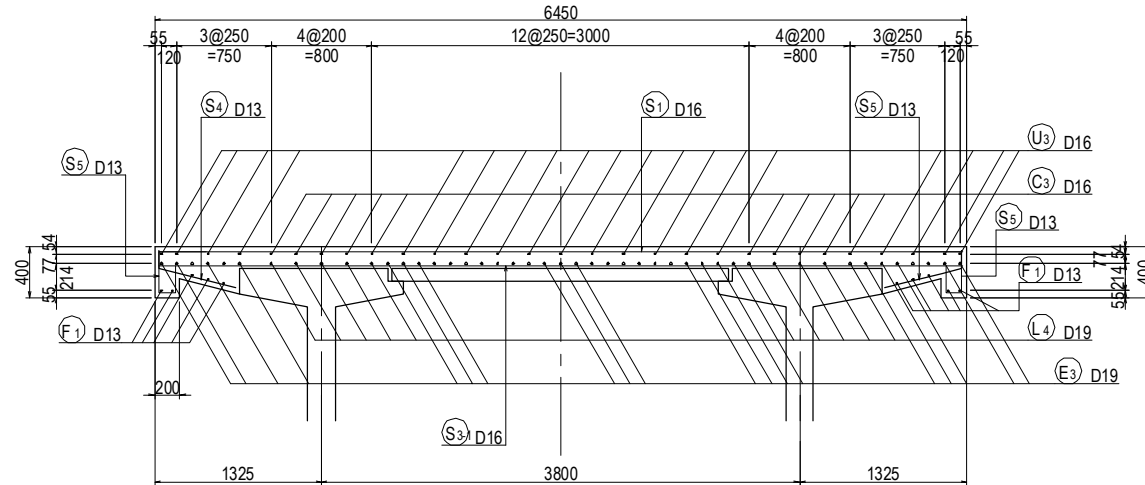
# BAR ARRANGEMENT OF SLAB FOR ON-RAMP (5) S=1:60

## CROSS SECTION

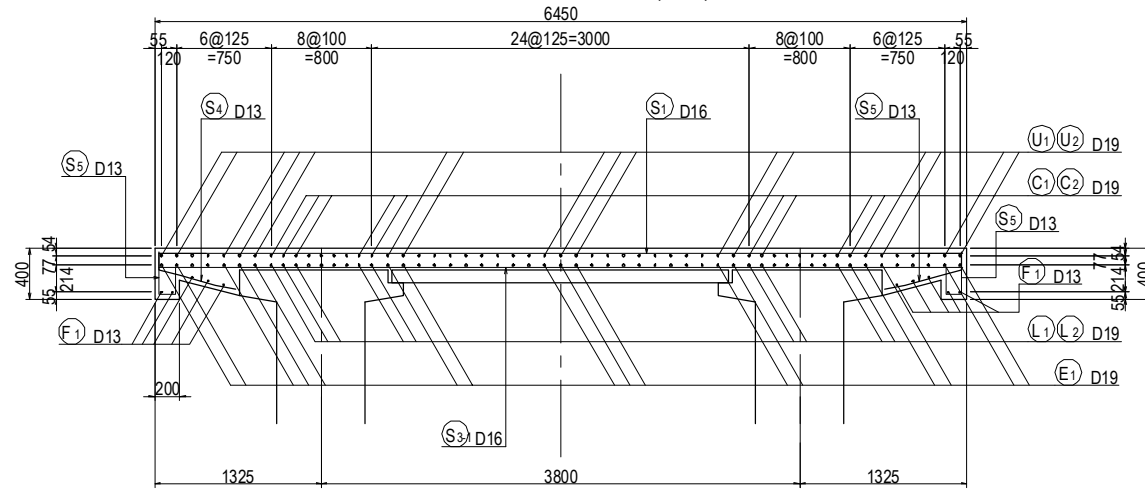
### SUPPORT SECTION (AO1)



### TYPICAL SECTION

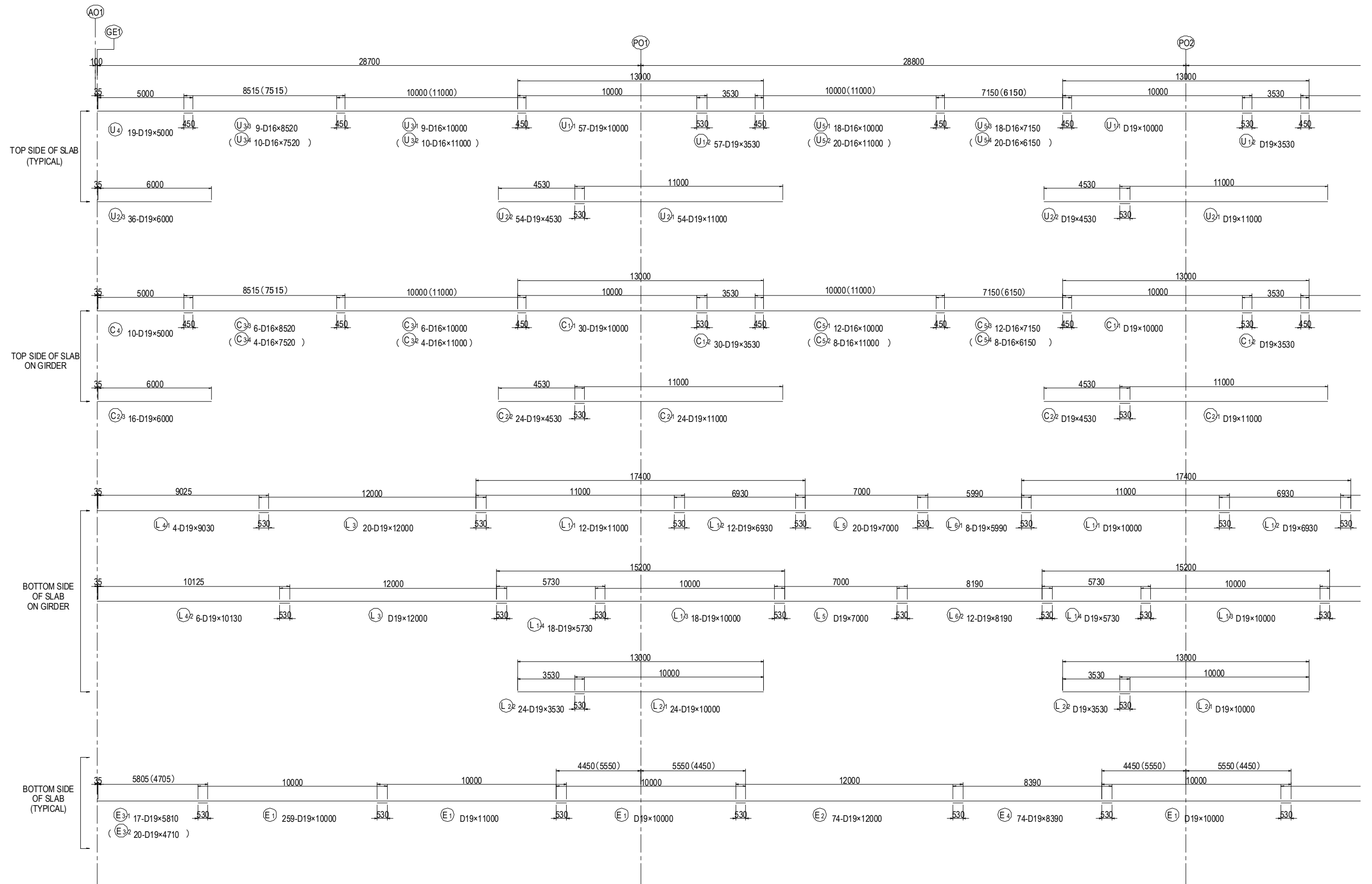


### SUPPORT SECTION (PO1)



<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="text-align: left;">NAME</th> <th style="text-align: left;">SIGNATURE</th> <th style="text-align: left;">DATE</th> </tr> </thead> <tbody> <tr> <td>PREPARED BY</td> <td>M. OHYAMA </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> </tbody> </table>	NAME	SIGNATURE	DATE	PREPARED BY	M. OHYAMA	15 Jun.2017	CHECKED BY	T. HAYAKAWA	20 Jun.2017	APPROVED BY	Y. SANO	21 Jun.2017	<small>DRAWING TITLE</small> BAR ARRANGEMENT OF SLAB FOR ON-RAMP (5)	<small>PACKAGE</small> 1 DWG No. P1-OR-1305
NAME	SIGNATURE	DATE																	
PREPARED BY	M. OHYAMA	15 Jun.2017																	
CHECKED BY	T. HAYAKAWA	20 Jun.2017																	
APPROVED BY	Y. SANO	21 Jun.2017																	

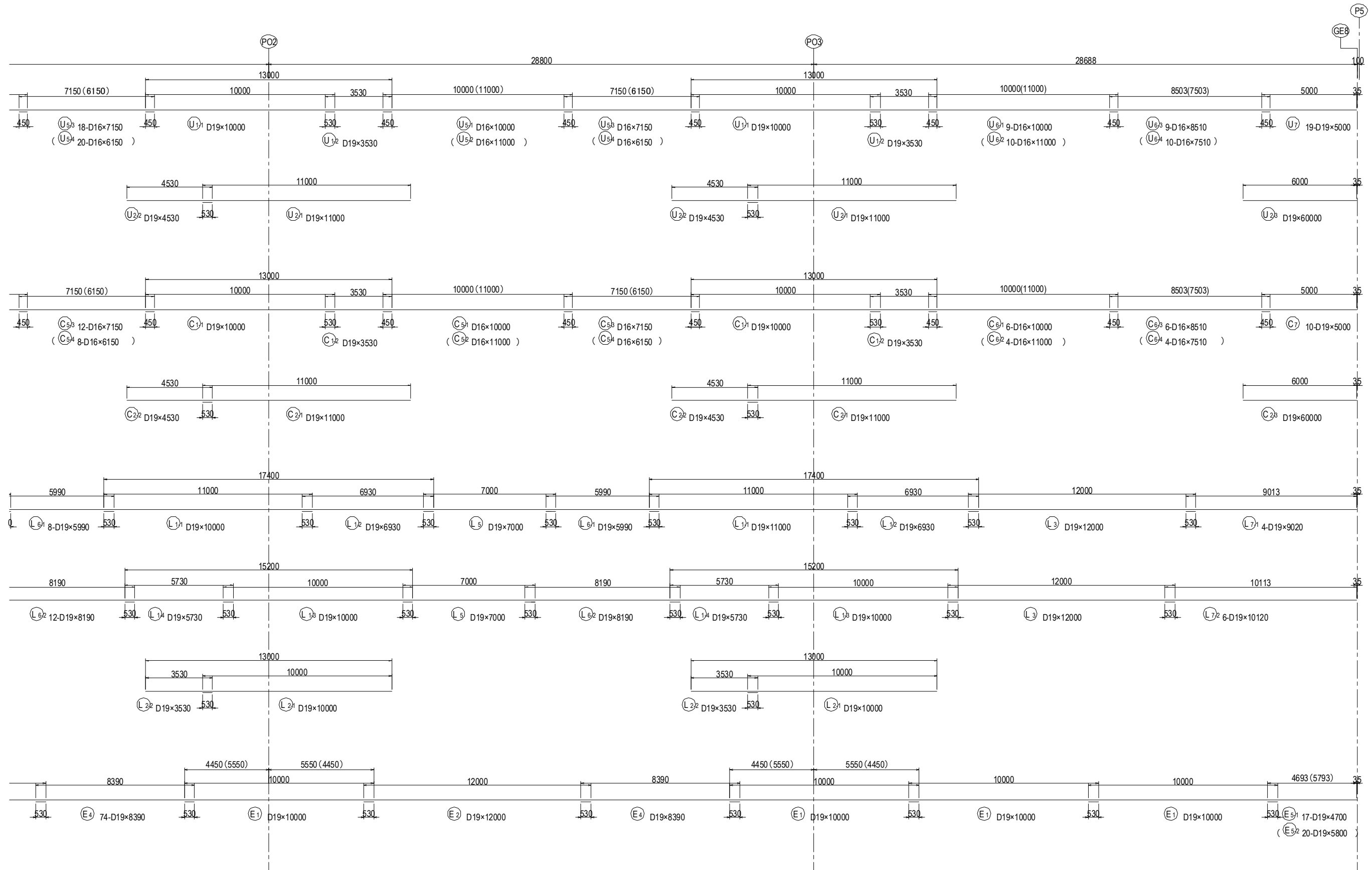
# BAR ARRANGEMENT OF SLAB FOR ON-RAMP (6) S=1:200



<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;"> <tr> <th>NAME</th> <th>SIGNATURE</th> <th>DATE</th> </tr> <tr> <td>PREPARED BY M. OHYAMA</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. OHYAMA		15 Jun.2017	CHECKED BY T. HAYAKAWA		20 Jun.2017	APPROVED BY Y. SANO		21 Jun.2017	<small>DRAWING TITLE</small> <h2 style="text-align: center;">BAR ARRANGEMENT OF SLAB FOR ON-RAMP(6)</h2>	<small>PACKAGE</small> 1 <small>DWG No.</small> P1-OR-1306
NAME	SIGNATURE	DATE																	
PREPARED BY M. OHYAMA		15 Jun.2017																	
CHECKED BY T. HAYAKAWA		20 Jun.2017																	
APPROVED BY Y. SANO		21 Jun.2017																	



# BAR ARRANGEMENT OF SLAB FOR ON RAMP (7) S=1:200

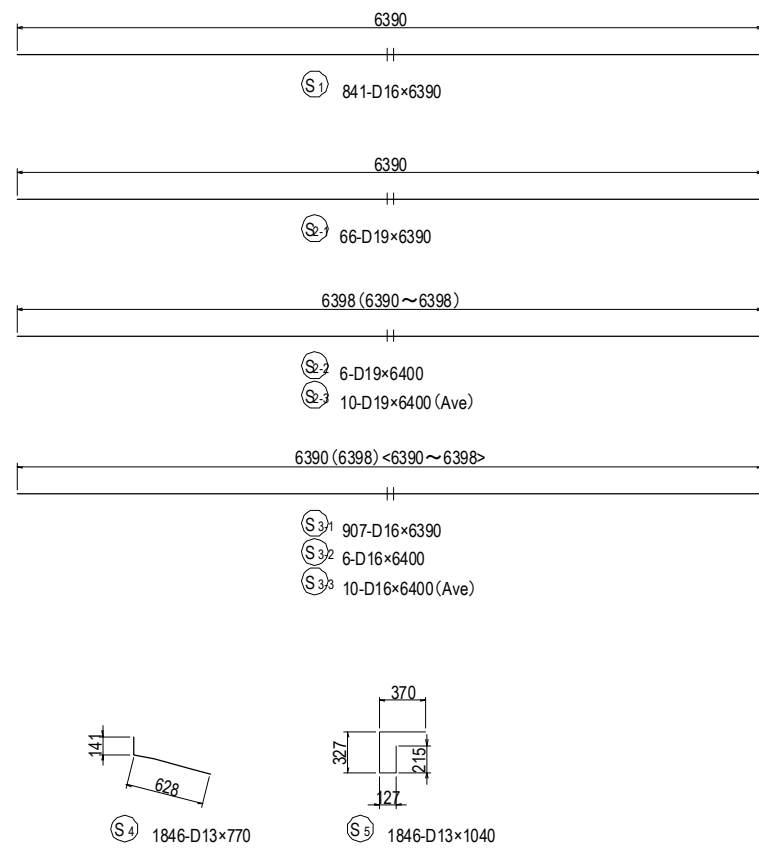


PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.		NAME M. OHYAMA T. HAYAKAWA Y. SANO	SIGNATURE   	DATE 15 Jun.2017 20 Jun.2017 21 Jun.2017	DRAWING TITLE BAR ARRANGEMENT OF SLAB FOR ON-RAMP (7)	PACKAGE 1 DWG No. P1-OR-1307
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# BAR ARRANGEMENT OF SLAB FOR ON-RAMP (8) S=1:60

## TRANSVERSE REINFORCEMENT S=1:60



### BAR STATISTICS TABLE

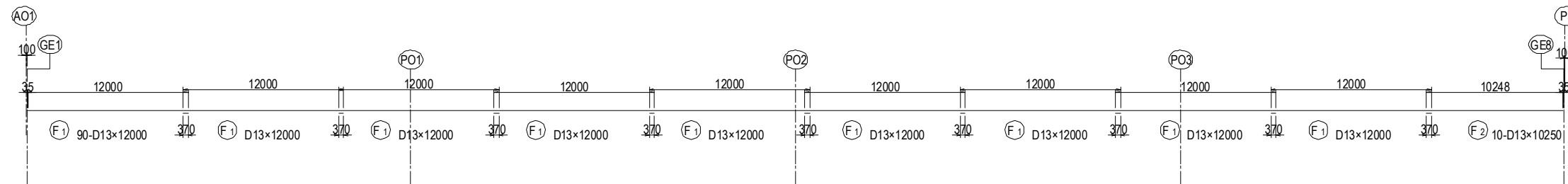
(For 1 Bridge)

Bar Mark	Bar Size	Length (mm)	No. Of Bar (Nos)	Unit Wt (kg/m)	Rod Wt (kg)	Total Weight (kg)	Shape
U 1-1	D19	10000	57	2.25	22.50	1 283	—
1-2	"	3530	57	"	7.94	453	—
2-1	"	11000	54	"	24.75	1 337	—
2-2	"	4530	54	"	10.19	550	—
2-3	"	6000	36	"	13.50	486	—
3-1	D16	10000	9	1.56	15.60	140	—
3-2	"	11000	10	"	17.16	172	—
3-3	"	8250	9	"	12.87	116	—
3-4	"	7520	10	"	11.73	117	—
4	D19	5000	19	2.25	11.25	214	—
5-1	D16	10000	18	1.56	15.60	281	—
5-2	"	11000	20	"	17.16	343	—
5-3	"	7150	18	"	11.15	201	—
5-4	"	6150	20	"	9.59	192	—
6-1	"	10000	9	"	15.60	140	—
6-2	"	11000	10	"	17.16	172	—
6-3	"	8510	9	"	13.28	120	—
6-4	"	7510	10	"	11.72	117	—
7	D19	5000	19	2.25	11.25	214	—
C 1-1	D19	10000	30	2.25	22.50	675	—
1-2	"	3530	30	"	7.94	238	—
2-1	"	11000	24	"	24.75	594	—
2-2	"	4530	24	"	10.19	245	—
2-3	"	6000	16	"	13.50	216	—
3-1	D16	10000	6	1.56	15.60	94	—
3-2	"	11000	4	"	17.16	69	—
3-3	"	8250	6	"	12.87	77	—
3-4	"	7520	4	"	11.73	47	—
4	D19	5000	10	2.25	11.25	113	—
5-1	D16	10000	12	1.56	15.60	187	—
5-2	"	11000	8	"	17.16	137	—
5-3	"	7150	12	"	11.15	134	—
5-4	"	6150	8	"	9.59	77	—
6-1	"	10000	6	"	15.60	94	—
6-2	"	11000	4	"	17.16	69	—
6-3	"	8510	6	"	13.28	80	—
6-4	"	7510	4	"	11.72	47	—
7	D19	5000	10	2.25	11.25	113	—
L 1-1	D19	11000	12	2.25	24.75	297	—
1-2	"	6930	12	2.25	15.59	187	—
1-3	"	10000	18	2.25	22.50	405	—
1-4	"	5730	18	2.25	12.89	232	—
2-1	"	10000	24	2.25	22.50	540	—
2-2	"	3530	24	2.25	7.94	191	—

### BAR STATISTICS TABLE

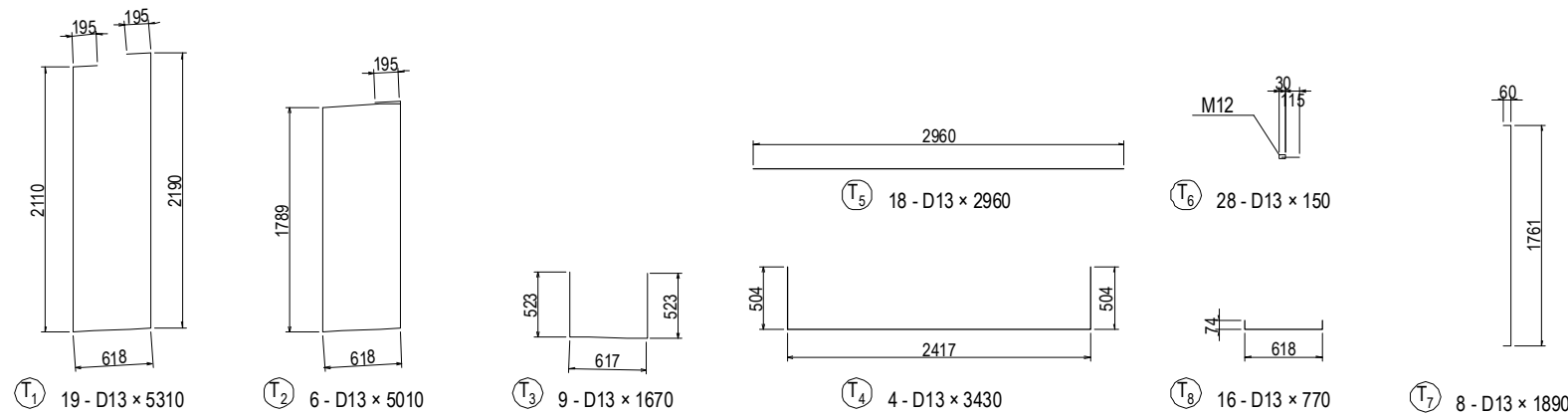
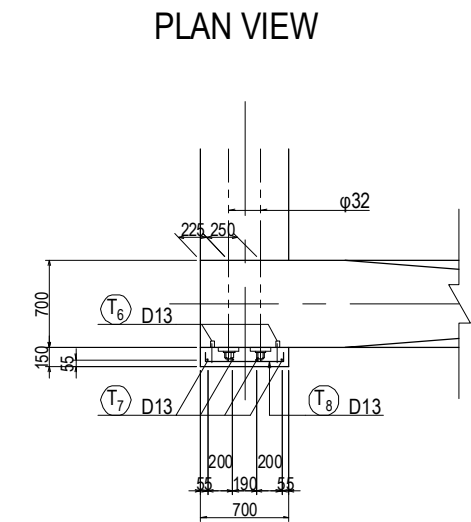
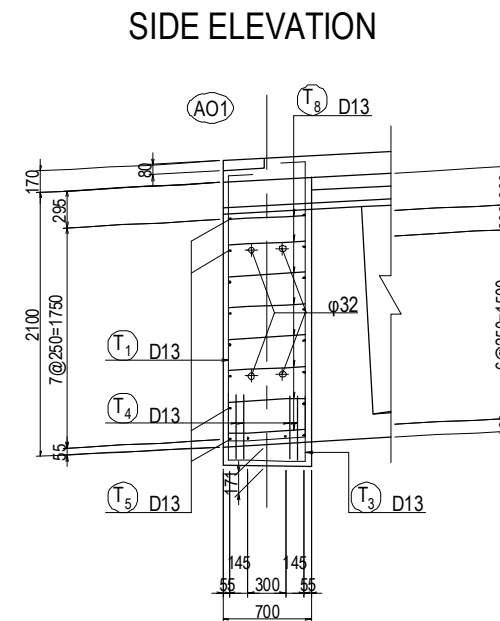
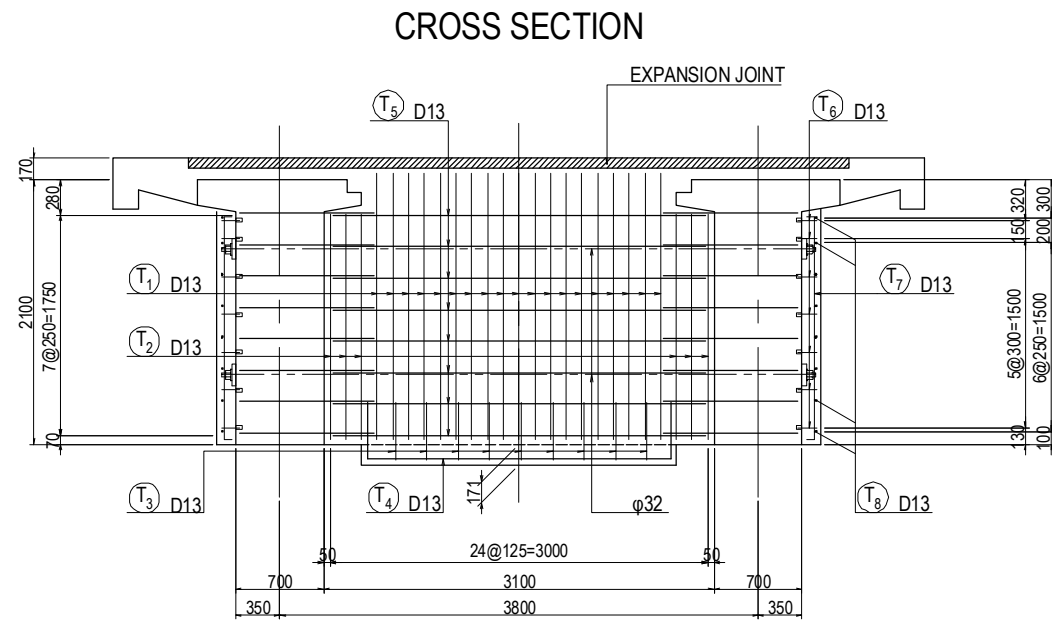
(For 1 Bridge)

Bar Mark	Bar Size	Length (mm)	No. Of Bar (Nos)	Unit Wt (kg/m)	Rod Wt (kg)	Total Weight (kg)	Shape
L 3	D19	12000	20	2.25	27.00	540	—
4-1	"	9030	4	"	20.32	81	—
4-2	D19	10130	6	2.25	22.79	137	—
5	D19	7000	20	2.25	15.75	315	—
6-1	D19	5990	8	2.25	13.48	108	—
6-2	D19	8190	12	2.25	18.43	221	—
7-1	"	9020	4	"	20.30	81	—
7-2	D19	10120	6	2.25	22.77	137	—
E 1	D19	10000	259	2.25	22.50	5 828	—
2	D19	12000	74	2.25	27.00	1 998	—
3-1	D19	5810	17	2.25	13.07	222	—
3-2	D19	4710	20	2.25	10.60	212	—
4	D19	8390	74	2.25	18.88	1 397	—
5-1	D19	4700	17	2.25	10.58	180	—
5-2	D19	5800	20	2.25	13.05	261	—
S 1	D16	6390	841	1.56	9.97	8 385	—
2-1	D19	6390	66	2.25	14.38	949	—
2-2	"	6400	6	"	14.40	86	—
2-3	"	6400	10	"	14.40	144	(Ave)
3-1	D16	6390	907	1.56	9.97	9 043	—
3-2	"	6400	6	"	9.98	60	(Ave)
3-3	"	6400	10	"	9.98	100	—
4	D13	770	1846	0.995	0.77	1 421	—
5	"	1040	1846	"	1.03	1 901	—
F 1	D13	12000	90	0.995	11.94	1 075	—
2	D13	10250	10	0.995	10.20	102	—
				D13	4499	kg	
				D16	20811	kg	
				D19	21480	kg	
				<b>Total Weight</b>	<b>46790</b>	<b>kg</b>	



# BAR ARRANGEMENT OF CROSS BEAM FOR ON-RAMP (1)

S=1:60



## BAR STATISTICS TABLE

(For 1 Cross beam)

Bar Mark	Bar Size	Length (mm)	No. Of Bar (Nos)	Unit Wt (kg/m)	Rod Wt (kg)	Total Weight (kg)	Shape
T 1	D13	5310	19	0.995	5.28	100	┌┐
2	D13	5010	6	0.995	4.98	30	┌┐
3	D13	1670	9	0.995	1.66	15	┌┐
4	D13	3430	4	0.995	3.41	14	┌┐
5	D13	2960	18	0.995	2.95	53	┌┐
6	D13	150	28	0.995	0.15	4	┌┐
7	D13	1890	8	0.995	1.88	15	┌┐
8	D13	770	16	0.995	0.77	12	┌┐
Total Weight					243 kg		

### Notes:

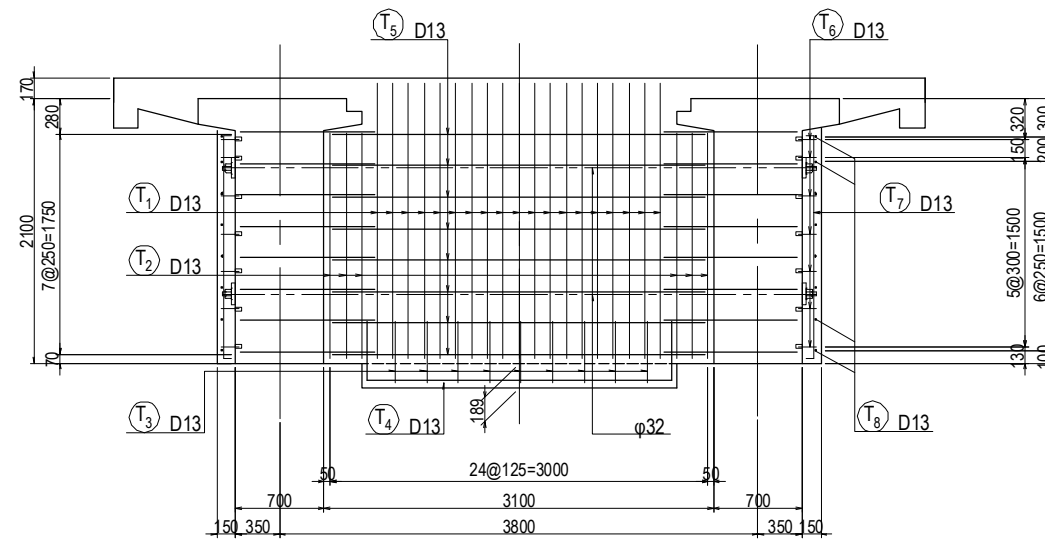
- Unless otherwise indicated in drawing, transverse PC bars shall be tensioned from one side alternately.
- Reinforcement for tendon anchorage such as grid rebar shall be arranged sufficiently.
- 800 N/mm<sup>2</sup> is assumed as jacking force of  $\phi$ 32mm in design stage. Jacking force considering jacking sequence shall be indicated on shop drawings and shall be approved by Engineer.

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 BAR ARRANGEMENT OF CROSS BEAM FOR ON-RAMP (1)	PACKAGE 1 DWG No. P1-OR-1401	
				PREPARED BY	M. OHYAMA				15 Jun.2017
				CHECKED BY	T. HAYAKAWA				20 Jun.2017
				APPROVED BY	Y. SANO				21 Jun.2017

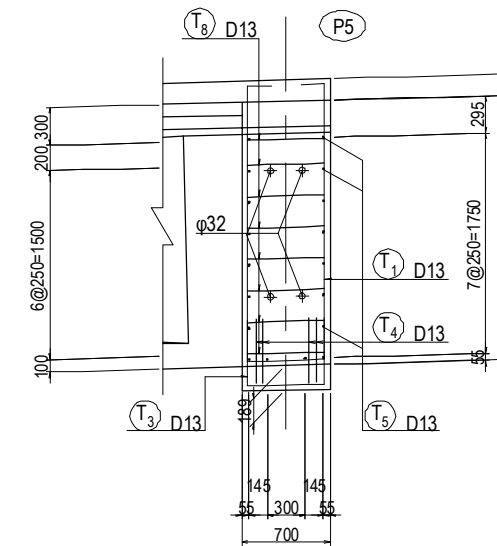
# BAR ARRANGEMENT OF CROSS BEAM FOR ON-RAMP (2)

S=1:60

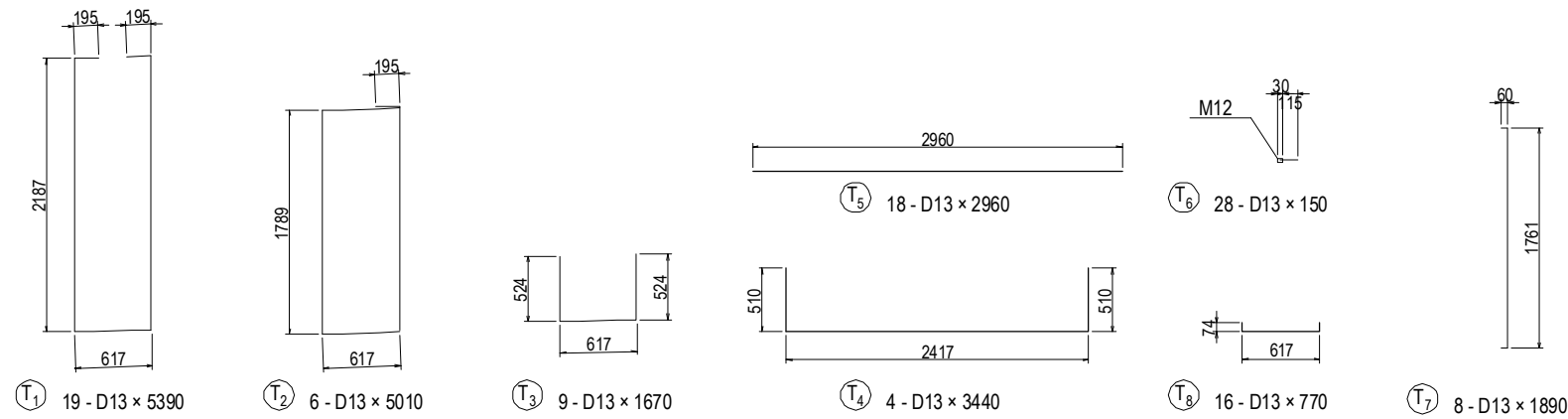
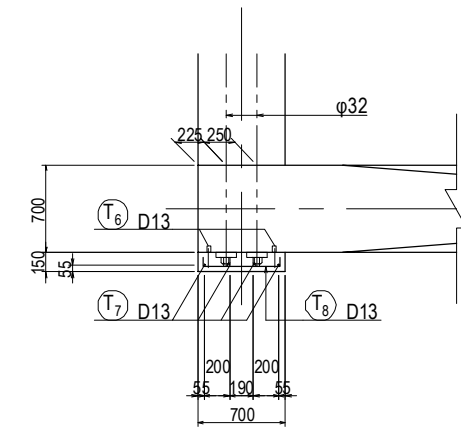
CROSS SECTION



SIDE ELEVATION



PLAN VIEW



BAR STATISTICS TABLE

(For 1 Cross beam)

Bar Mark	Bar Size	Length (mm)	No. Of Bar (Nos)	Unit Wt (kg/m)	Rod Wt (kg)	Total Weight (kg)	Shape
T 1	D13	5390	19	0.995	5.36	102	┌
2	D13	5010	6	0.995	4.98	30	┌
3	D13	1670	9	0.995	1.66	15	┌
4	D13	3440	4	0.995	3.42	14	┌
5	D13	2960	18	0.995	2.95	53	—
6	D13	150	28	0.995	0.15	4	┌
7	D13	1890	8	0.995	1.88	15	┌
8	D13	770	16	0.995	0.77	12	┌
Total Weight				245 kg			

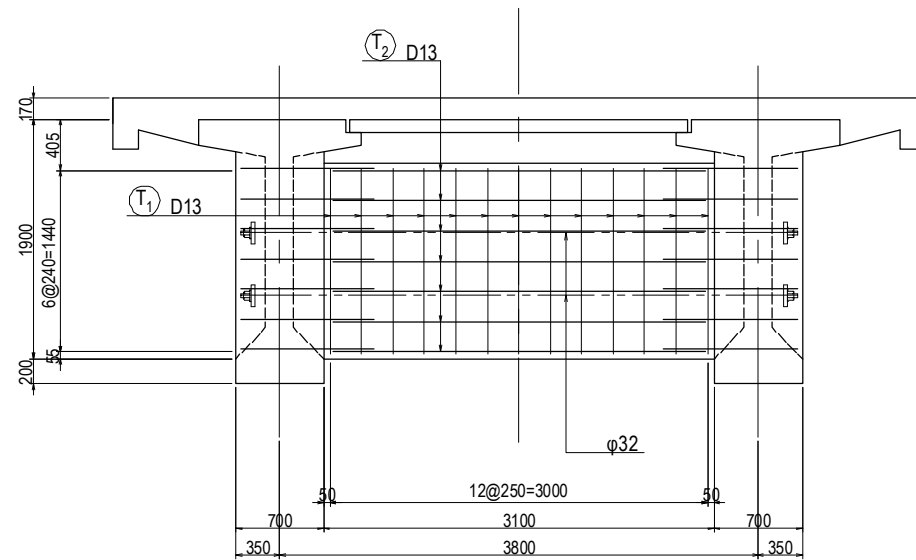
Notes:

- Unless otherwise indicated in drawing, transverse PC bars shall be tensioned from one side alternately.
- Reinforcement for tendon anchorage such as grid rebar shall be arranged sufficiently.
- 800 N/mm<sup>2</sup> is assumed as jacking force of φ32mm in design stage. Jacking force considering jacking sequence shall be indicated on shop drawings and shall be approved by Engineer.

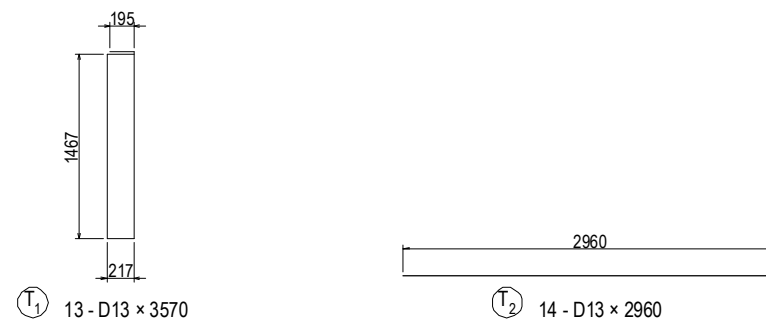
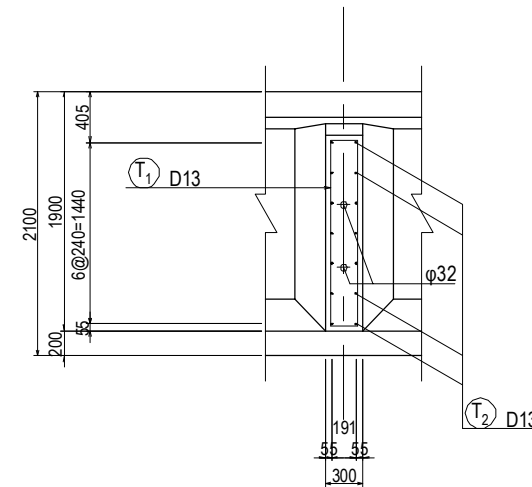
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO. LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE BAR ARRANGEMENT OF CROSS BEAM FOR ON-RAMP (2)	PACKAGE	
				PREPARED BY	M. OHYAMA	大山 満弘		15 Jun.2017	1
				CHECKED BY	T. HAYAKAWA	平川 知邦		20 Jun.2017	DWG No.
				APPROVED BY	Y. SANO	佐野 祐一		21 Jun.2017	P1-OR-1402

# BAR ARRANGEMENT OF CROSS BEAM FOR ON-RAMP (3) S=1:60

### CROSS SECTION



### SIDE ELEVATION



### BAR STATISTICS TABLE

(For 1 Cross beam)

Bar Mark	Bar Size	Length (mm)	No. Of Bar (Nos)	Unit Wt (kg/m)	Rod Wt (kg)	Total Weight (kg)	Shape
T 1	D13	3570	13	0.995	3.55	46	□
T 2	D13	2960	14	0.995	2.95	41	—
				<b>Total Weight</b>	<b>87 kg</b>		

**Notes:**

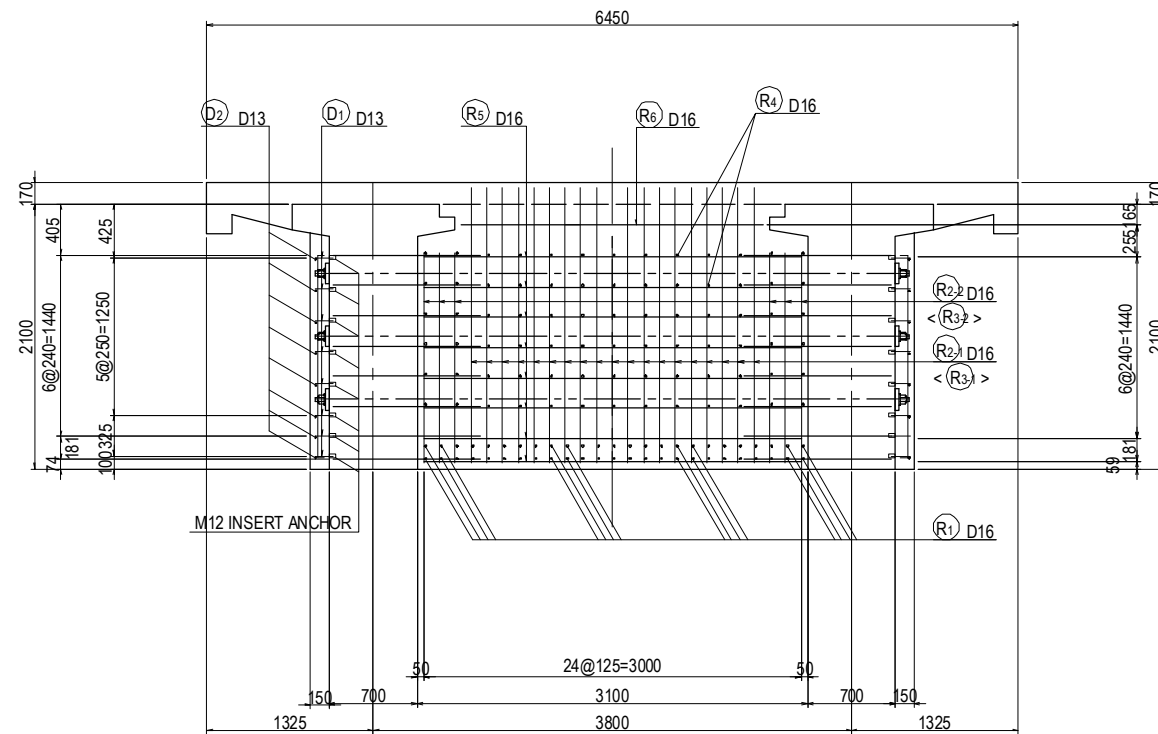
- Unless otherwise indicated in drawing, transverse PC bars shall be tensioned from one side alternately.
- Reinforcement for tendon anchorage such as grid rebar shall be arranged sufficiently.
- 800 N/mm<sup>2</sup> is assumed as jacking force of φ32mm in design stage. Jacking force considering jacking sequence shall be indicated on shop drawings and shall be approved by Engineer.

<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>NAME</th> <th>SIGNATURE</th> <th>DATE</th> </tr> <tr> <td>PREPARED BY</td> <td>M. OHYAMA</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. OHYAMA	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 colspan="2" style="text-align: center;">DRAWING TITLE</th> </tr> <tr> <td colspan="2" style="text-align: center;">BAR ARRANGEMENT OF CROSS BEAM FOR ON-RAMP (3)</td> </tr> </table>	DRAWING TITLE		BAR ARRANGEMENT OF CROSS BEAM FOR ON-RAMP (3)		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>PACKAGE</th> </tr> <tr> <td style="text-align: center;">1</td> </tr> <tr> <th>DWG No.</th> </tr> <tr> <td style="text-align: center;">P1-OR-1403</td> </tr> </table>	PACKAGE	1	DWG No.	P1-OR-1403
NAME	SIGNATURE	DATE																								
PREPARED BY	M. OHYAMA	15 Jun.2017																								
CHECKED BY	T. HAYAKAWA	20 Jun.2017																								
APPROVED BY	Y. SANO	21 Jun.2017																								
DRAWING TITLE																										
BAR ARRANGEMENT OF CROSS BEAM FOR ON-RAMP (3)																										
PACKAGE																										
1																										
DWG No.																										
P1-OR-1403																										

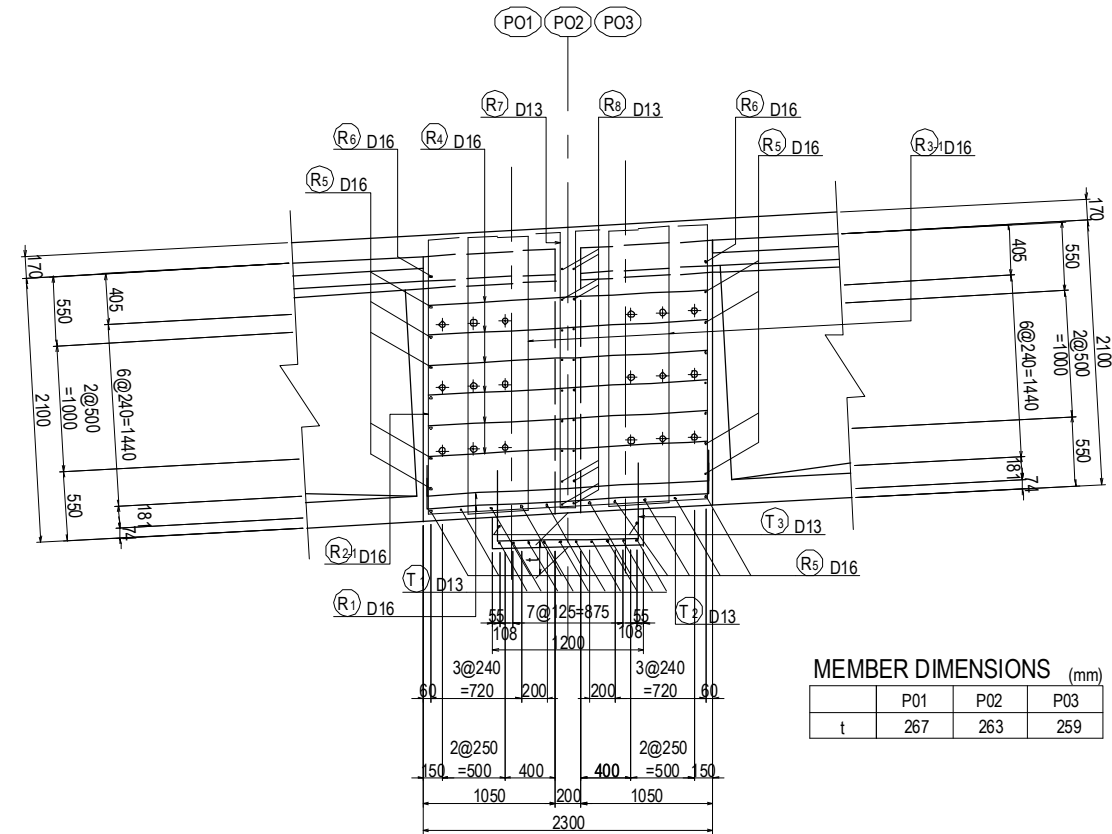
# BAR ARRANGEMENT OF CROSS BEAM FOR ON-RAMP (4) S=1:60

CROSS SECTION S=1:60

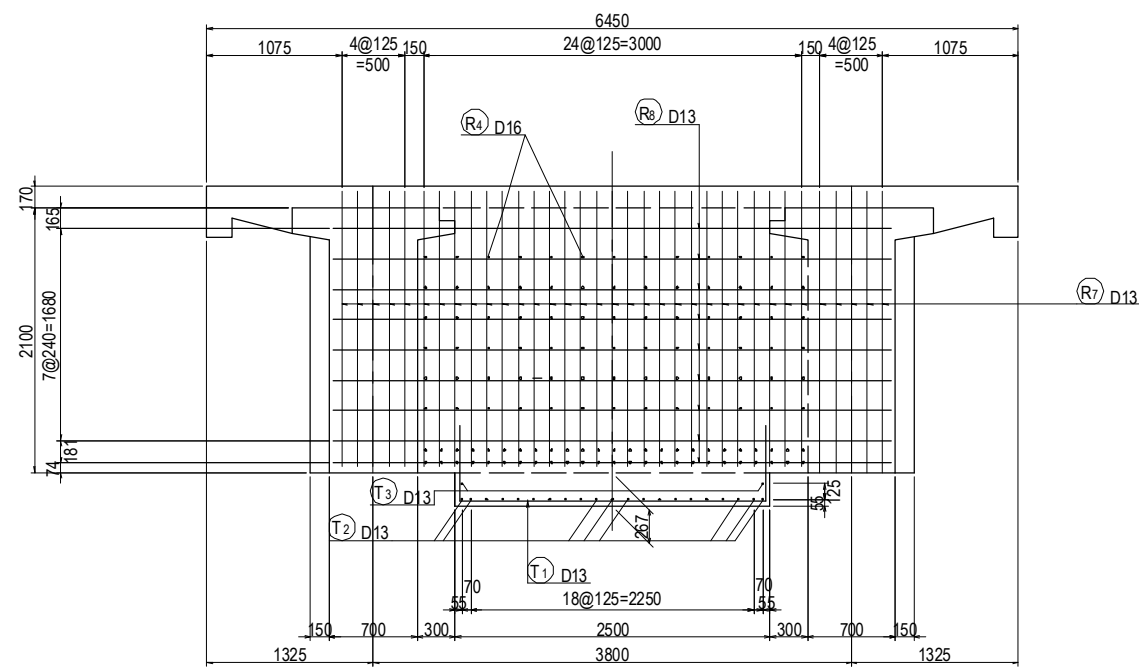
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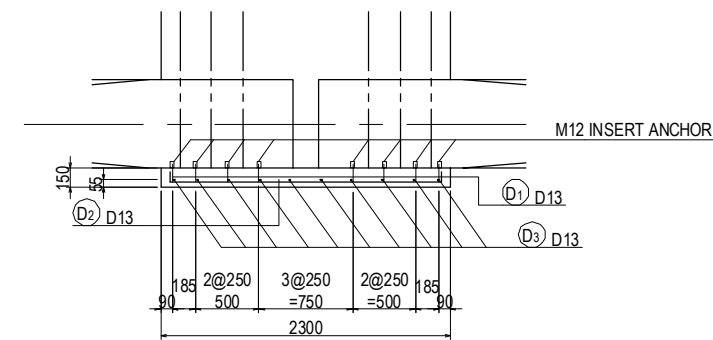
1 2



2 - 2



1 2



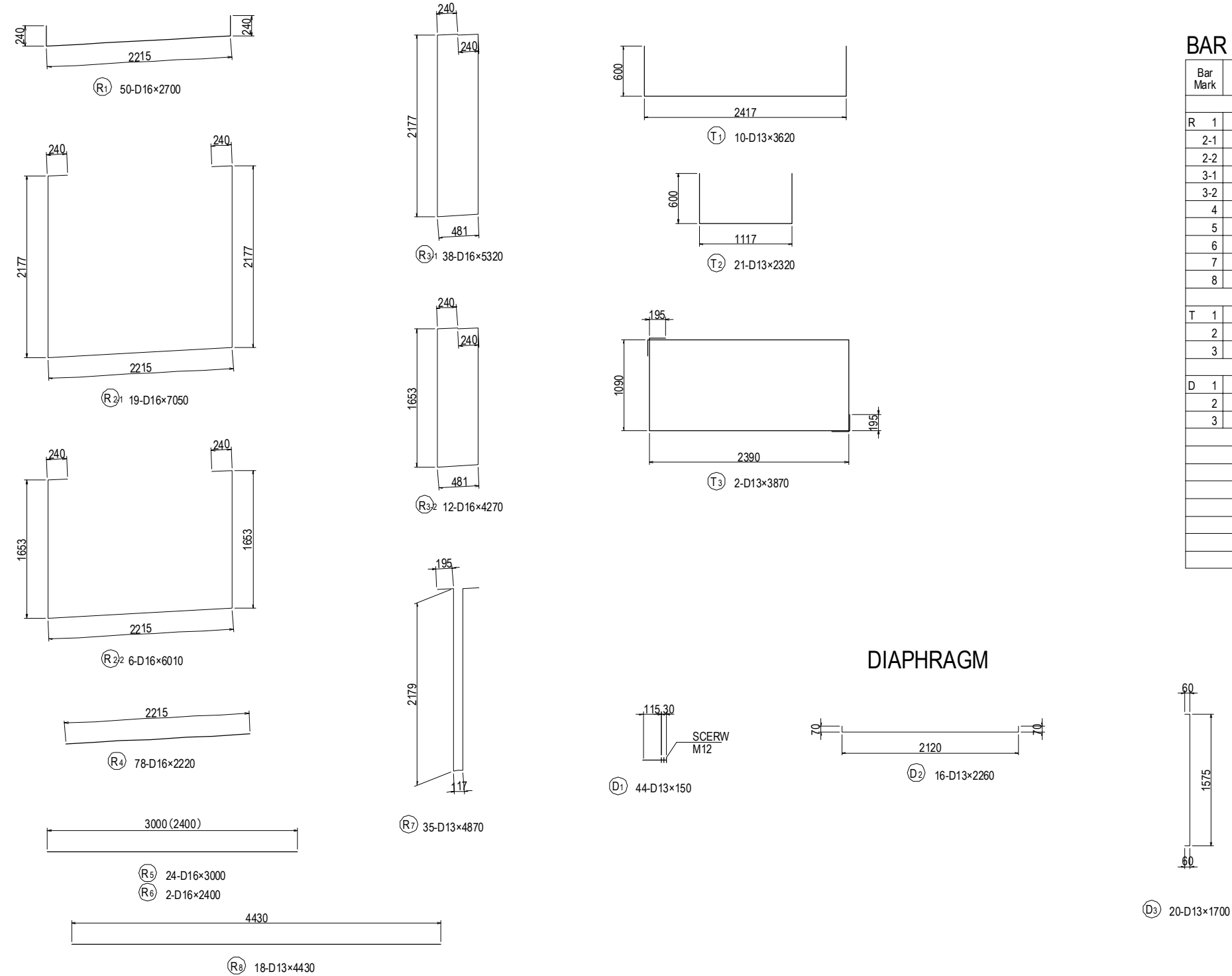
Notes:

- Unless otherwise indicated in drawing, transverse PC bars shall be tensioned from one side alternately.
- Reinforcement for tendon anchorage such as grid rebar shall be arranged sufficiently.
- 800 N/mm<sup>2</sup> is assumed as jacking force of  $\phi$ 32mm in design stage. Jacking force considering jacking sequence shall be indicated on shop drawings and shall be approved by Engineer.

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
							BAR ARRANGEMENT OF CROSS BEAM FOR ON-RAMP (4)	1	
								DWG No.	
								P1-OR-1404	

# BAR ARRANGEMENT OF CROSS BEAM FOR ON-RAMP (5)

S=1:60

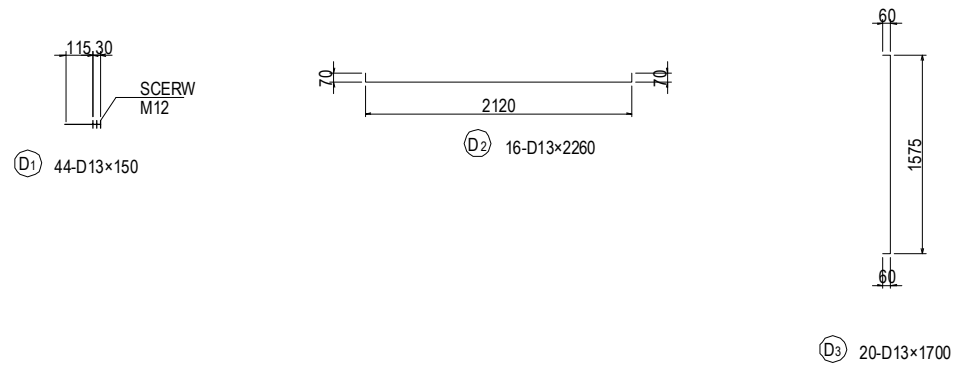


**BAR STATISTICS TABLE**

(For 1 Cross Beam)

Bar Mark	Bar Size	Length (mm)	No. Of Bar (Nos)	Unit Wt (kg/m)	Rod Wt (kg)	Total Weight (kg)	Shape
R 1	D16	2700	50	1.56	4.21	211	┌
2-1	"	7050	19	"	11.00	209	┐
2-2	"	6010	6	"	9.38	56	┐
3-1	"	5320	38	"	8.30	315	┐
3-2	"	4270	12	"	6.66	80	┐
4	"	2220	78	"	3.46	270	—
5	"	3000	24	"	4.68	112	—
6	"	2400	2	"	3.74	7	—
7	D13	4870	35	0.995	4.85	170	└
8	"	4430	18	"	4.41	79	—
T 1	D13	3620	10	0.995	3.60	36	┌
2	"	2320	21	"	2.31	49	┌
3	"	3870	2	"	3.85	8	┌
D 1	D13	150	44	0.995	0.15	7	└
2	"	2260	16	"	2.25	36	└
3	"	1700	20	"	1.69	34	└
				D13	419	kg	
				D16	1260	kg	
				<b>Total Weight</b>	<b>1679</b>	<b>kg</b>	

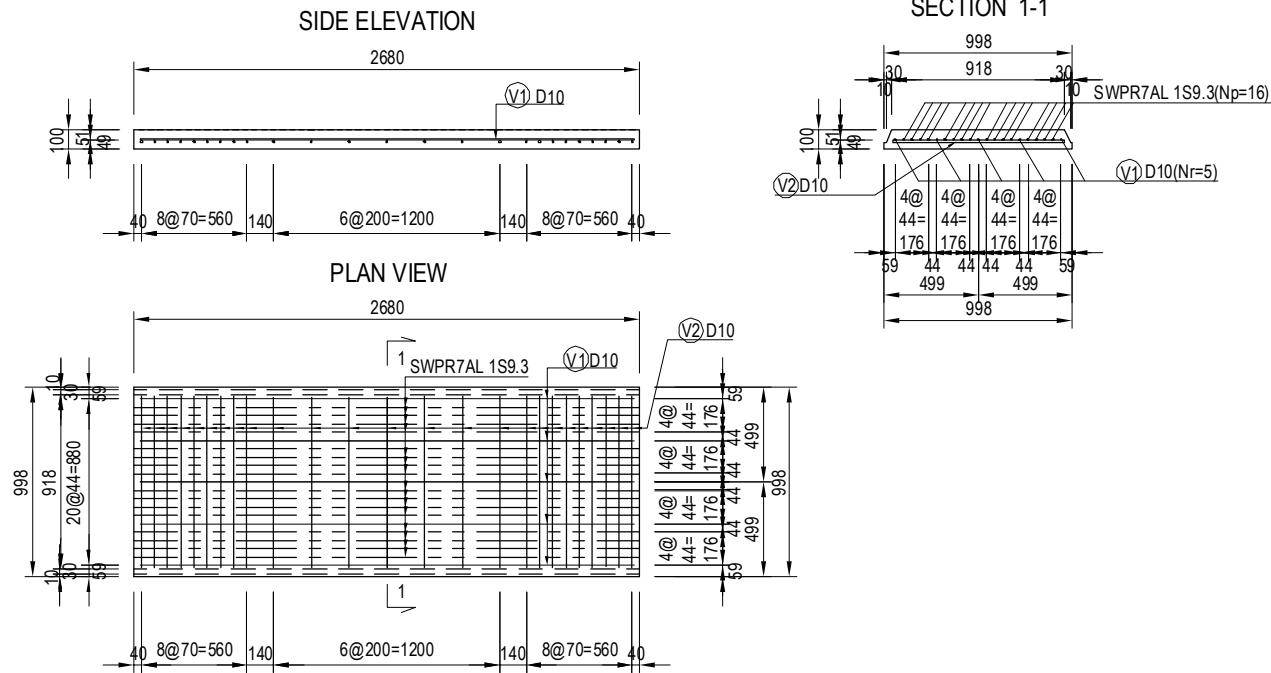
## DIAPHRAGM



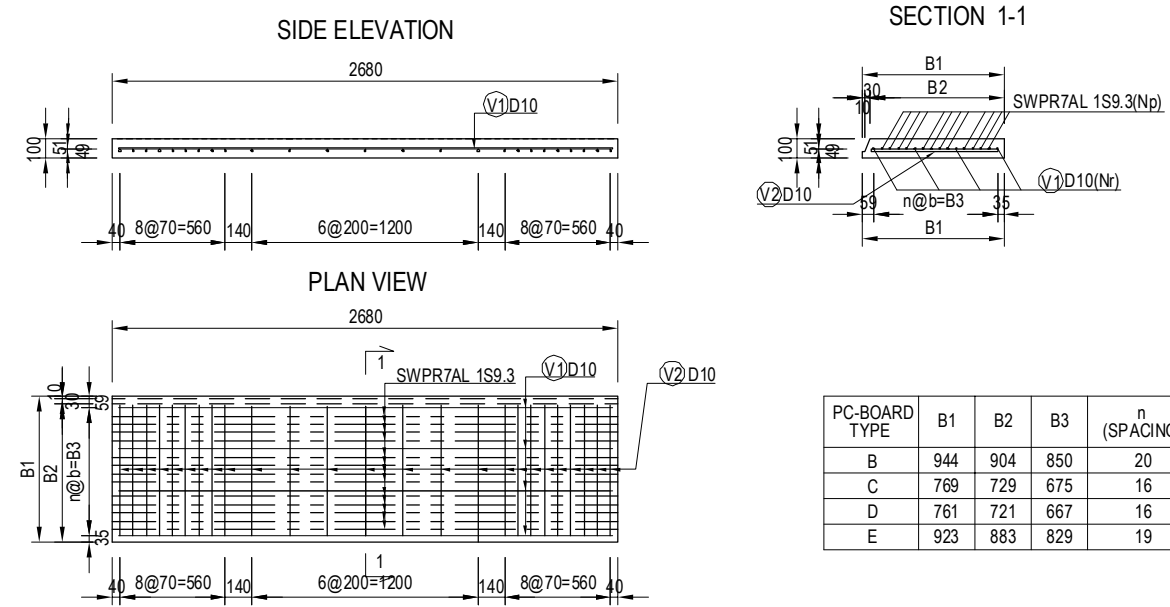


# BAR ARRANGEMENT OF PC-BOARD FOR ON-RAMP

PC-BOARD ( TYPE-A ) N=100 S=1:40

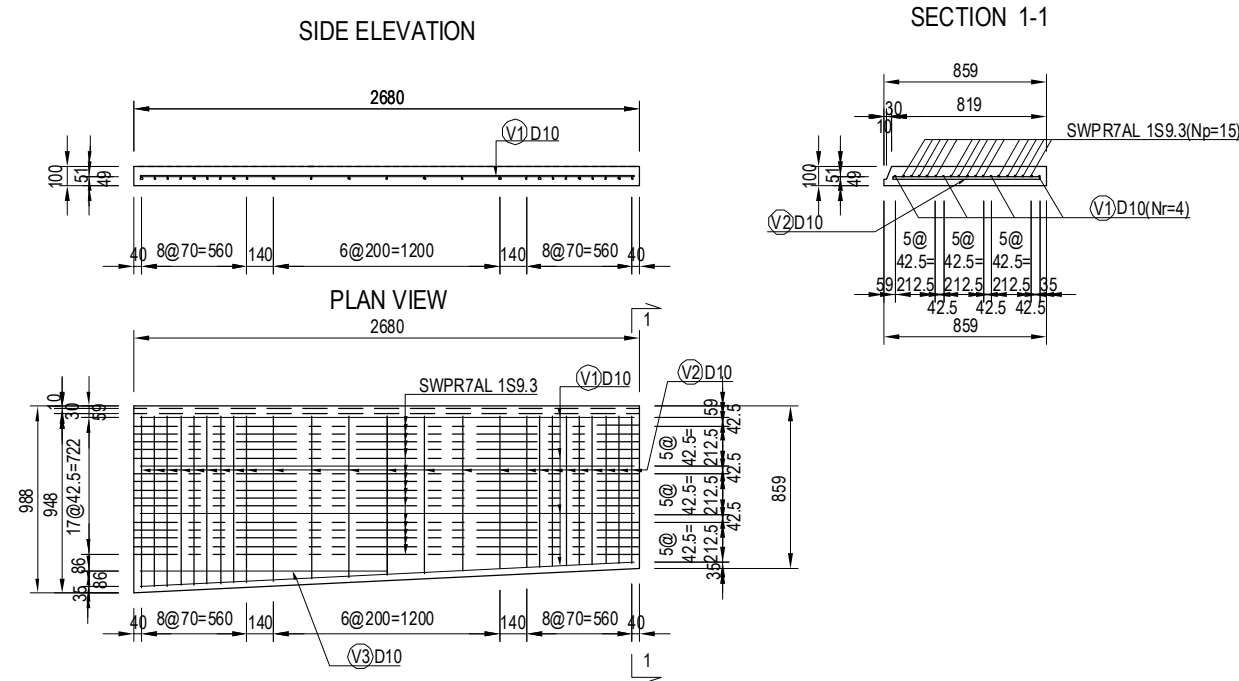


PC-BOARD ( TYPE-B,C,D&E ) S=1:40



PC-BOARD TYPE	B1	B2	B3	n (SPACING)	Np (PC-TENDON)	Nr (REBAR)	b	N
B	944	904	850	20	16	5	42.50	2
C	769	729	675	16	13	4	42.19	2
D	761	721	667	16	13	4	41.69	2
E	923	883	829	19	15	5	43.63	1

PC-BOARD ( TYPE-F ) N=1 S=1:40



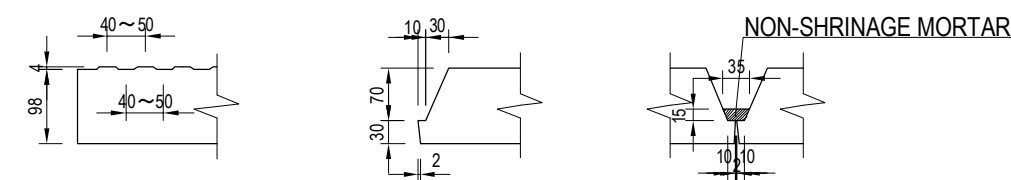
BAR STATISTICS TABLE

PC-BOARD TYPE	REBAR NAME	DIA (mm)	LENGTH (mm)	NO.	UNIT WEIGHT (kg/m)	WEIGHT PER UNIT (kg)	WEIGHT (kg)	REMARKS
TYPE-A	V1 D 10	2 620	5	0.560	1.467	7.3		
	V2 D 10	906	25	0.560	0.507	12.7		
							TOTAL	20.0
TYPE-B	V1 D 10	2 620	5	0.560	1.467	7.3		
	V2 D 10	868	25	0.560	0.486	12.2		
							TOTAL	19.5
TYPE-C	V1 D 10	2 620	4	0.560	1.467	5.9		
	V2 D 10	693	25	0.560	0.388	9.7		
							TOTAL	15.6
TYPE-D	V1 D 10	2 620	4	0.560	1.467	5.9		
	V2 D 10	685	25	0.560	0.384	9.6		
							TOTAL	15.5
TYPE-E	V1 D 10	2 620	5	0.560	1.467	7.3		
	V2 D 10	847	25	0.560	0.474	11.9		
							TOTAL	19.2
TYPE-F	V1 D 10	2 620	4	0.560	1.467	5.9		
	V2 D 10	847	25	0.560	0.474	11.9		
	V3 D 10	1 310	1	0.560	0.734	0.7		
							TOTAL	18.5
					PC-BOARD	NUMBERS	UNIT QTY	TOTAL (kg)
					TYPE-A	100	20.0	2 000.0
					TYPE-B	2	19.5	39.0
					TYPE-C	2	15.6	31.2
					TYPE-D	2	15.5	31.0
					TYPE-E	1	19.2	19.2
					TYPE-F	1	18.5	18.5
					TOTAL			2 138.9

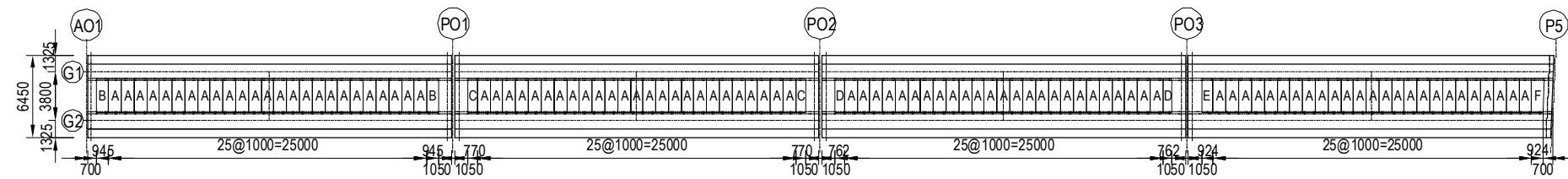
PC TENDON QUANTITY

PC-BOARD TYPE	STRAND TYPE	LENGTH (mm)	NO.	UNIT WEIGHT (kg/m)	WEIGHT PER UNIT (kg)	WEIGHT (kg)	REMARKS
TYPE-A	SWPR7AL 1S9.3	2 680	16	0.405	1.085	17.4	
							TOTAL
TYPE-B	SWPR7AL 1S9.3	2 680	16	0.405	1.085	17.4	
							TOTAL
TYPE-C	SWPR7AL 1S9.3	2 680	13	0.405	1.085	14.1	
							TOTAL
TYPE-D	SWPR7AL 1S9.3	2 680	13	0.405	1.085	14.1	
							TOTAL
TYPE-E	SWPR7AL 1S9.3	2 680	15	0.405	1.085	16.3	
							TOTAL
TYPE-F	SWPR7AL 1S9.3	2 680	15	0.405	1.085	16.3	
							TOTAL
							PC-BOARD NUMBERS
							TYPE-A 100
							TYPE-B 2
							TYPE-C 2
							TYPE-D 2
							TYPE-E 1
							TYPE-F 1
							TOTAL 1 863.8

PC-BOARD DETAILS S=1:10

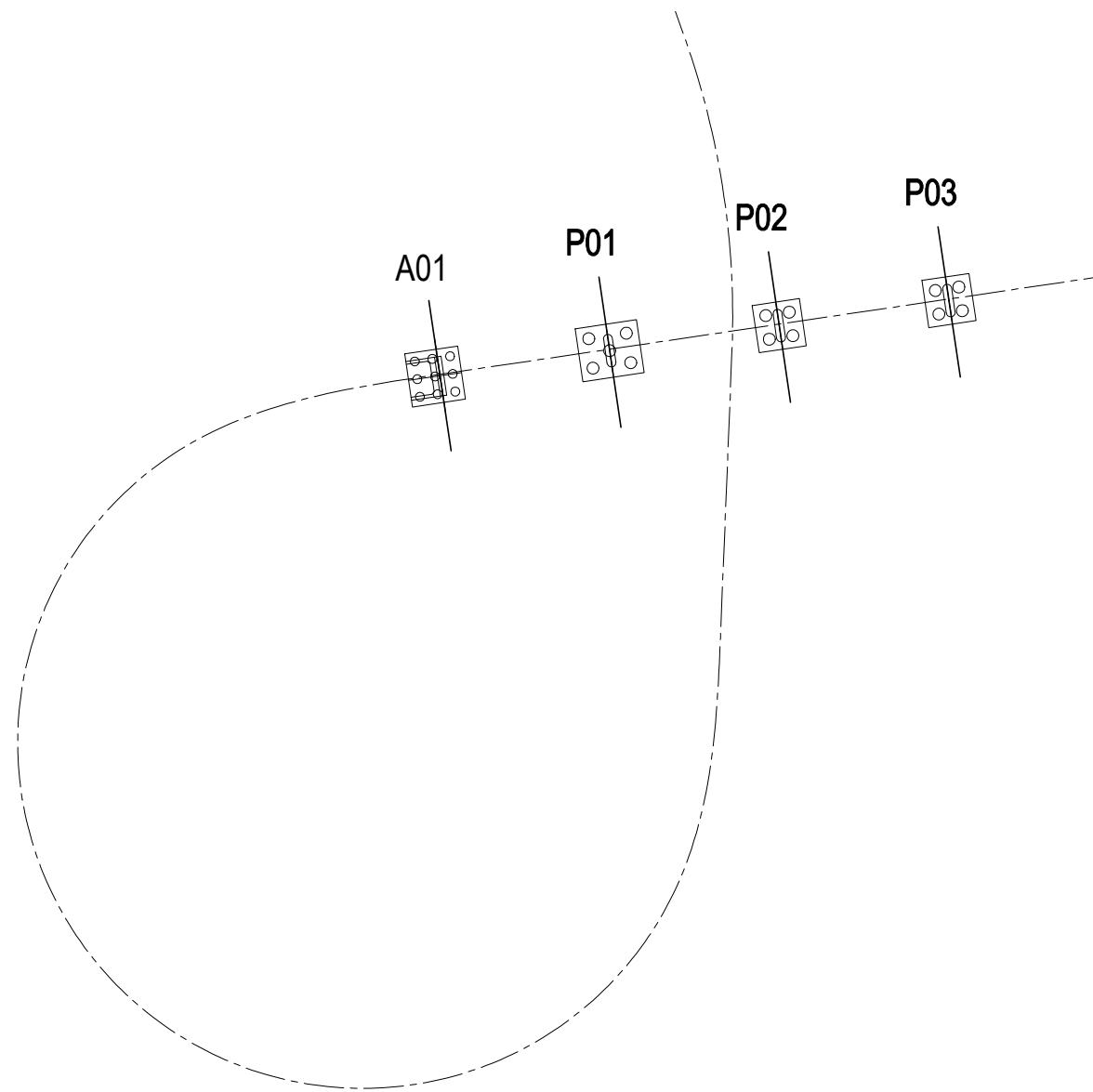
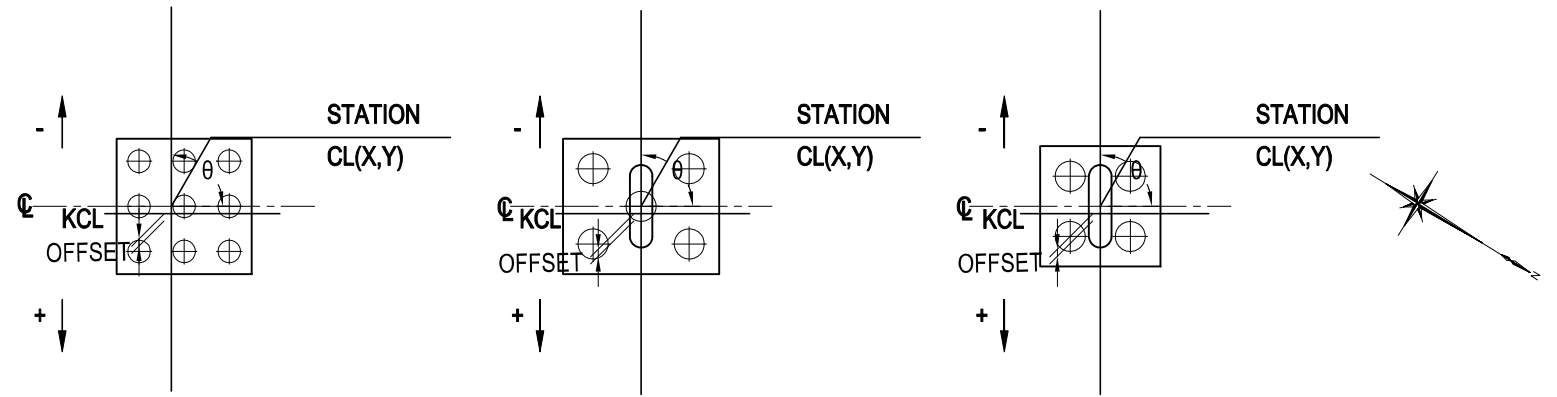


PC-BOARD ARRANGEMENT S=1:500



# COORDINATES OF SUBSTRUCTURE (A01-P03)

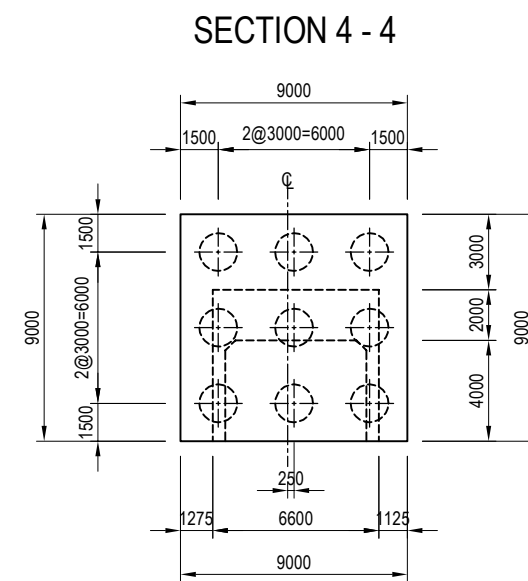
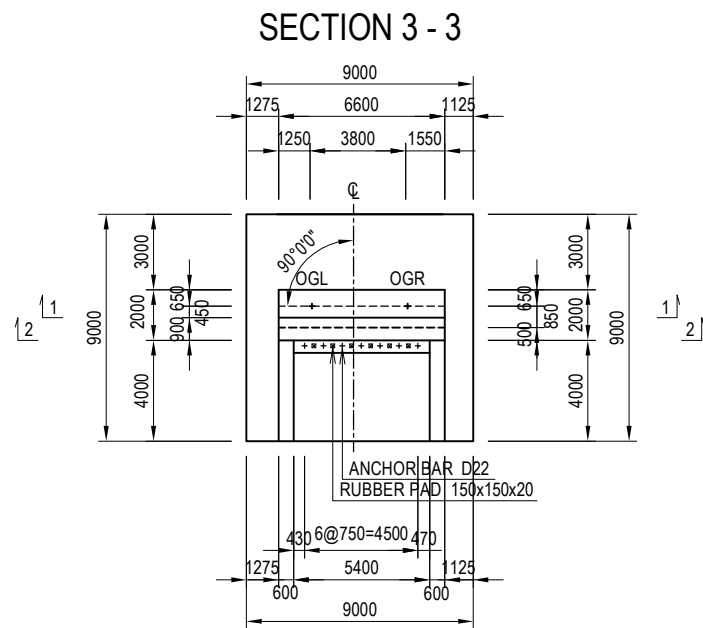
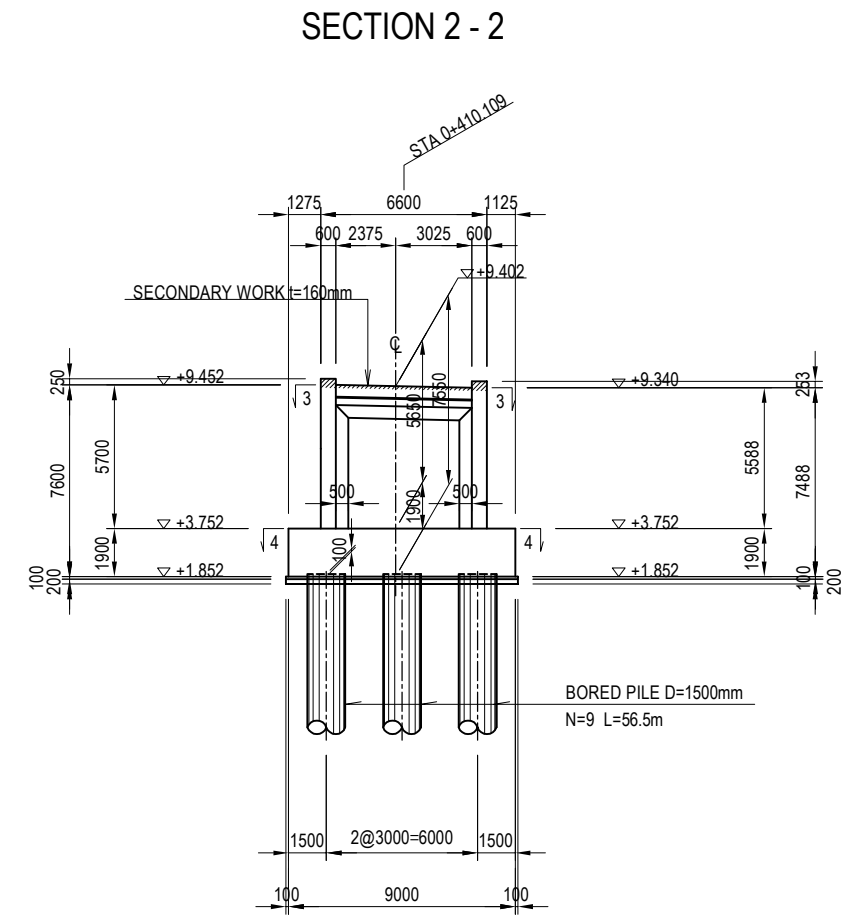
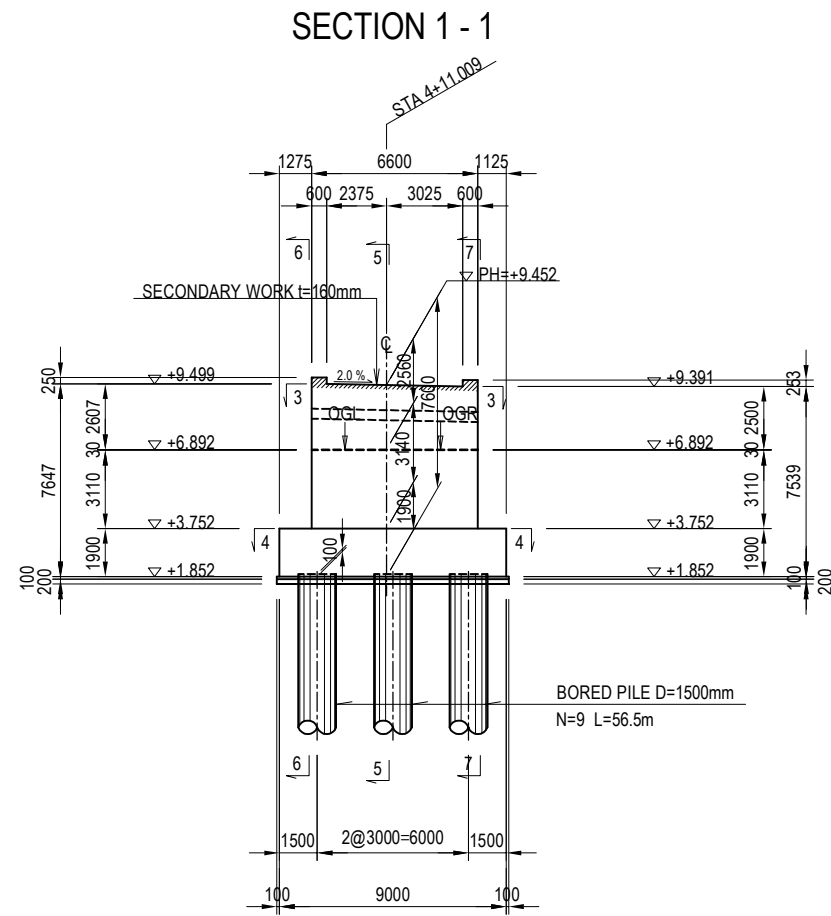
NAME		A01	P01	P02	P03
STATION		0+411.009	0+439.809	0+468.609	0+497.409
CL	X	1857584.6389	1857606.7042	1857628.7694	1857650.8347
	Y	205466.0971	205447.5886	205429.0801	205410.5716
AZIMUTH		230d 00' 35.4"	230d 00' 35.4"	230d 00' 35.4"	230d 00' 35.4"
SKEW ANGLE (θ)		90d 00' 00"	90d 00' 00"	90d 00' 00"	90d 00' 00"
OFFSET (m)		+0.250	+0.250	+0.250	+0.250



<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. OHYAMA</td> <td></td> <td>15 Jun.2017</td> </tr> <tr> <td>CHECKED BY</td> <td>T. HAYAKAWA</td> <td></td> <td>20 Jun.2017</td> </tr> <tr> <td>APPROVED BY</td> <td>Y. SANO</td> <td></td> <td>21 Jun.2017</td> </tr> </tbody> </table>		NAME	SIGNATURE	DATE	PREPARED BY	M. OHYAMA		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;"> <thead> <tr> <th>DRAWING TITLE</th> <th>PACKAGE</th> </tr> </thead> <tbody> <tr> <td rowspan="3" style="text-align: center;">COORDINATES OF SUBSTRUCTURE (A01-P03)</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-OR-2000</td> </tr> </tbody> </table>	DRAWING TITLE	PACKAGE	COORDINATES OF SUBSTRUCTURE (A01-P03)	1	DWG No.	P1-OR-2000
	NAME	SIGNATURE	DATE																								
PREPARED BY	M. OHYAMA		15 Jun.2017																								
CHECKED BY	T. HAYAKAWA		20 Jun.2017																								
APPROVED BY	Y. SANO		21 Jun.2017																								
DRAWING TITLE	PACKAGE																										
COORDINATES OF SUBSTRUCTURE (A01-P03)	1																										
	DWG No.																										
	P1-OR-2000																										



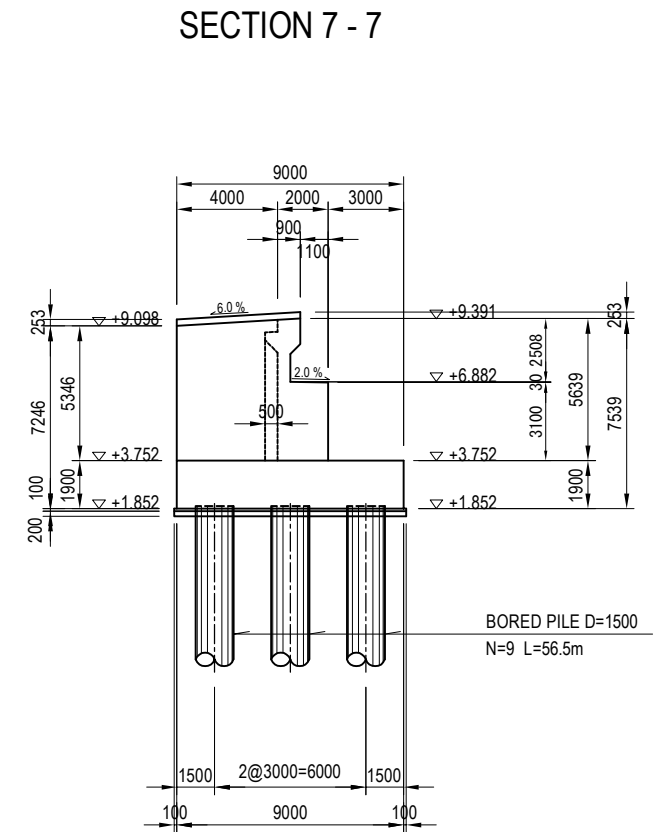
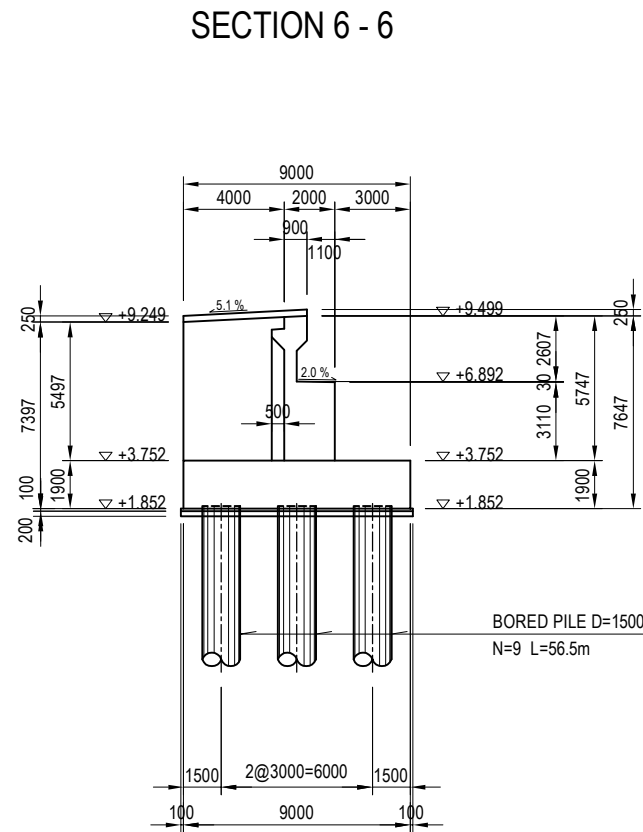
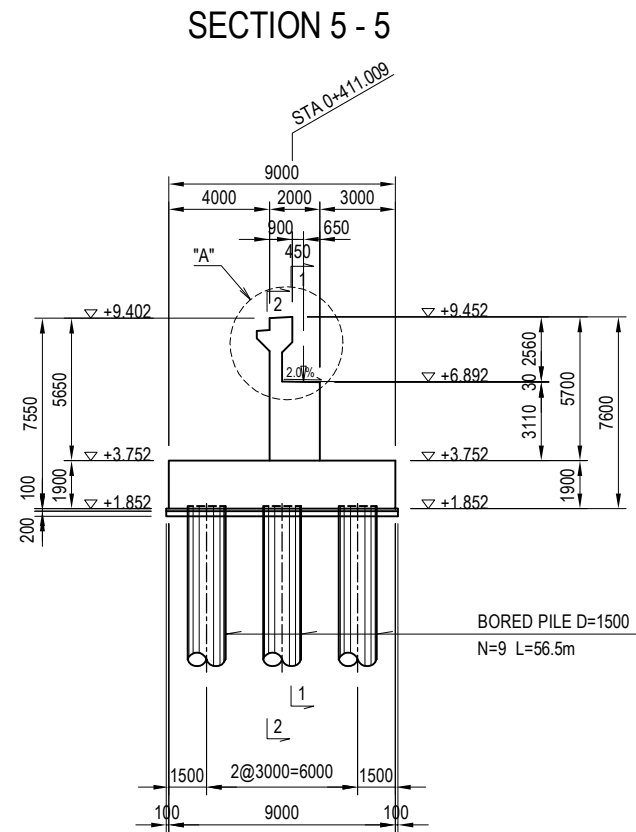
# GENERAL VIEW OF AO1 ABUTMENT(1) S=1:300



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 AO1 ABUTMENT(1)	PACKAGE	
				PREPARED BY	M. OHYAMA			15 Jun.2017	1
				CHECKED BY	T. HAYAKAWA			20 Jun.2017	DWG No.
				APPROVED BY	Y. SANO			21 Jun.2017	P1-OR-2001

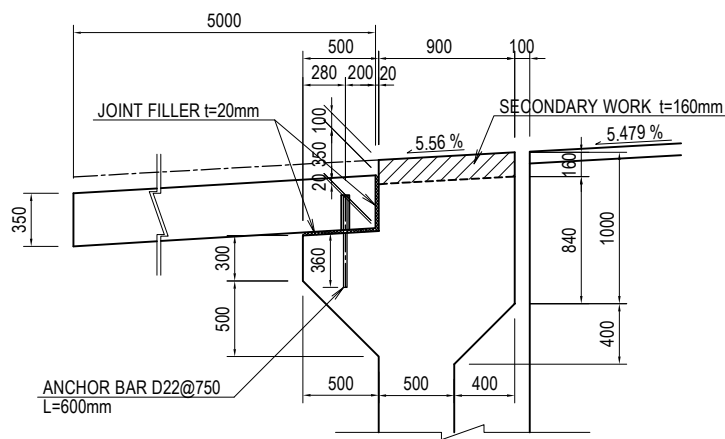
# GENERAL VIEW OF AO1 ABUTMENT(2)

S = 1:300

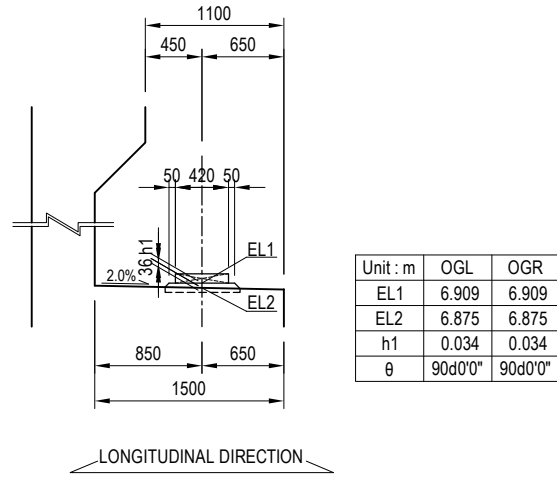


H.H.W.L. +4.990(100Yr)  
DESIGN GL +4.300  
EXISTING GL +3.281  
MSL +0.000

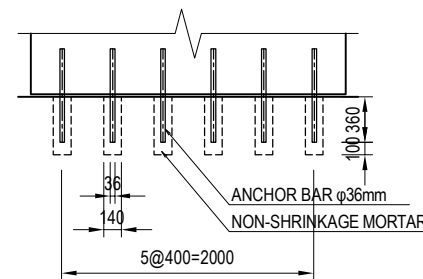
### DETAIL "A" S = 1:50



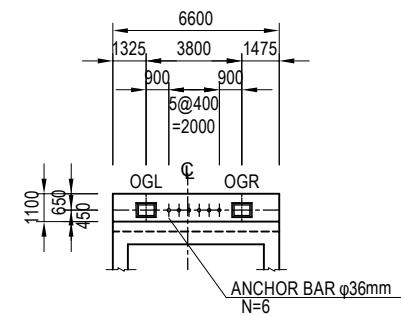
### DETAIL OF BEARING S = 1:60



### DETAIL OF ANCHOR BAR S = 1:60



### ARRANGEMENT OF BRIDGE SEAT



- NOTES :
- Weep holes shall be installed in abutment wall by 3 meter interval for discharge of water from backfilled soil.
  - The Contractor shall adjust gradients of top surface of a parapet wall to retain continuity in road profile.
  - Regardless of existences of indications on the Drawings, baseplates of bridge bearings shall be embedded into leveling mortar by 10 mm and the leveling mortar shall be embedded into concrete pedestal or top surface of substructures by 30 mm.

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 GENERAL VIEW OF AO1 ABUTMENT(2)	PACKAGE 1 DWG No. P1-OR-2002	
				PREPARED BY	M. OHYAMA	大山 満弘			15 Jun.2017
				CHECKED BY	T. HAYAKAWA	平川 知寿			20 Jun.2017
				APPROVED BY	Y. SANO	佐野 祐一			21 Jun.2017

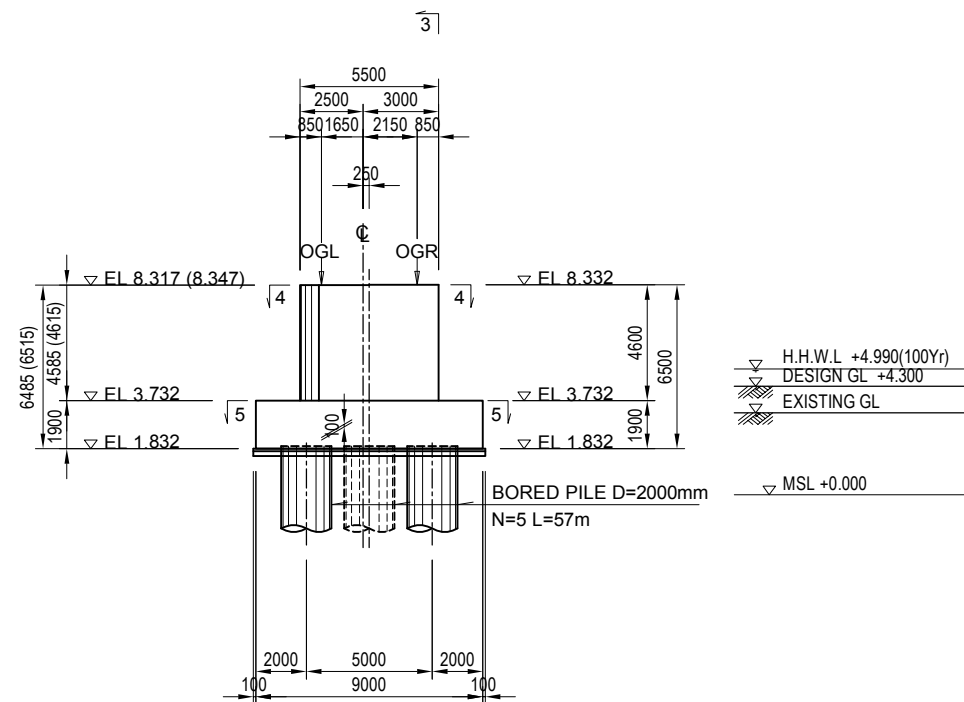
# GENERAL VIEW OF PO1 PIER

S = 1:300

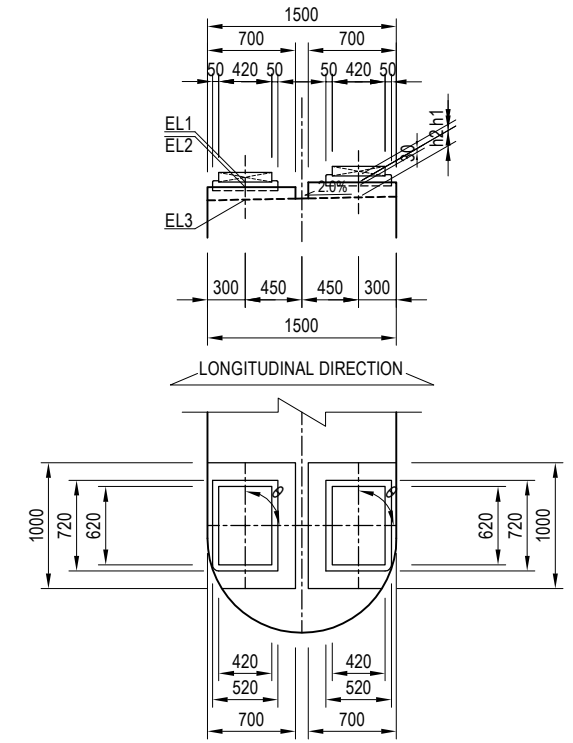
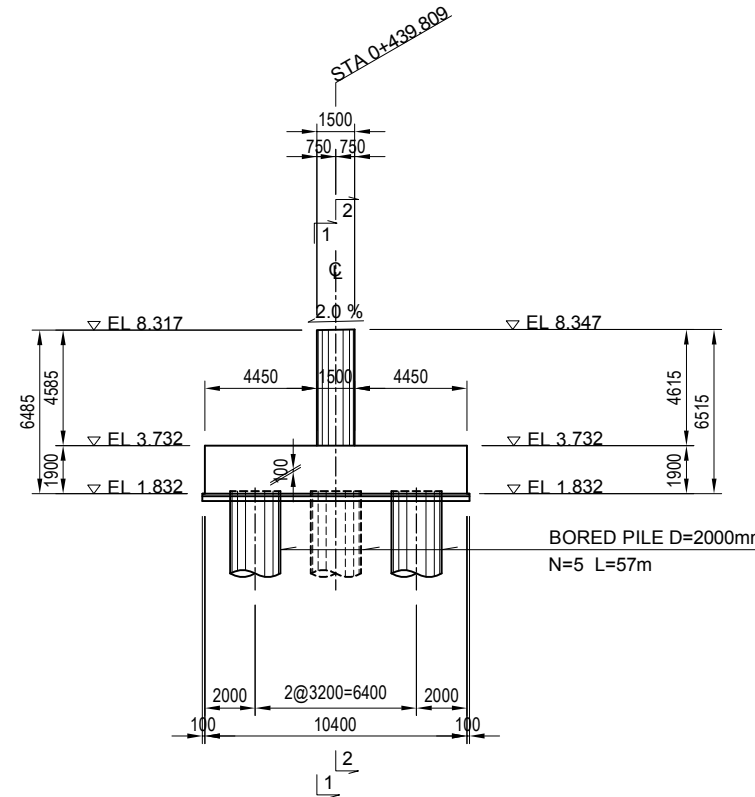
## DETAIL OF BEARING

S = 1:60

FRONT VIEW  
1 - 1 2 - 2

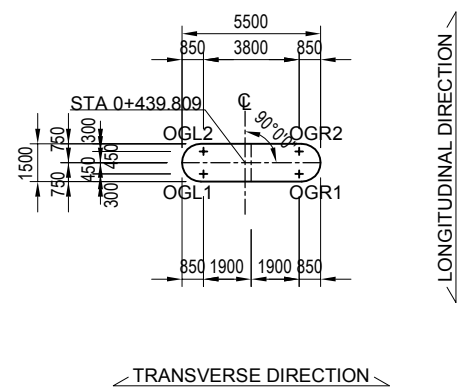


SIDE VIEW  
3 - 3

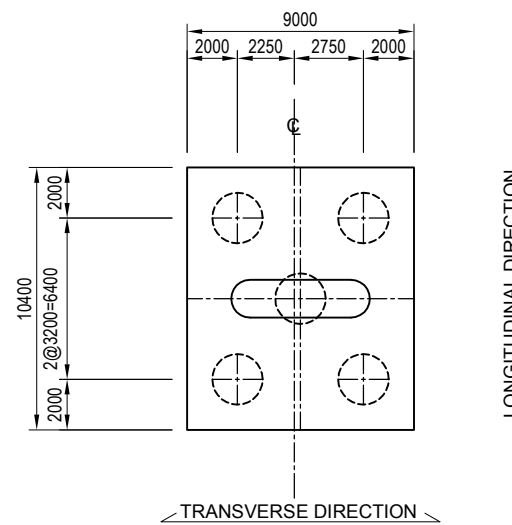


Unit : m	OGL1	OGR1	OGL2	OGR2
EL1	8.461	8.461	8.510	8.510
EL2	8.423	8.423	8.461	8.461
EL3	8.323	8.323	8.341	8.341
h1	0.038	0.038	0.049	0.049
h2	0.100	0.100	0.120	0.120
θ	90d0'0"	90d0'0"	90d0'0"	90d0'0"

PLAN VIEW  
4 - 4

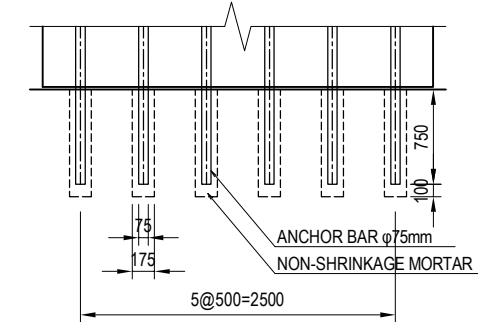


PILE ARRANGEMENT  
5 - 5

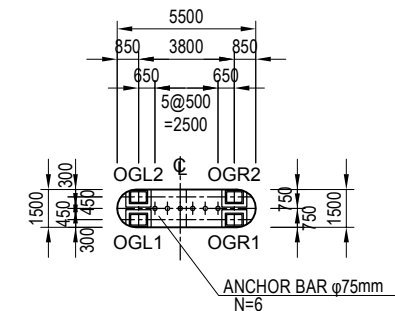


DETAIL OF ANCHOR BAR

S = 1:60



ARRANGEMENT OF BRIDGE SEAT



Notes : Regardless of existences of indications on the Drawings, baseplates of bridge bearings shall be embedded into leveling mortar by 10 mm and the leveling mortar shall be embedded into concrete pedestal or top surface of substructures by 30 mm.

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. OHYAMA	大山 満弘	15 Jun.2017	GENERAL VIEW OF PO1 PIER	1
				T. HAYAKAWA	平川 知寿	20 Jun.2017		DWG No.
				Y. SANO	佐野 祐一	21 Jun.2017		P1-OR-2011

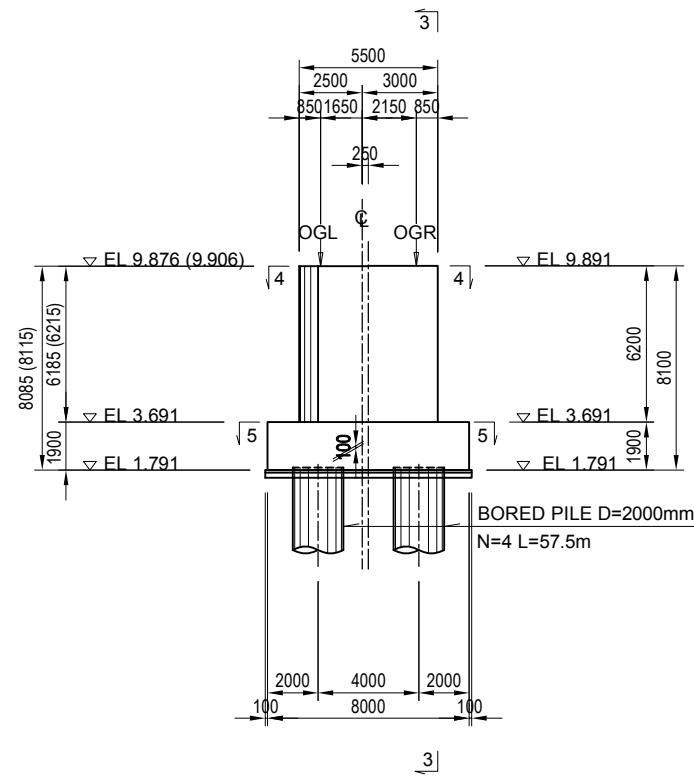
# GENERAL VIEW OF PO2 PIER

S = 1:300

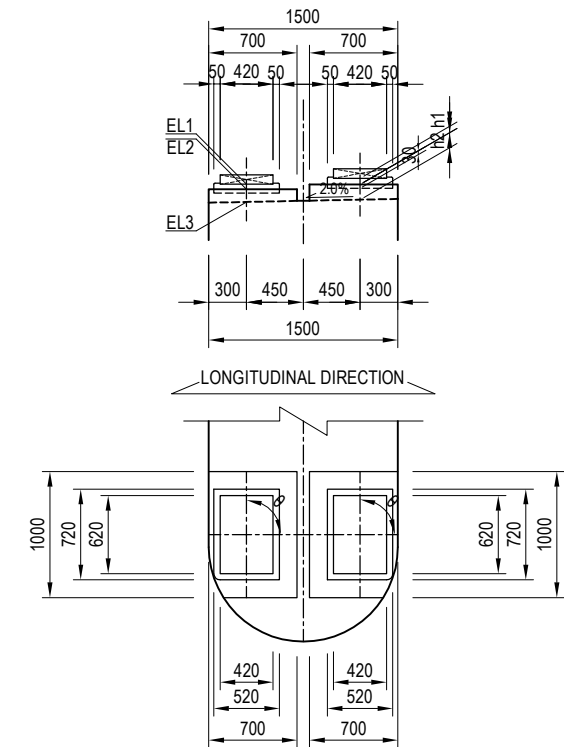
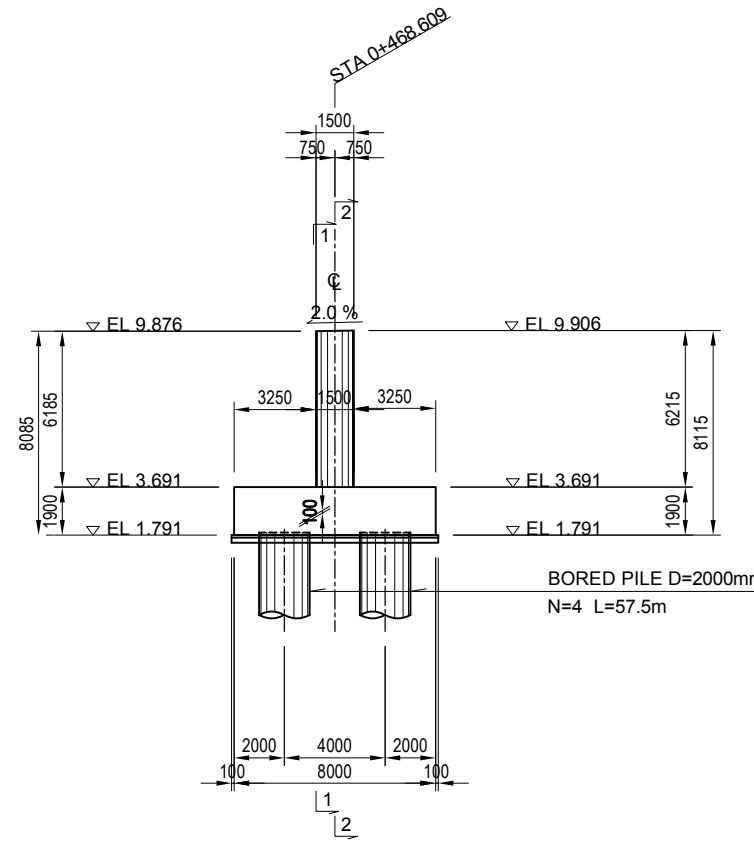
# DETAIL OF BEARING

S = 1:60

FRONT VIEW  
1 - 1 2 - 2

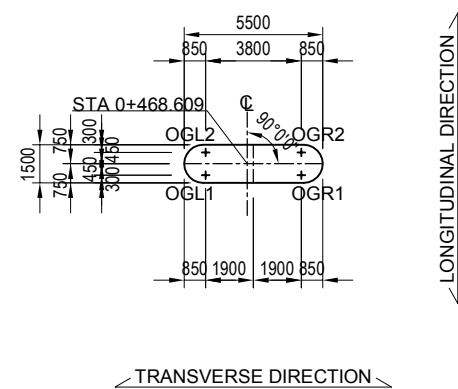


SIDE VIEW  
3 - 3

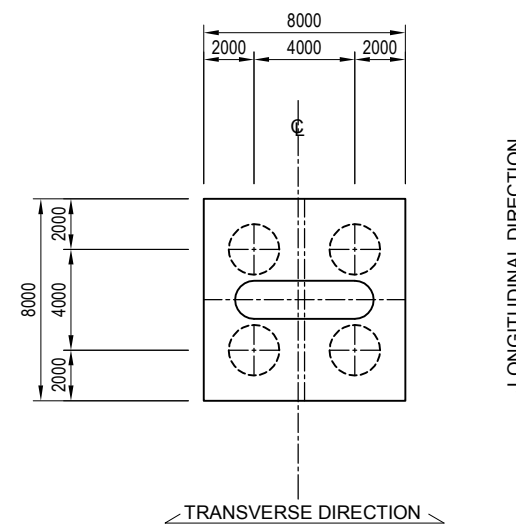


Unit : m	OGL1	OGR1	OGL2	OGL2
EL1	10.019	10.019	10.064	10.064
EL2	9.982	9.982	10.020	10.020
EL3	9.882	9.882	9.900	9.900
h1	0.037	0.037	0.044	0.044
h2	0.100	0.100	0.120	0.120
θ	90d0'0"	90d0'0"	90d0'0"	90d0'0"

PLAN VIEW  
4 - 4

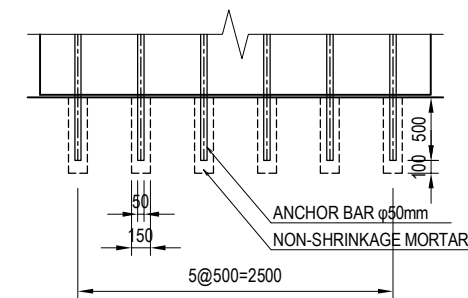


PILE ARRANGEMENT  
5 - 5

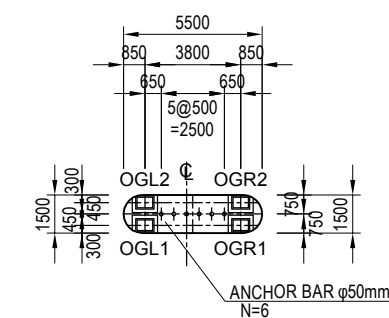


DETAIL OF ANCHOR BAR

S = 1:60



ARRANGEMENT OF BRIDGE SEAT



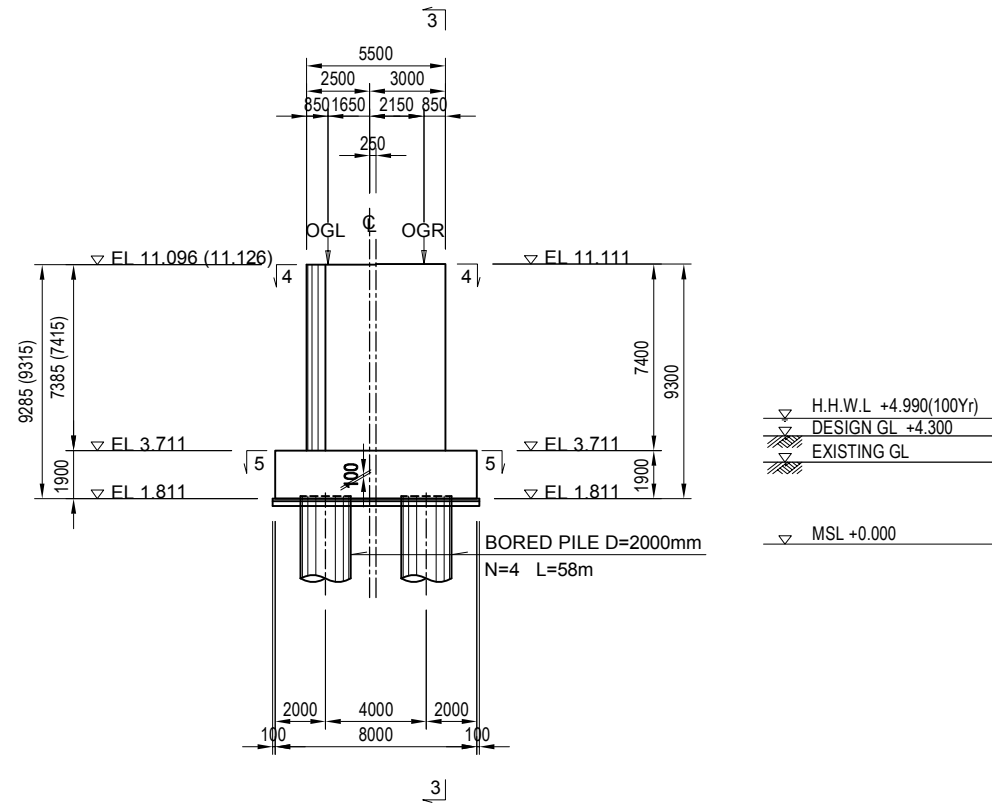
Notes : Regardless of existences of indications on the Drawings, baseplates of bridge bearings shall be embedded into leveling mortar by 10 mm and the leveling mortar shall be embedded into concrete pedestal or top surface of substructures by 30 mm.

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. OHYAMA	大山 満弘	15 Jun.2017	GENERAL VIEW OF PO2 PIER	1
				T. HAYAKAWA	平川 知寿	20 Jun.2017		DWG No.
				Y. SANO	佐野 祐一	21 Jun.2017		P1-OR-2021

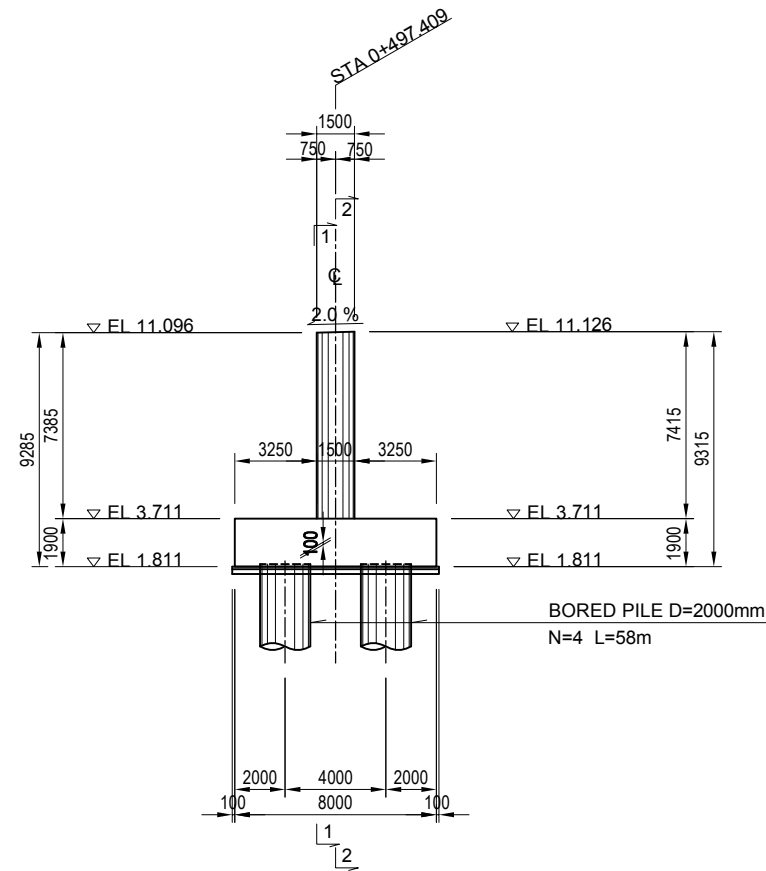
# GENERAL VIEW OF PO3 PIER

S = 1:300

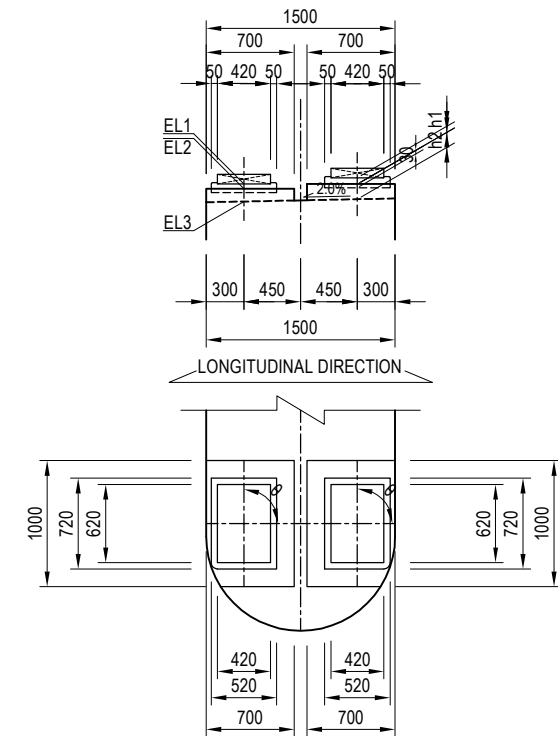
FRONT VIEW  
1 - 1 2 - 2



SIDE VIEW  
3 - 3

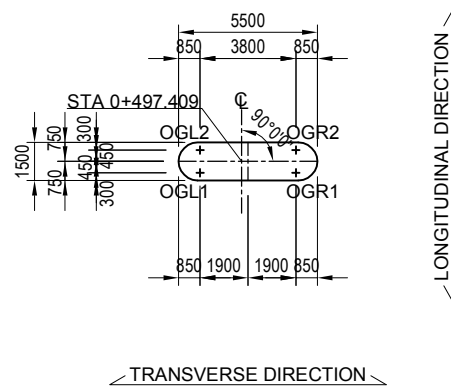


DETAIL OF BEARING S = 1:60

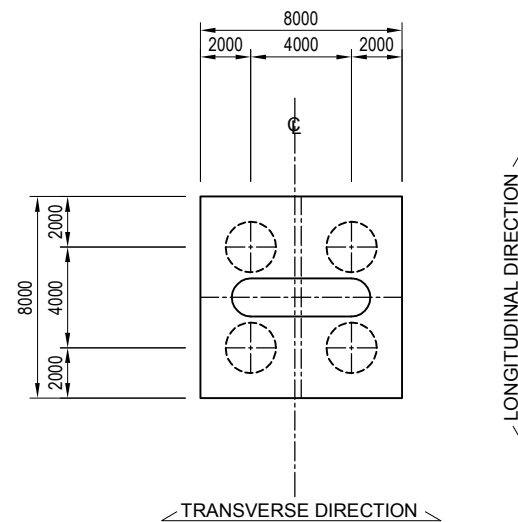


Unit : m	OGL1	OGR1	OGL2	OGL2
EL1	11.241	11.241	11.278	11.278
EL2	11.202	11.202	11.240	11.240
EL3	11.102	11.102	11.120	11.120
h1	0.039	0.039	0.038	0.038
h2	0.100	0.100	0.120	0.120
θ	90d0'0"	90d0'0"	90d0'0"	90d0'0"

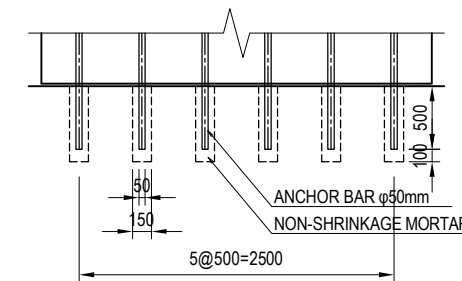
PLAN VIEW  
4 - 4



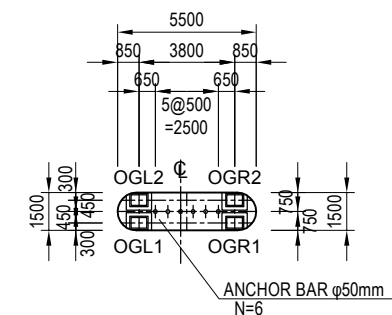
PILE ARRANGEMENT  
5 - 5



DETAIL OF ANCHOR BAR S = 1:60

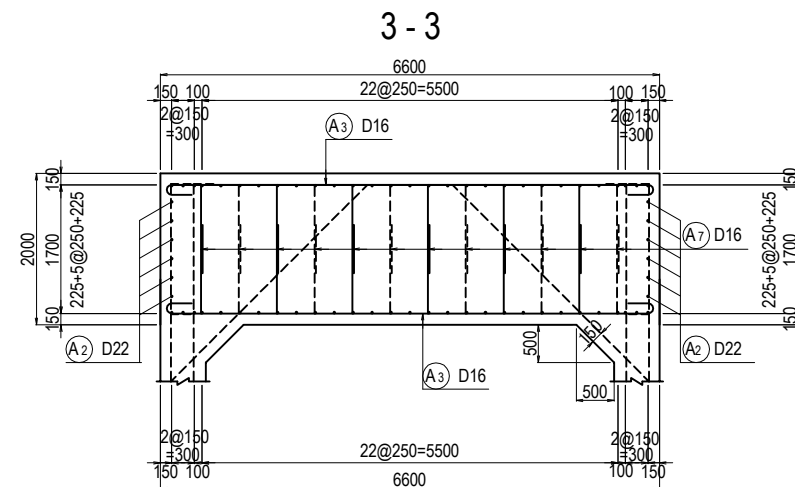
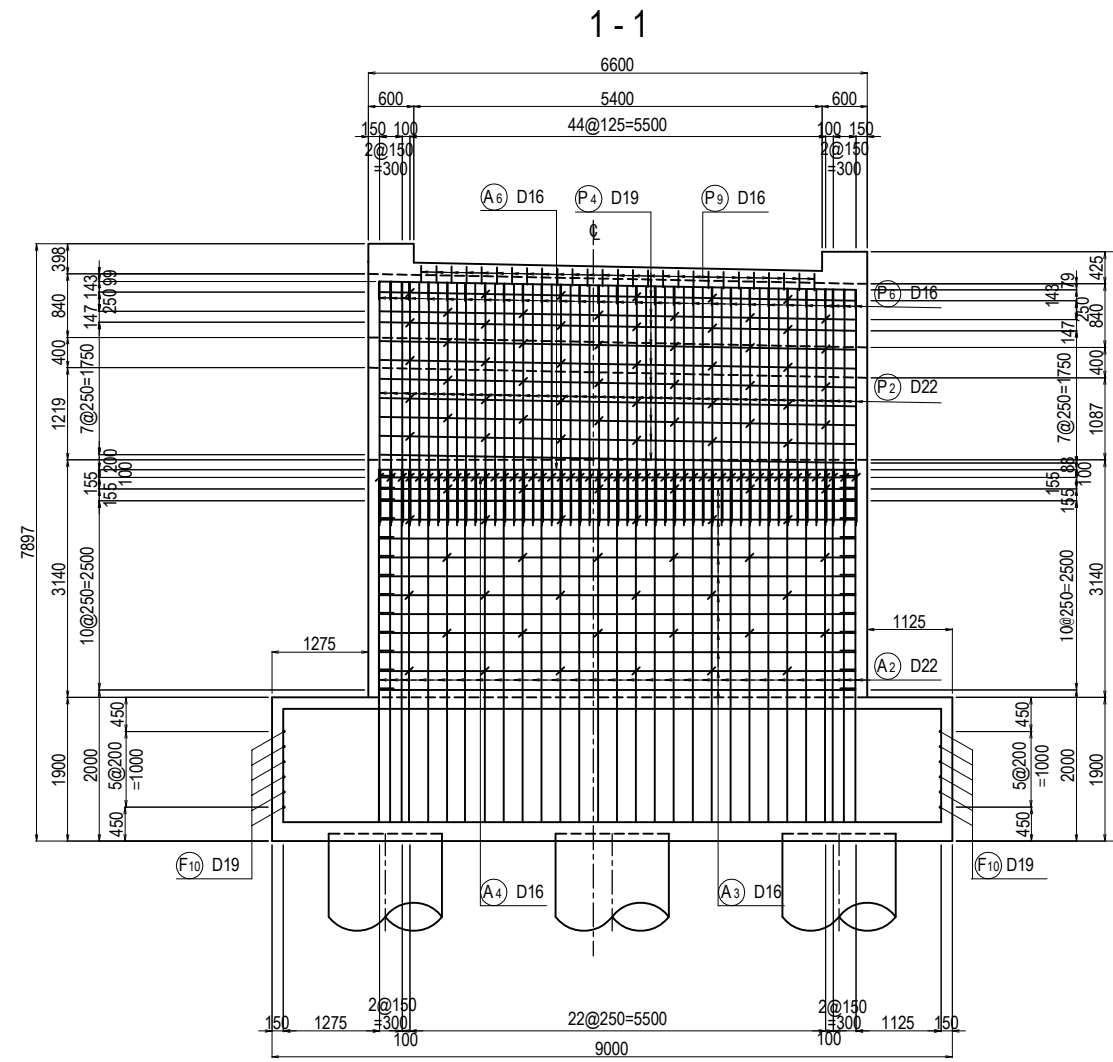


ARRANGEMENT OF BRIDGE SEAT

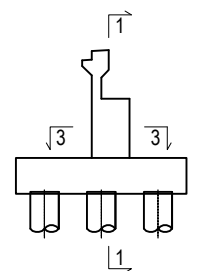


Notes : Regardless of existences of indications on the Drawings, baseplates of bridge bearings shall be embedded into leveling mortar by 10 mm and the leveling mortar shall be embedded into concrete pedestal or top surface of substructures by 30 mm.

# BAR ARRANGEMENT OF AO1 ABUTMENT(1) S=1:100



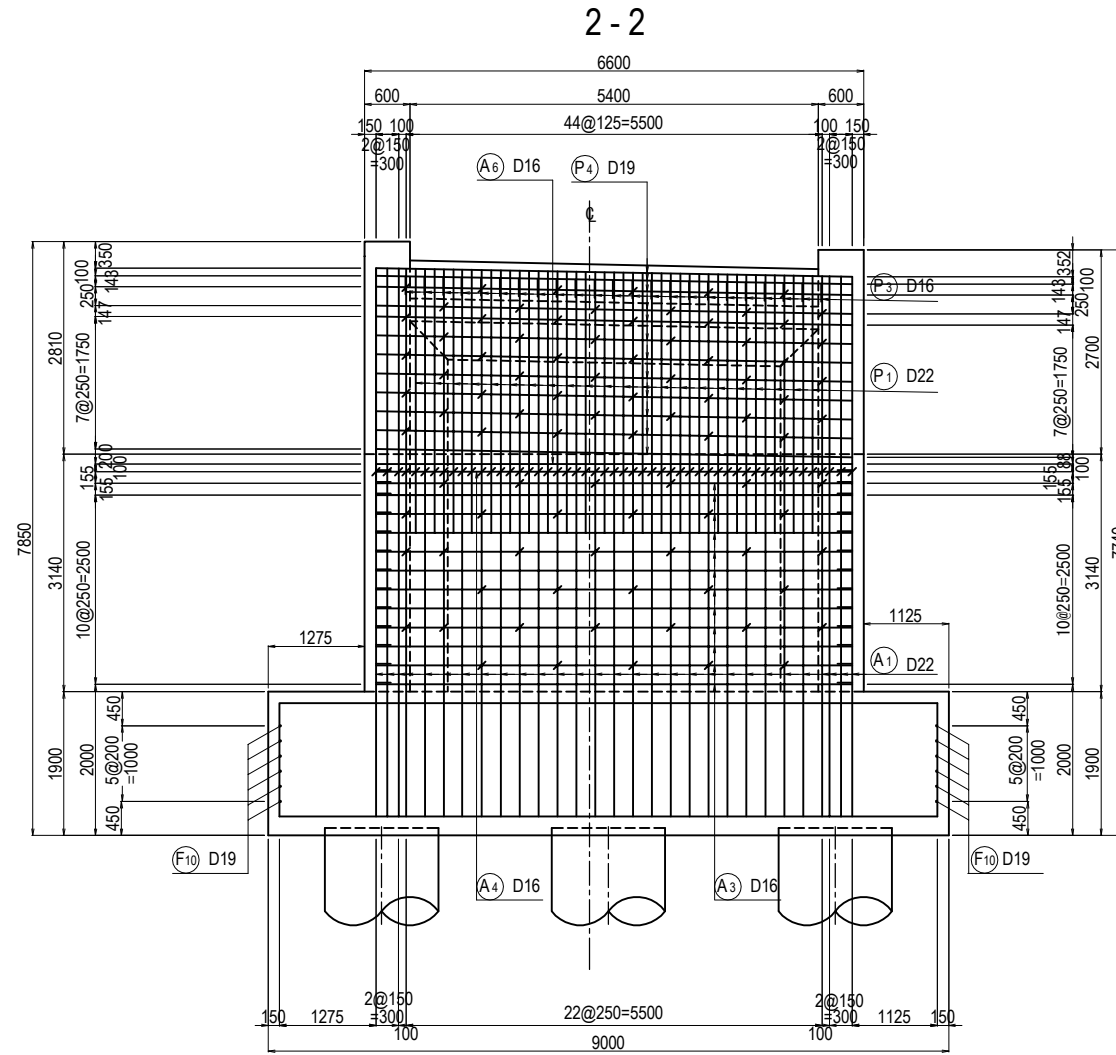
KEY PLAN



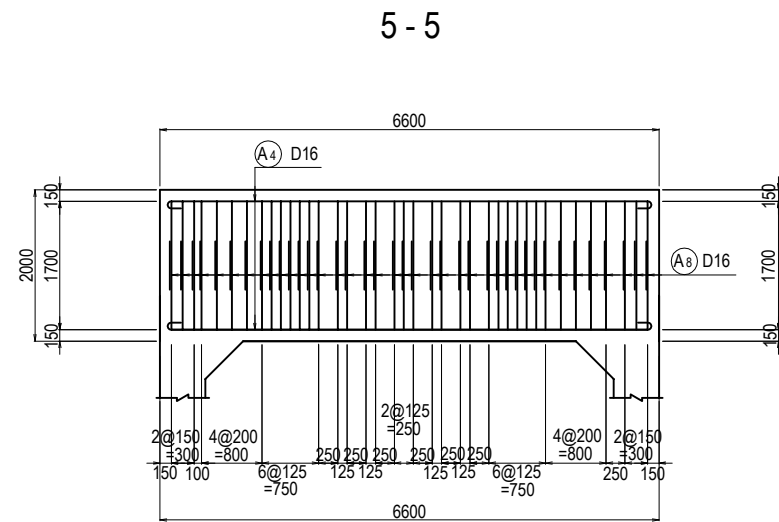
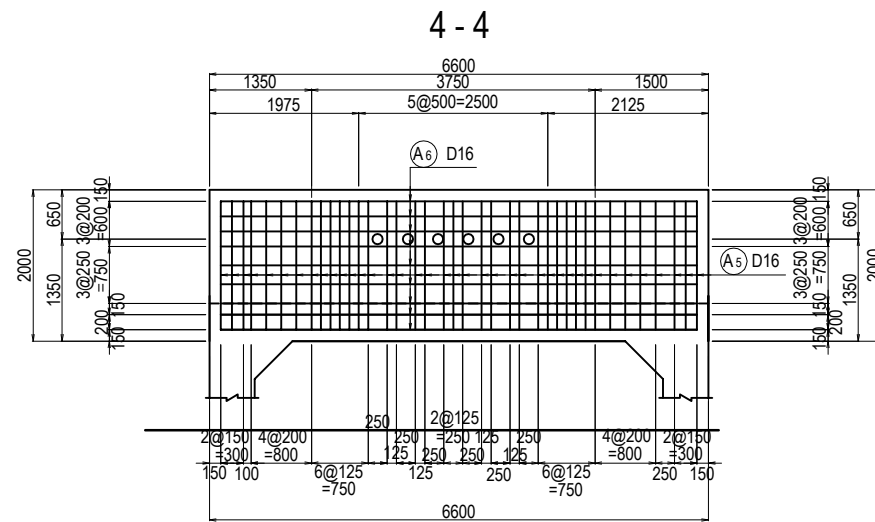
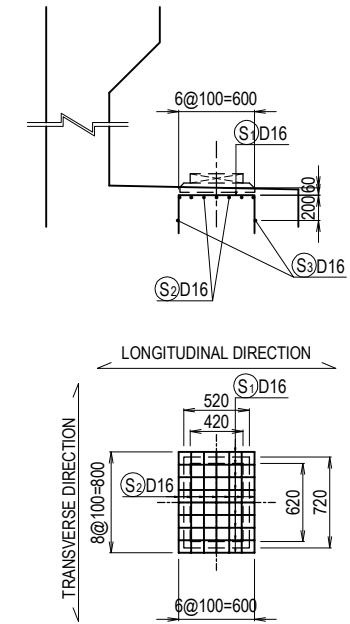
NOTES : Steel bars for fixing bridge expansion joints are reference only.  
The contractor shall propose such steel bar considering specifications of expansion joints actually used.

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.	PREPARED BY M. OHYAMA	大山 満弘	15 Jun.2017	BAR ARRANGEMENT OF AO1 ABUTMENT(1)	1
				CHECKED BY T. HAYAKAWA	平川 知寿	20 Jun.2017		DWG No.
				APPROVED BY Y. SANO	佐野 祐一	21 Jun.2017		P1-OR-2101

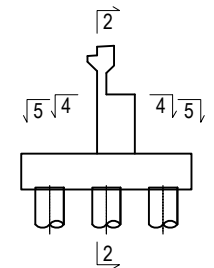
# BAR ARRANGEMENT OF AO1 ABUTMENT(2) S=1:100



BEARING BASE S=1:60



KEY PLAN



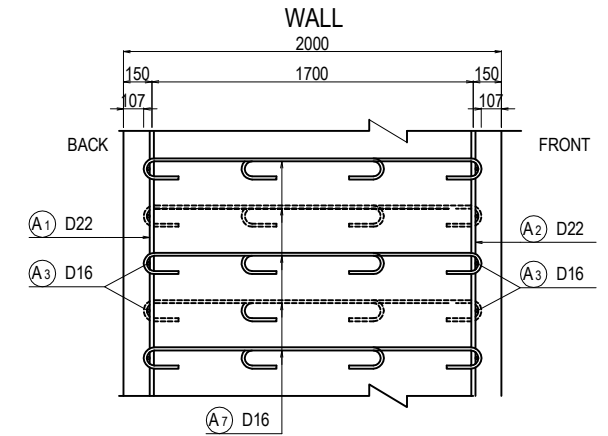
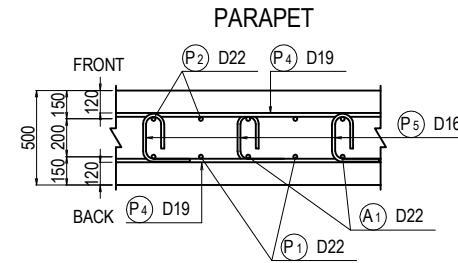
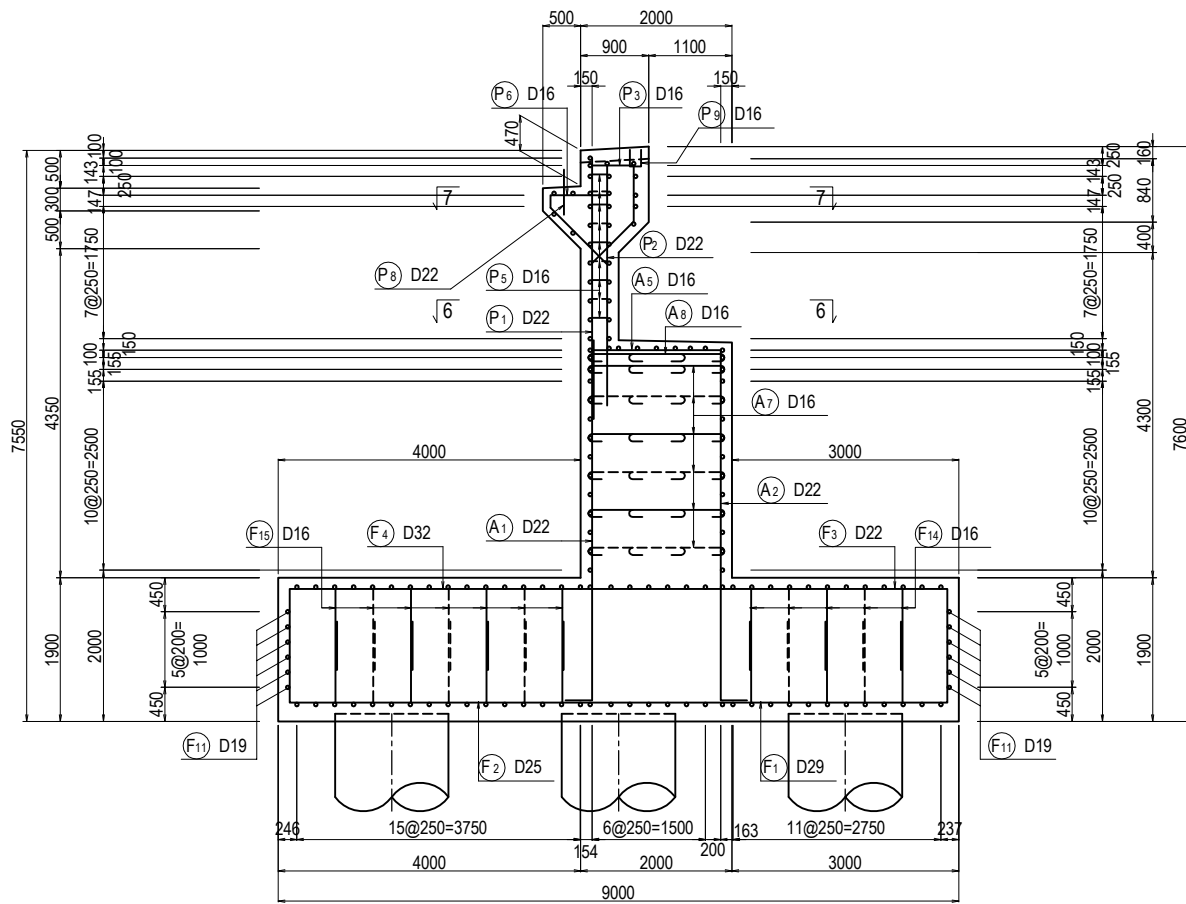
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE BAR ARRANGEMENT OF AO1 ABUTMENT(2)	PACKAGE 1 DWG No. P1-OR-2102	
				PREPARED BY	M. OHYAMA				15 Jun.2017
				CHECKED BY	T. HAYAKAWA				20 Jun.2017
				APPROVED BY	Y. SANO				21 Jun.2017



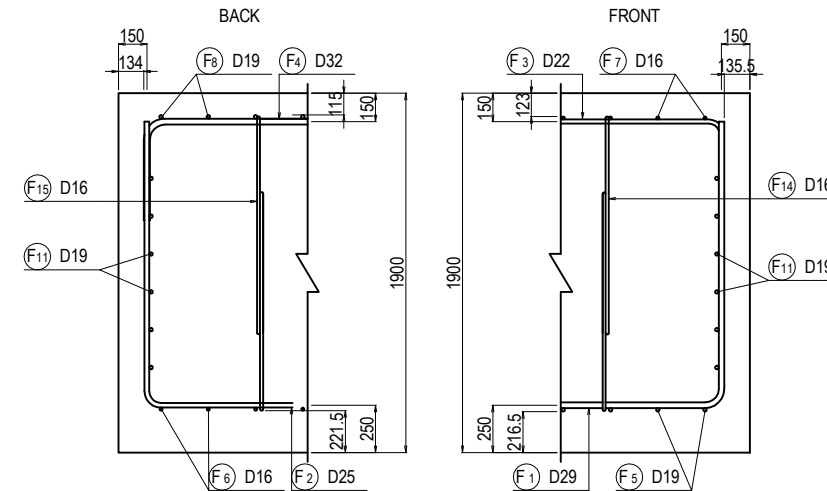
# BAR ARRANGEMENT OF AO1 ABUTMENT(3) S=1:100

DETAIL S=1:40

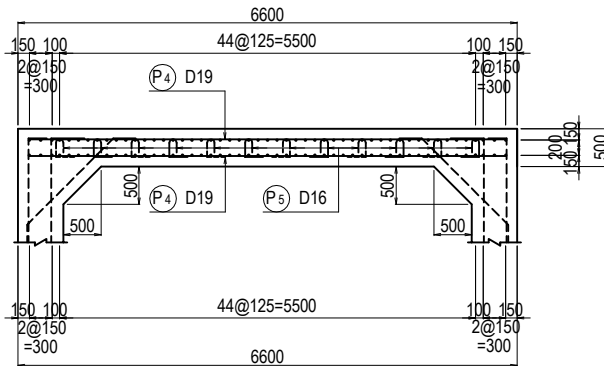
8-8



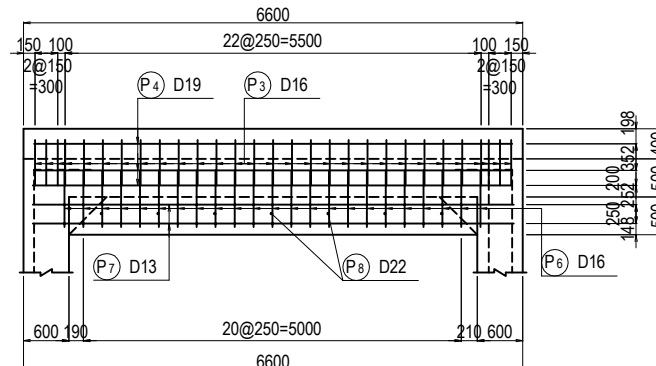
PILE CAP



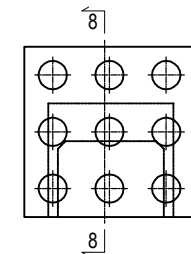
6-6



7-7

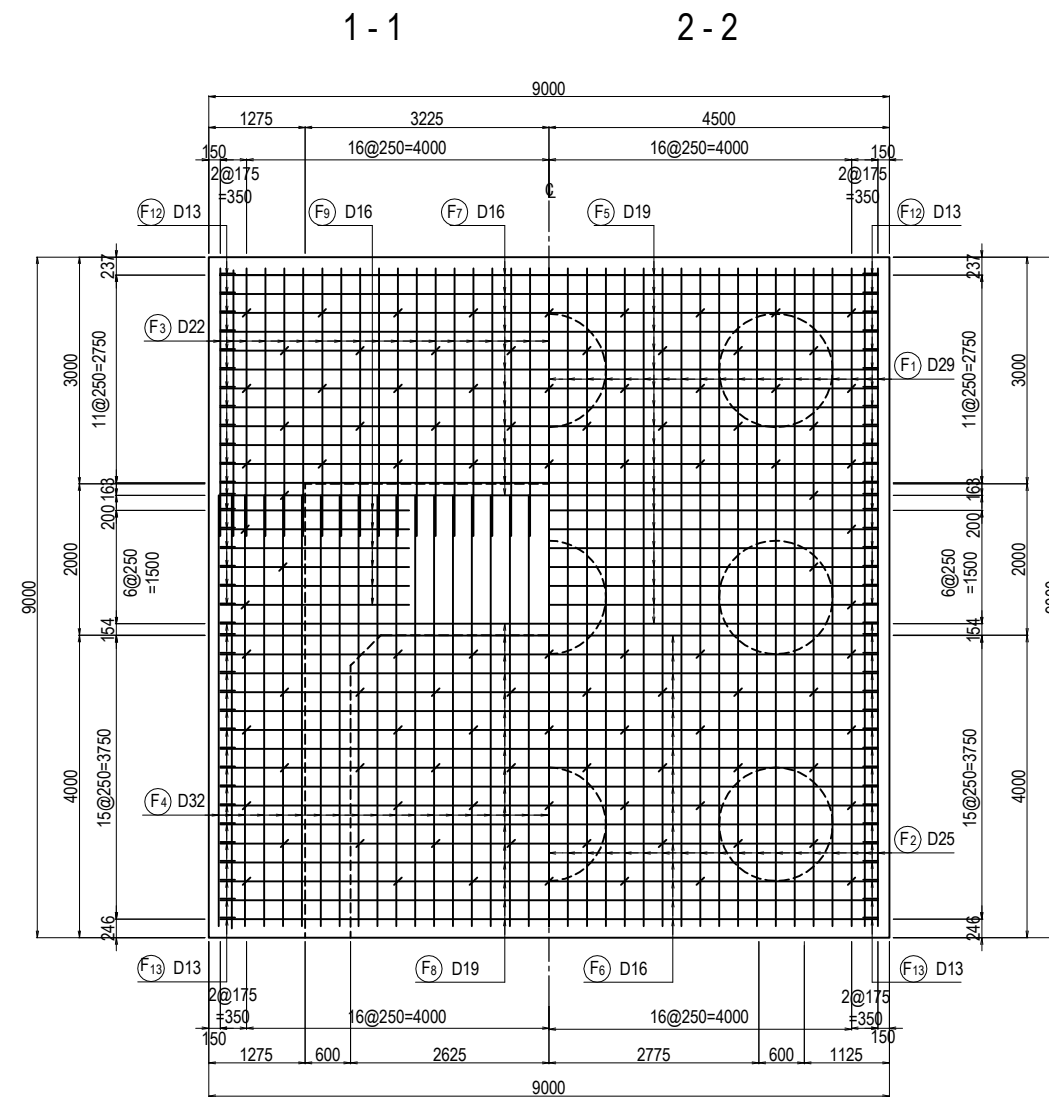


KEY PLAN

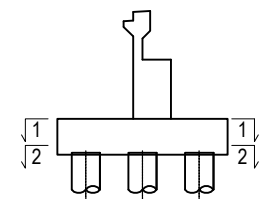


PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE BAR ARRANGEMENT OF AO1 ABUTMENT(3)	PACKAGE	
				PREPARED BY	M. OHYAMA			15 Jun.2017	1
				CHECKED BY	T. HAYAKAWA			20 Jun.2017	DWG No.
				APPROVED BY	Y. SANO			21 Jun.2017	P1-OR-2103

# BAR ARRANGEMENT OF AO1 ABUTMENT(4) S=1:100

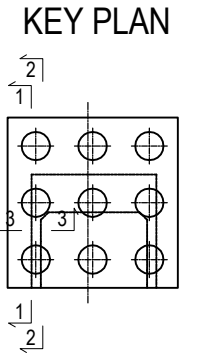
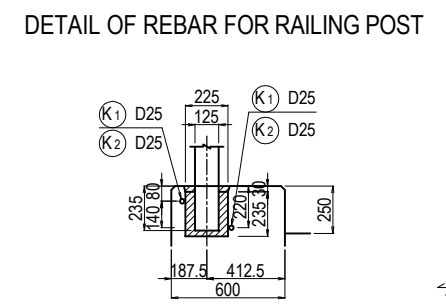
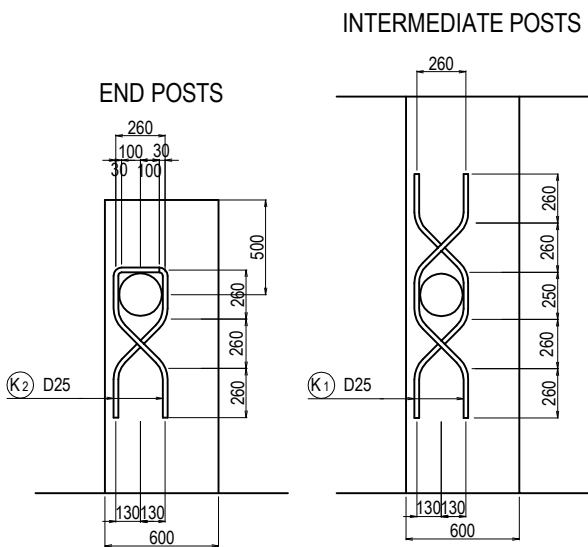
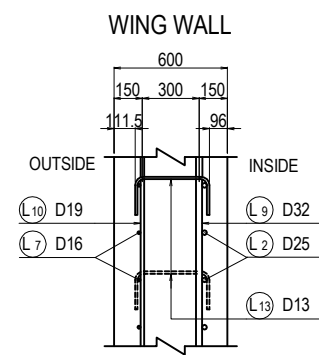
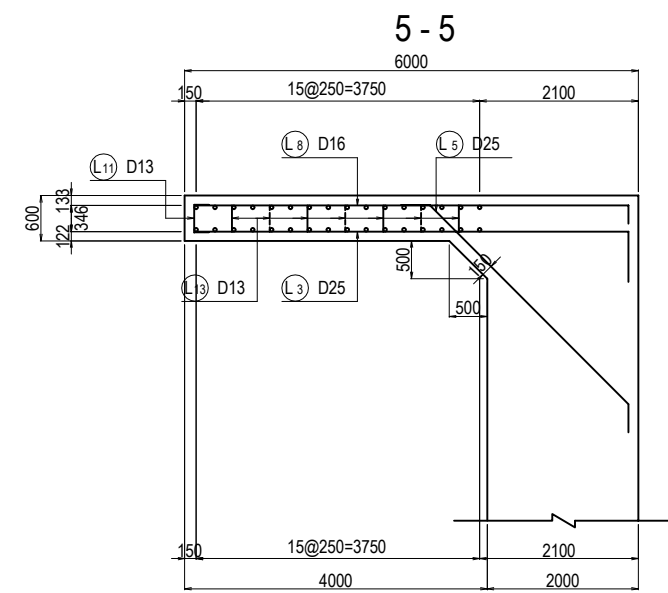
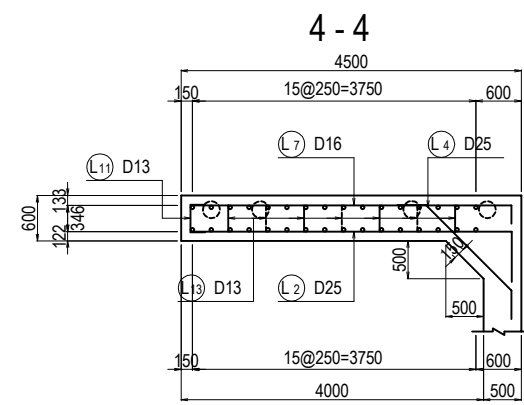
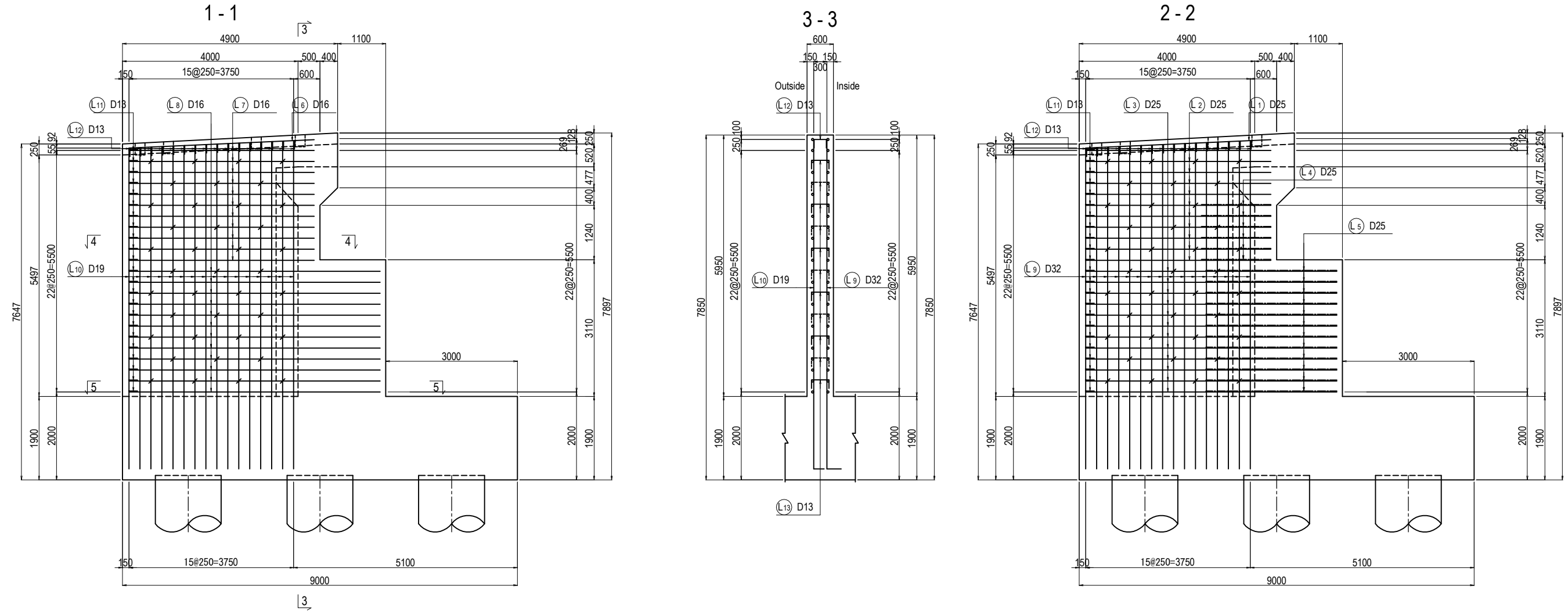


KEY PLAN



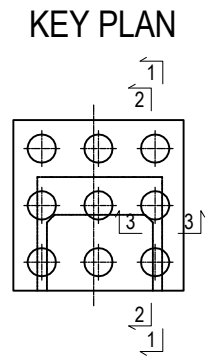
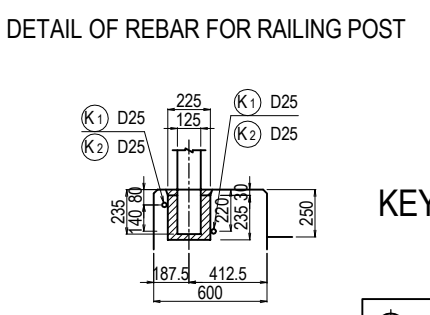
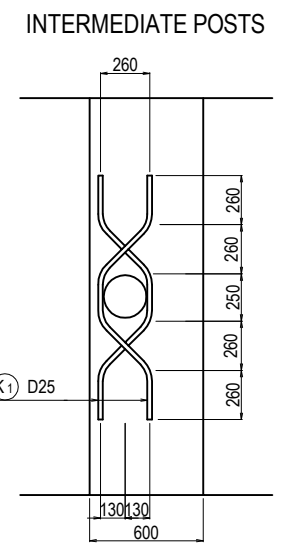
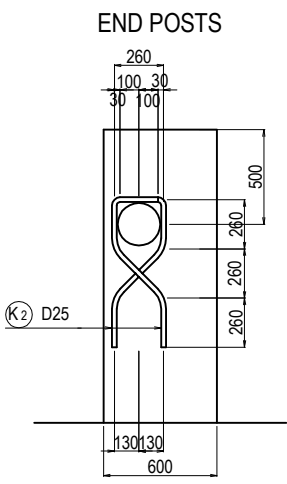
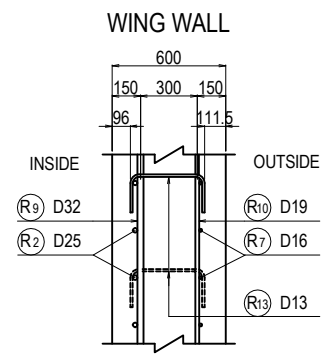
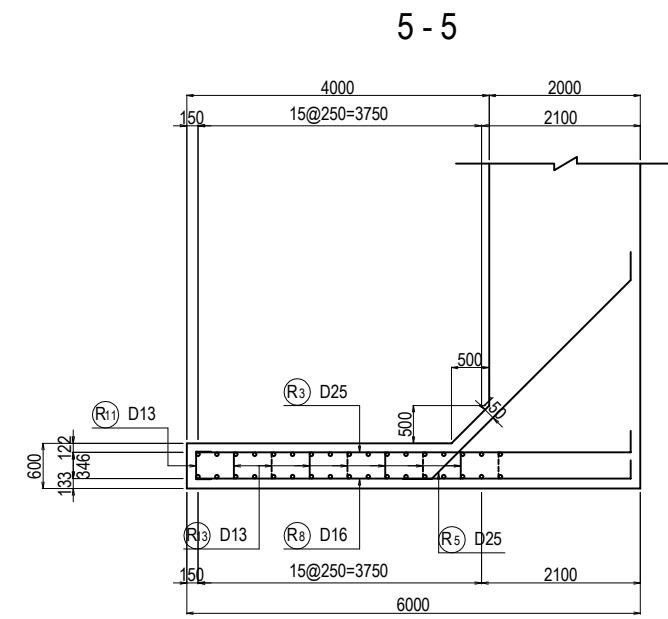
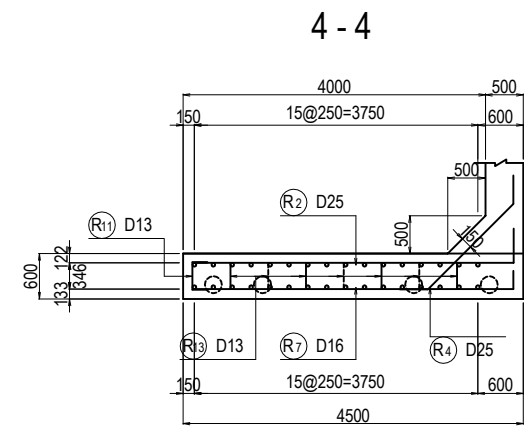
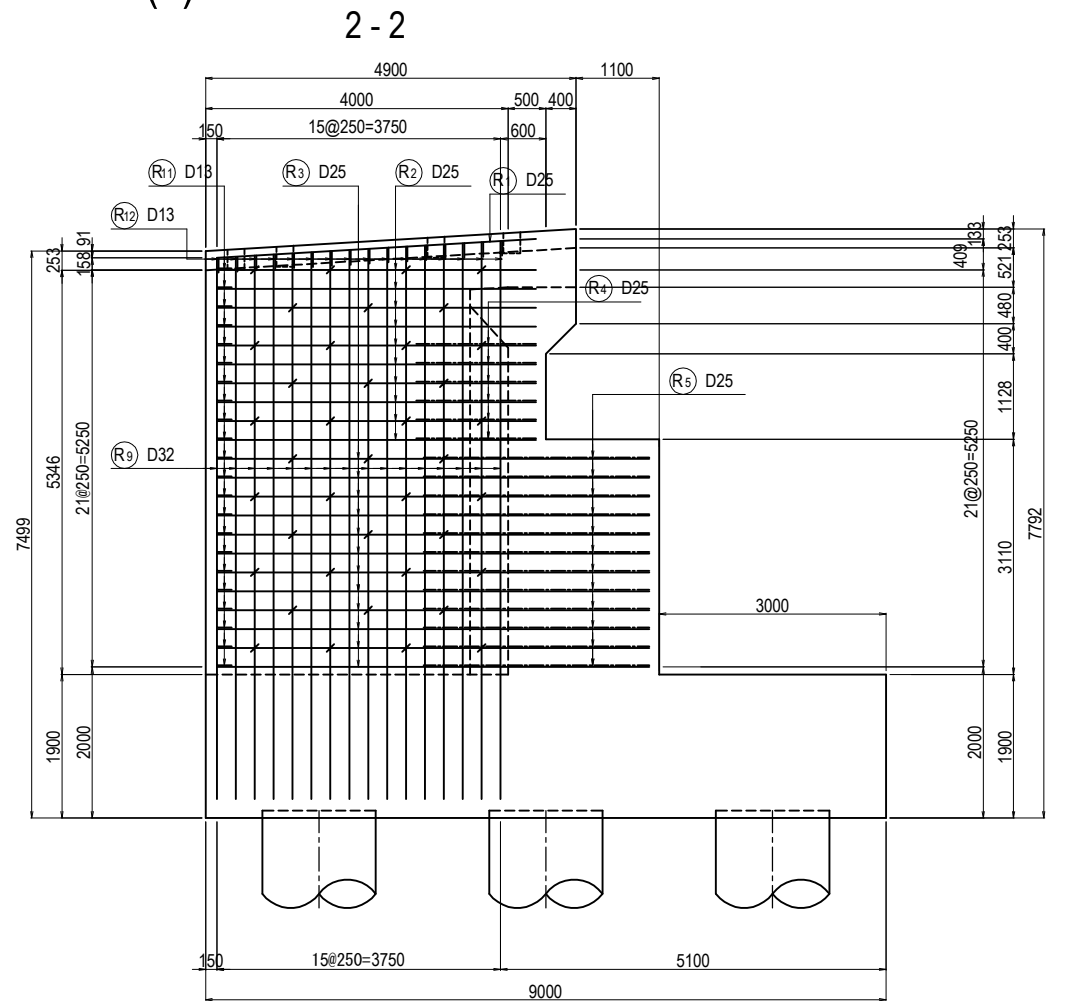
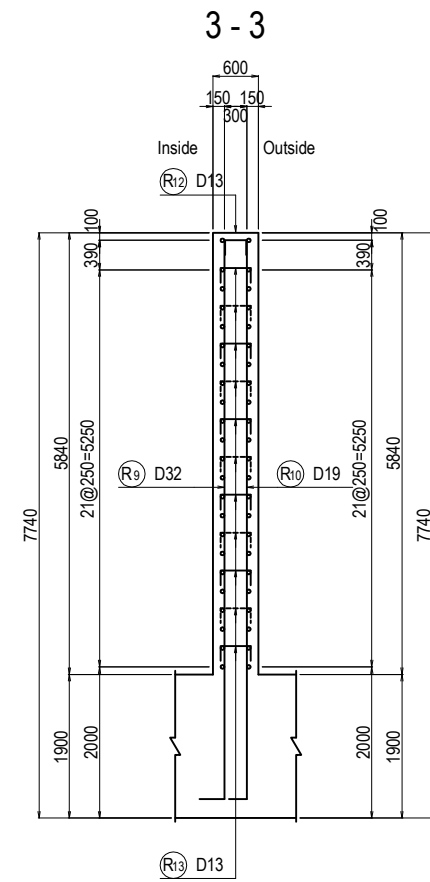
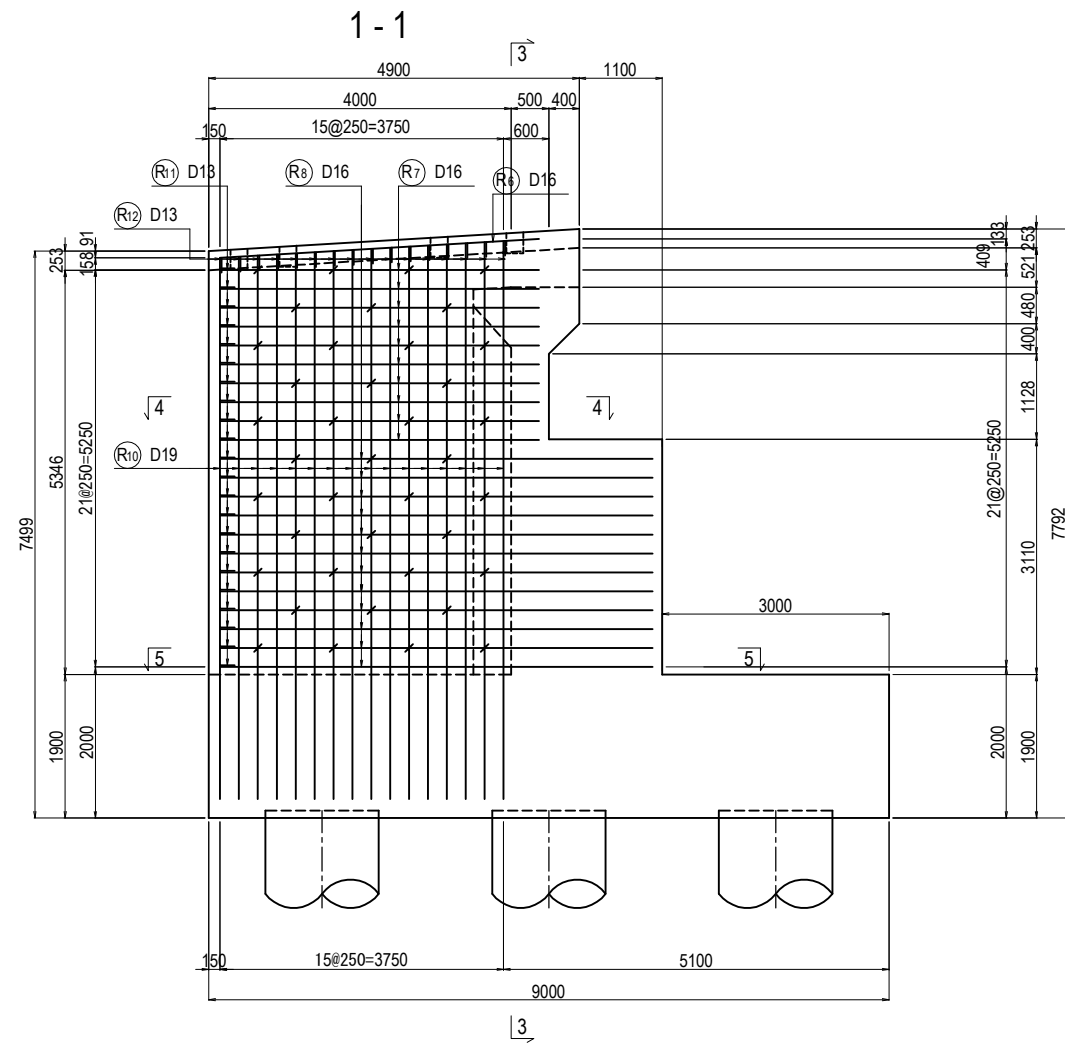
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE BAR ARRANGEMENT OF AO1 ABUTMENT(4)	PACKAGE	
				PREPARED BY	M. OHYAMA			15 Jun.2017	1
				CHECKED BY	T. HAYAKAWA			20 Jun.2017	DWG No.
				APPROVED BY	Y. SANO			21 Jun.2017	P1-OR-2104

# BAR ARRANGEMENT OF AO1 ABUTMENT(5) S=1:100



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	BAR ARRANGEMENT OF AO1 ABUTMENT(5)	1
				CHECKED BY	T. HAYAKAWA				20 Jun.2017		DWG No.
				APPROVED BY	Y. SANO				21 Jun.2017		P1-OR-2105

# BAR ARRANGEMENT OF AO1 ABUTMENT(6) S=1:100



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 <b>BAR ARRANGEMENT OF AO1 ABUTMENT(6)</b>	PACKAGE 1 DWG No. P1-OR-2106	
				PREPARED BY	M. OHYAMA				15 Jun.2017
				CHECKED BY	T. HAYAKAWA				20 Jun.2017
				APPROVED BY	Y. SANO				21 Jun.2017



# BAR ARRANGEMENT OF AO1 ABUTMENT (7)

## BAR QUANTITY

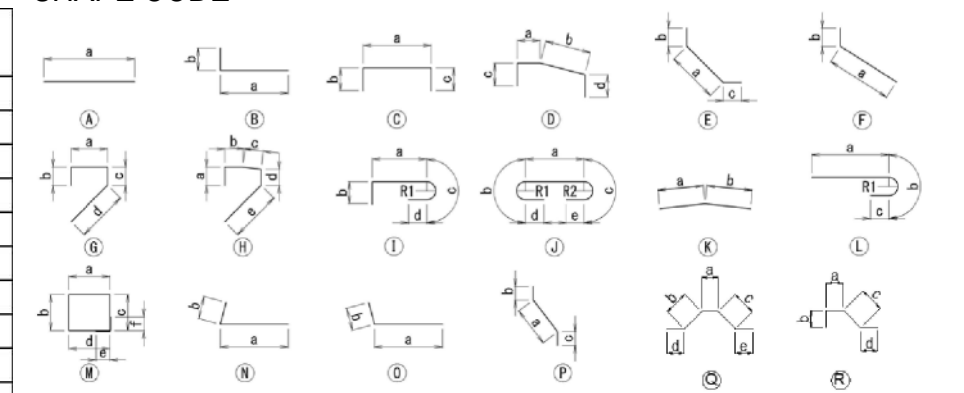
SYMBOL	SHAPE	DIAMETER	NUMBER (NOS)	LENGTH (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	R1 (mm)	R2 (mm)	WEIGHT (kg)	REMARKS
P1	A	D22	22	3450	<b>3444</b>								231	<b>AVERAGE</b>
P2	A	D22	51	3170	<b>3169</b>								492	<b>AVERAGE</b>
P3	G	D16	29	2190	500	240	740	707					99	
P4	A	D19	26	6310	6301								369	
P5	I	D16	54	710	190	240	151	128			48		60	
P6	H	D16	23	2220	240	350	400	161	1061				80	
P7	A	D13	4	6310	6301								25	
P8	A	D22	7	600	600								13	
A1	B	D22	29	7530	<b>7194</b>	330							664	<b>AVERAGE</b>
A2	B	D22	41	4990	4660	330							622	
A3	J	D16	24	6860	6300	151	151	128	128		48	48	257	
A4	J	D16	2	6860	6300	151	151	128	128		48	48	21	
A5	C	D16	39	2350	1700	240	410						143	
A6	C	D16	9	7320	6300	510	510						103	
A7	J	D16	72	1720	1157	151	151	128	128		48	48	193	
A8	J	D16	78	1720	1157	151	151	128	128		48	48	209	
F1	B	D29	37	6200	4700	1500							1156	
F2	B	D25	37	6140	4640	1500							904	
F3	B	D22	37	3870	3540	330							435	
F4	B	D32	37	6180	5700	480							1425	
F5	A	D19	20	8700	8700								392	
F6	A	D16	16	8700	8700								217	
F7	A	D16	13	8700	8700								176	
F8	A	D19	17	8700	8700								333	
F9	A	D16	12	2500	2500								47	
F10	C	D19	12	9230	8654	285	285						249	
F11	A	D19	12	8660	8652								234	
F12	C	D13	38	1930	1539	195	195						73	
F13	C	D13	34	1940	1542	195	195						66	
F14	J	D16	102	1610	1043	151	151	128	128		48	48	256	
F15	J	D16	104	1610	1045	151	151	128	128		48	48	261	
S1	C	D16	18	1200	600	300	300						34	
S2	C	D16	14	1400	800	300	300						31	
S3	M	D16	2	3510	632	832	880	680	240	240			11	

SYMBOL	SHAPE	DIAMETER	NUMBER (NOS)	LENGTH (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	R1 (mm)	R2 (mm)	WEIGHT (kg)	REMARKS
L1	B	D25	1	4900	4229	665							20	
L2	B	D25	11	4890	4224	665							214	
L3	B	D25	12	6100	5724	375							291	
L4	E	D25	6	2350	1600	375	375						56	
L5	E	D25	12	4470	3720	375	375						213	
L6	B	D16	1	4470	4225	240							7	
L7	B	D16	11	4460	4219	240							77	
L8	B	D16	12	5960	5719	240							112	
L9	B	D32	16	7890	<b>7401</b>	480							786	<b>AVERAGE</b>
L10	B	D19	16	7690	<b>7401</b>	285							277	<b>AVERAGE</b>
L11	C	D13	23	740	346	195	195						17	
L12	C	D13	16	740	346	195	195						12	
L13	C	D13	39	770	380	195	195						30	
R1	B	D25	1	4900	4229	665							20	
R2	B	D25	10	4890	4224	665							195	
R3	B	D25	12	6100	5724	375							291	
R4	E	D25	6	2350	1600	375	375						56	
R5	E	D25	12	4470	3720	375	375						213	
R6	B	D16	1	4470	4225	240							7	
R7	B	D16	10	4460	4219	240							70	
R8	B	D16	12	5960	5719	240							112	
R9	B	D32	16	7750	<b>7270</b>	480							772	<b>AVERAGE</b>
R10	B	D19	16	7560	<b>7270</b>	285							272	<b>AVERAGE</b>
R11	C	D13	22	740	346	195	195						16	
R12	C	D13	16	740	346	195	195						12	
R13	C	D13	39	770	380	195	195						30	
K1	Q	D25	8	1510	250	368	368	260	260				48	
K2	R	D25	8	1150	260	260	368	260					37	

## SUMMARY

DIAMETER	WEIGHT (kg)	MECHANICAL SPLICE (NOS)
D13	281	0
D16	2583	0
D19	2126	0
D22	2457	0
D25	2558	0
D29	1156	0
D32	2983	0
D35	0	0
D38	0	0
D41	0	0
D51	0	0
TOTAL	14144	0

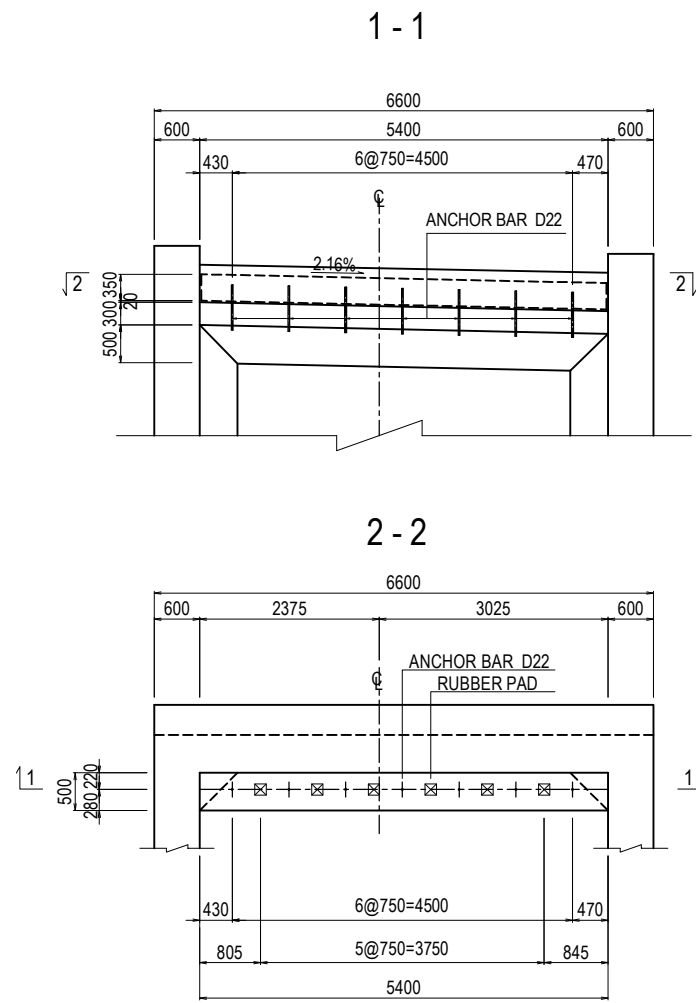
## SHAPE CODE



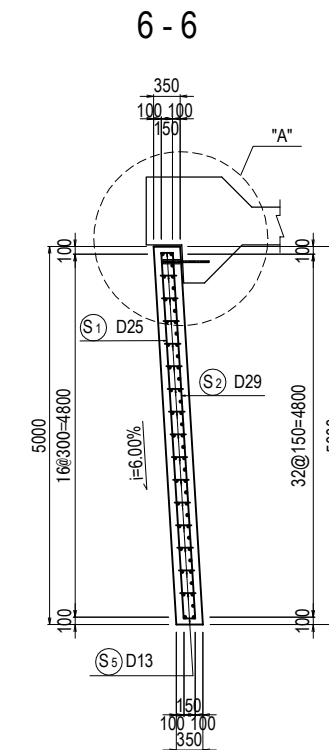
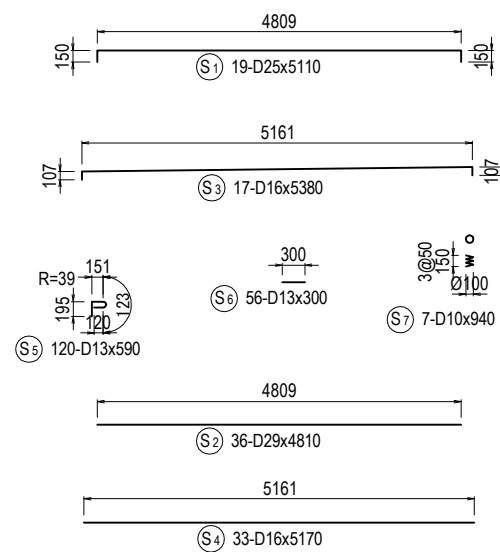
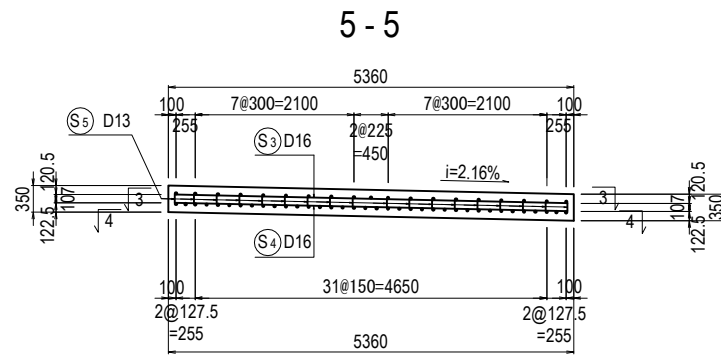
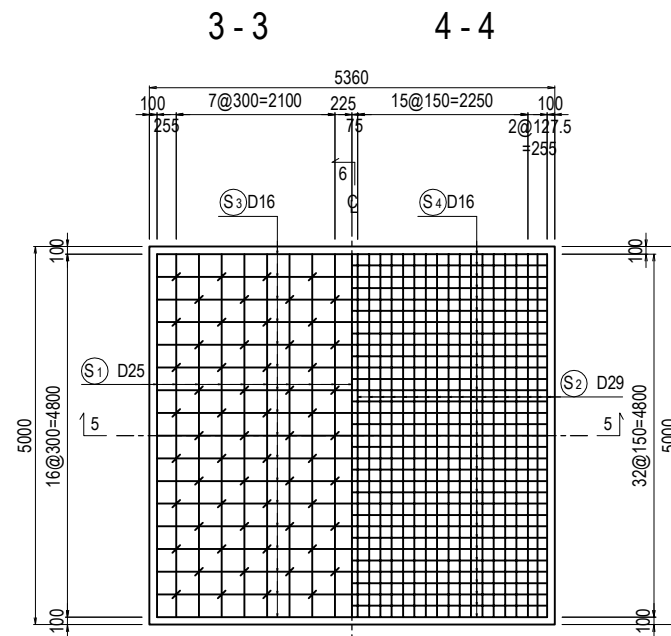
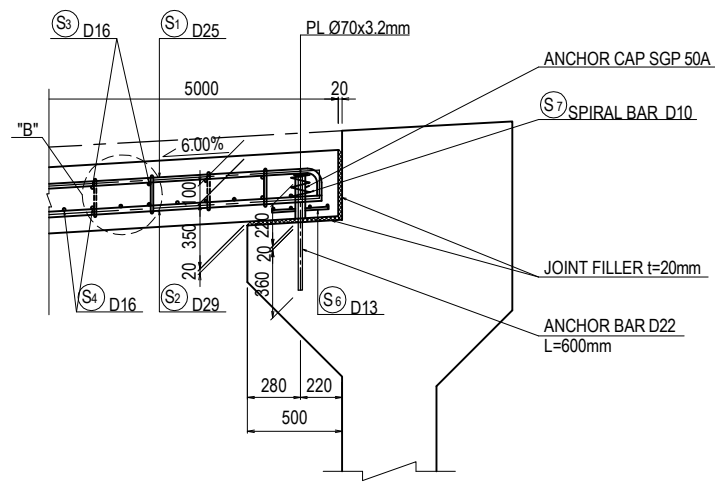
NOTES: 1. Unless otherwise specified in the Contract Documents, a grade of rebar shall be SD 345 or equivalent.  
2. A figure in italic font indicate average length of rebar.

# BAR ARRANGEMENT OF AO1 ABUTMENT (8)

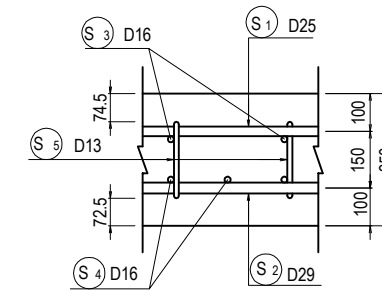
S=1:100



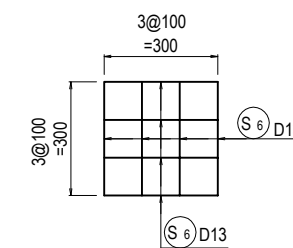
DETAIL "A" S=1:40



DETAIL "B" S=1:20

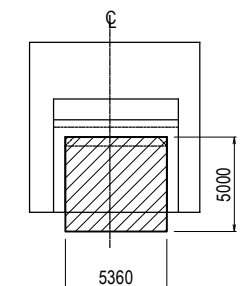


DETAIL "C" S=1:20



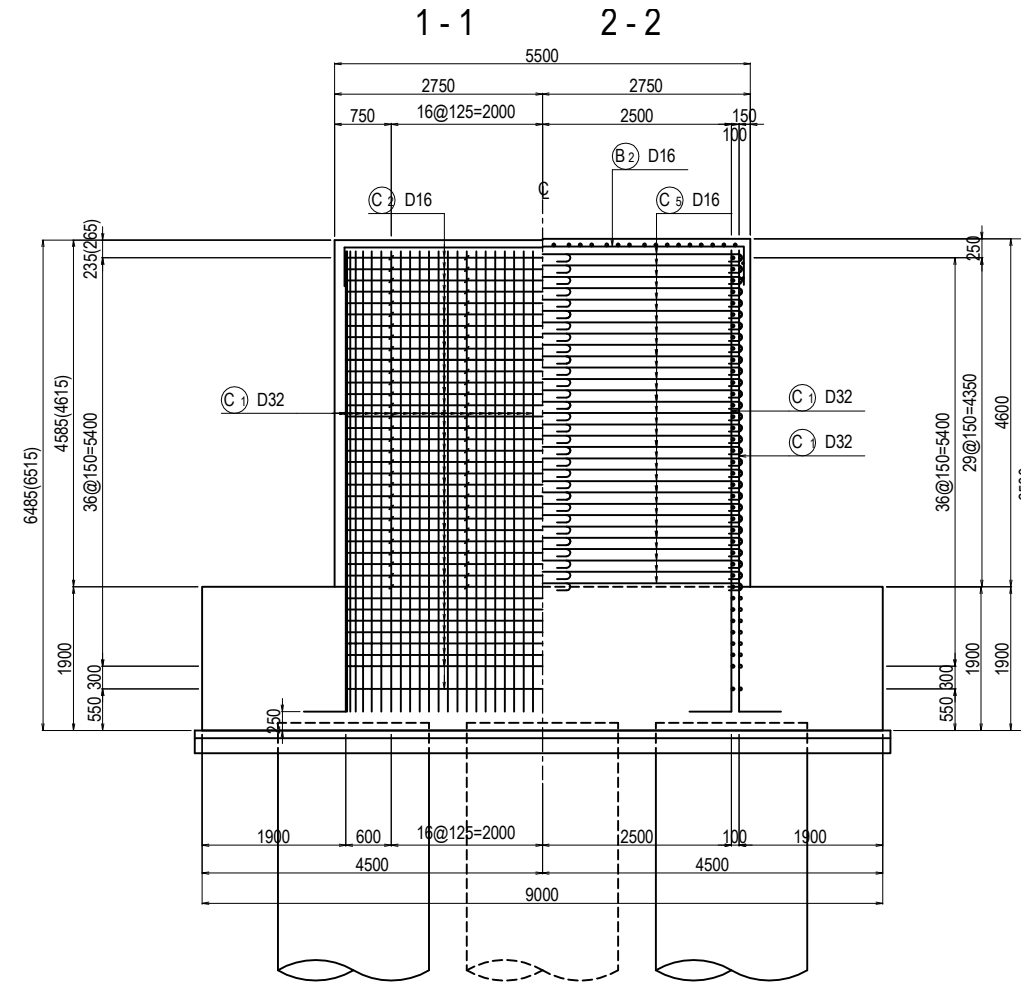
SYMBOL	DIAMETER	LENGTH (mm)	NUMBER	WEIGHT	SHAPE
S1	D25	5110	19	386	□
S2	D29	4810	36	873	—
S3	D16	5380	17	143	□
S4	D16	5170	33	266	—
S5	D13	590	120	70	□
S6	D13	300	56	17	—
			D29	873kg	
			D25	386kg	
			D16	409kg	
			D13	87kg	
			Total	1755kg	
S7	D10	940	7	4	≡
ANCHOR CAP	50A	230	7	9	SGP
PL	Ø70x3.2		7	1	
			Total	14kg	

KEY PLAN

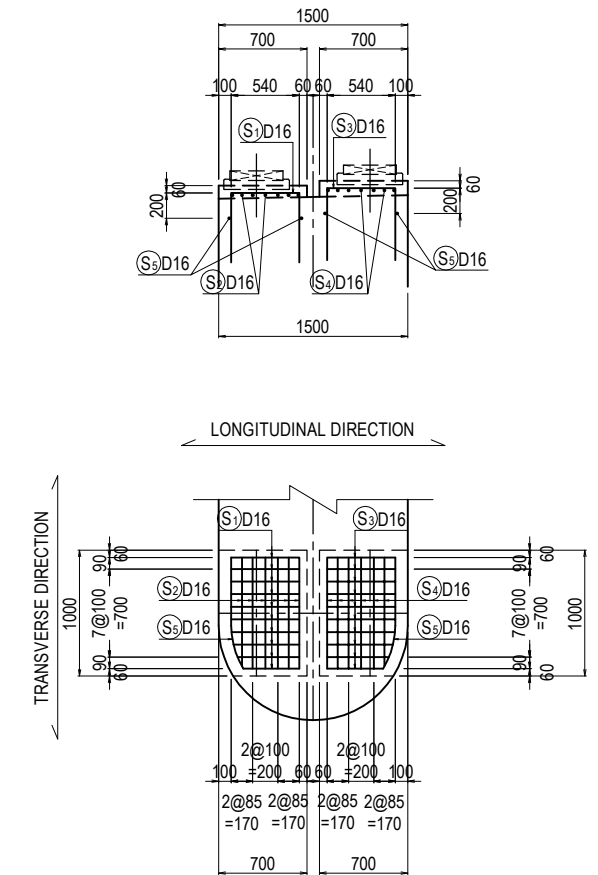


# BAR ARRANGEMENT OF PO1 PIER (1)

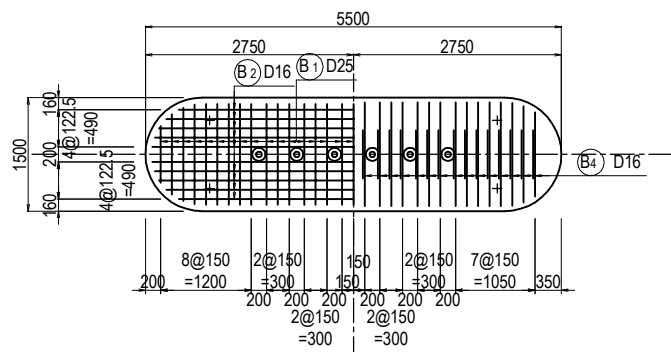
S=1:100



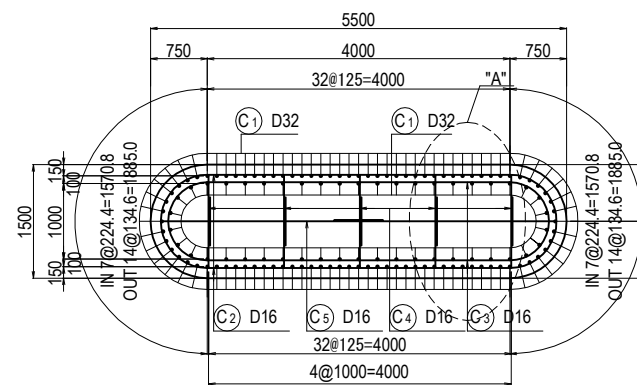
## DETAIL OF BEARING BASE S=1:60



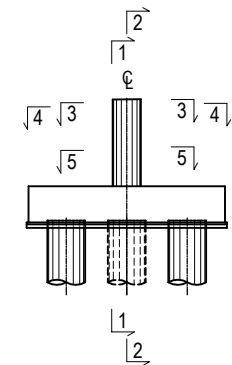
## 3-3 4-4



## 5-5



## KEY PLAN

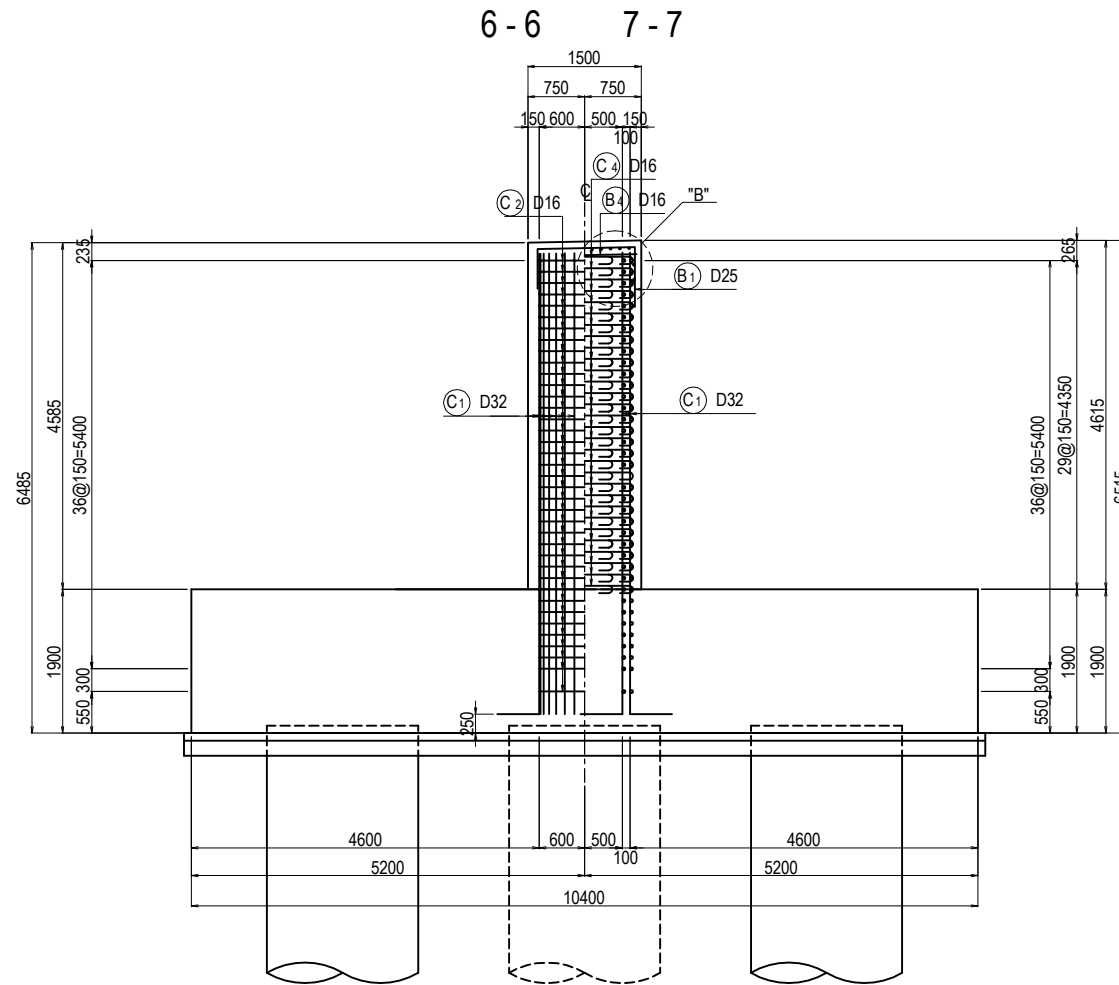


PROJECT NAME	FINANCED BY	COUNTERPART	JICA STUDY TEAM	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE
DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	JICA JAPAN INTERNATIONAL COOPERATION AGENCY	REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	M. OHYAMA	大山 満弘	15 Jun.2017	BAR ARRANGEMENT OF PO1 PIER (1)	1
				T. HAYAKAWA	平川 知寿	20 Jun.2017		DWG No.
				Y. SANO	佐野 祐一	21 Jun.2017		P1-OR-2111

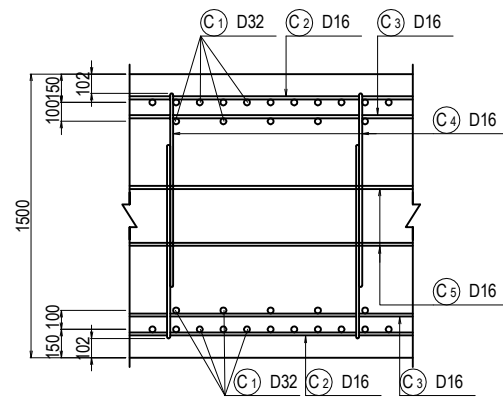


# BAR ARRANGEMENT OF PO1 PIER (2)

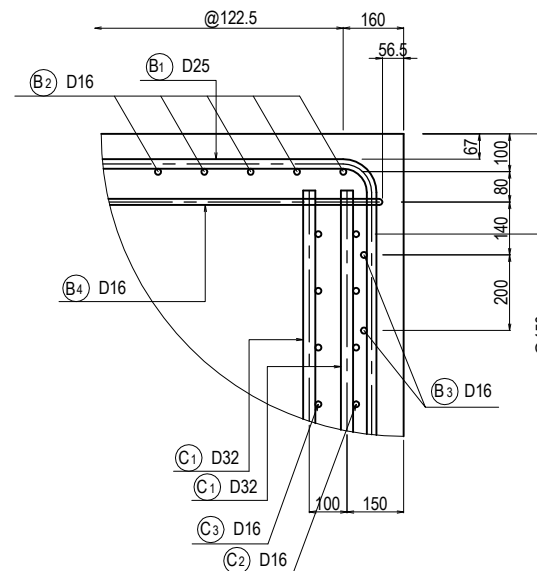
S=1:100



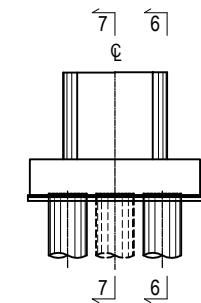
DETAIL "A" S=1:40



DETAIL "B" S=1:20



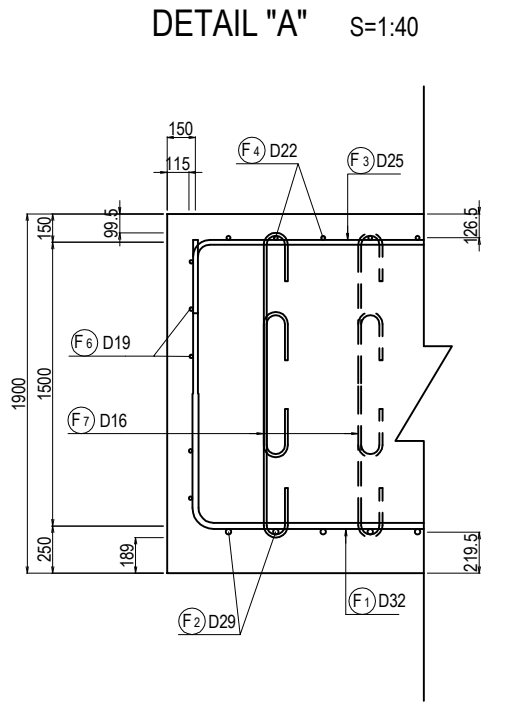
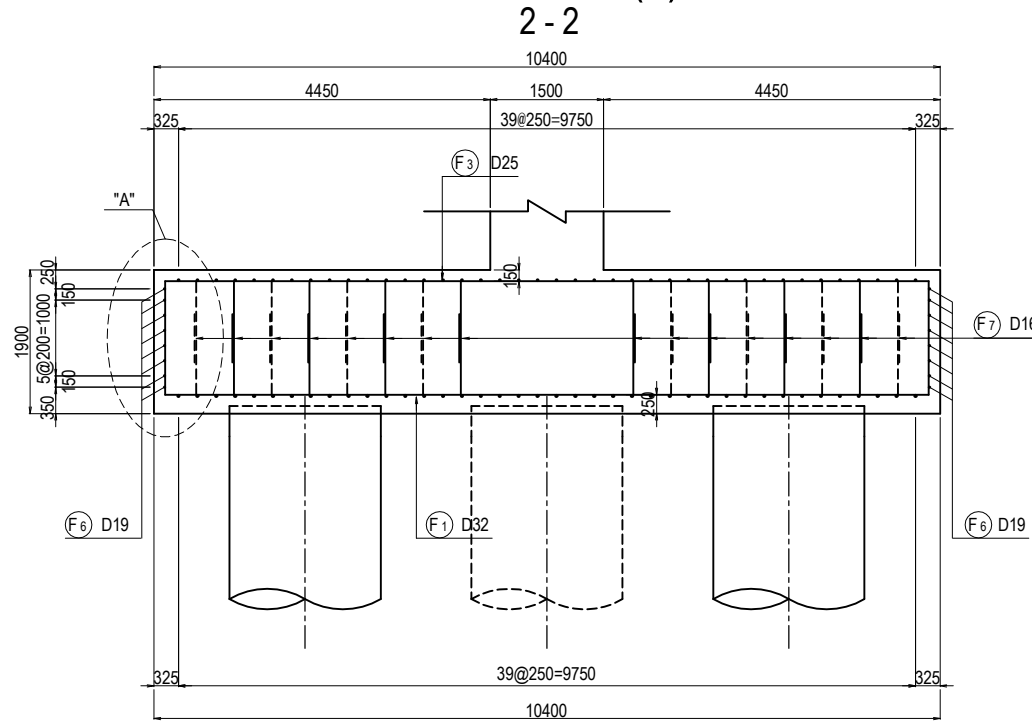
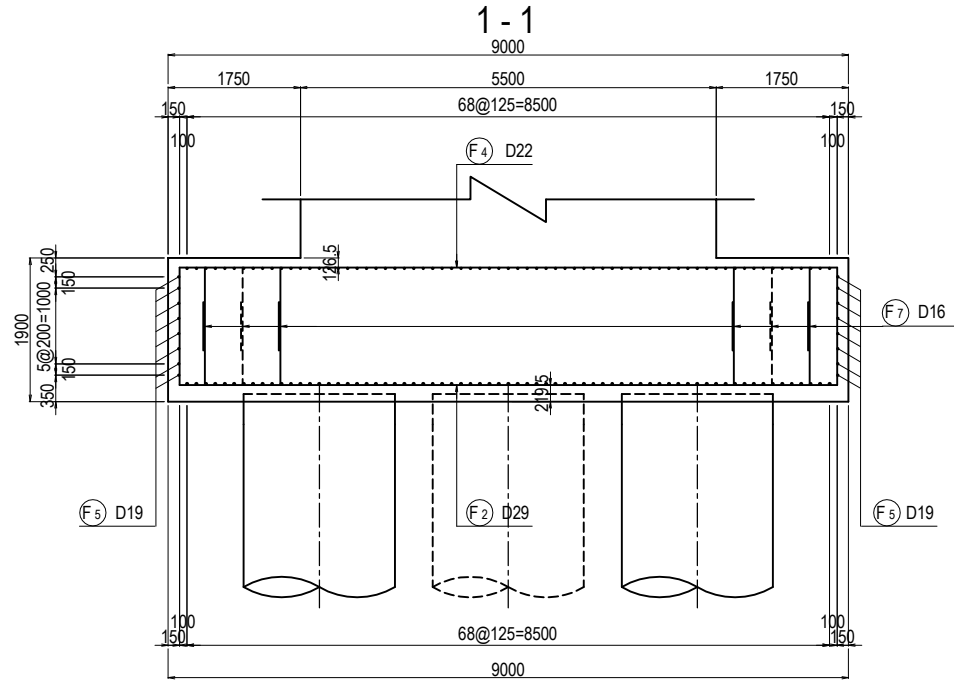
KEY PLAN



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. OHYAMA	大山 満弘	15 Jun.2017	BAR ARRANGEMENT OF PO1 PIER (2)	1
				T. HAYAKAWA	平川 知寿	20 Jun.2017		DWG No.
				Y. SANO	佐野 祐一	21 Jun.2017		P1-OR-2112

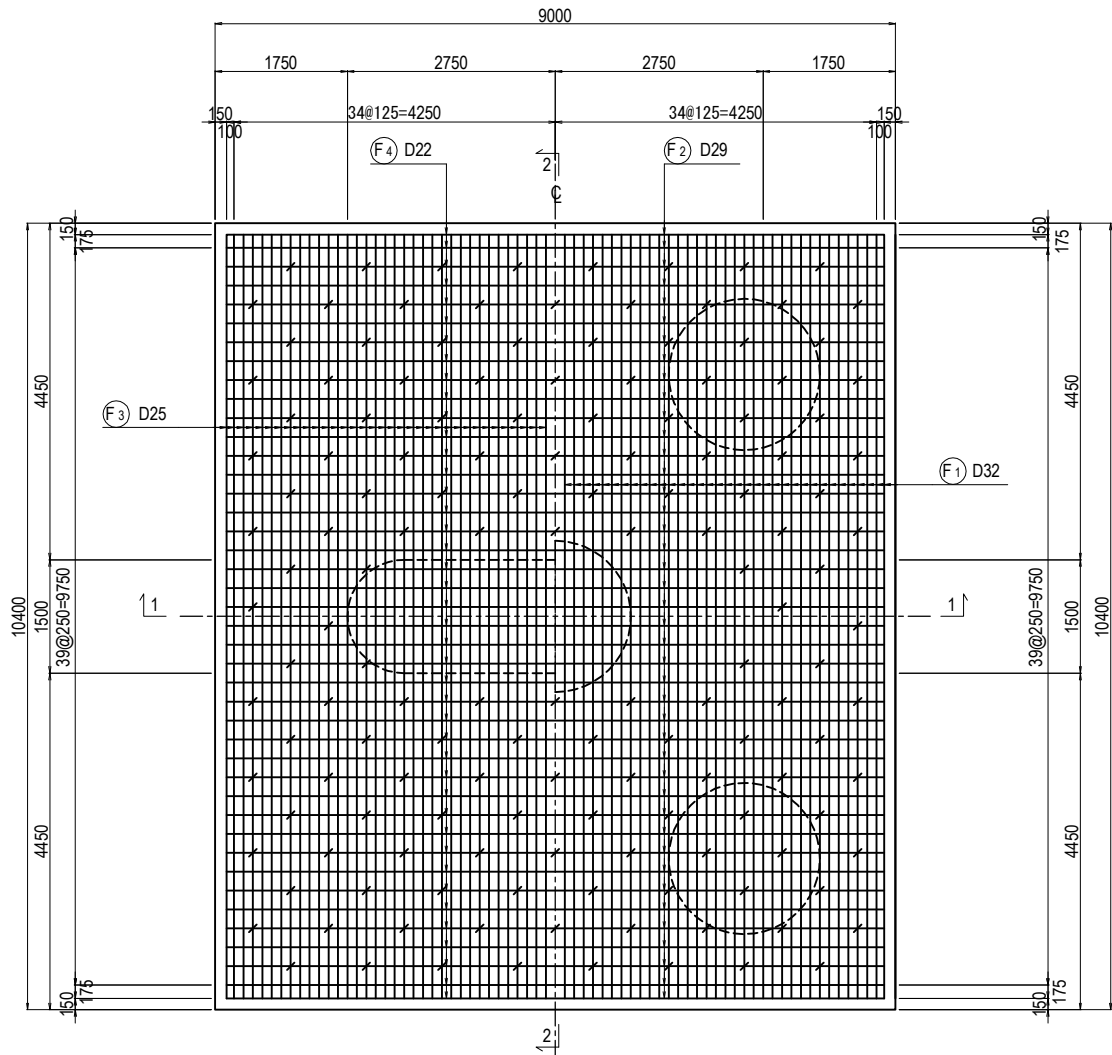
# BAR ARRANGEMENT OF PO1 PIER (3)

S=1:100



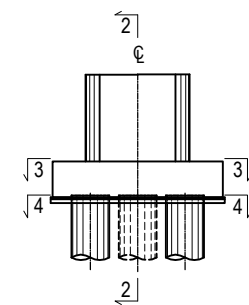
3-3

4-4



TRANSVERSAL

KEY PLAN



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. OHYAMA		15 Jun.2017
CHECKED BY	T. HAYAKAWA		20 Jun.2017
APPROVED BY	Y. SANO		21 Jun.2017

DRAWING TITLE  
BAR ARRANGEMENT OF PO1 PIER (3)

PACKAGE  
1  
DWG No.  
P1-OR-2113

# BAR ARRANGEMENT OF PO1 PIER (4)

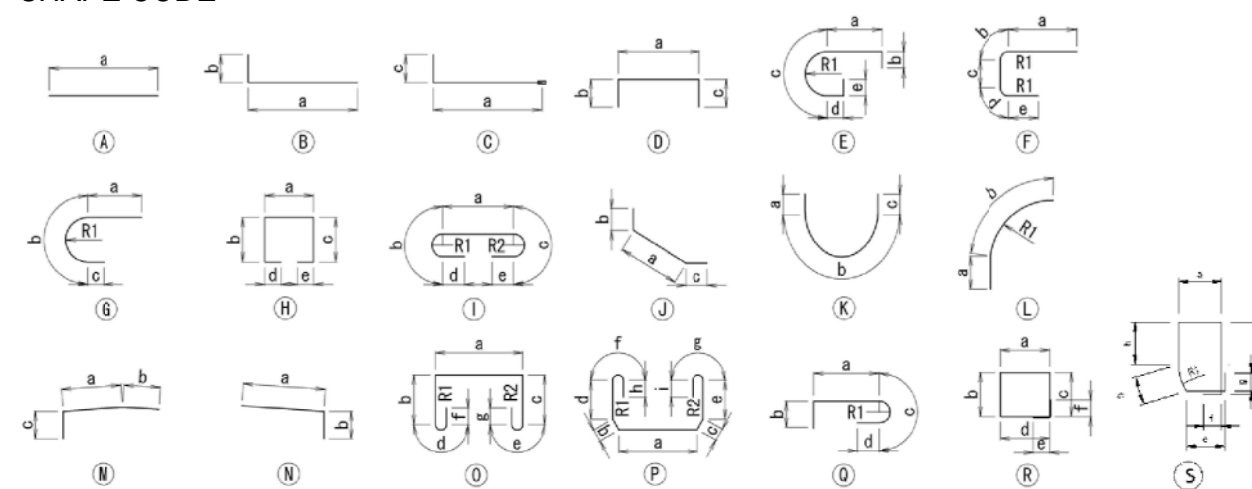
## BAR QUANTITY

SYMBOL	SHAPE	DIAMETER	NUMBER (NOS)	LENGTH (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	g (mm)	h (mm)	i (mm)	R1 (mm)	R2 (mm)	WEIGHT (kg)	REMARKS
B1	D	D25	33	2860	1272	790	790									376	AVERAGE
B2	D	D16	10	6080	5053	510	510									95	AVERAGE
B3	E	D16	4	7360	1423	240	2025	3423	240					645		46	
B4	I	D16	62	1570	1006	151	151	128	128					48	48	152	
S1	D	D16	20	1640	540	550	550									51	
S2	D	D16	14	1980	880	550	550									43	
S3	D	D16	20	1680	540	570	570									52	
S4	D	D16	14	2020	880	570	570									44	
S5	S	D16	4	3470	572	556	376	960	517	240	240			666		22	
C1	B	D32	138	6660	6100	555										5726	AVERAGE
C2	E	D16	76	7290	1423	240	1960	3423	240					624		864	
C3	E	D16	76	6980	1423	240	1646	3423	240					524		828	
C4	I	D16	300	1470	912	151	151	128	128					48	48	687	
C5	I	D16	60	3470	2912	151	151	128	128					48	48	325	
F1-1	B	D32	71	8000	6500	1500										3539	
F1-2	B	D32	71	6110	4610	1500										2703	
F2	D	D29	40	11810	8700	1554	1554									2381	
F3	D	D25	71	10850	10100	375	375									3066	
F4	D	D22	40	9360	8700	330	330									1138	
F5	A	D19	16	10160	10151											366	
F6	A	D19	16	8750	8748											315	
F7	I	D16	296	1630	1070	151	151	128	128					48	48	752	

## SUMMARY

DIAMETER	WEIGHT (kg)	MECHANICAL SPLICE (NOS)
D13	0	0
D16	3961	0
D19	681	0
D22	1138	0
D25	3442	0
D29	2381	0
D32	11968	0
D35	0	0
D38	0	0
D41	0	0
D51	0	0
TOTAL	23571	0

## SHAPE CODE

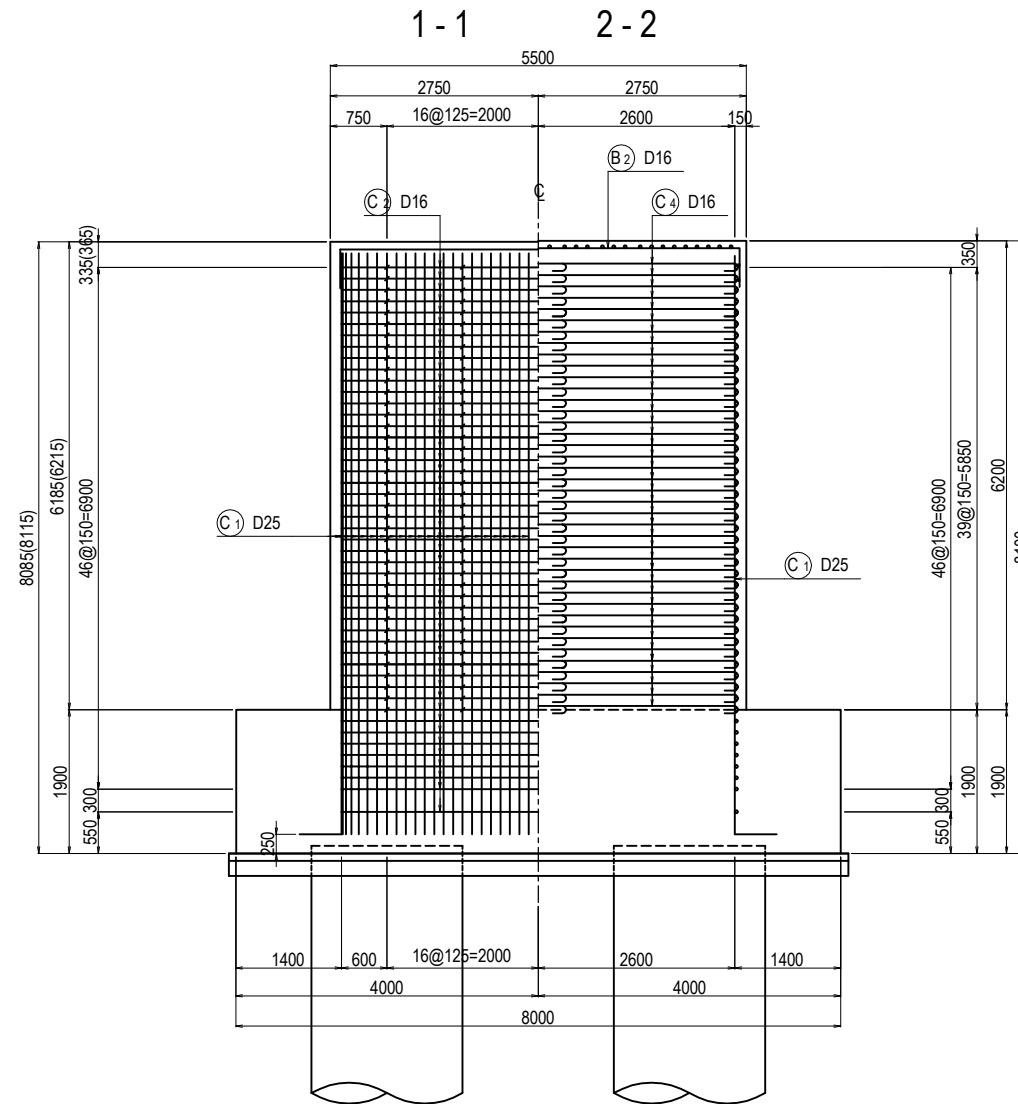


- NOTES: 1. Unless otherwise specified in the Contract Documents, a grade of rebar shall be SD 345 or equivalent.  
 2. A figure in italic font indicate average length of rebar.

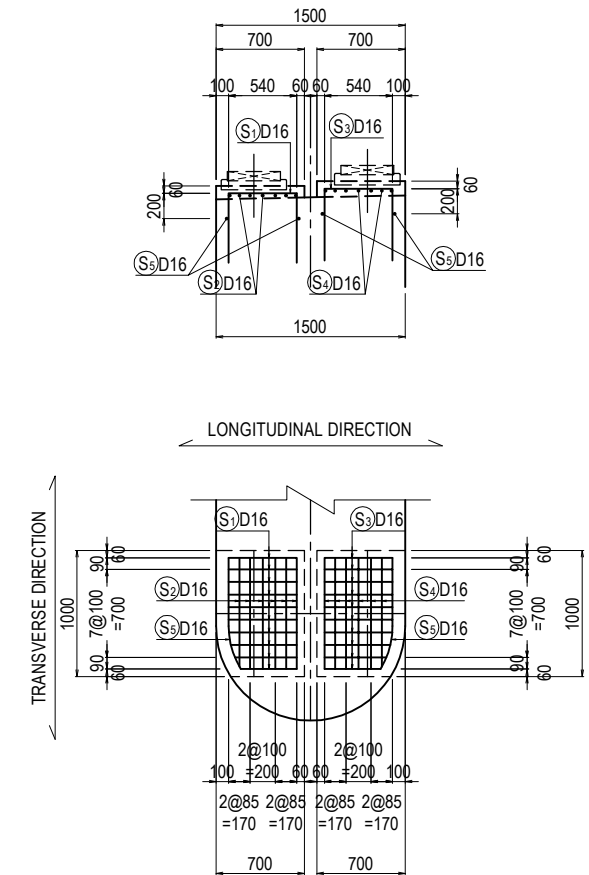
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE BAR ARRANGEMENT OF PO1 PIER (4)	PACKAGE	
				PREPARED BY	M. OHYAMA	<i>大山 満弘</i>		15 Jun.2017	1
				CHECKED BY	T. HAYAKAWA	<i>平川 知寿</i>		20 Jun.2017	DWG No.
				APPROVED BY	Y. SANO	<i>佐野 祐一</i>		21 Jun.2017	P1-OR-2114

# BAR ARRANGEMENT OF PO2 PIER (1)

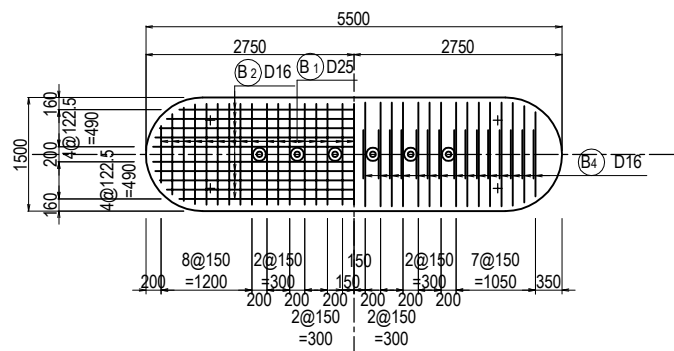
S=1:100



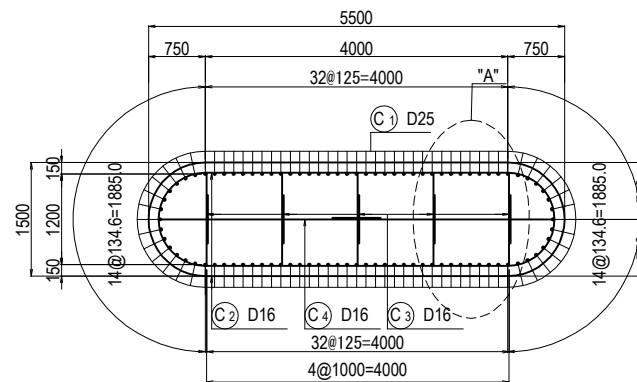
## DETAIL OF BEARING BASE S=1:60



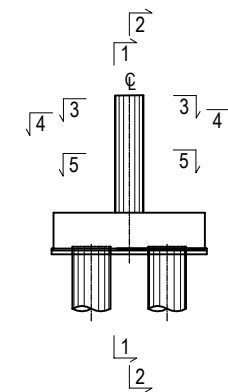
### 3-3 4-4



### 5-5



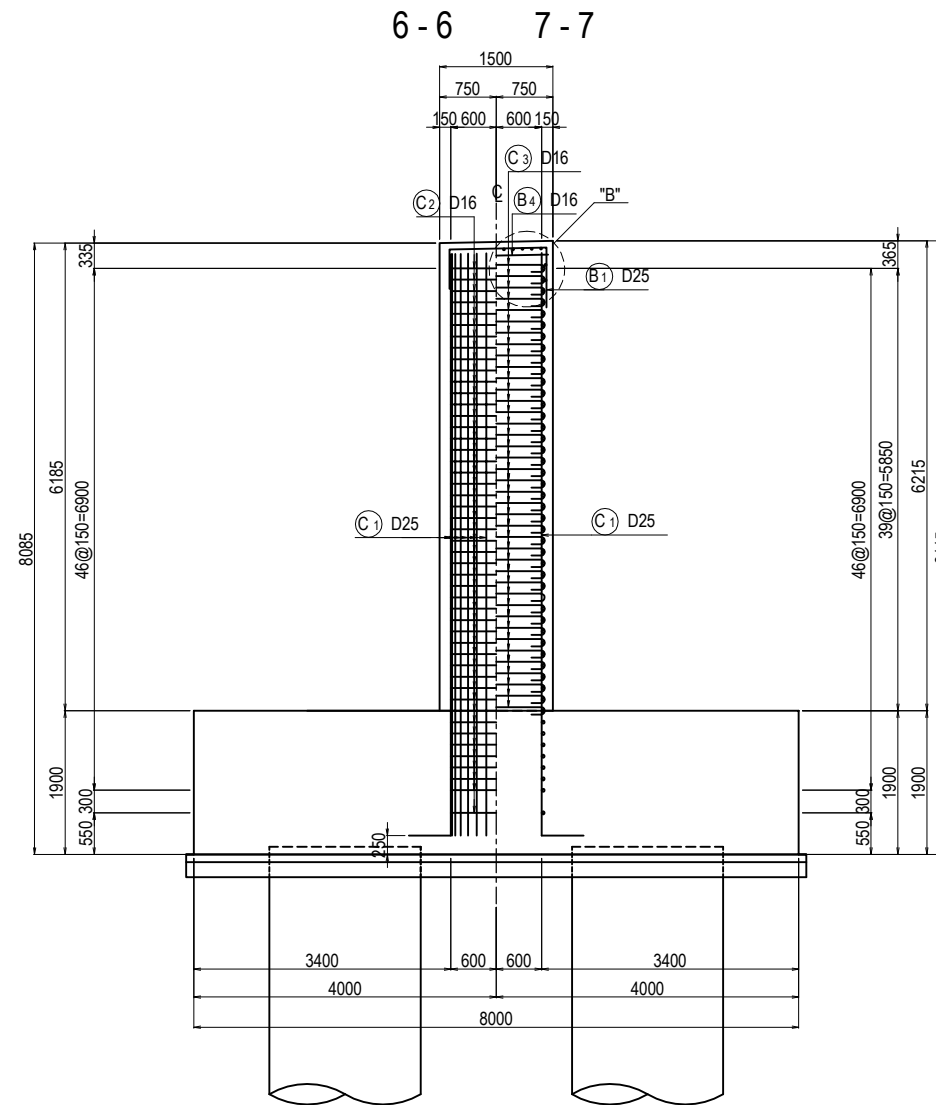
## KEY PLAN



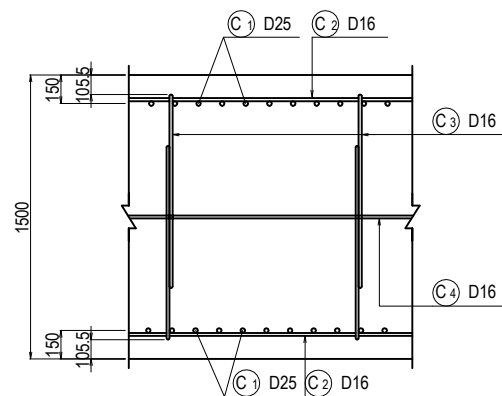
PROJECT NAME	FINANCED BY	COUNTERPART	JICA STUDY TEAM	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE
DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	JICA JAPAN INTERNATIONAL COOPERATION AGENCY	REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	M. OHYAMA	大山 満弘	15 Jun.2017	BAR ARRANGEMENT OF PO2 PIER (1)	1
				T. HAYAKAWA	平川 知寿	20 Jun.2017		DWG No.
				Y. SANO	佐野 祐一	21 Jun.2017		P1-OR-2121

# BAR ARRANGEMENT OF PO2 PIER (2)

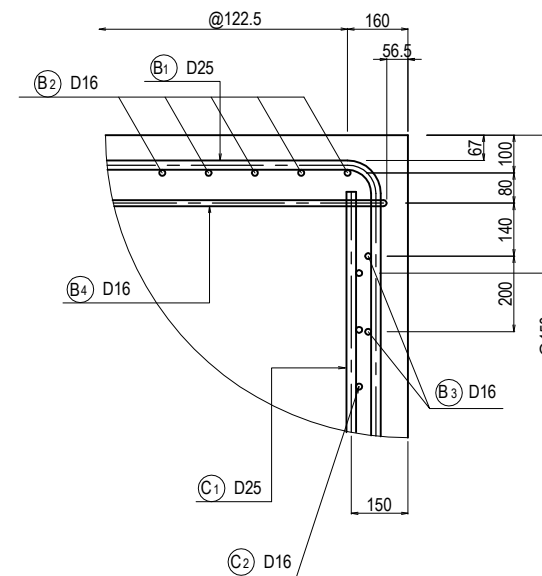
S=1:100



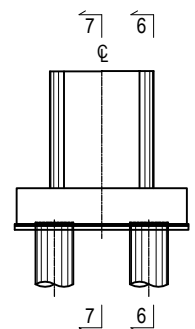
DETAIL "A" S=1:40



DETAIL "B" S=1:20



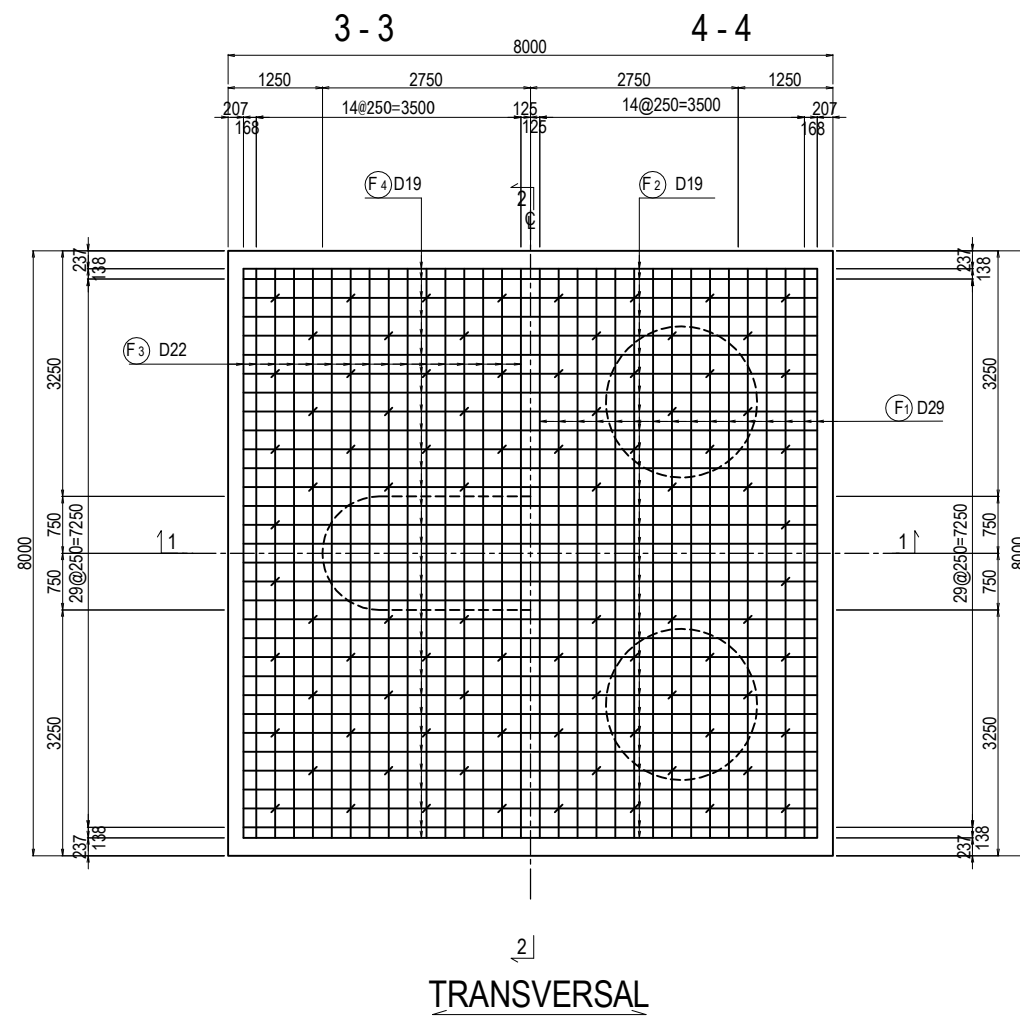
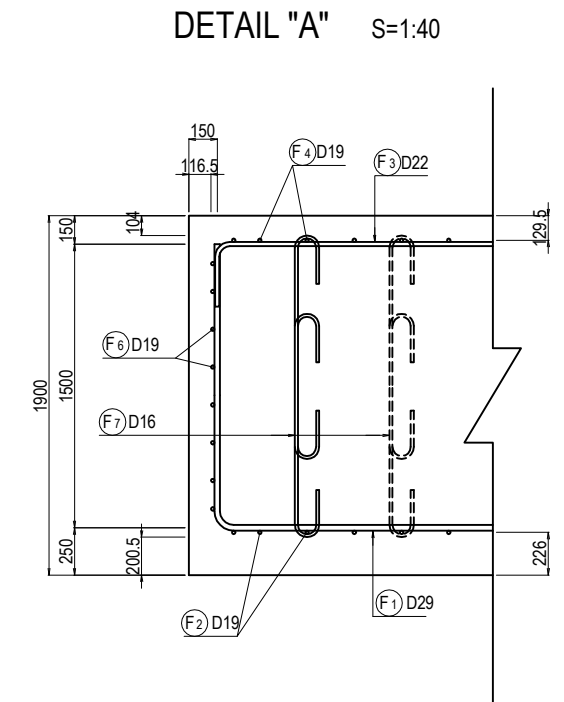
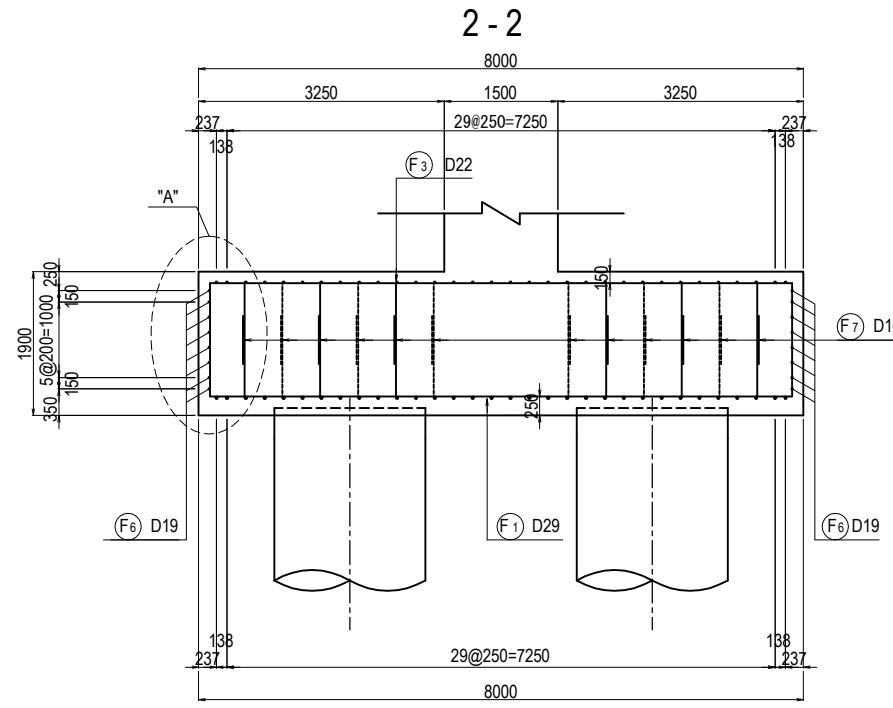
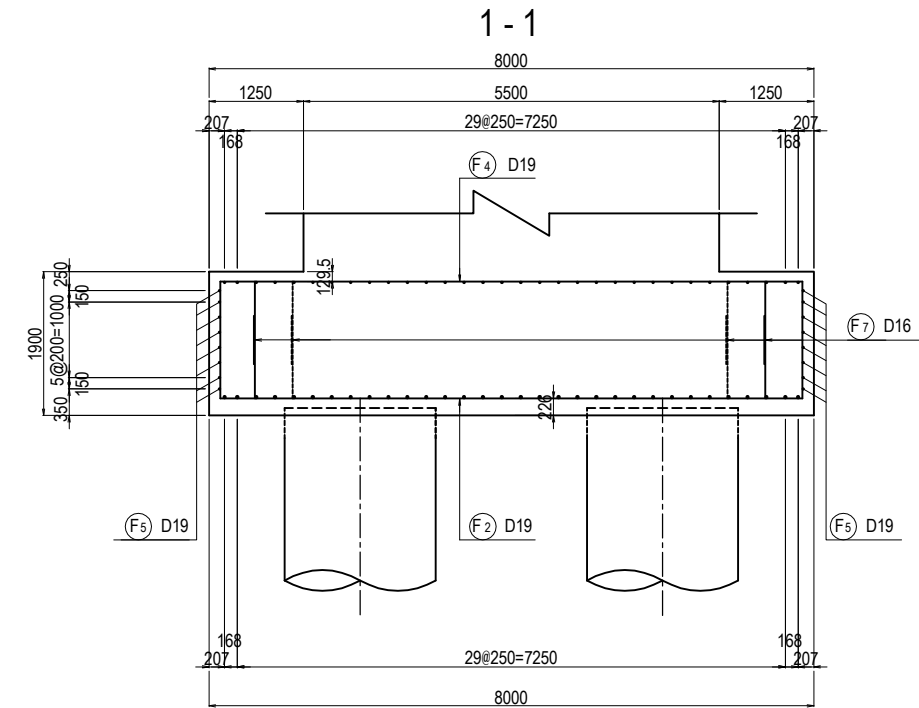
KEY PLAN



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.	PREPARED BY M. OHYAMA	大山 満弘	15 Jun.2017	BAR ARRANGEMENT OF PO2 PIER (2)	1
				CHECKED BY T. HAYAKAWA	平川 知寿	20 Jun.2017		DWG No.
				APPROVED BY Y. SANO	佐野 祐一	21 Jun.2017		P1-OR-2122

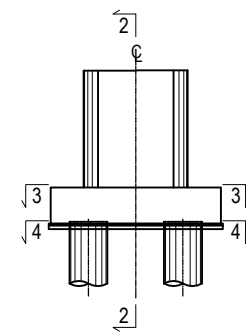
# BAR ARRANGEMENT OF PO2 PIER (3)

S = 1:100



TRANSVERSAL

KEY PLAN



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 BAR ARRANGEMENT OF PO2 PIER (3)	PACKAGE 1 DWG No. P1-OR-2123	
				PREPARED BY	M. OHYAMA				15 Jun.2017
				CHECKED BY	T. HAYAKAWA				20 Jun.2017
				APPROVED BY	Y. SANO				21 Jun.2017



# BAR ARRANGEMENT OF PO2 PIER (4)

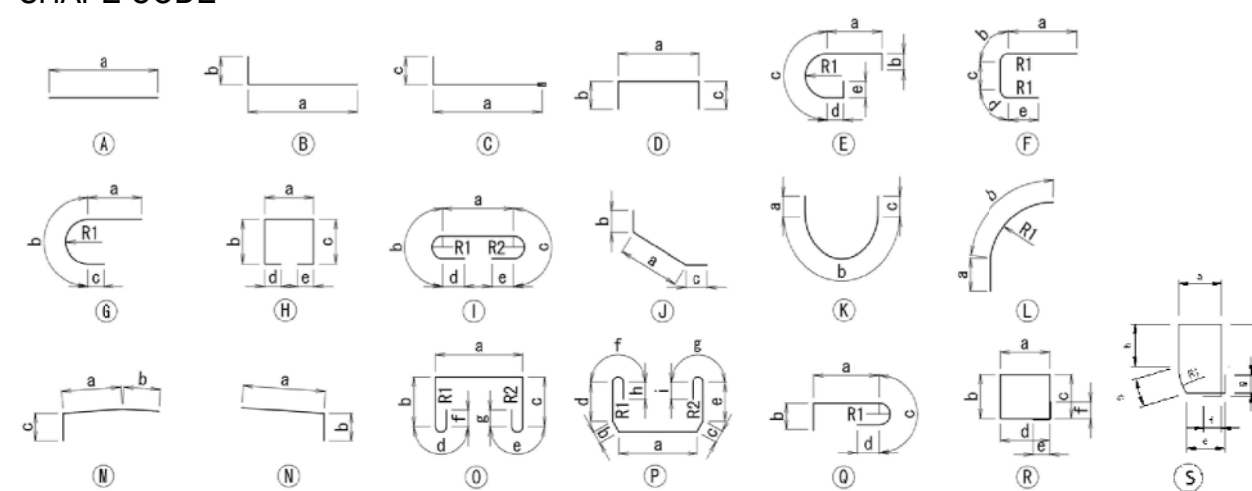
## BAR QUANTITY

SYMBOL	SHAPE	DIAMETER	NUMBER (NOS)	LENGTH (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	g (mm)	h (mm)	i (mm)	R1 (mm)	R2 (mm)	WEIGHT (kg)	REMARKS
B1	D	D25	33	2860	1272	790	790									376	AVERAGE
B2	D	D16	10	6080	5053	510	510									95	AVERAGE
B3	E	D16	4	7360	1423	240	2025	3423	240					645		46	
B4	I	D16	62	1570	1006	151	151	128	128					48	48	152	
S1	D	D16	20	1640	540	550	550									51	
S2	D	D16	14	1980	880	550	550									43	
S3	D	D16	20	1680	540	570	570									52	
S4	D	D16	14	2020	880	570	570									44	
S5	S	D16	4	3470	572	556	376	960	517	240	240			666		22	
C1	B	D25	92	8260	7700	555										3024	AVERAGE
C2	E	D16	96	7280	3423	240	1949	1423	240					621		1091	
C3	I	D16	400	1470	909	151	151	128	128					48	48	916	
C4	I	D16	80	3470	2909	151	151	128	128					48	48	433	
F1	D	D29	32	10700	7700	1500	1500									1726	
F2	D	D19	32	10790	7700	1545	1545									777	
F3	D	D22	32	8360	7700	330	330									813	
F4	D	D19	32	8270	7700	285	285									596	
F5	A	D19	16	7750	7748											279	
F6	A	D19	16	7740	7738											279	
F7	I	D16	176	1620	1062	151	151	128	128					48	48	445	

## SUMMARY

DIAMETER	WEIGHT (kg)	MECHANICAL SPLICE (NOS)
D13	0	0
D16	3390	0
D19	1931	0
D22	813	0
D25	3400	0
D29	1726	0
D32	0	0
D35	0	0
D38	0	0
D41	0	0
D51	0	0
<b>TOTAL</b>	<b>11260</b>	<b>0</b>

## SHAPE CODE



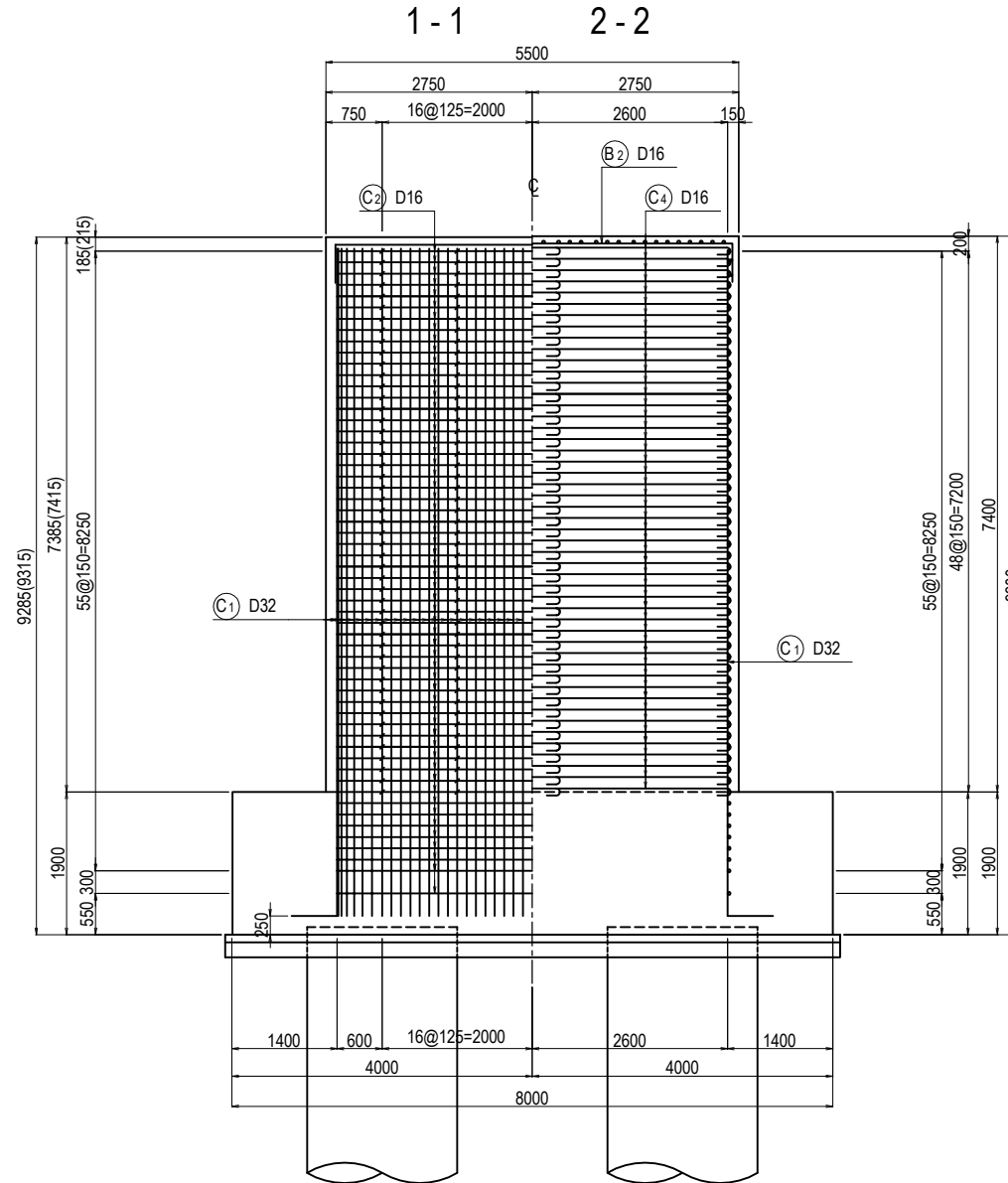
NOTES: 1. Unless otherwise specified in the Contract Documents, a grade of rebar shall be SD 345 or equivalent.  
2. A figure in italic font indicate average length of rebar.

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 BAR ARRANGEMENT OF PO2 PIER (4)	PACKAGE	
				PREPARED BY	M. OHYAMA			15 Jun.2017	1
				CHECKED BY	T. HAYAKAWA			20 Jun.2017	DWG No.
				APPROVED BY	Y. SANO			21 Jun.2017	P1-OR-2124

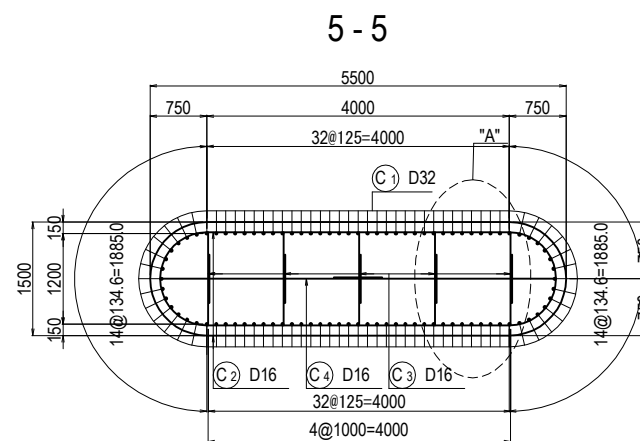
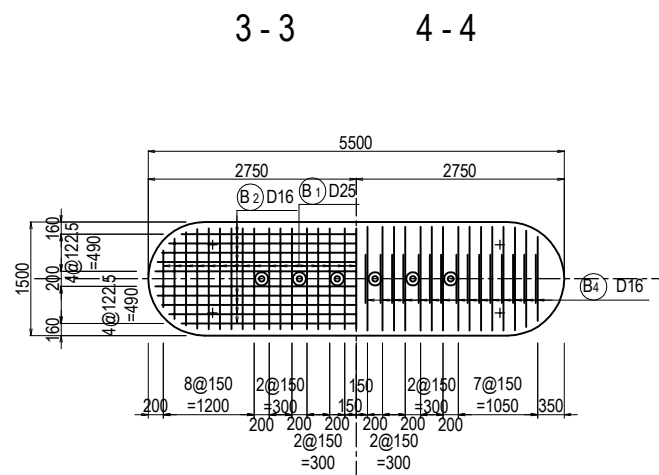
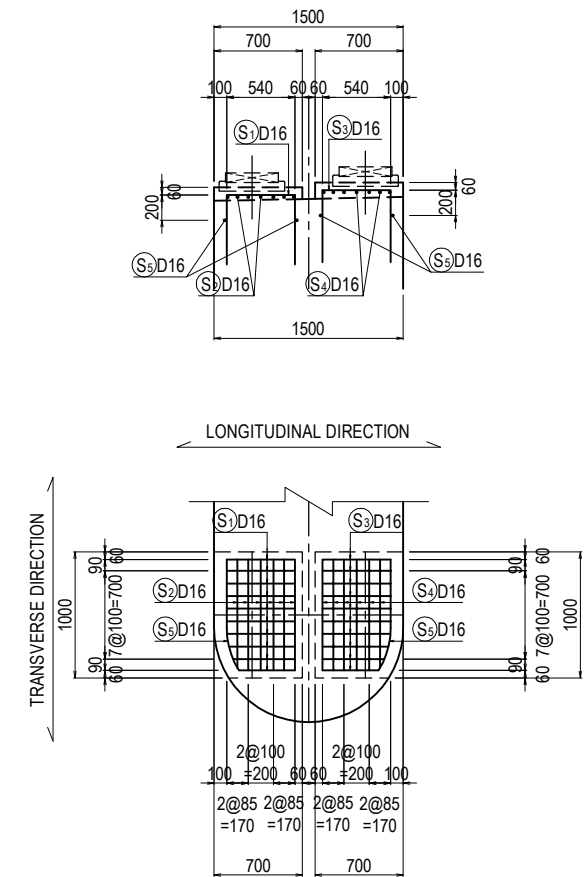


# BAR ARRANGEMENT OF PO3 PIER (1)

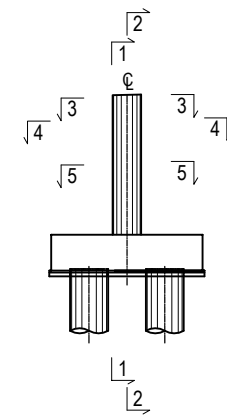
S=1:100



## DETAIL OF BEARING BASE S=1:60



## KEY PLAN

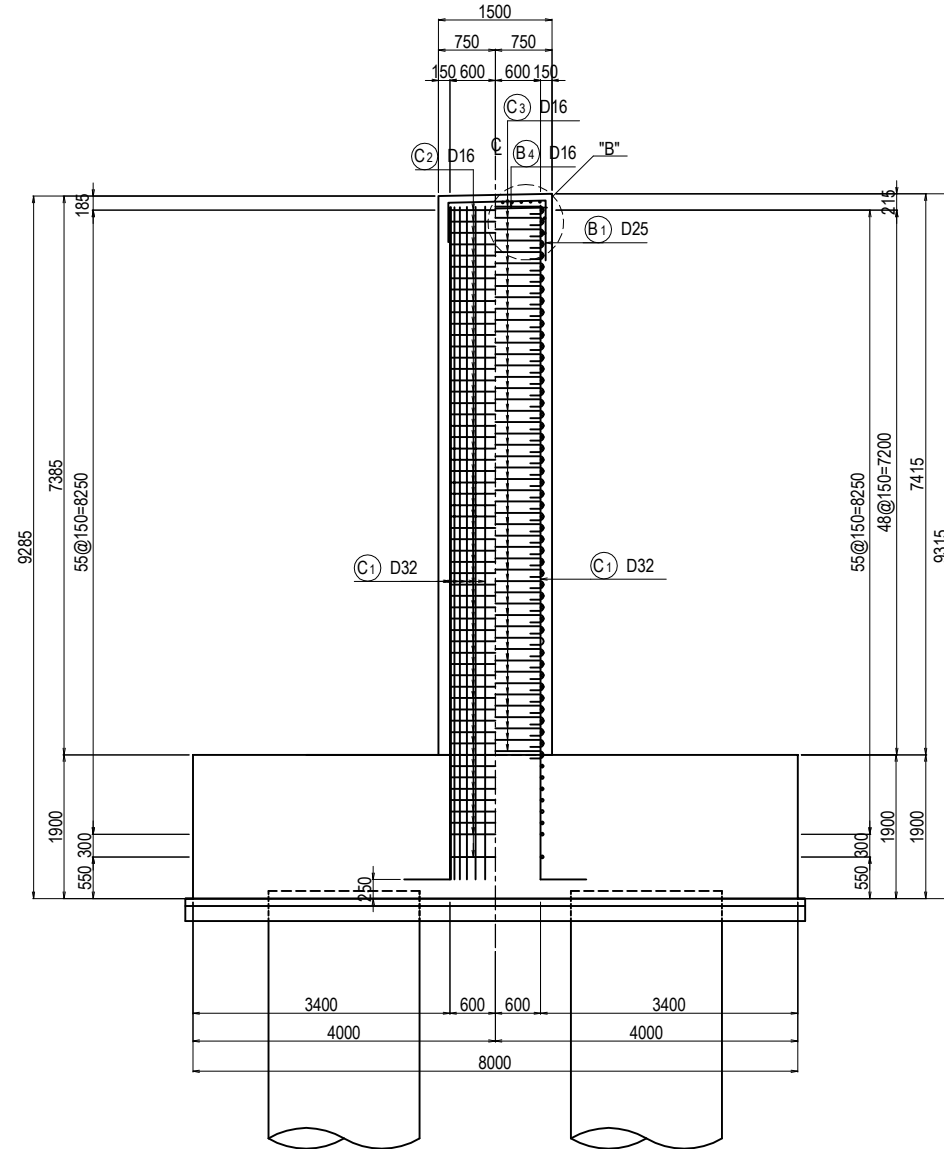


PROJECT NAME	FINANCED BY	COUNTERPART	JICA STUDY TEAM	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE
DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	JICA JAPAN INTERNATIONAL COOPERATION AGENCY	REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	PREPARED BY M. OHYAMA	大山 満弘	15 Jun.2017	BAR ARRANGEMENT OF PO3 PIER (1)	1
				CHECKED BY T. HAYAKAWA	平川 知寿	20 Jun.2017		DWG No.
				APPROVED BY Y. SANO	佐野 祐一	21 Jun.2017		P1-OR-2131

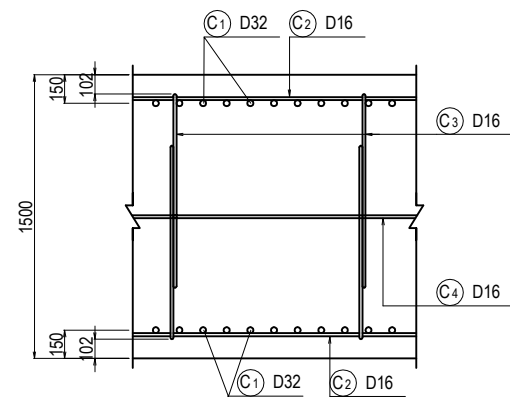
# BAR ARRANGEMENT OF PO3 PIER (2)

S = 1:100

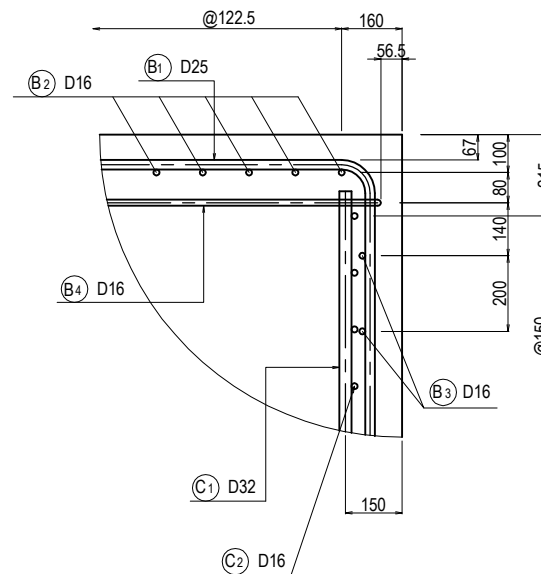
6-6 7-7



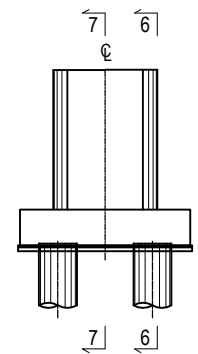
DETAIL "A" S=1:40



DETAIL "B" S=1:20



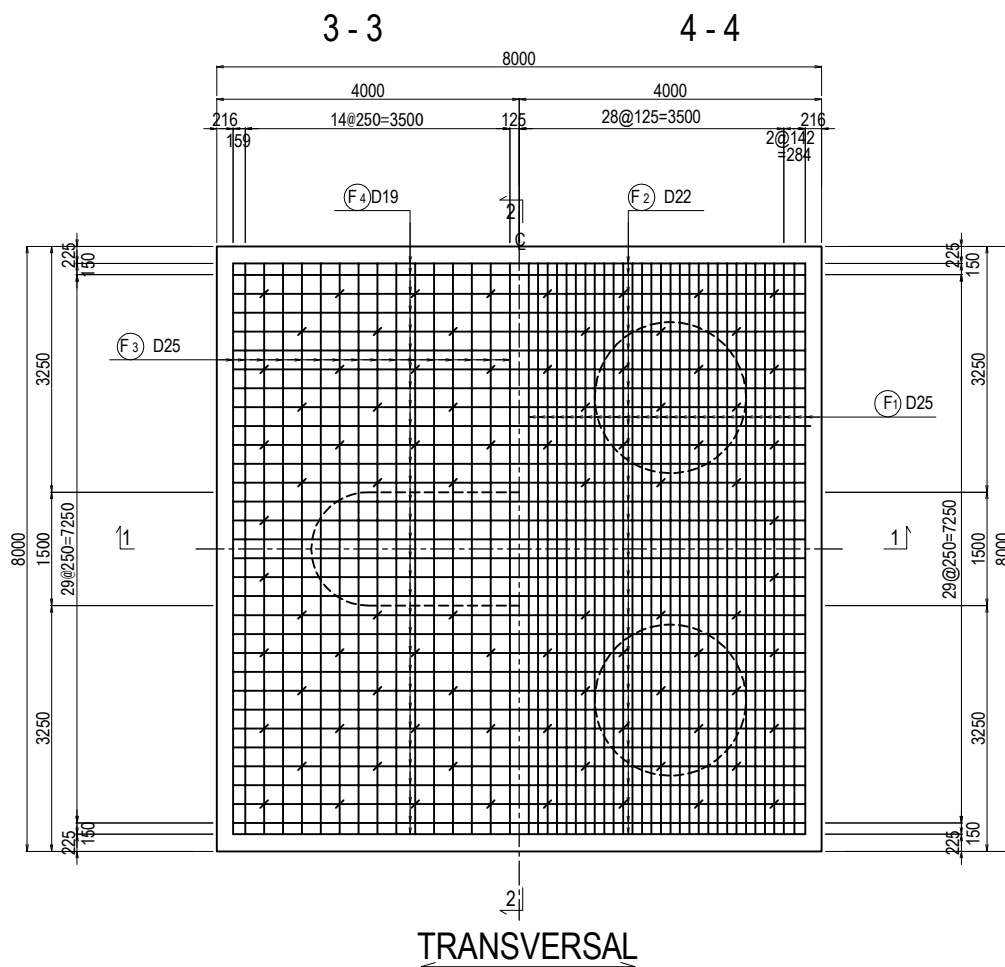
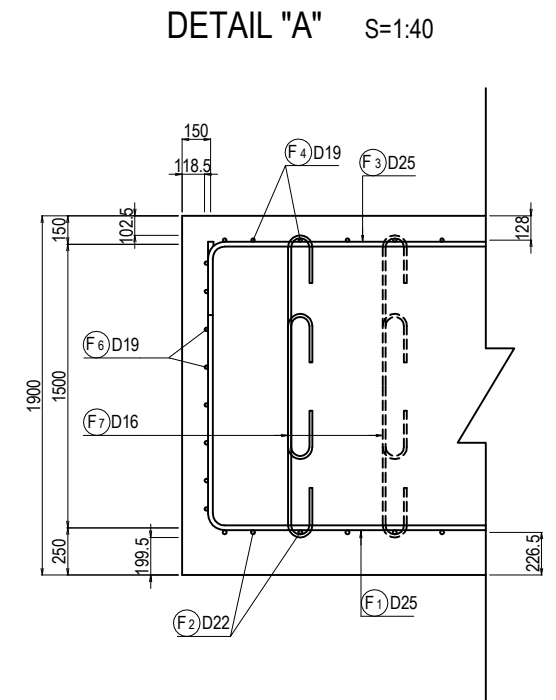
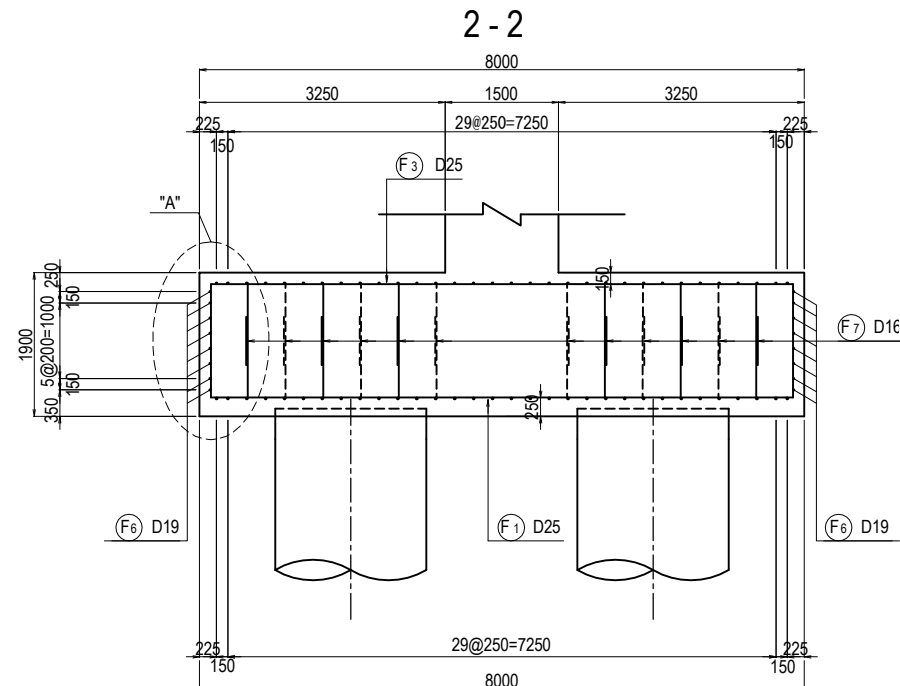
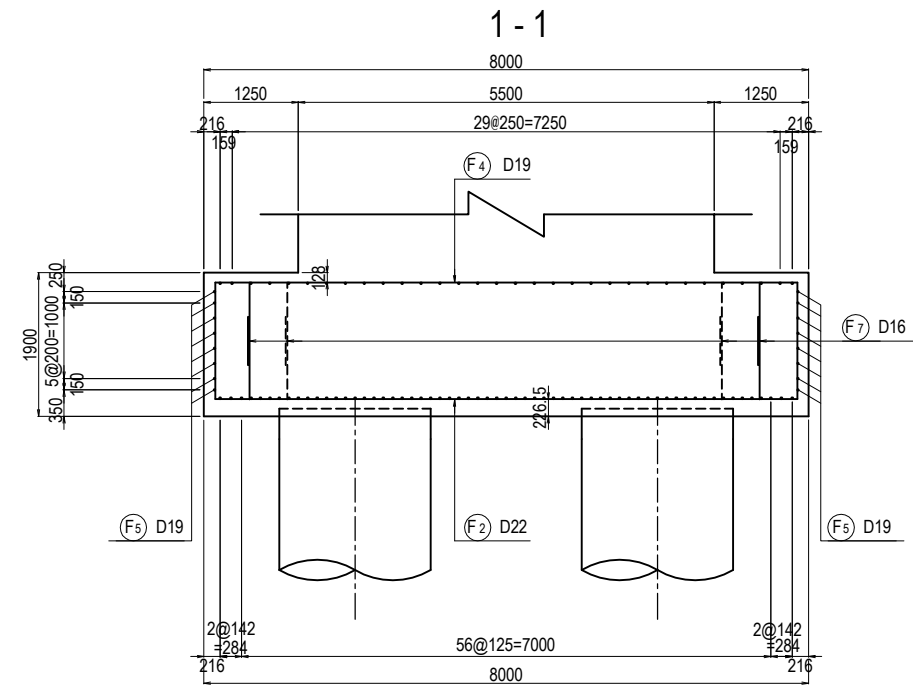
KEY PLAN



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.	PREPARED BY M. OHYAMA	大山 満弘	15 Jun.2017	BAR ARRANGEMENT OF PO3 PIER (2)	1
				CHECKED BY T. HAYAKAWA	平川 知寿	20 Jun.2017		DWG No.
				APPROVED BY Y. SANO	佐野 祐一	21 Jun.2017		P1-OR-2132

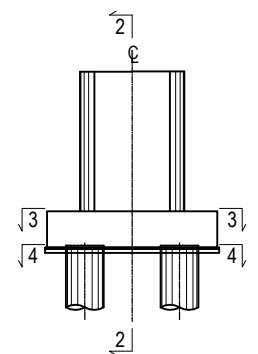
# BAR ARRANGEMENT OF PO3 PIER (3)

S = 1:100



TRANSVERSAL

KEY PLAN



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
							BAR ARRANGEMENT OF PO3 PIER (3)	1	
								DWG No.	
								P1-OR-2133	

# BAR ARRANGEMENT OF PO3 PIER (4)

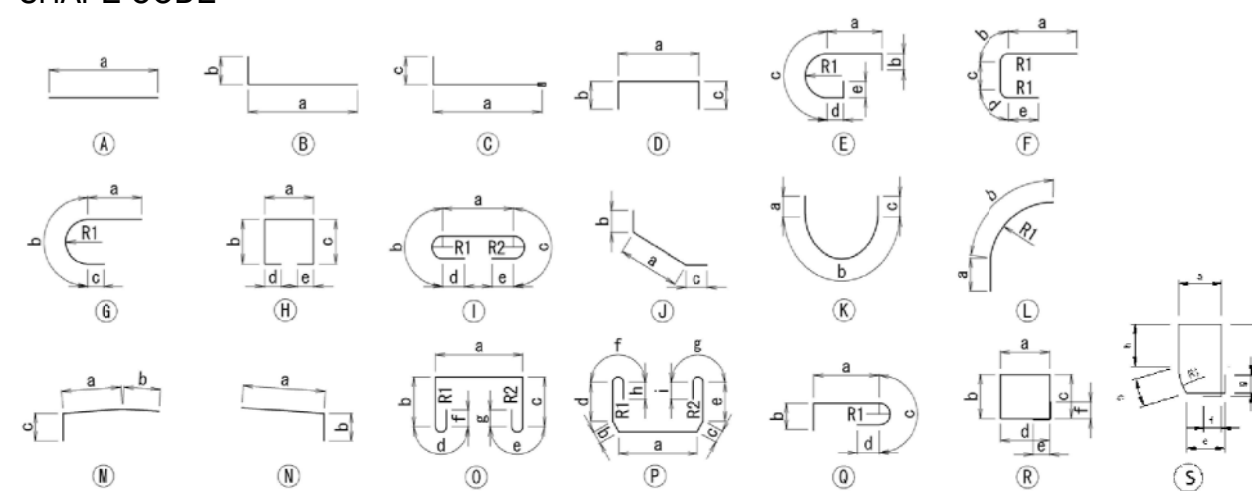
## BAR QUANTITY

SYMBOL	SHAPE	DIAMETER	NUMBER (NOS)	LENGTH (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	g (mm)	h (mm)	i (mm)	R1 (mm)	R2 (mm)	WEIGHT (kg)	REMARKS
B1	D	D25	33	2860	<b>1272</b>	790	790									376	<b>AVERAGE</b>
B2	D	D16	10	6080	<b>5053</b>	510	510									95	<b>AVERAGE</b>
B3	E	D16	4	7360	1423	240	2025	3423	240					645		46	
B4	I	D16	62	1570	1006	151	151	128	128					48	48	152	
S1	D	D16	20	1640	540	550	550									51	
S2	D	D16	14	1980	880	550	550									43	
S3	D	D16	20	1680	540	570	570									52	
S4	D	D16	14	2020	880	570	570									44	
S5	S	D16	4	3470	572	556	376	960	517	240	240			666		22	
C1	B	D32	92	9510	<b>8900</b>	605										5451	<b>AVERAGE</b>
C2	E	D16	114	7290	3423	240	1960	1423	240					624		1296	
C3	I	D16	490	1470	912	151	151	128	128					48	48	1122	
C4	I	D16	98	3470	2912	151	151	128	128					48	48	530	
F1	D	D25	61	10700	7700	1500	1500									2598	
F2	D	D22	32	10800	7700	1546	1546									1051	
F3	D	D25	32	8450	7700	375	375									1076	
F4	D	D19	32	8270	7700	285	285									596	
F5	A	D19	16	7750	7744											279	
F6	A	D19	16	7750	7741											279	
F7	I	D16	176	1630	1063	151	151	128	128					48	48	447	

## SUMMARY

DIAMETER	WEIGHT (kg)	MECHANICAL SPLIOE (NOS)
D13	0	0
D16	3900	0
D19	1154	0
D22	1051	0
D25	4050	0
D29	0	0
D32	5451	0
D35	0	0
D38	0	0
D41	0	0
D51	0	0
<b>TOTAL</b>	<b>15606</b>	<b>0</b>

## SHAPE CODE

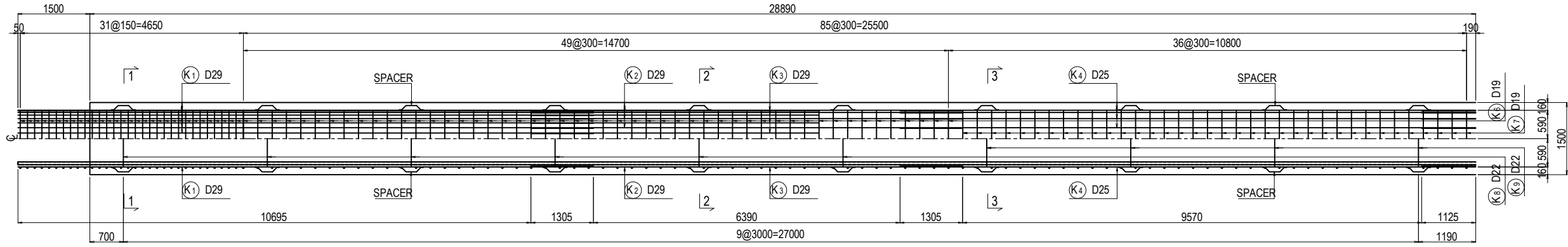


NOTES: 1. Unless otherwise specified in the Contract Documents, a grade of rebar shall be SD 345 or equivalent.  
2. A figure in italic font indicate average length of rebar.

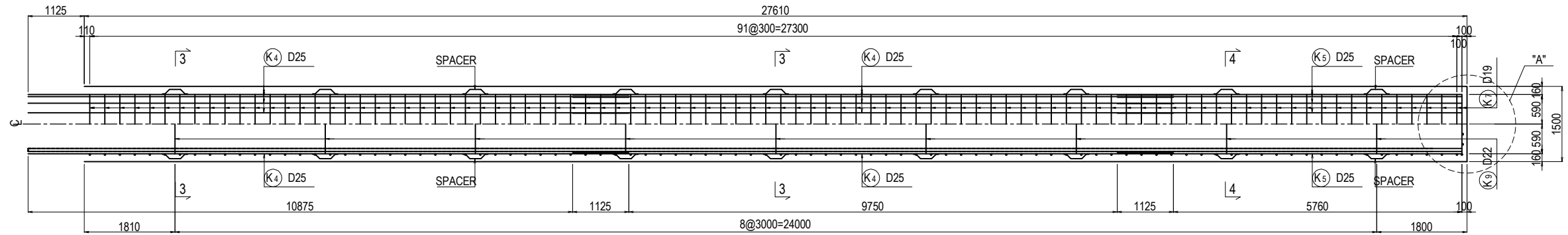
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE BAR ARRANGEMENT OF PO3 PIER (4)	PACKAGE	
				PREPARED BY	M. OHYAMA			15 Jun.2017	1
				CHECKED BY	T. HAYAKAWA			20 Jun.2017	DWG No.
				APPROVED BY	Y. SANO			21 Jun.2017	P1-OR-2134

# BAR ARRANGEMENT OF CAST IN PLACE PILE FOR AO1 (1) S=1:100

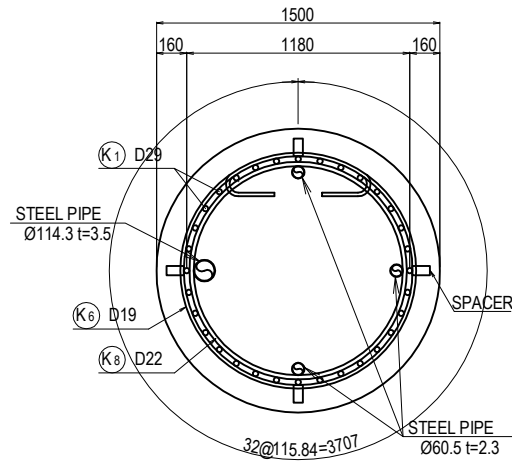
## SEGMENT 1



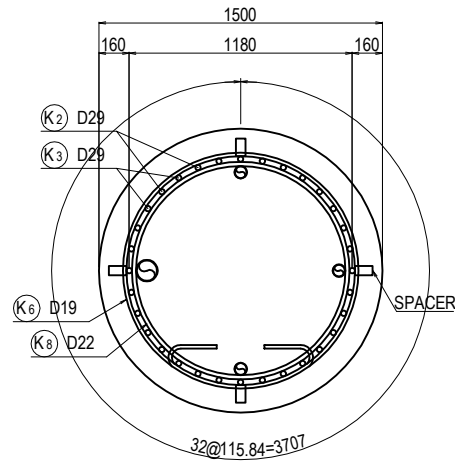
## SEGMENT 2



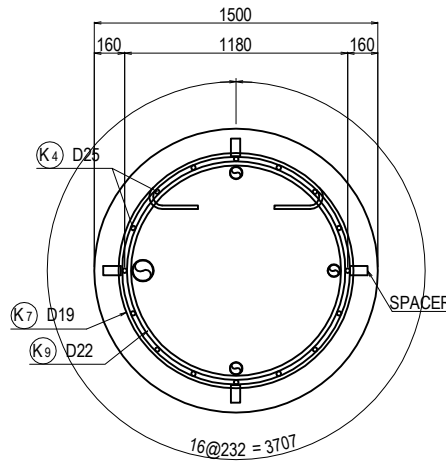
### SECTION 1-1 S=1:40



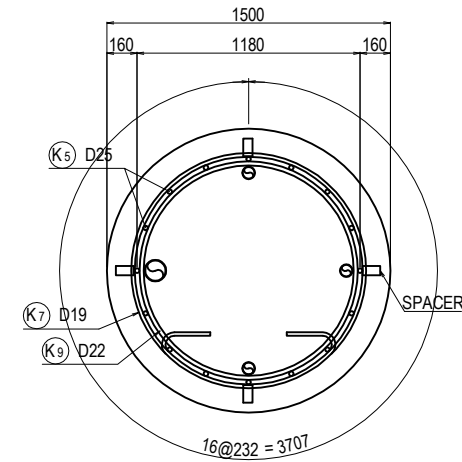
### SECTION 2-2 S=1:40



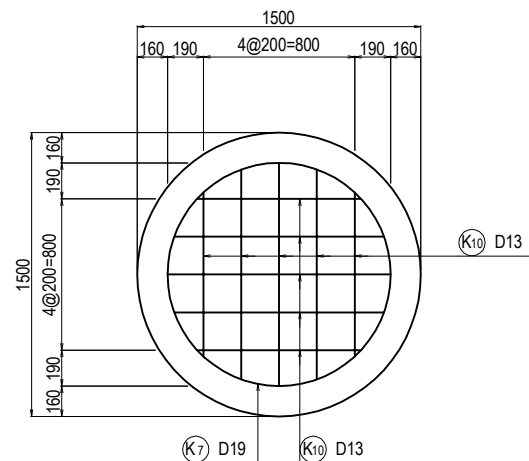
### SECTION 3-3 S=1:40



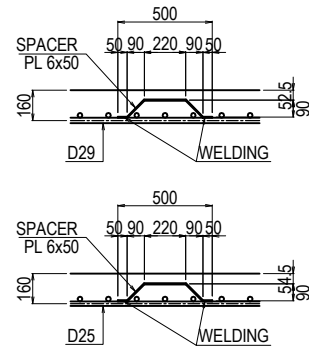
### SECTION 4-4 S=1:40



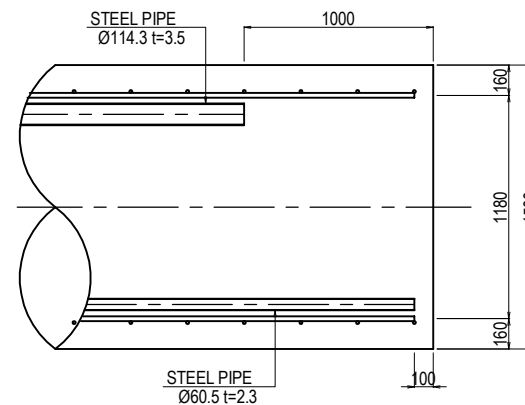
### DETAIL OF PILE TOE S=1:40



### DETAIL OF SPACER S=1:40



### DETAIL "A" S=1:40



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.	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">NAME</th> <th style="width: 10%;">SIGNATURE</th> <th style="width: 10%;">DATE</th> </tr> </thead> <tbody> <tr> <td>PREPARED BY</td> <td>M. OHYAMA</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> </tbody> </table>	NAME	SIGNATURE	DATE	PREPARED BY	M. OHYAMA	15 Jun.2017	CHECKED BY	T. HAYAKAWA	20 Jun.2017	APPROVED BY	Y. SANO	21 Jun.2017	DRAWING TITLE BAR ARRANGEMENT OF CAST IN PLACE PILE FOR AO1(1)	PACKAGE 1 DWG No. P1-OR-2201
NAME	SIGNATURE	DATE																
PREPARED BY	M. OHYAMA	15 Jun.2017																
CHECKED BY	T. HAYAKAWA	20 Jun.2017																
APPROVED BY	Y. SANO	21 Jun.2017																

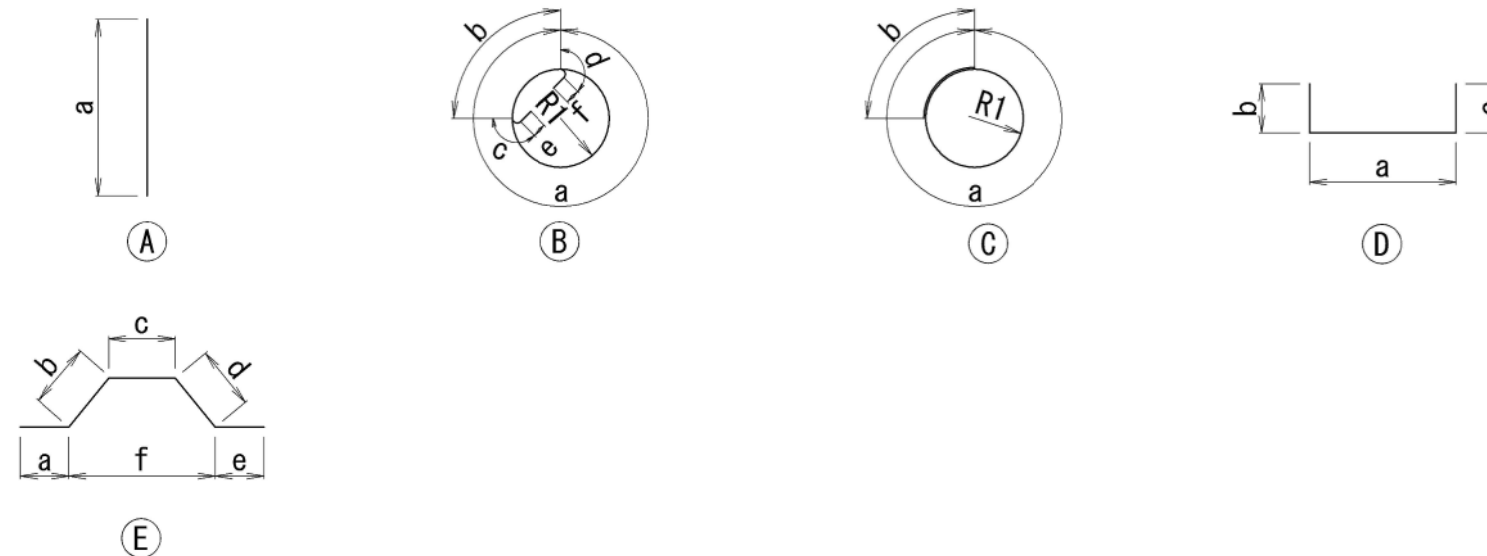


# BAR ARRANGEMENT OF CAST IN PLACE PILE FOR AO1 (2)

## BAR QUANTITY

SYMBOL	SHAPE	DIAMETER	NUMBER (NOS)	LENGTH (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	R1 (mm)	R2 (mm)	WEIGHT (kg)	REMARKS
K1	A	D29	32	12000	12000								1935	
K2	A	D29	16	9000	9000								726	
K3	A	D29	16	6000	6000								484	
K4	A	D25	48	12000	12000								2292	
K5	A	D25	16	6890	6885								439	
K6	B	D19	81	5270	3858	760	134	134	190	190	614		961	
K7	B	D19	129	5260	3845	760	134	134	190	190	614		1527	
K8	C	D22	6	4310	3547	760					564.5		79	
K9	C	D22	13	4320	3559	760					566.5		171	
K10	D	D13	10	1440	<i>1050</i>	195	195						14	<b>AVERAGE</b>
K11	E	PL	76	580	50	127	220	127	50				104	
REBAR QUANTITY (1NOS)														
DIAMETER                      WEIGHT														
D13                                      14 kg														
D16                                      0 kg														
D19                                      2488 kg														
D22                                      250 kg														
D25                                      2731 kg														
D29                                      3145 kg														
D32                                      0 kg														
D35                                      0 kg														
D38                                      0 kg														
D41                                      0 kg														
D51                                      0 kg														
PL    104 kg														
TOTAL                                    8732 kg														

### SHAPE CODE



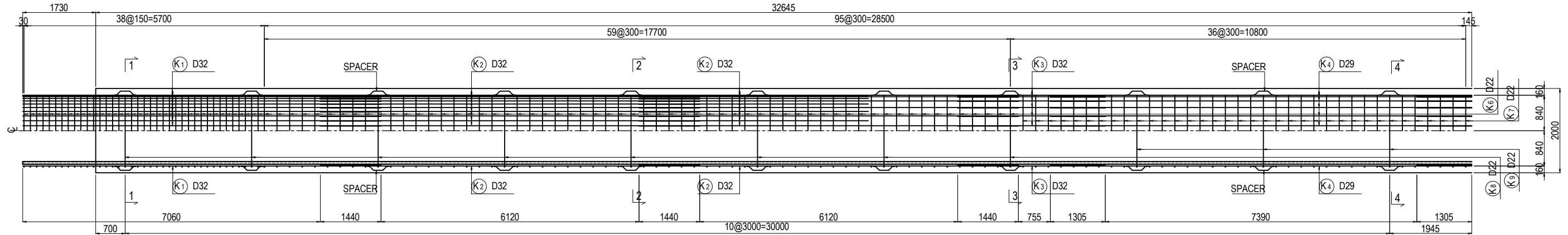
NOTES: 1. Unless otherwise specified in the Contract Documents, a grade of rebar shall be SD 345 or equivalent.  
 2. A figure in italic font indicate average length of rebar.

<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="width: 10%;"></th> <th style="width: 20%;">NAME</th> <th style="width: 20%;">SIGNATURE</th> <th style="width: 10%;">DATE</th> </tr> <tr> <td>PREPARED BY</td> <td>M. OHYAMA</td> <td></td> <td>15 Jun.2017</td> </tr> <tr> <td>CHECKED BY</td> <td>T. HAYAKAWA</td> <td></td> <td>20 Jun.2017</td> </tr> <tr> <td>APPROVED BY</td> <td>Y. SANO</td> <td></td> <td>21 Jun.2017</td> </tr> </table>		NAME	SIGNATURE	DATE	PREPARED BY	M. OHYAMA		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: 10%;">PACKAGE</th> </tr> <tr> <td style="text-align: center;">BAR ARRANGEMENT OF CAST IN PLACE PILE FOR AO1(2)</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-OR-2202</td> </tr> </table>	DRAWING TITLE	PACKAGE	BAR ARRANGEMENT OF CAST IN PLACE PILE FOR AO1(2)	1		DWG No.		P1-OR-2202
	NAME	SIGNATURE	DATE																										
PREPARED BY	M. OHYAMA		15 Jun.2017																										
CHECKED BY	T. HAYAKAWA		20 Jun.2017																										
APPROVED BY	Y. SANO		21 Jun.2017																										
DRAWING TITLE	PACKAGE																												
BAR ARRANGEMENT OF CAST IN PLACE PILE FOR AO1(2)	1																												
	DWG No.																												
	P1-OR-2202																												

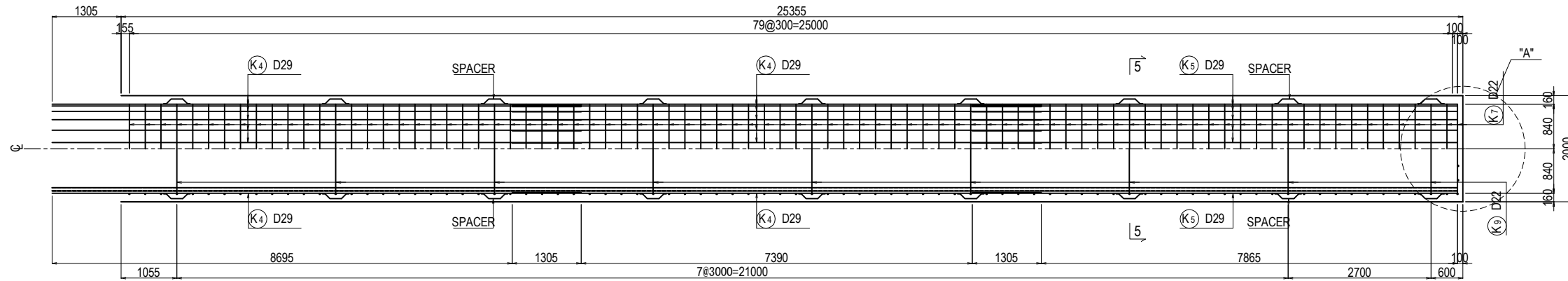


# BAR ARRANGEMENT OF CAST IN PLACE PILE FOR PO1 PIER(1) S=1:100

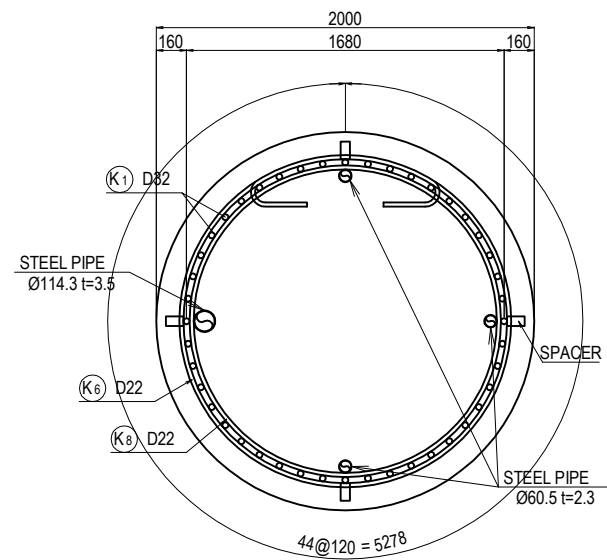
## SEGMENT 1



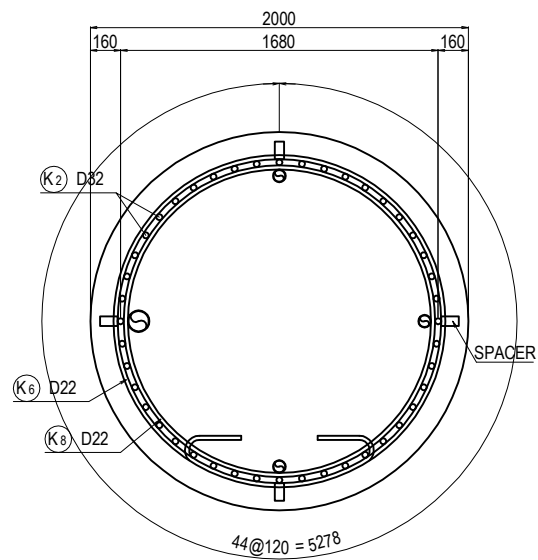
## SEGMENT 2



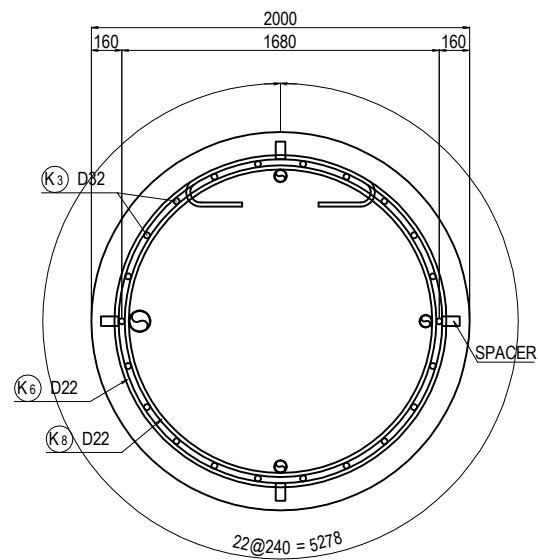
SECTION 1-1 S=1:40



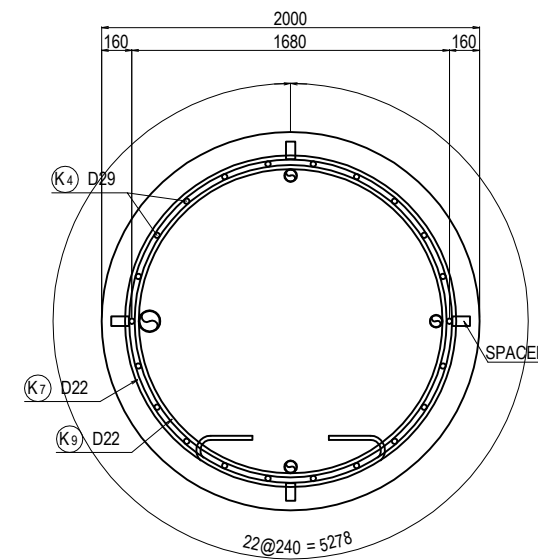
SECTION 2-2 S=1:40



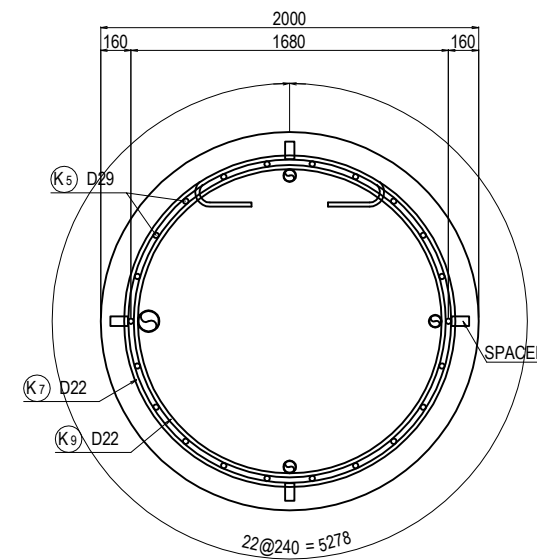
SECTION 3-3 S=1:40



SECTION 4-4 S=1:40



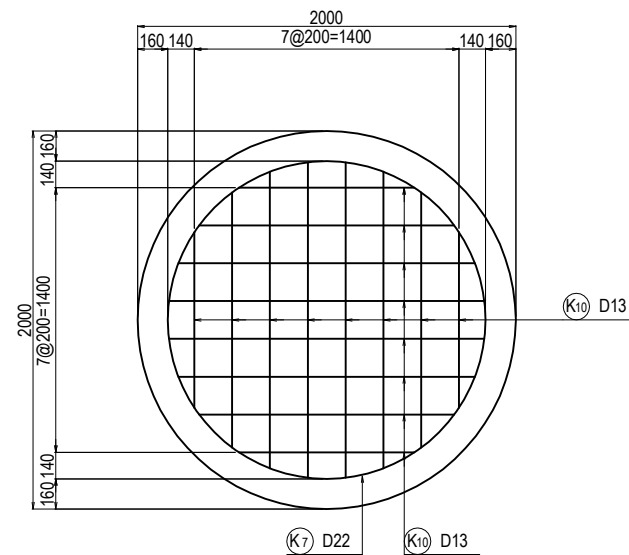
SECTION 5-5 S=1:40



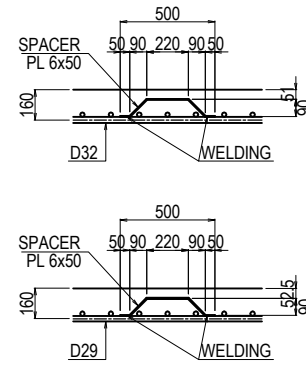
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE BAR ARRANGEMENT OF CAST IN PLACE PILE FOR PO1 PIER(1)	PACKAGE	
				PREPARED BY	M. OHYAMA			15 Jun.2017	1
				CHECKED BY	T. HAYAKAWA			20 Jun.2017	DWG No.
				APPROVED BY	Y. SANO			21 Jun.2017	P1-OR-2211

# BAR ARRANGEMENT OF CAST IN PLACE PILE FOR PO1 PIER(2) S=1:100

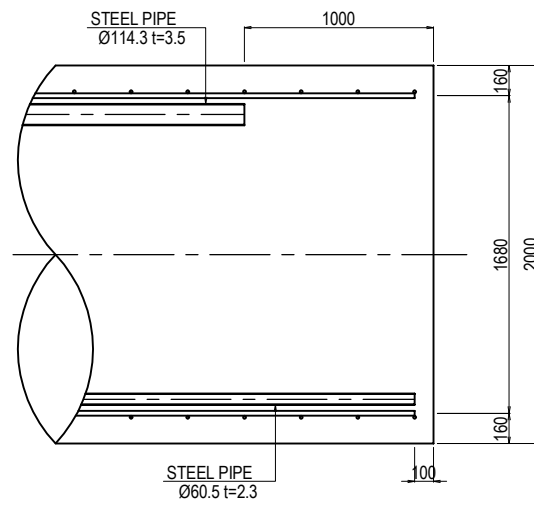
DETAIL OF PILE TOE S=1:40



DETAIL OF SPACER S=1:40



DETAIL "A" S=1:40



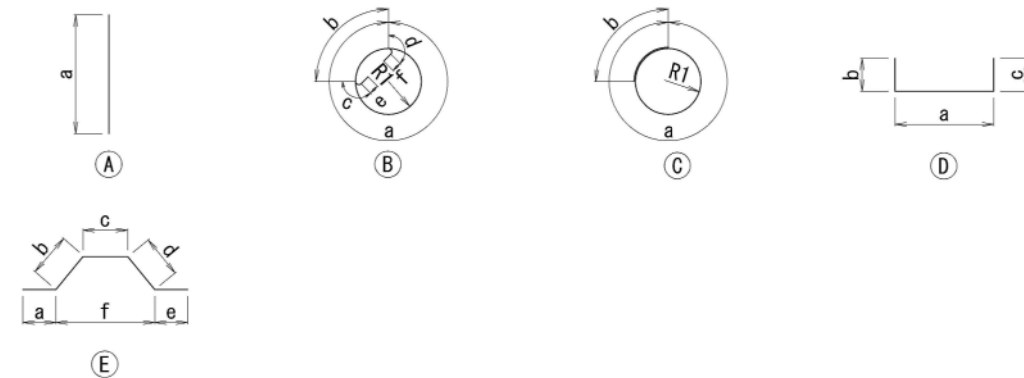
BAR QUANTITY

SYMBOL	SHAPE	DIAMETER	NUMBER (NOS)	LENGTH (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	R1 (mm)	R2 (mm)	WEIGHT (kg)	REMARKS	
K1	A	D32	44	8500	8500								2330		
K2	A	D32	88	9000	9000								4934		
K3	A	D32	22	3500	3500								480		
K4	A	D29	66	10000	10000								3326		
K5	A	D29	22	9170	9170								1017		
K6	B	D22	98	7190	5448	990	156	156	220	220			867	2142	
K7	B	D22	121	7180	5438	990	156	156	220	220			865.5	2641	
K8	C	D22	8	6100	5108	990							813	148	
K9	C	D22	12	6110	5118	990							814.5	223	
K10	D	D13	16	1770	<b>1380</b>	195	195							28	<b>AVERAGE</b>
K11	E	PL	80	580	50	127	220	127	50					109	

REBAR QUANTITY (1NOS)

DIAMETER	WEIGHT
D13	28 kg
D16	0 kg
D19	0 kg
D22	5154 kg
D25	0 kg
D29	4343 kg
D32	7744 kg
D35	0 kg
D38	0 kg
D41	0 kg
D51	0 kg
PL	109 kg
<b>TOTAL</b>	<b>17378 kg</b>

SHAPE CODE



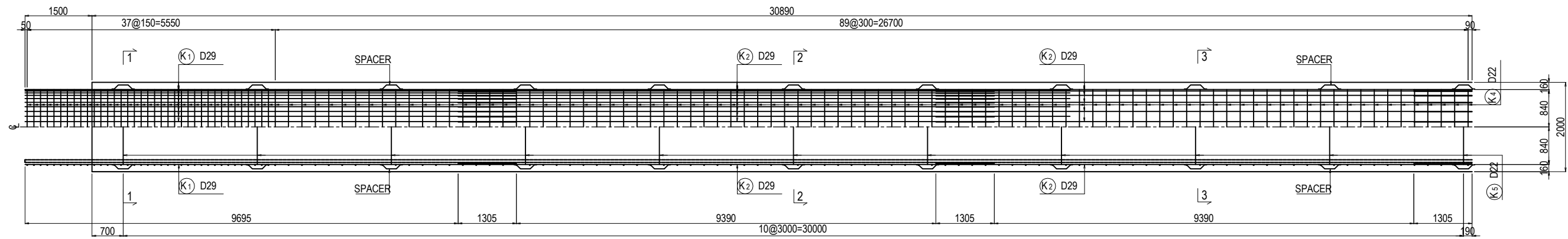
NOTES: 1. Unless otherwise specified in the Contract Documents, a grade of rebar shall be SD 345 or equivalent.

2. A figure in italic font indicate average length of rebar.

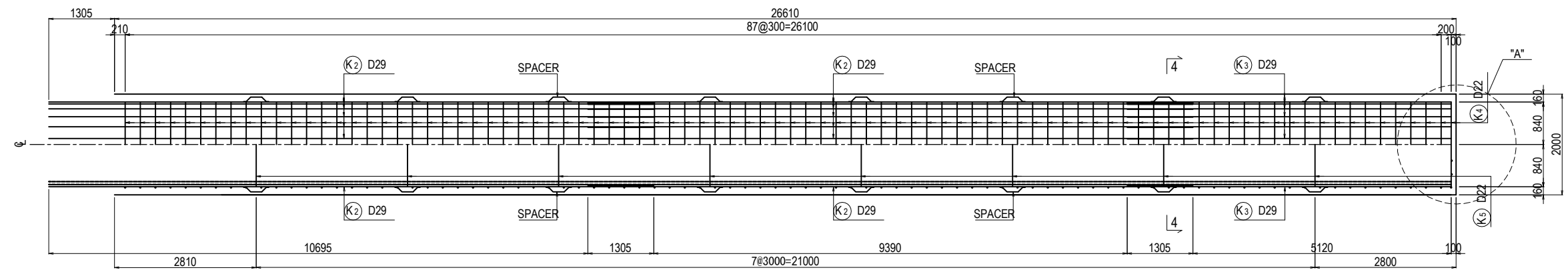
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE <b>BAR ARRANGEMENT OF CAST IN PLACE PILE                  FOR PO1 PIER(2)</b>	PACKAGE	
				PREPARED BY	M. OHYAMA			15 Jun.2017	1
				CHECKED BY	T. HAYAKAWA			20 Jun.2017	DWG No.
APPROVED BY	Y. SANO		21 Jun.2017		P1-OR-2212				

# BAR ARRANGEMENT OF CAST IN PLACE PILE FOR PO2 PIER(1) S=1:100

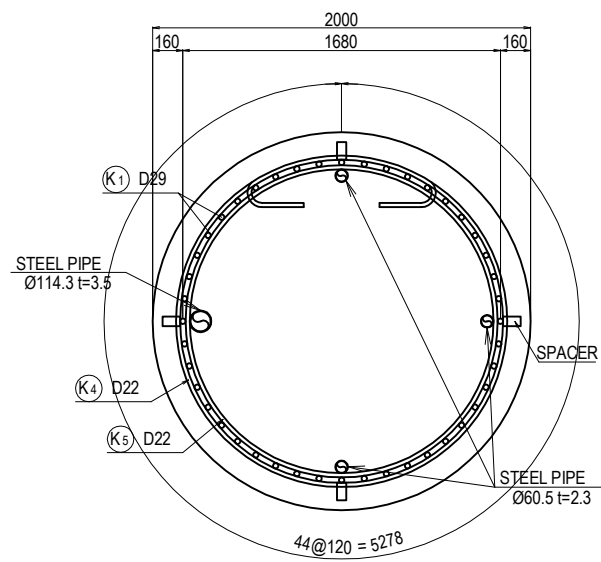
## SEGMENT 1



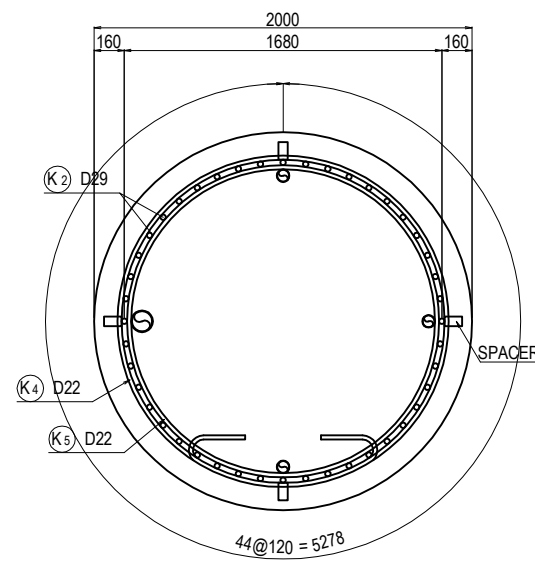
## SEGMENT 2



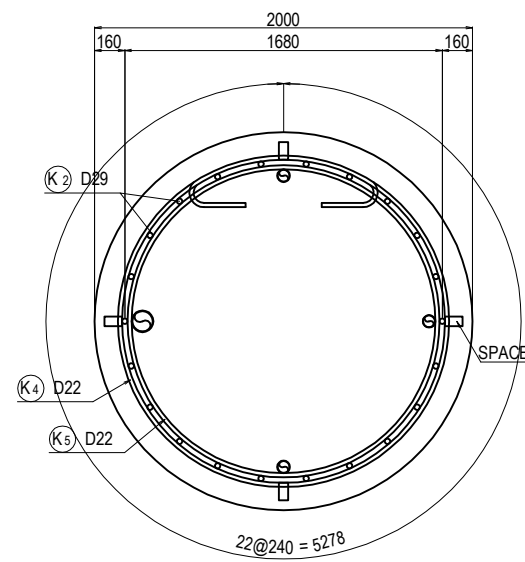
SECTION 1-1 S=1:40



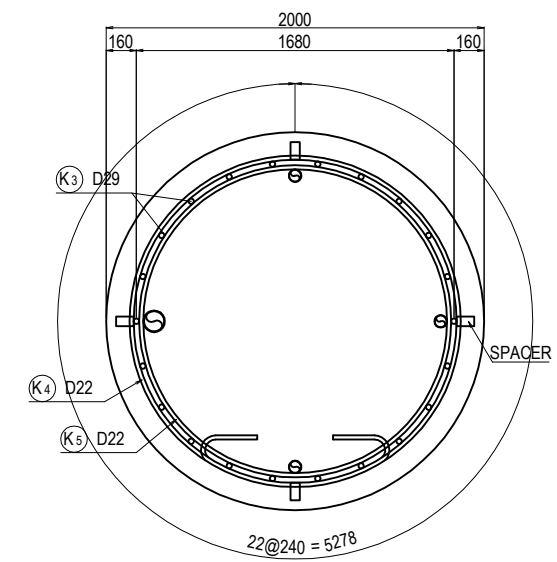
SECTION 2-2 S=1:40



SECTION 3-3 S=1:40



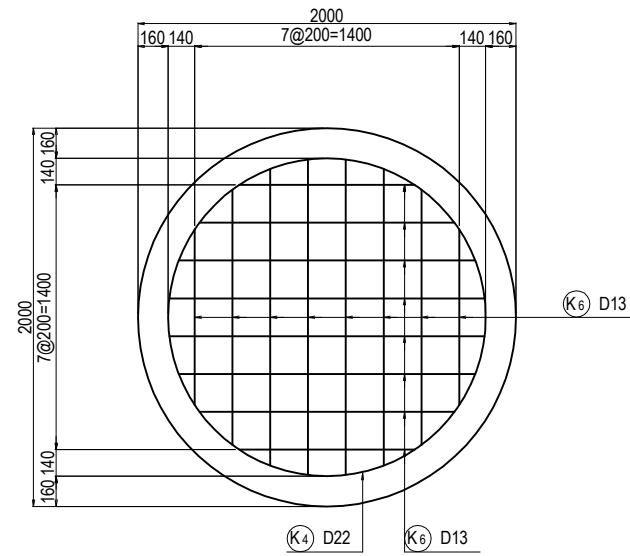
SECTION 4-4 S=1:40



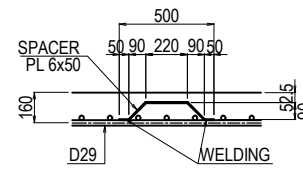
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE BAR ARRANGEMENT OF CAST IN PLACE PILE FOR PO2 PIER(1)	PACKAGE	
				PREPARED BY	M. OHYAMA			15 Jun.2017	1
				CHECKED BY	T. HAYAKAWA			20 Jun.2017	DWG No.
				APPROVED BY	Y. SANO			21 Jun.2017	P1-OR-2221

# BAR ARRANGEMENT OF CAST IN PLACE PILE FOR PO2 PIER(2) S=1:100

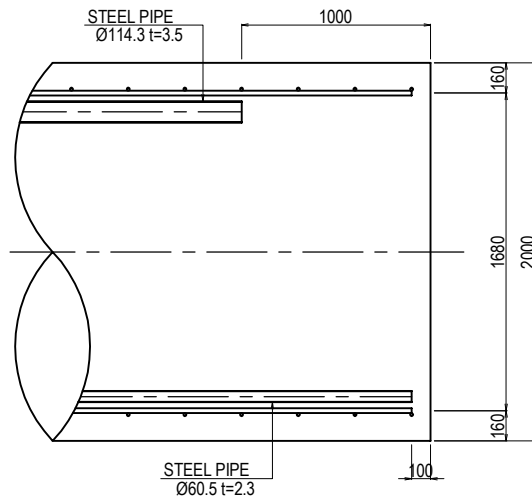
DETAIL OF PILE TOE S=1:40



DETAIL OF SPACER S=1:40



DETAIL "A" S=1:40



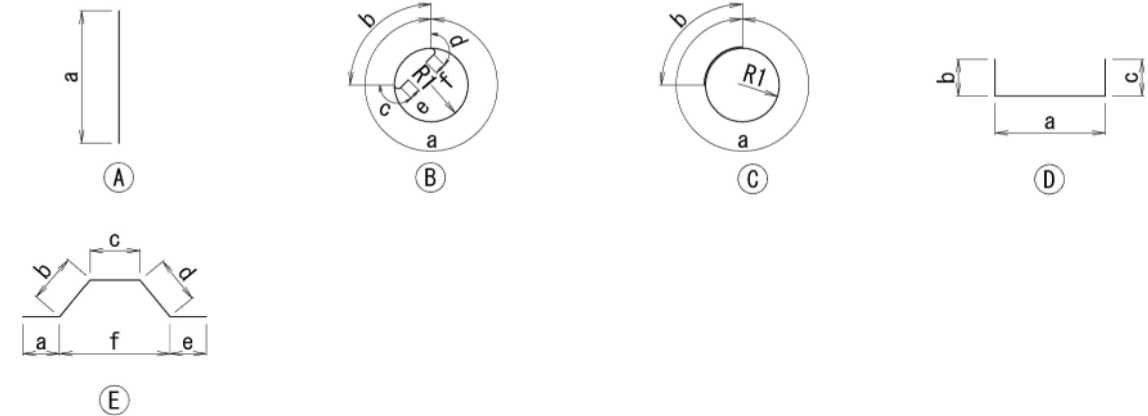
BAR QUANTITY

SYMBOL	SHAPE	DIAMETER	NUMBER (NOS)	LENGTH (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	R1 (mm)	R2 (mm)	WEIGHT (kg)	REMARKS
K1	A	D29	44	11000	11000								2439	
K2	A	D29	110	12000	12000								6653	
K3	A	D29	22	6430	6425								713	
K4	B	D22	216	7180	5438	990	156	156	220	220	865.5		4715	
K5	C	D22	19	6110	5118	990					814.5		353	
K6	D	D13	16	1770	<b>1380</b>	195	195						28	<b>AVERAGE</b>
K7	E	PL	76	580	50	127	220	127	50				104	
				0									0	
				0									0	
				0									0	
				0									0	

REBAR QUANTITY (1NOS)

DIAMETER	WEIGHT
D13	28 kg
D16	0 kg
D19	0 kg
D22	5068 kg
D25	0 kg
D29	9805 kg
D32	0 kg
D35	0 kg
D38	0 kg
D41	0 kg
D51	0 kg
PL	104 kg
<b>TOTAL</b>	<b>15005 kg</b>

SHAPE CODE



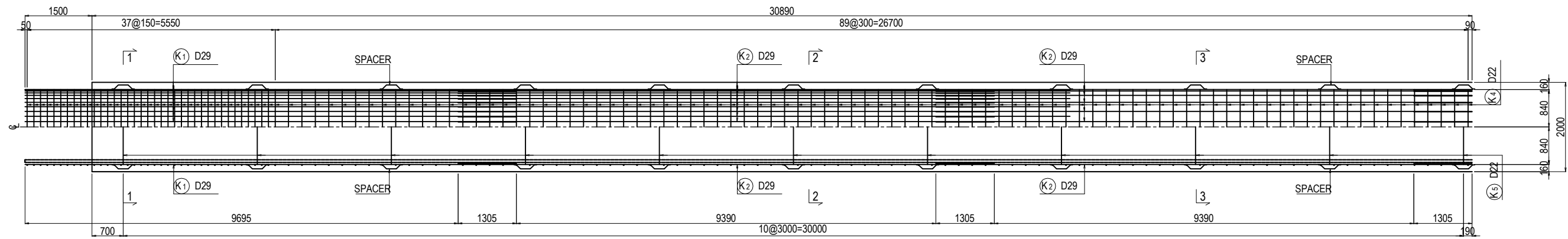
NOTES: 1. Unless otherwise specified in the Contract Documents, a grade of rebar shall be SD 345 or equivalent.

2. A figure in italic font indicate average length of rebar.

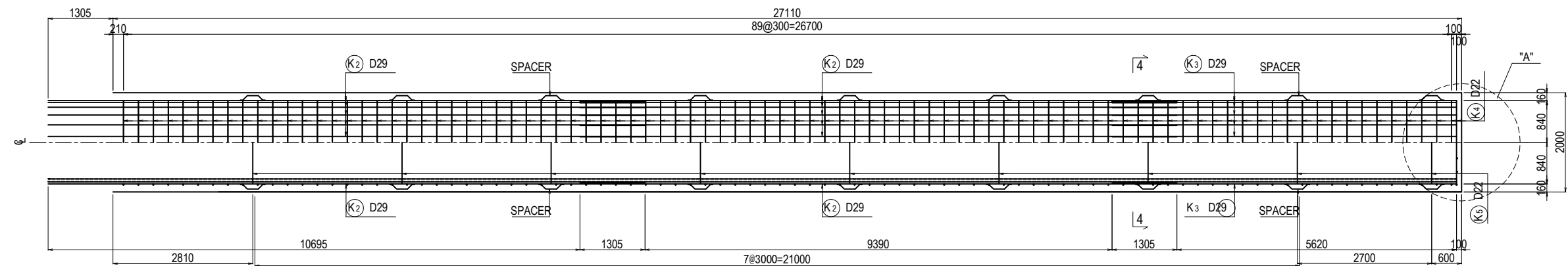
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE <b>BAR ARRANGEMENT OF CAST IN PLACE PILE                  FOR PO2 PIER(2)</b>	PACKAGE	
				PREPARED BY	M. OHYAMA			15 Jun.2017	1
				CHECKED BY	T. HAYAKAWA			20 Jun.2017	DWG No.
				APPROVED BY	Y. SANO			21 Jun.2017	P1-OR-2222

# BAR ARRANGEMENT OF CAST IN PLACE PILE FOR PO3 PIER(1) S=1:100

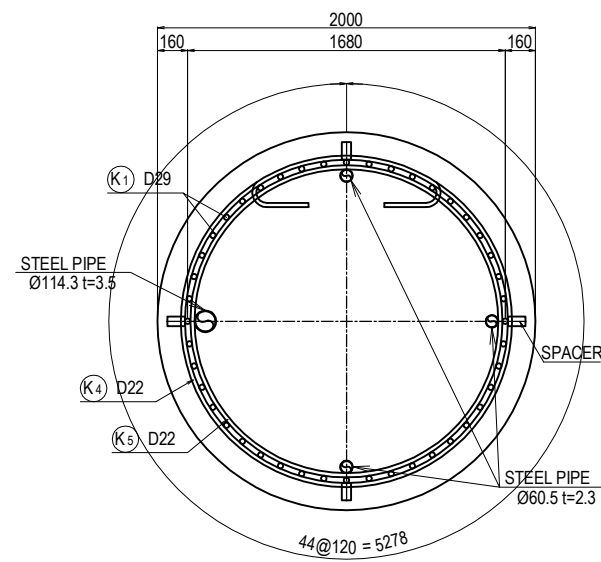
## SEGMENT 1



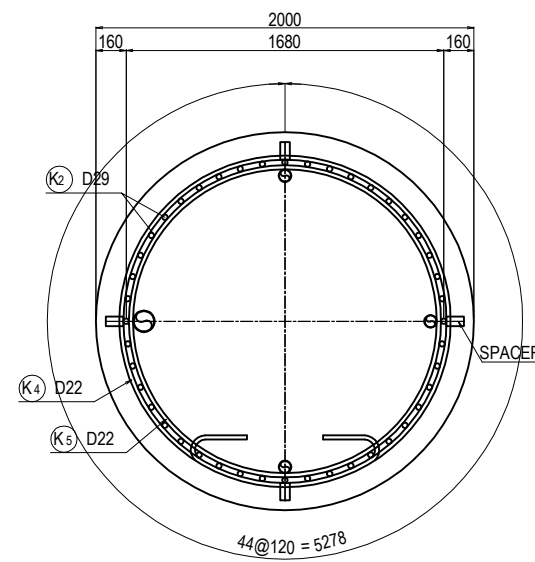
## SEGMENT 2



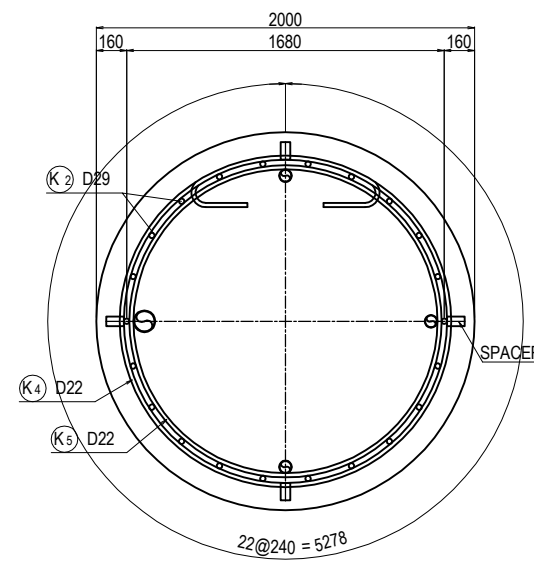
SECTION 1-1 S=1:40



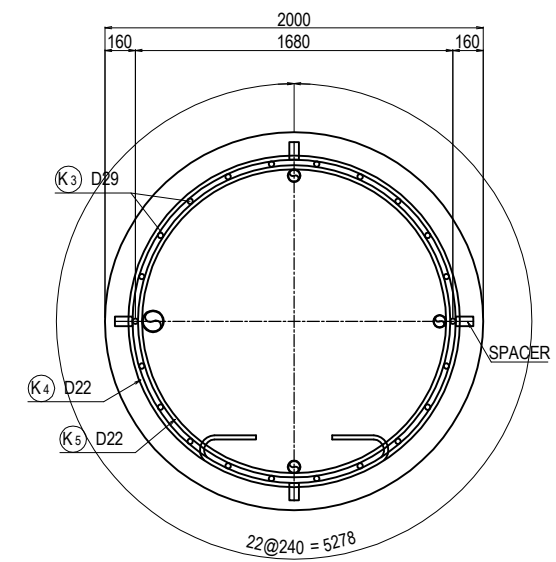
SECTION 2-2 S=1:40



SECTION 3-3 S=1:40



SECTION 4-4 S=1:40

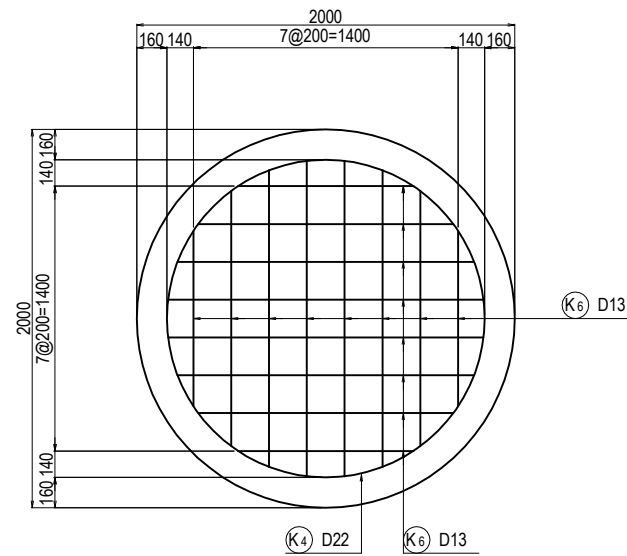


<small>PROJECT NAME</small> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	<small>FINANCED BY</small> JAPAN INTERNATIONAL COOPERATION AGENCY	<small>COUNTERPART</small> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	<small>JICA STUDY TEAM</small> NIPPON KOEI 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: 20%;">DATE</th> </tr> </thead> <tbody> <tr> <td>PREPARED BY</td> <td>M. OHYAMA</td> <td></td> <td>15 Jun.2017</td> </tr> <tr> <td>CHECKED BY</td> <td>T. HAYAKAWA</td> <td></td> <td>20 Jun.2017</td> </tr> <tr> <td>APPROVED BY</td> <td>Y. SANO</td> <td></td> <td>21 Jun.2017</td> </tr> </tbody> </table>		NAME	SIGNATURE	DATE	PREPARED BY	M. OHYAMA		15 Jun.2017	CHECKED BY	T. HAYAKAWA		20 Jun.2017	APPROVED BY	Y. SANO		21 Jun.2017	<small>DRAWING TITLE</small> <b>BAR ARRANGEMENT OF CAST IN PLACE PILE                  FOR PO3 PIER(1)</b>	<small>PACKAGE</small> 1 <small>DWG No.</small> P1-OR-2231
	NAME	SIGNATURE	DATE																			
PREPARED BY	M. OHYAMA		15 Jun.2017																			
CHECKED BY	T. HAYAKAWA		20 Jun.2017																			
APPROVED BY	Y. SANO		21 Jun.2017																			

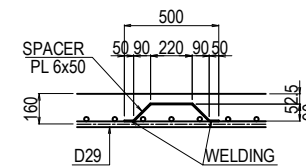


# BAR ARRANGEMENT OF CAST IN PLACE PILE FOR PO3 PIER(2) S=1:100

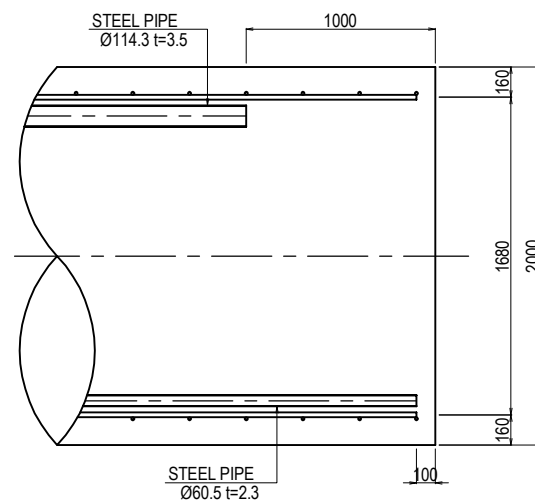
DETAIL OF PILE TOE S=1:40



DETAIL OF SPACER S=1:40



DETAIL "A" S=1:40



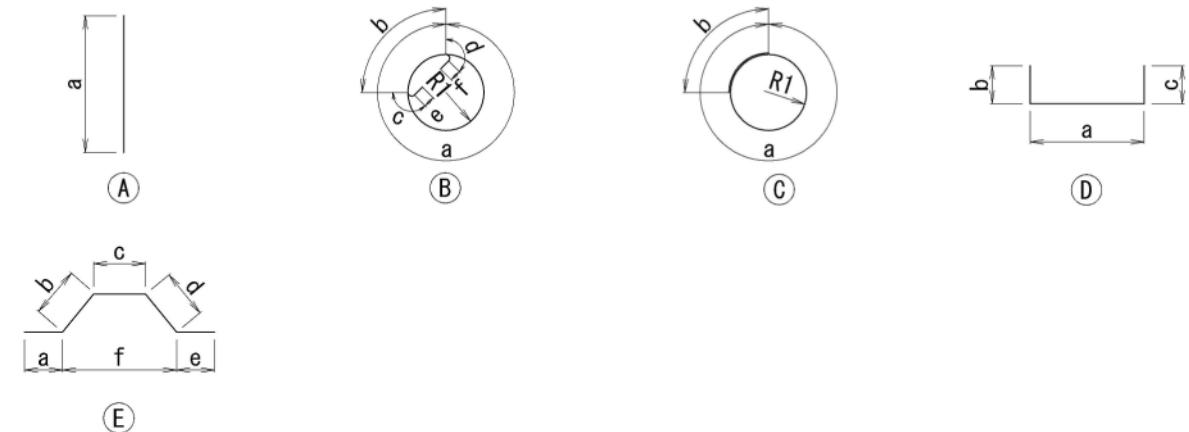
BAR QUANTITY

SYMBOL	SHAPE	DIAMETER	NUMBER (NOS)	LENGTH (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	R1 (mm)	R2 (mm)	WEIGHT (kg)	REMARKS
K1	A	D29	44	11000	11000								2439	
K2	A	D29	110	12000	12000								6653	
K3	A	D29	22	6930	6925								768	
K4	B	D22	218	7180	5438	990	156	156	220	220	865.5		4759	
K5	C	D22	20	6110	5118	990							371	
K6	D	D13	16	1770	<b>1380</b>	195	195						28	<b>AVERAGE</b>
K7	E	PL	80	580	50	127	220	127	50				109	

REBAR QUANTITY (1NOS)

DIAMETER	WEIGHT
D13	28 kg
D16	0 kg
D19	0 kg
D22	5130 kg
D25	0 kg
D29	9860 kg
D32	0 kg
D35	0 kg
D38	0 kg
D41	0 kg
D51	0 kg
PL	109 kg
<b>TOTAL</b>	<b>15127 kg</b>

SHAPE CODE



NOTES: 1. Unless otherwise specified in the Contract Documents, a grade of rebar shall be SD 345 or equivalent.

2. A figure in italic font indicate average length of rebar.

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 BAR ARRANGEMENT OF CAST IN PLACE PILE FOR PO3 PIER(2)	PACKAGE	
				PREPARED BY	M. OHYAMA			15 Jun.2017	1
				CHECKED BY	T. HAYAKAWA			20 Jun.2017	DWG No.
				APPROVED BY	Y. SANO			21 Jun.2017	P1-OR-2232

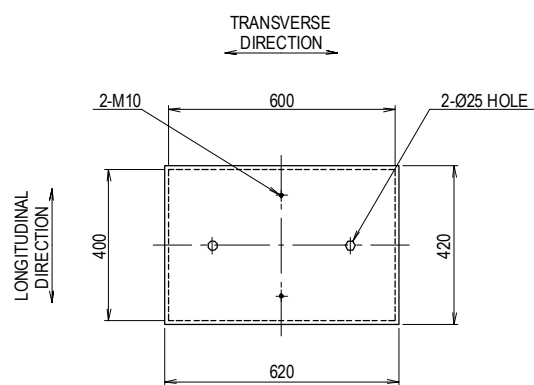


# DETAIL OF BEARINGS FOR ON-RAMP(1)

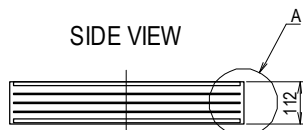
S=1:20

## A01 RUBBER BEARING

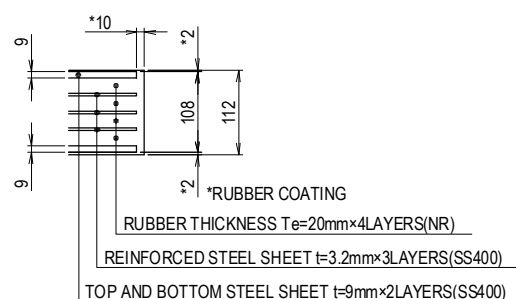
PLAN VIEW



SIDE VIEW



DETAIL OF A S=1:5



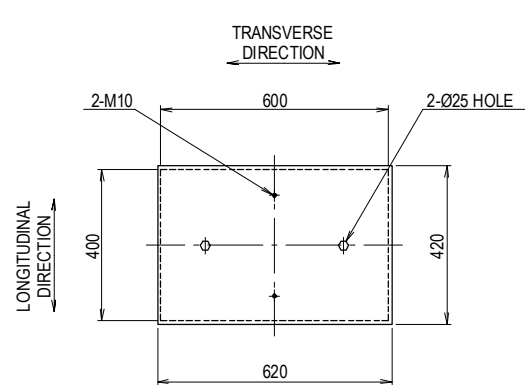
### DESIGN CONDITION

DESIGN REACTION		
MAX/MIN REACTION	R	1500 kN
REACTION DUE TO DEAD LOAD	R <sub>d</sub>	970 kN
DEFORMATION		
SERVICE	$\Delta L$	$\pm 42$ mm
RUBBER BEARING		
SHEAR COEFFICIENT	Ge	1.0 N/mm <sup>2</sup>

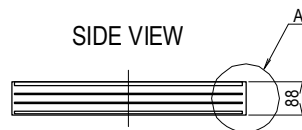
A01 MATERIAL (PER 1 ABUTMENT)				
ITEM	MATERIAL	Nos.	WEIGHT(kg)	NOTE
RUBBER BEARING	NR+SS400	2	155.8	
GRID BARS	SD345	-	14.4	

## P01-P03 RUBBER BEARING

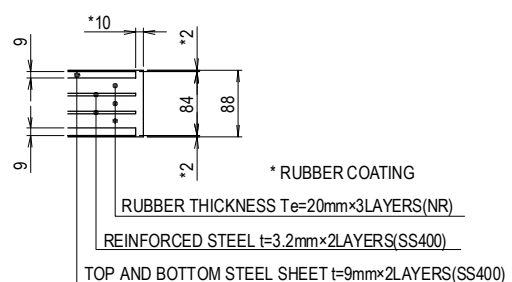
PLAN VIEW



SIDE VIEW



DETAIL OF A S=1:5



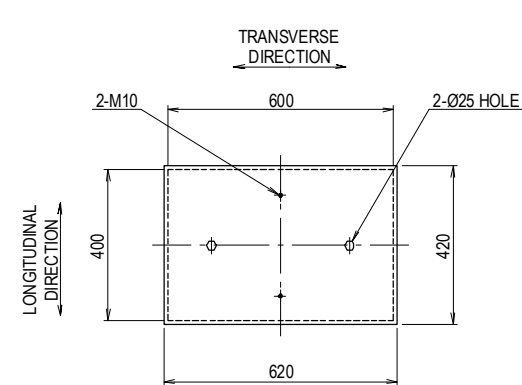
### DESIGN CONDITION

DESIGN REACTION		
MAX/MIN REACTION	R	1720 kN
REACTION DUE TO DEAD LOAD	R <sub>d</sub>	1090 kN
RUBBER BEARING		
SHEAR EFFICIENT	Ge	1.0 N/mm <sup>2</sup>

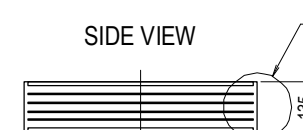
P01 - P03 MATERIAL (PER 1 PIER)				
ITEM	MATERIAL	Nos.	WEIGHT(kg)	NOTE
RUBBER BEARING	NR+SS400	4	262.4	
GRID BARS	SD345	-	28.7	

## P5 RUBBER BEARING

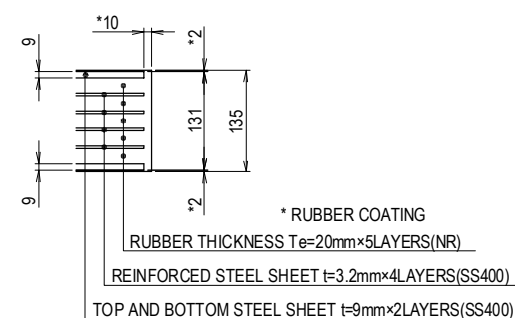
PLAN VIEW



SIDE VIEW



DETAIL OF A S=1:5

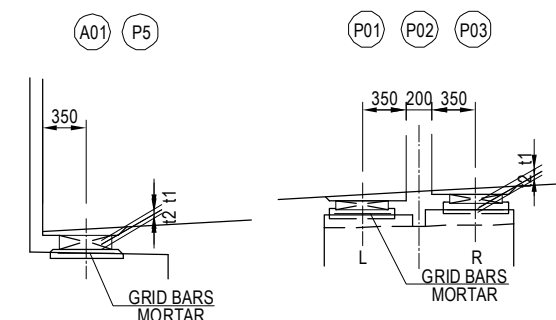


### DESIGN CONDITION

DESIGN REACTION		
MAX/MIN REACTION	R	1510 kN
REACTION DUE TO DEAD LOAD	R <sub>d</sub>	1010 kN
DEFORMATION		
SERVICE	$\Delta L$	$\pm 57$ mm
RUBBER BEARING		
SHEAR COEFFICIENT	Ge	1.0 N/mm <sup>2</sup>

P5 MATERIAL (PER 1 PIER)				
ITEM	MATERIAL	Nos.	WEIGHT(kg)	NOTE
RUBBER BEARING	NR+SS400	2	179.9	
GRID BARS	SD345	-	14.4	

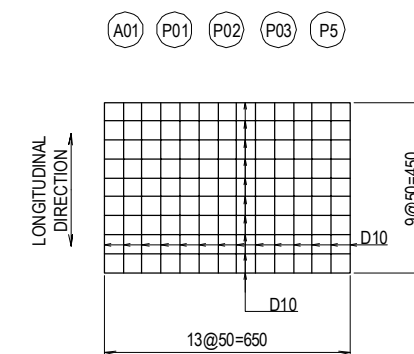
## PROFILE S=1:60



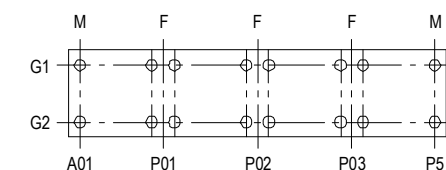
MORTAR THICKNESS (t1, t2) (mm)

		G1		G2	
		t1	t2	t1	t2
A01		34	36	34	36
P01	L	38	30	38	30
	R	49	30	49	30
P02	L	37	30	37	30
	R	44	30	44	30
P03	L	39	30	39	30
	R	38	30	38	30
P5		33	30	33	30

### GRID BARS



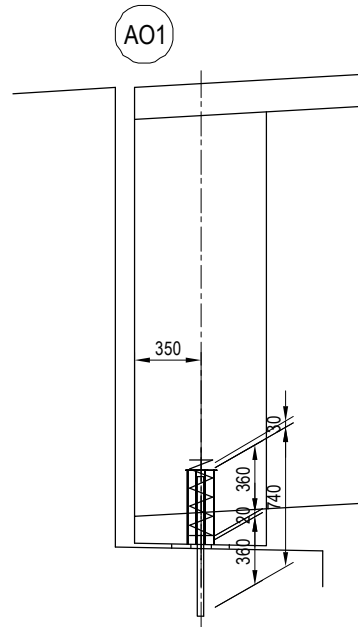
### LOCATION



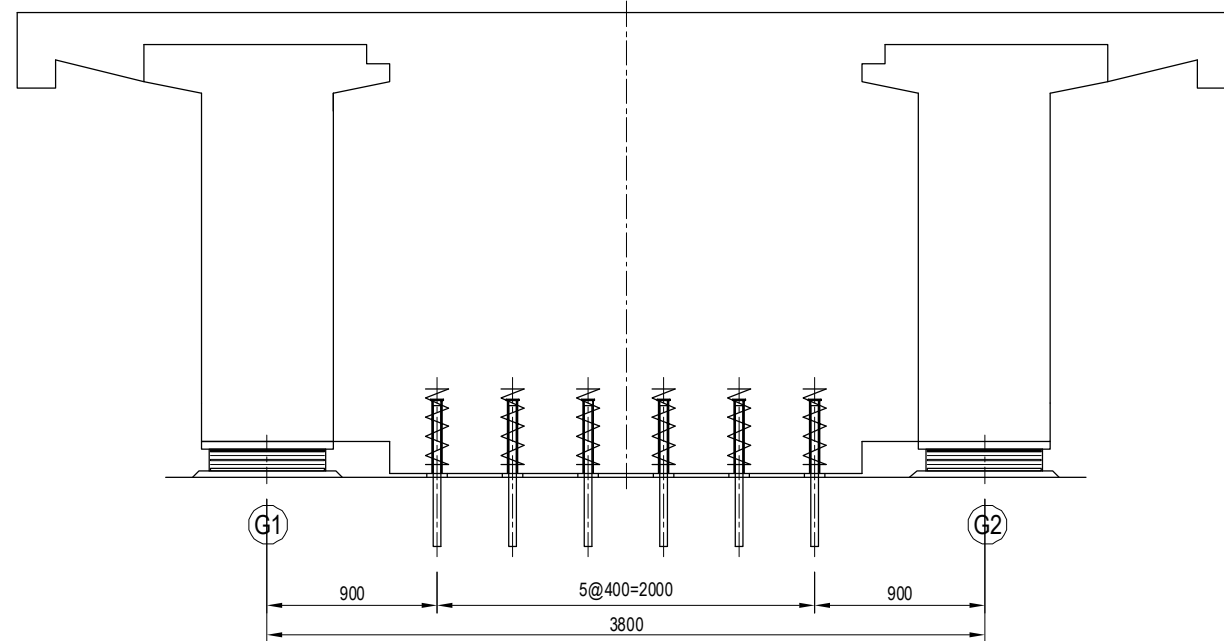
- NOTES:
- 1) All the dimensions and materials of this drawing are shown as reference.
  - 2) Details of the girder and substructure are designed based on this reference drawing.
  - 3) All details and function of the bearing may alter by the proposal of the Contractor and shall be approved by the Engineer.

# DETAIL OF BEARINGS FOR ON-RAMP (2) ANCHOR BAR (AO1)

PROFILE S=1:40

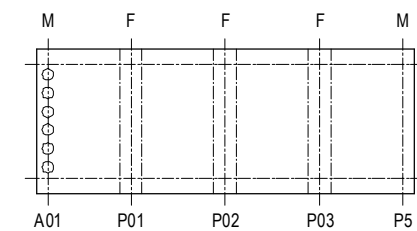


CROSS SECTION S=1:40

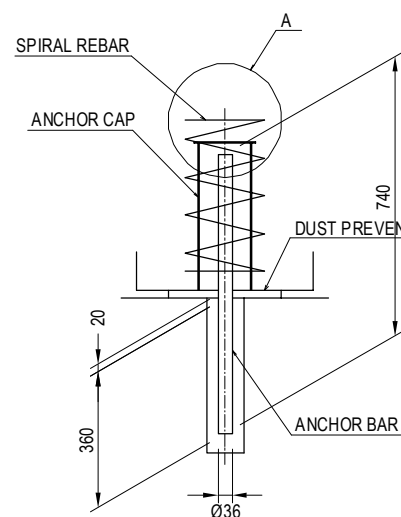


AO1 MATERIALS (PER 1 ABUTMENT)					
NAME OF PART	SIZE	MATERIAL	QUANTITY	WEIGHT	NOTE
ANCHOR BAR	Ø36×740	S35CN	6	35.5	ZINC GALVANIZE
ANCHOR CAP	46×136×390	SS400	6	21.3	ZINC GALVANIZE
SPIRAL REBAR	Ø9×3200	SS400	6	9.6	—
DUST PREVENTING MATERIAL	110×20×300	RUBBER	6	—	—
HEX HEAD BOLT	M6×60	—	6	—	—

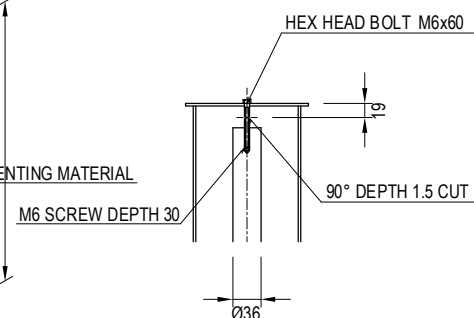
PLAN



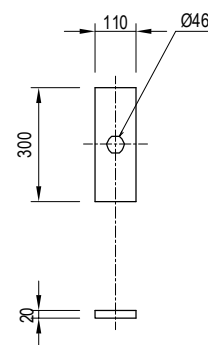
ANCHOR CAP S=1:20



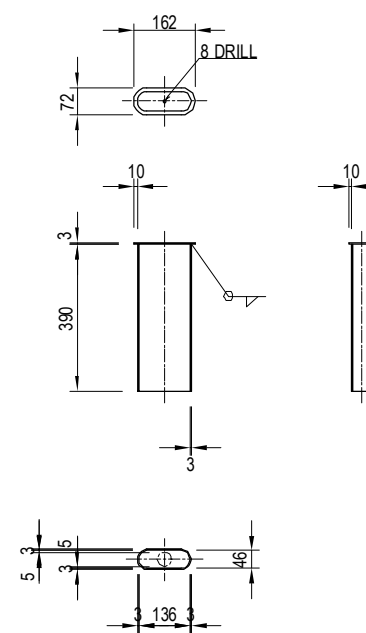
PART-A DETAIL S=1:10



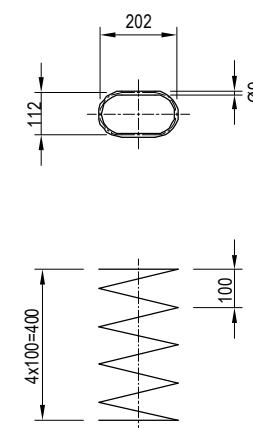
DUST PREVENTING MATERIAL S=1:20



ANCHOR CAP S=1:20

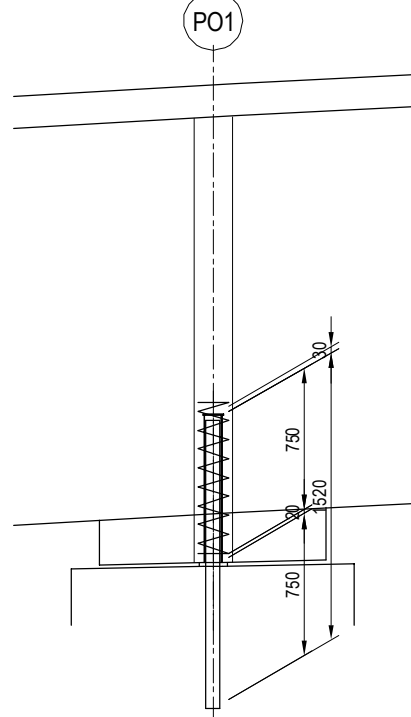


SPIRAL REBAR S=1:20

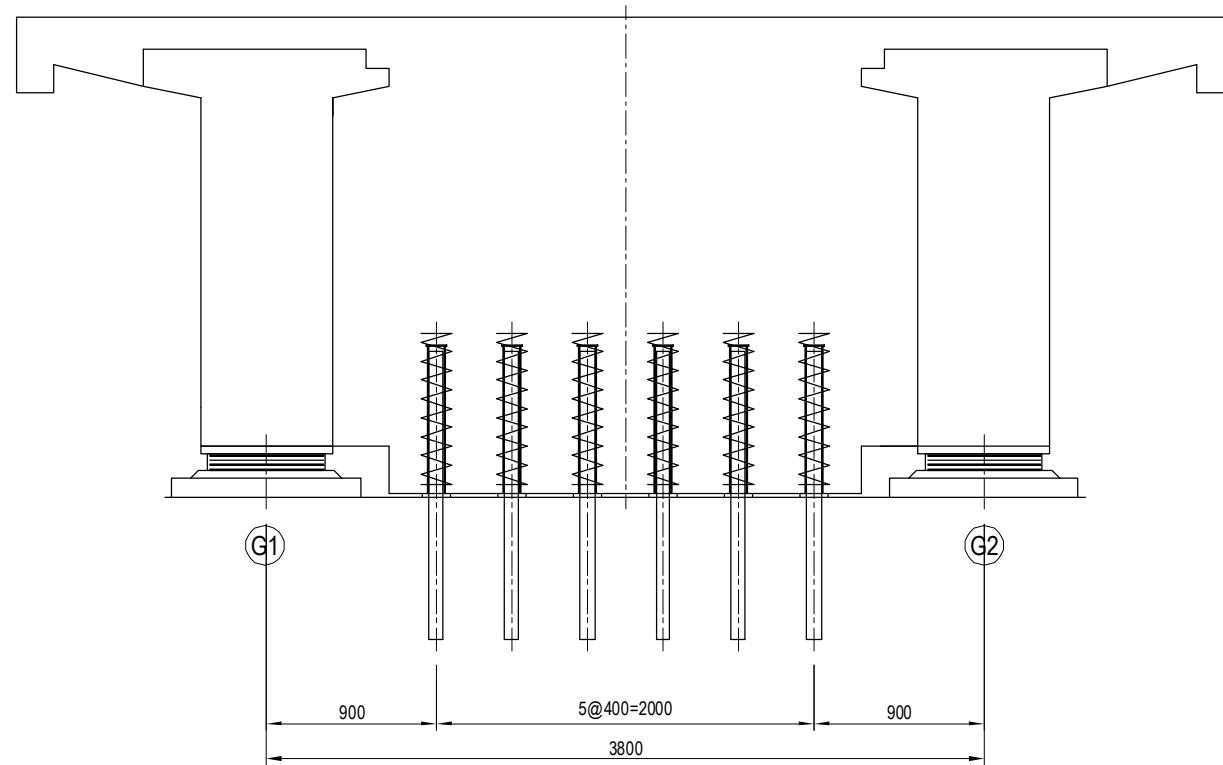


# DETAIL OF BEARINGS FOR ON-RAMP (3) ANCHOR BAR (PO1)

PROFILE S=1:40

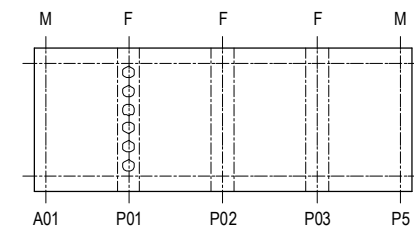


CROSS SECTION S=1:40

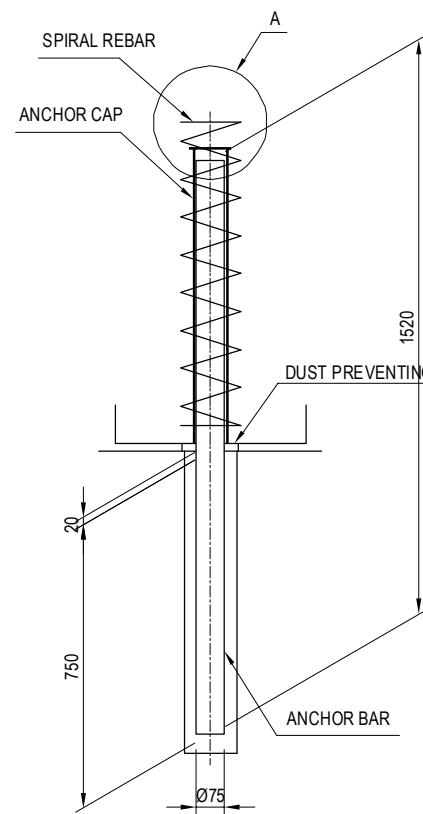


PO1 MATERIALS (PER 1 PIER)					
NAME OF PART	SIZE	MATERIAL	QUANTITY	WEIGHT	NOTE
ANCHOR BAR	Ø75×1520	S35CN	6	316.3	ZINC GALVANIZE
ANCHOR CAP	Ø85×780	SS400	6	34.0	ZINC GALVANIZE
SPIRAL REBAR	Ø9×4760	SS400	6	14.3	—
DUST PREVENTING MATERIAL	150×20×150	RUBBER	6	—	—
HEX HEAD BOLT	M8×60	—	6	—	—

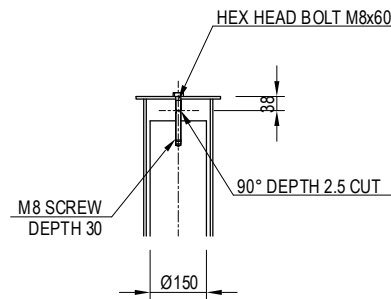
PLAN



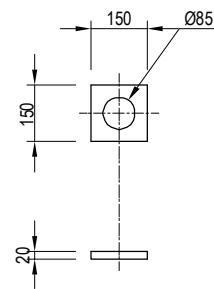
ANCHOR CAP S=1:20



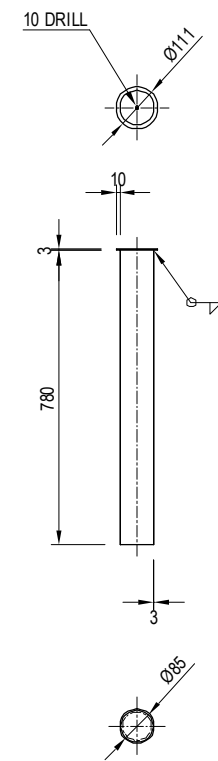
PART-A DETAIL S=1:10



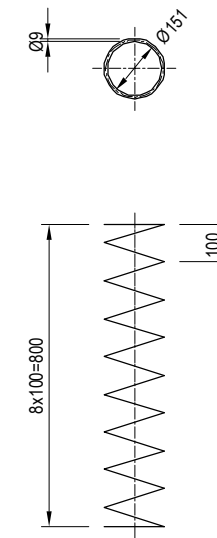
DUST PREVENTING MATERIAL S=1:20



ANCHOR CAP S=1:20



SPIRAL REBAR 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

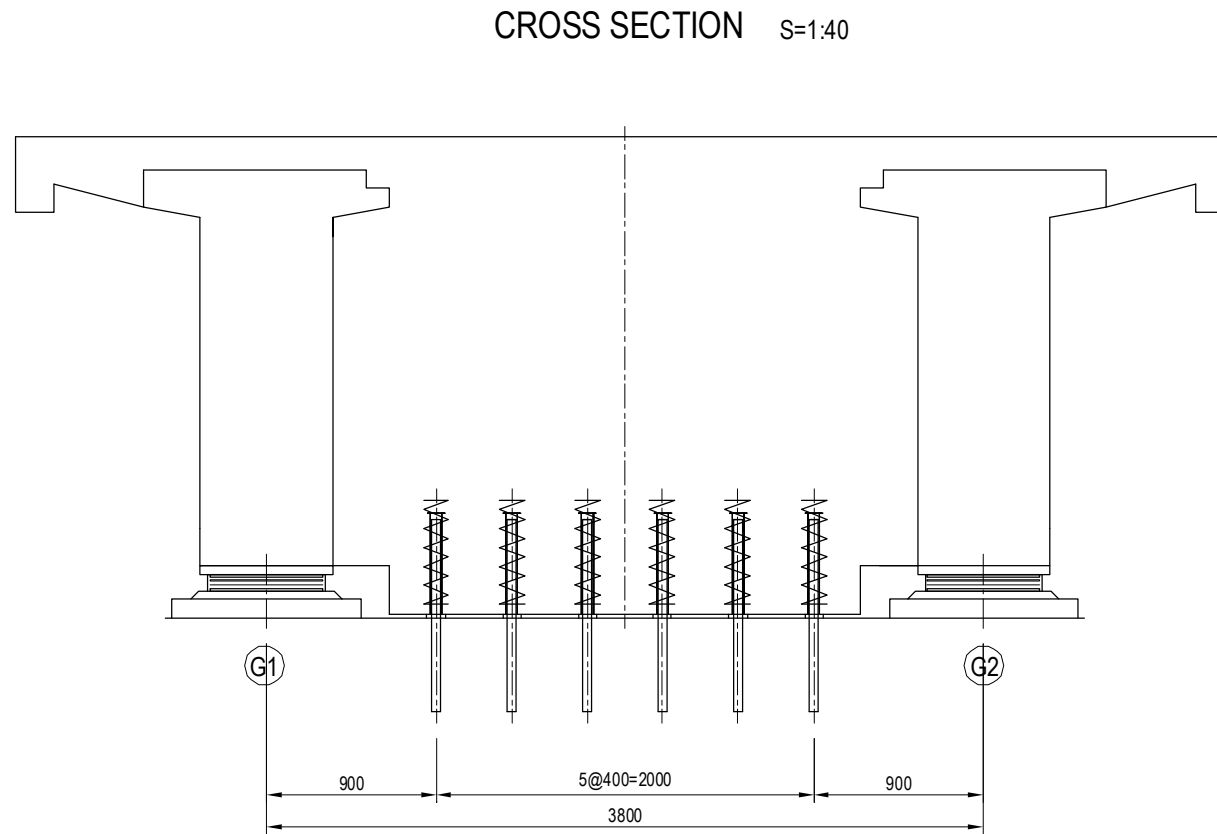
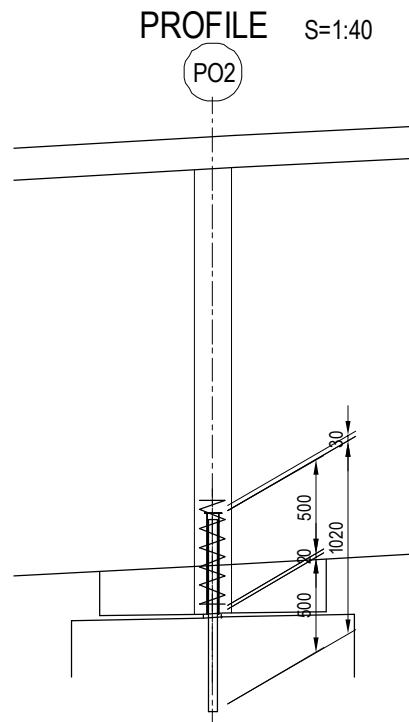
JICA STUDY TEAM  
 NIPPON KOEI CO., LTD.  
ORIENTAL CONSULTANTS GLOBAL CO., LTD.  
METROPOLITAN EXPRESSWAY COMPANY LIMITED  
CHODAI CO., LTD.  
NIPPON ENGINEERING CONSULTANTS CO., LTD.

	NAME	SIGNATURE	DATE
PREPARED BY	M. OHYAMA		15 Jun.2017
CHECKED BY	T. HAYAKAWA		20 Jun.2017
APPROVED BY	Y. SANO		21 Jun.2017

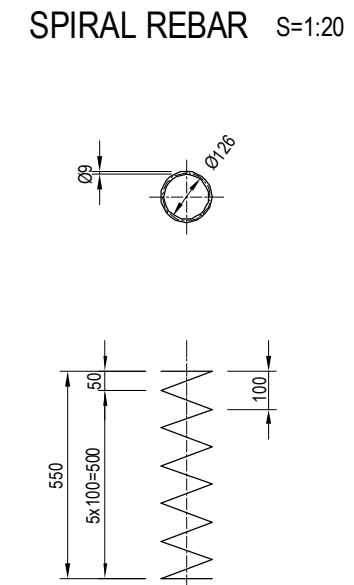
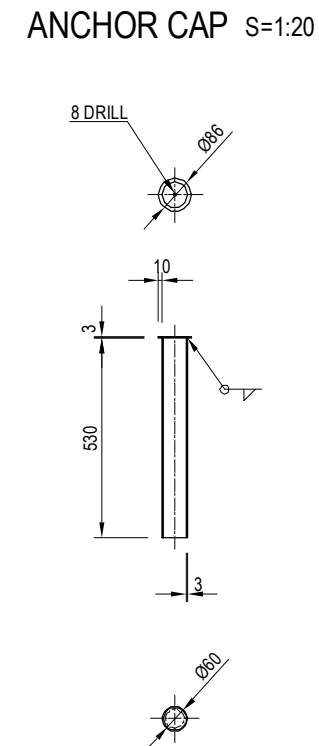
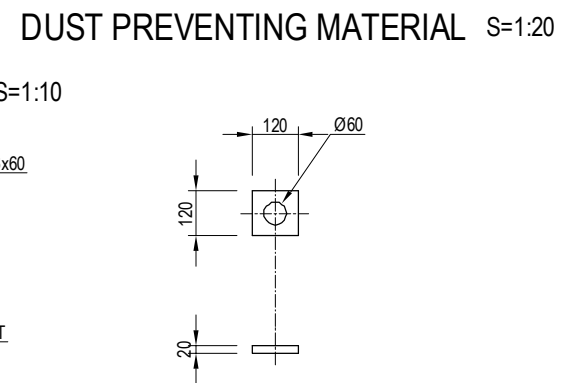
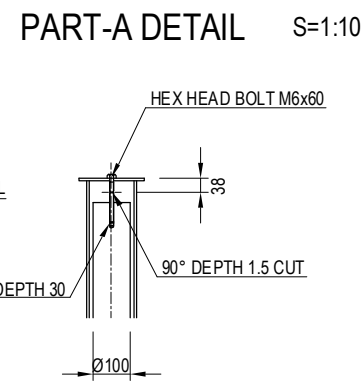
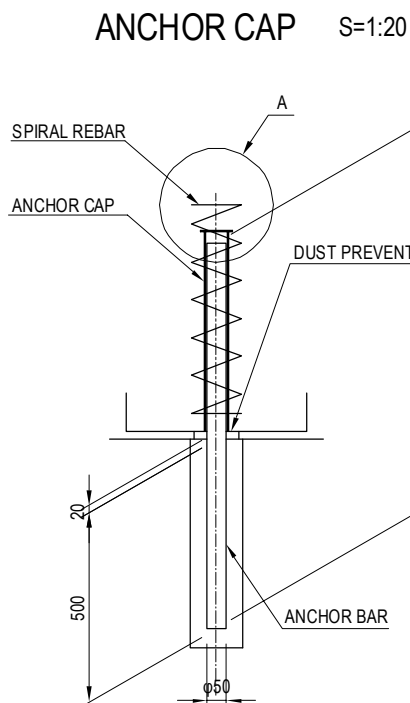
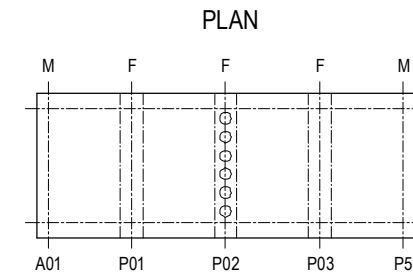
DRAWING TITLE  
DETAIL OF BEARINGS FOR ON-RAMP (3)

PACKAGE  
1  
DWG No.  
P1-OR-3003

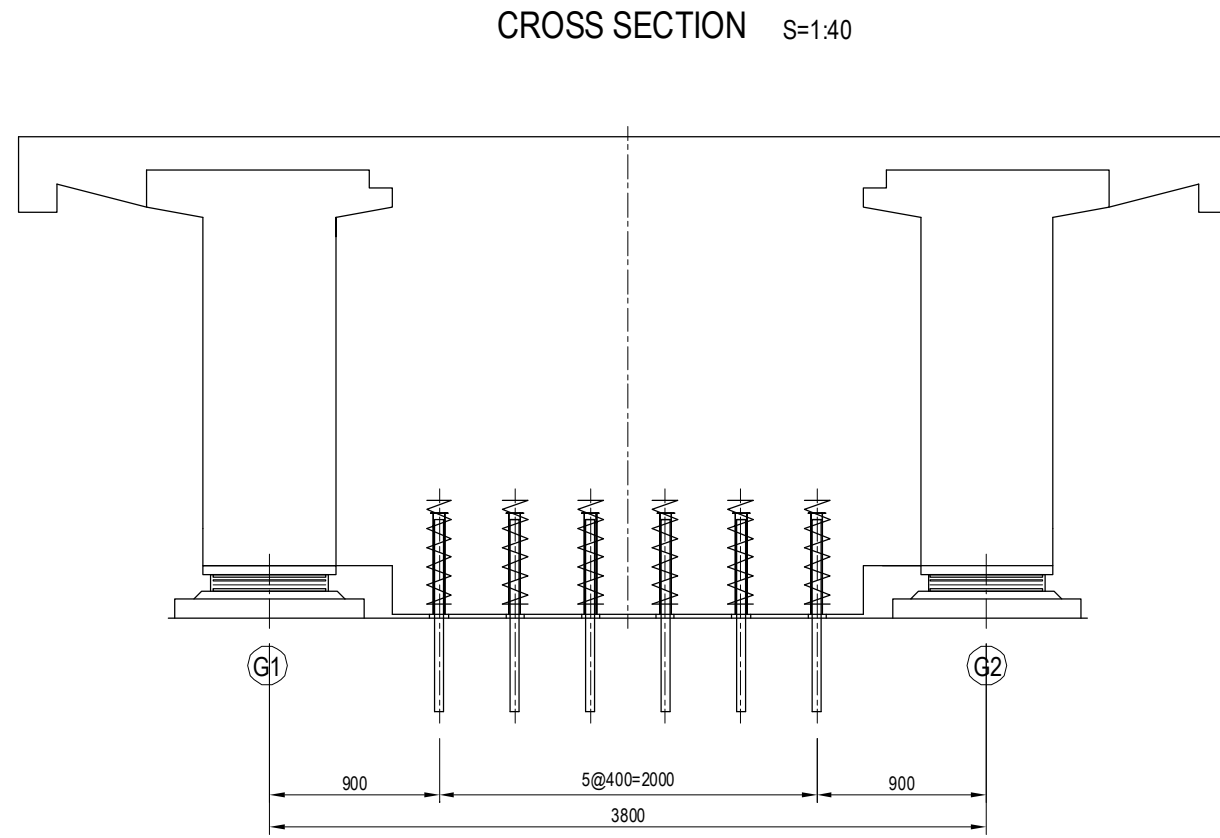
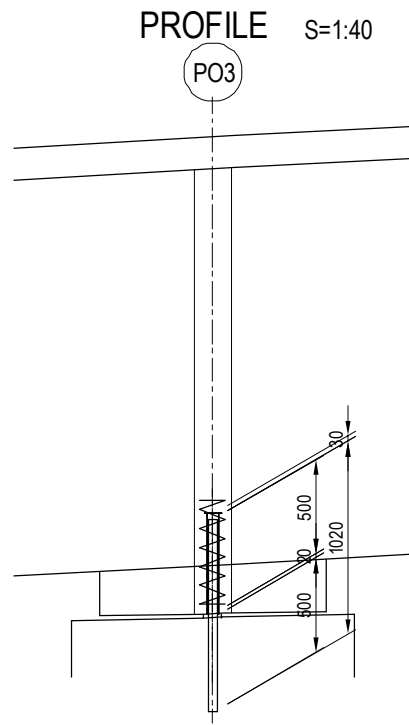
# DETAIL OF BEARINGS FOR ON-RAMP (4) ANCHOR BAR (PO2)



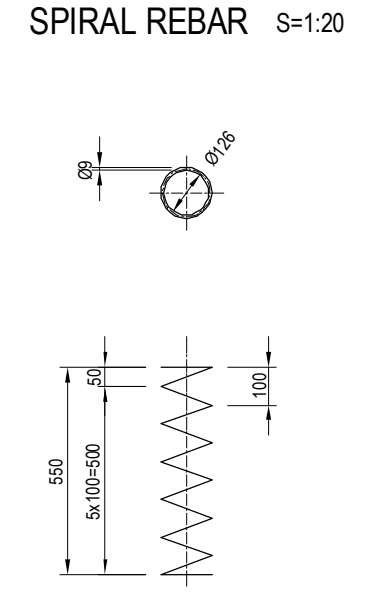
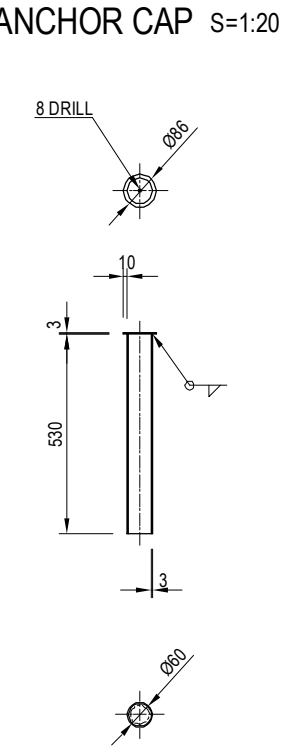
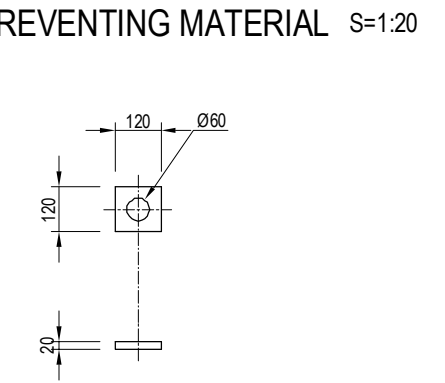
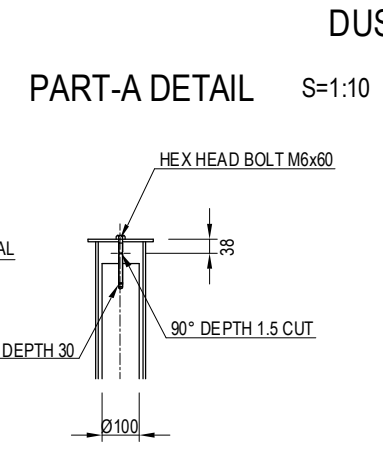
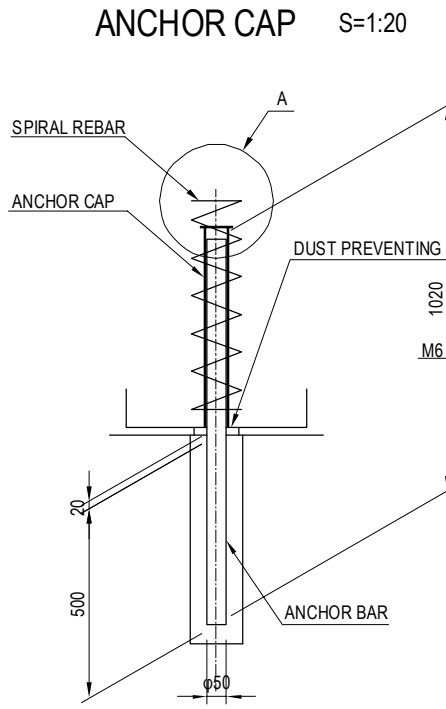
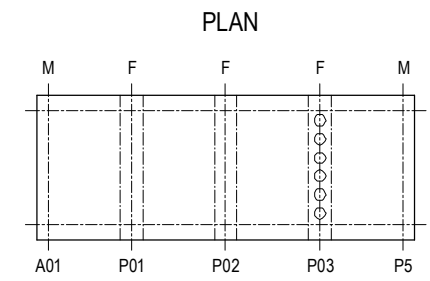
PO2 MATERIALS (PER 1 PIER)					
NAME OF PART	SIZE	MATERIAL	QUANTITY	WEIGHT	NOTE
ANCHOR BAR	Ø50×1020	S35CN	6	94.3	ZINC GALVANIZE
ANCHOR CAP	Ø60×530	SS400	6	16.7	ZINC GALVANIZE
SPIRAL REBAR	Ø9×2980	SS400	6	8.9	—
DUST PREVENTING MATERIAL	120×20×120	RUBBER	6	—	—
HEX HEAD BOLT	M6×60	—	6	—	—



# DETAIL OF BEARINGS FOR ON-RAMP (5) ANCHOR BAR (PO3)

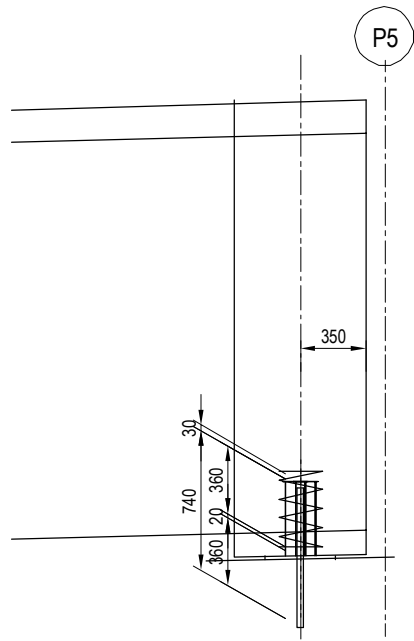


PO3 MATERIALS (PER 1 PIER)					
NAME OF PART	SIZE	MATERIAL	QUANTITY	WEIGHT	NOTE
ANCHOR BAR	Ø50×1020	S35CN	6	94.3	ZINC GALVANIZE
ANCHOR CAP	Ø60×530	SS400	6	16.7	ZINC GALVANIZE
SPIRAL REBAR	Ø9×2980	SS400	6	8.9	—
DUST PREVENTING MATERIAL	120×20×120	RUBBER	6	—	—
HEX HEAD BOLT	M6×60	—	6	—	—

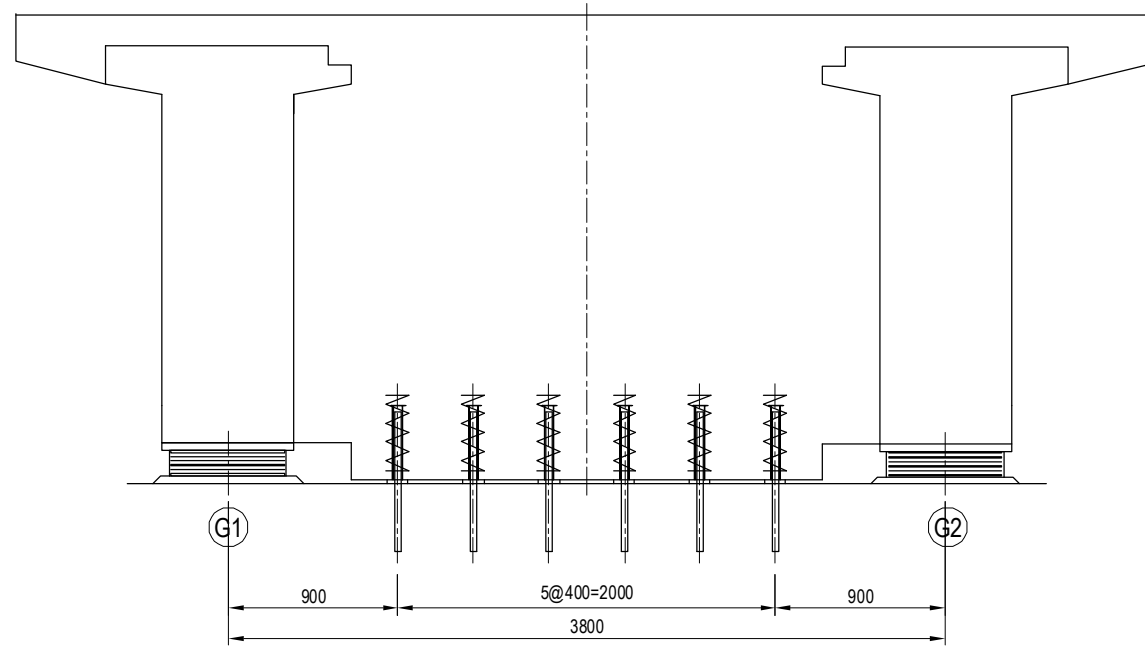


# DETAIL OF BEARINGS FOR ON-RAMP (6) ANCHOR BAR (P5)

PROFILE S=1:40

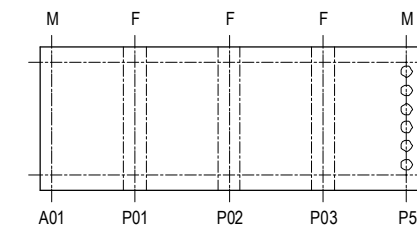


CROSS SECTION S=1:40

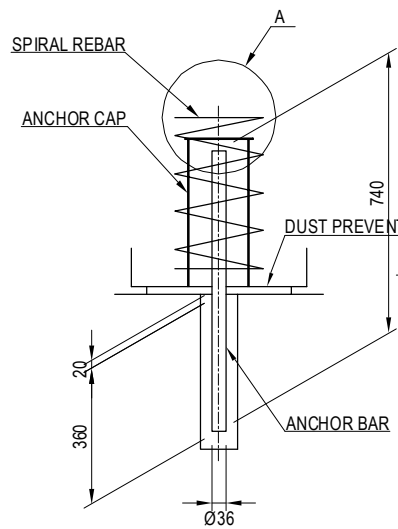


P5 MATERIALS (PER 1 PIER)					
NAME OF PART	SIZE	MATERIAL	QUANTITY	WEIGHT	NOTE
ANCHOR BAR	Ø36×740	S35CN	6	35.5	ZINC GALVANIZE
ANCHOR CAP	46×156×390	SS400	6	23.8	ZINC GALVANIZE
SPIRAL REBAR	Ø9×3440	SS400	6	10.3	—
DUST PREVENTING MATERIAL	110×20×380	RUBBER	6	—	—
HEX HEAD BOLT	M6×60	—	6	—	—

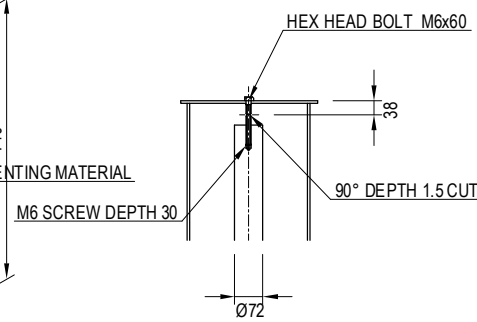
PLAN



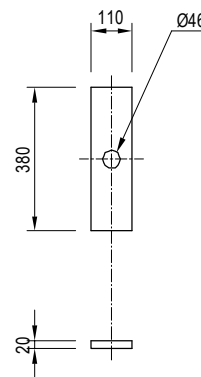
ANCHOR CAP S=1:20



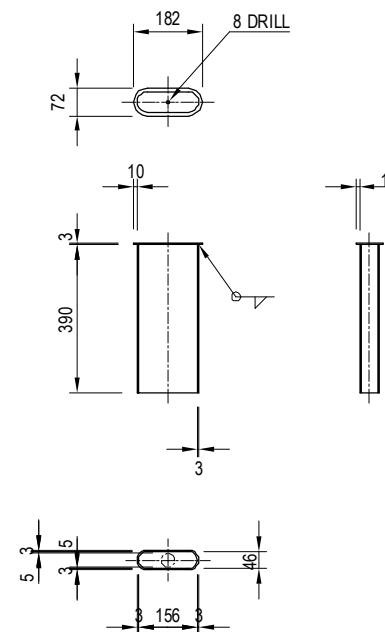
PART-A DETAIL S=1:10



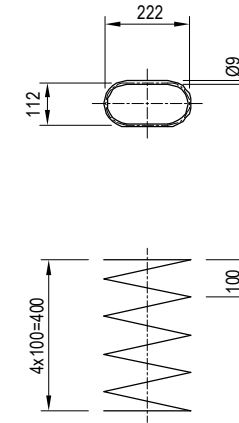
DUST PREVENTING MATERIAL S=1:20



ANCHOR CAP S=1:20



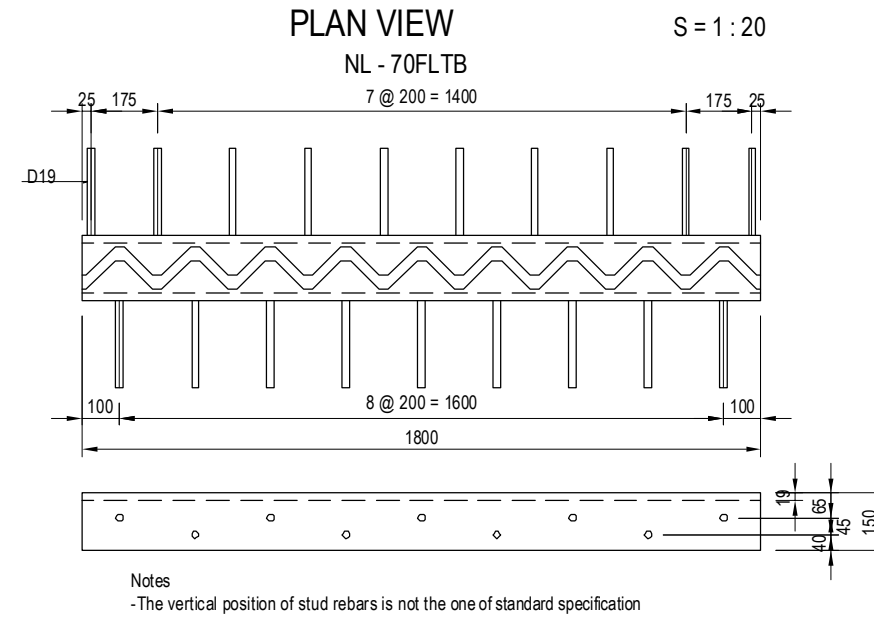
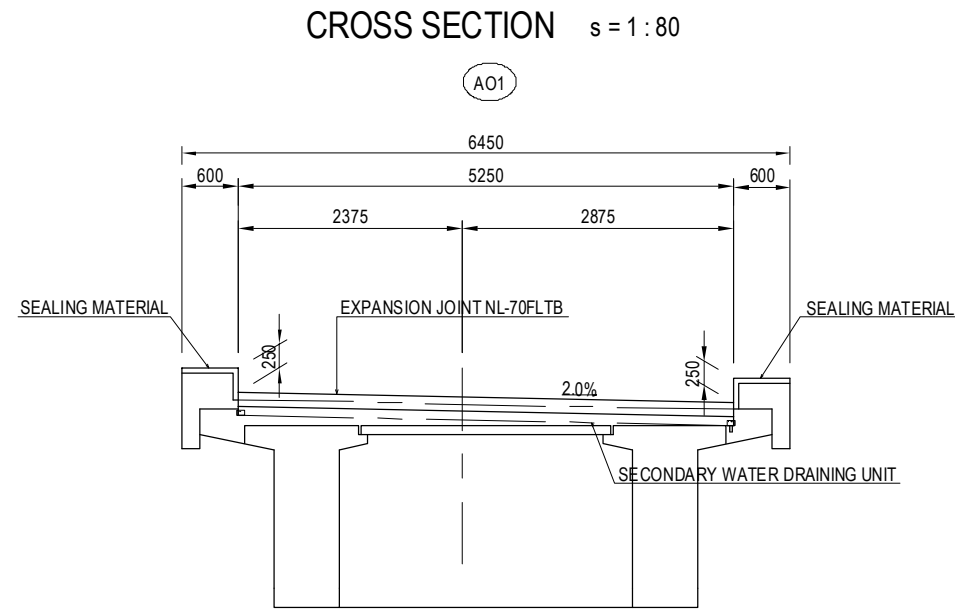
SPIRAL REBAR S=1:20



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	JICASTUDY 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 <b>DETAIL OF BEARINGS FOR ON-RAMP (6)</b>	PACKAGE 1 DWG No. P1-OR-3006	
				PREPARED BY	M. OHYAMA				15 Jun.2017
				CHECKED BY	T. HAYAKAWA				20 Jun.2017
				APPROVED BY	Y. SANO				21 Jun.2017



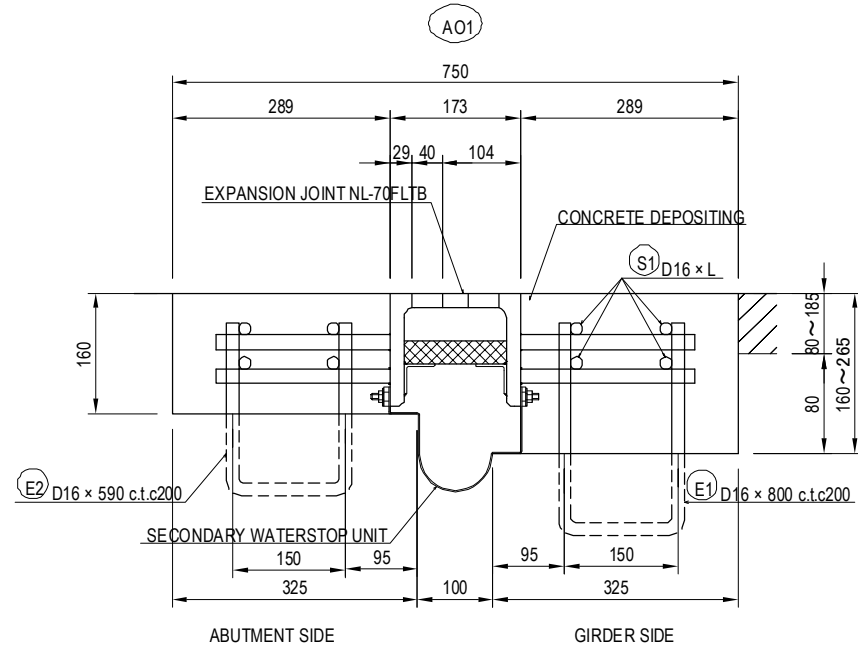
# DETAIL OF EXPANSION JOINT FOR ON-RAMP AO1



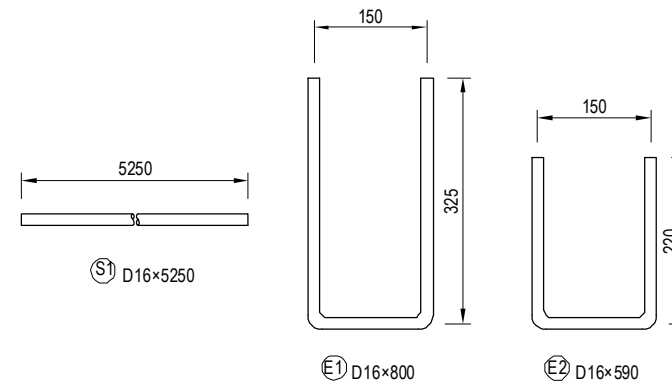
DESIGN MOVEMENT OF EXPANSION JOINT

		AO1	GIRDER ΔL (+)	GIRDER ΔL (-)	GIRDER ΔL
SERVICE STATE	TEMPERATURE		10 mm	10 mm	20 mm
	CREEP		-	8 mm	8 mm
	SHRINKAGE		-	7 mm	7 mm
	ALLOWANCE		5 mm	5 mm	10 mm
TOTAL			15 mm	30 mm	45 mm
SEISMIC STATE	EARTHQUAKE		16 mm	16 mm	32 mm
	ALLOWANCE		15 mm	15 mm	30 mm
	TOTAL		31 mm	31 mm	62 mm
DESIGN MOVEMENT			62 mm		

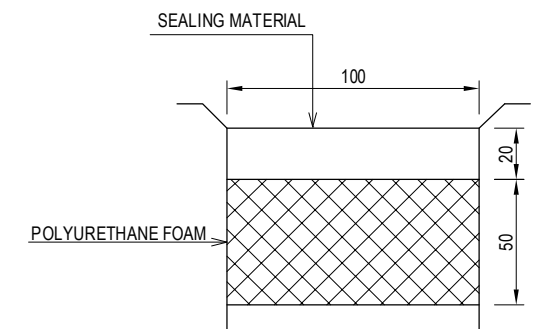
**SECTION OF EXPANSION JOINT**    S = 1 : 10



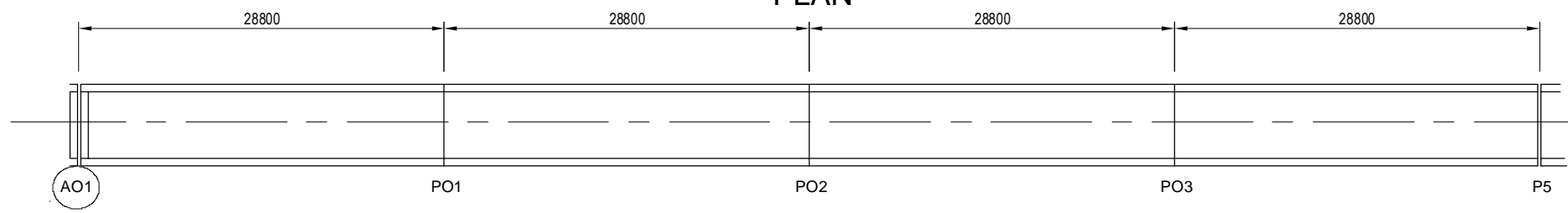
**DETAIL OF REBAR**    S = 1 : 10



**DETAIL OF SEALING MATERIAL**    S = 1 : 3



**PLAN**



ITEM	UNIT	AO1	NOTE
NL-70FLT B	m	5.25.0	
CONCRETE	m <sup>3</sup>	0.56	
SEALING MATERIAL	L	3.4	
S1 D16×5250 (SD345)	kg	6.5.5	
E1 D16×800 (SD345)	kg	3.2.4	2.6 UNIT
E2 D16×590 (SD345)	kg	2.3.9	2.6 UNIT
SUM	kg	56.3	

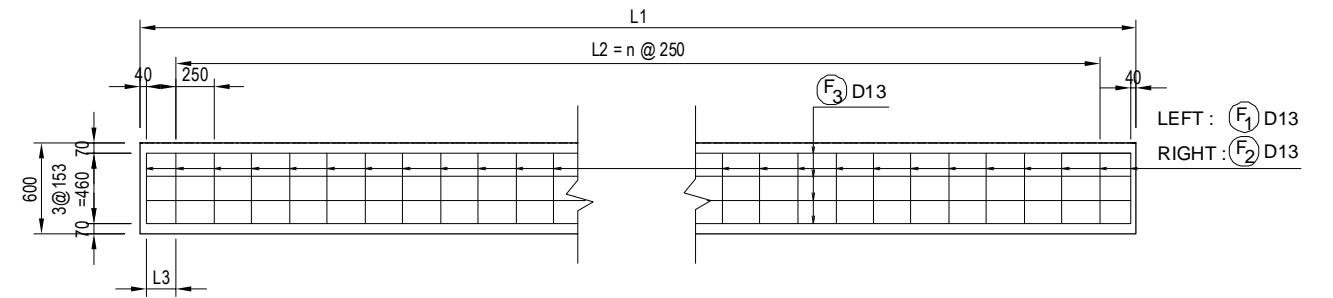
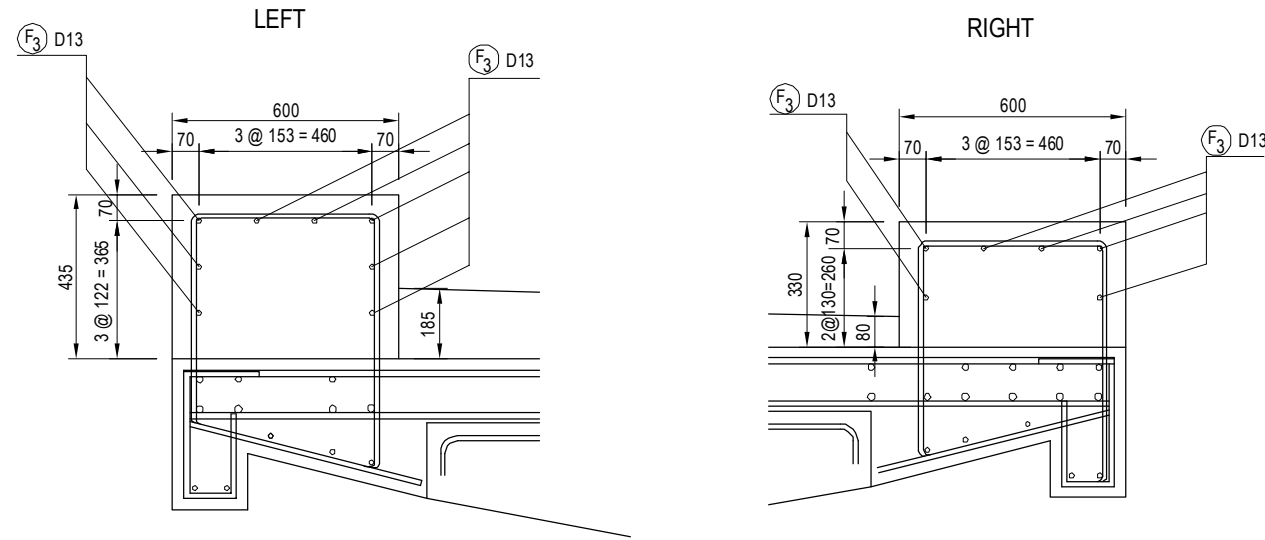
- NOTES:
- 1) All the dimensions and materials of this drawing are shown as reference.
  - 2) Details of the slab and girder are designed based on this reference drawing.
  - 3) All details and function of the expansion joint may alter by the proposal of the Contractor and shall be approved by the Engineer.
  - 4) The expansion joint shall be set just before the start of service in consideration of thermal expansion, creep and shrinkage of concrete girder.

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 DETAIL OF EXPANSION JOINT FOR ON-RAMP	PACKAGE 1 DWG No. P1-OR-3101
				PREPARED BY M. OHYAMA	<i>大山 満弘</i>	15 Jun.2017		
				CHECKED BY T. HAYAKAWA	<i>平川 知邦</i>	20 Jun.2017		
				APPROVED BY Y. SANO	<i>佐野 祐一</i>	21 Jun.2017		

# DETAIL OF CURB FOR ON-RAMP

CROSS SECTION S = 1 : 20

PLAN S = 1 : 50



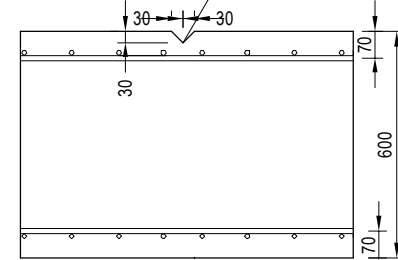
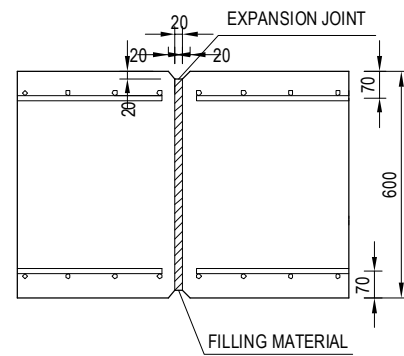
TYPE	L1	L2	n	L3	L4
A	28700	28250	113	185	5400
B	28800	28250	113	235	5500
C	28845	28500	114	133	5550
D	28531	28000	112	226	5231

S = 1 : 20

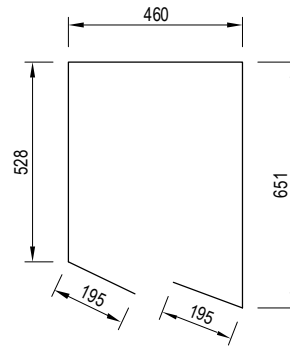
S = 1 : 20

EXPANSION JOINT

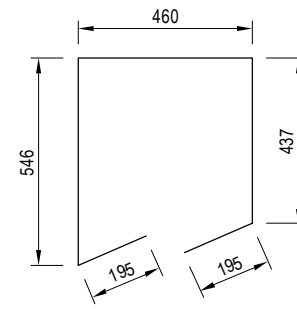
V-CUT



Notes  
- Install V-cut approximately about every 10m.



F1 465 - D13 x 2030

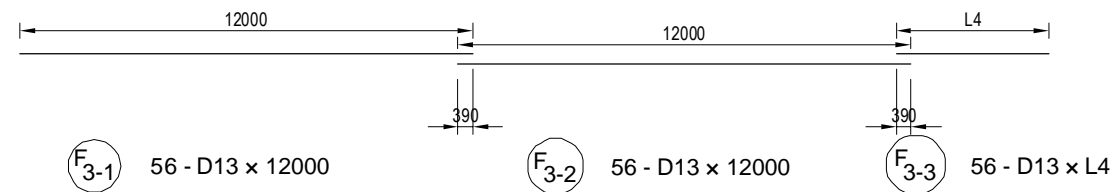


F2 463 - D13 x 1840

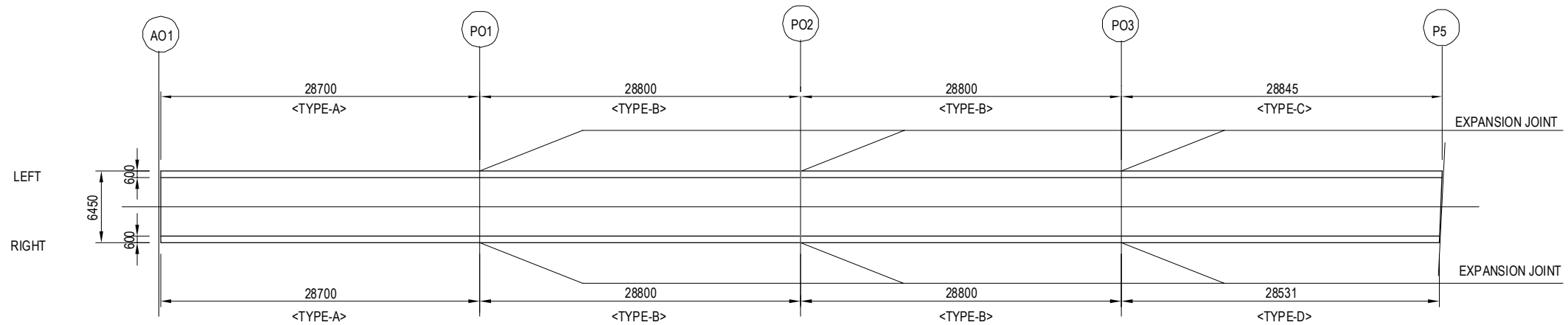
BAR STATISTICS TABLE (SD345)

Bar Mark	Bar Size	Length (mm)	No. of Bar (Nos)	Unit Wt (kg/m)	Rod Wt (kg)	Total Weight (kg)	Shape
F1	D13	2030	465	0.995	2.020	939.3	□
F2	"	1840	463	0.995	1.831	847.8	□
F3	"	29460 (average)	56	0.995	29.313	1642.5	—
						TOTAL	3429.6 kg

S = 1 : 500

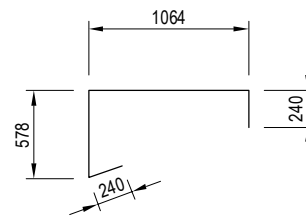
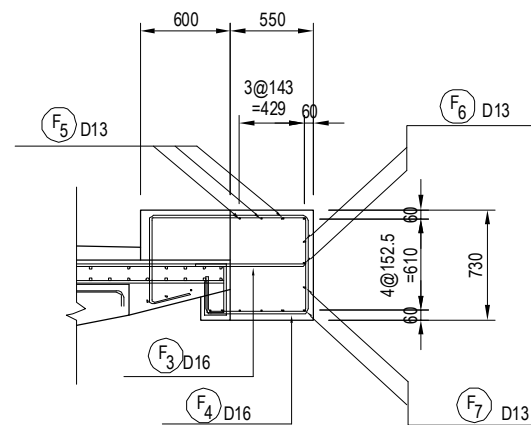


PLAN S = 1 : 500

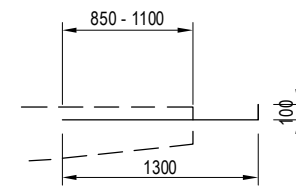


# DETAIL OF LIGHTING BASE FOR ON-RAMP

S=1:50



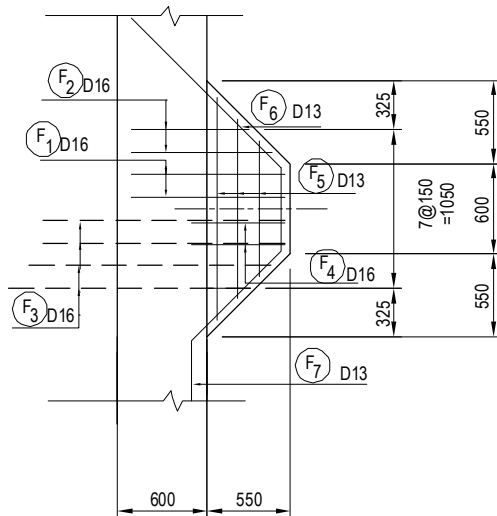
F1 4 - D16 x 2130



F3 8 - D16 x 1400

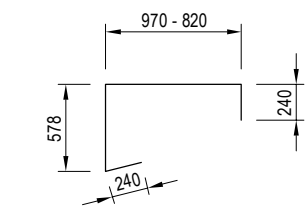
BAR STATISTICS TABLE (SD345 PER LIGHTING BASE)

Bar Mark	Bar Size	Length (mm)	No. of Bar (Nos)	Unit Wt (kg/m)	Rod Wt (kg)	Total Weight (kg)	Shape
F1	D16	2130	4	1.560	3.323	13.3	□
F2	"	1960	4	"	3.058	12.2	□
F3	"	1400	8	"	2.184	17.5	□
F4	"	1770	4	"	2.761	11.0	□
F5	D13	3880	3	0.995	3.861	11.6	□
F6	"	1950	4	"	1.940	7.8	□
F7	"	1600	4	"	1.592	6.4	□
					D16	54.0 kg	
					D13	25.8 kg	
					<b>Total Weight</b>	<b>79.8 kg</b>	

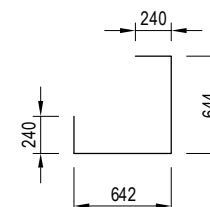


UPPER SURFACE

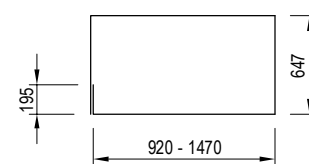
LOWER SURFACE



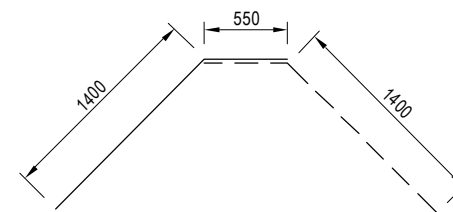
F2 4 - D16 x 1960 (AVERAGE LENGTH)



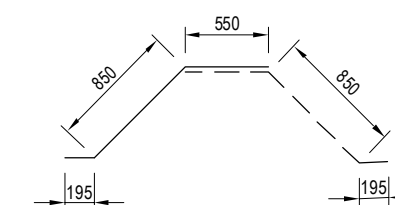
F4 4 - D16 x 1770



F5 3 - D13 x 3880 (AVERAGE LENGTH)



F6 4 - D13 x 1950

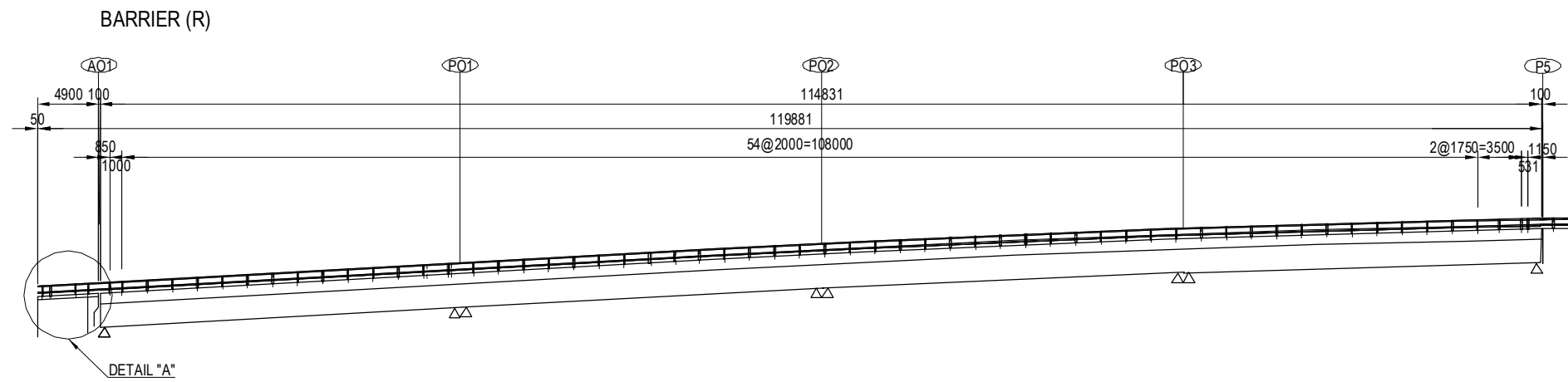
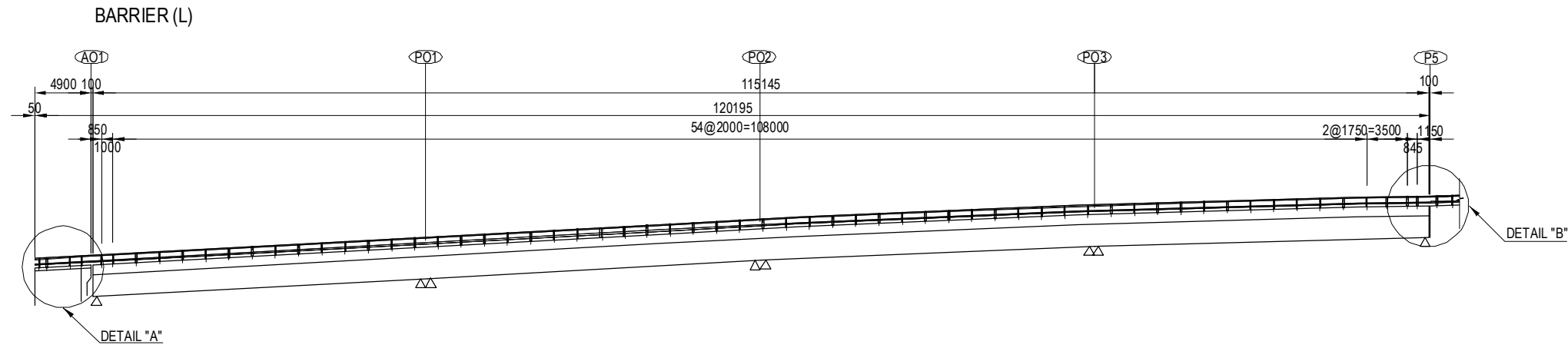


F7 4 - D13 x 1600

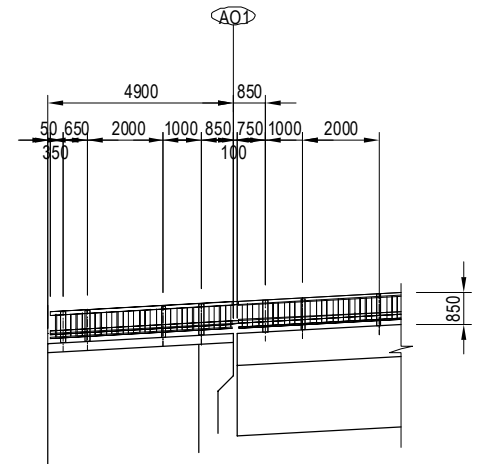
NOTES:  
Number and location of lighting base shall be referred to the drawing of "F. Lighting" series P1-EL.

# DETAIL OF RAILINGS FOR ON-RAMP (1)

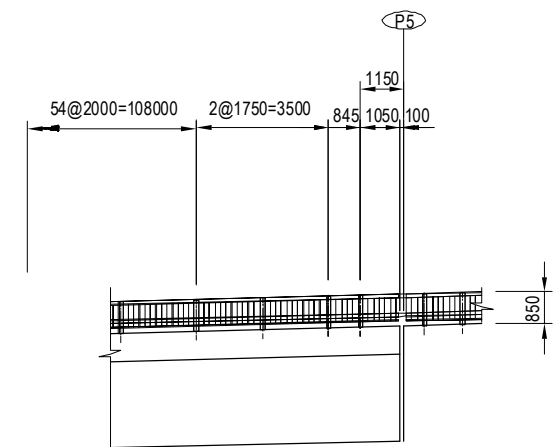
PROFILE S=1:500



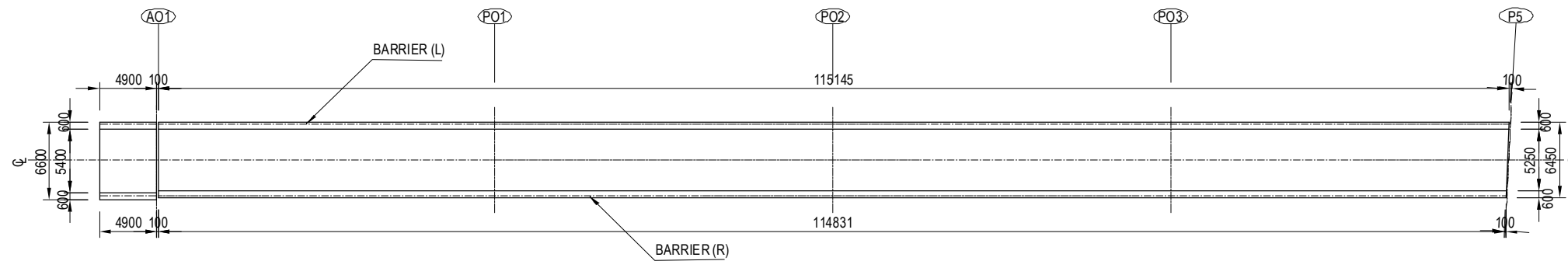
DETAIL OF "A" S=1:200



DETAIL OF "B" S=1:200



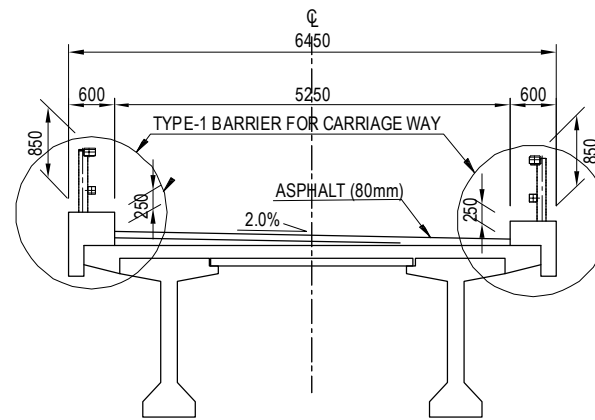
PLAN VIEW S=1:500



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 RAILINGS FOR ON-RAMP (1)	PACKAGE	
				PREPARED BY	M. OHYAMA			15 Jun.2017	1
				CHECKED BY	T. HAYAKAWA			20 Jun.2017	DWG No.
				APPROVED BY	Y. SANO			21 Jun.2017	P1-OR-3401

# DETAIL OF RAILINGS FOR ON-RAMP (2)

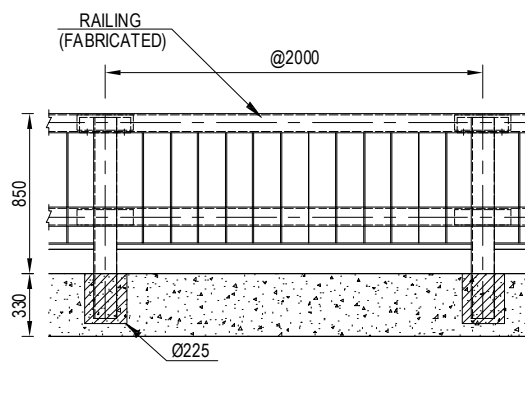
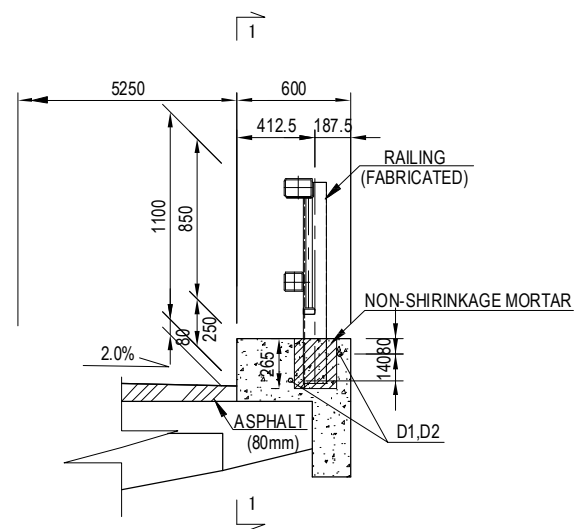
TYPICAL CROSS SECTION S=1:100



TYPE-1 BARRIER FOR CARRIAGE WAY S=1:40

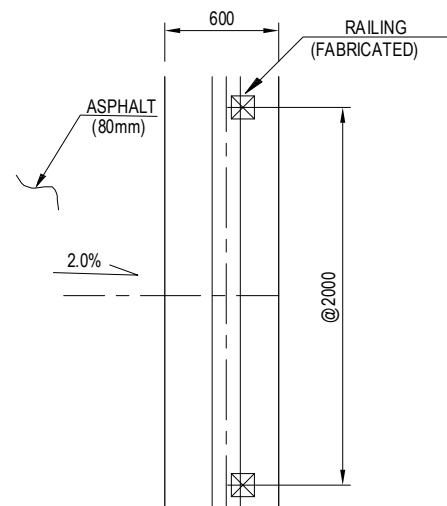
CROSS SECTIONAL VIEW

1 - 1



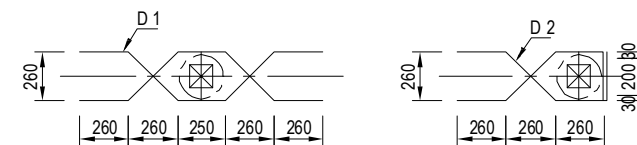
PLAN VIEW

REINFORCEMENT FOR RAILING ANCHORAGE



INTERMEDIATE POSTS

END POSTS



BAR STATISTICS TABLE

REBAR NO.	DIA (mm)	LENGTH (mm)	NUMBERS	UNIT WEIGHT (kg/m)	WEIGHT PER UNIT (kg)	WEIGHT (kg)	SHAPE
D 1	25	1 510	236	3.980	6.01	1418	
D 2	25	1 150	16	3.980	4.58	73	
TOTAL						1491 kg	

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

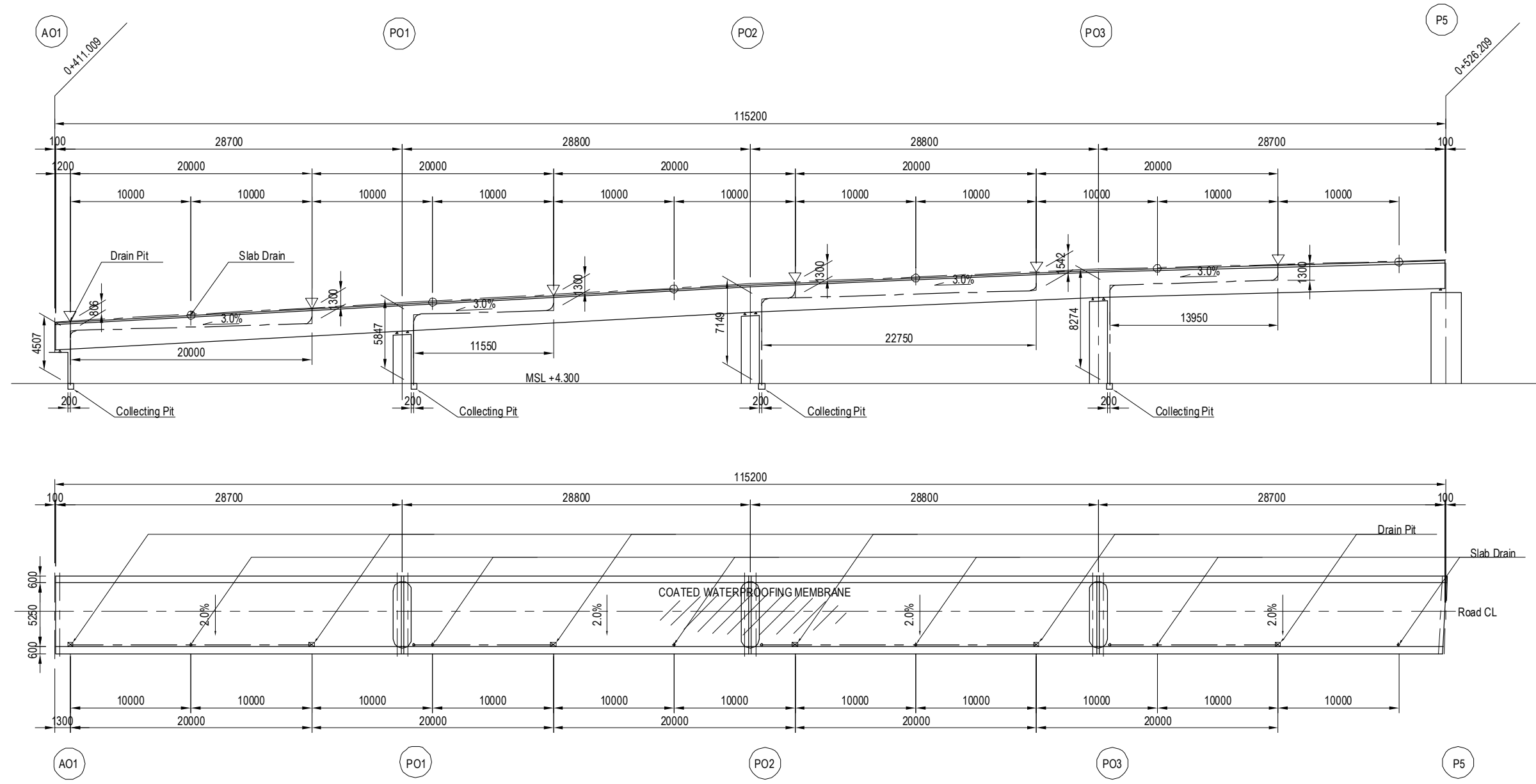
JICA STUDY TEAM  
 NIPPON KOEI CO., LTD.  
 ORIENTAL CONSULTANTS GLOBAL CO., LTD.  
 METROPOLITAN EXPRESSWAY COMPANY LIMITED  
 CHODAI CO., LTD.  
 NIPPON ENGINEERING CONSULTANTS CO., LTD.

	NAME	SIGNATURE	DATE
PREPARED BY	M. OHYAMA		15 Jun.2017
CHECKED BY	T. HAYAKAWA		20 Jun.2017
APPROVED BY	Y. SANO		21 Jun.2017

DRAWING TITLE  
DETAIL OF RAILINGS FOR ON-RAMP (2)

PACKAGE  
1  
DWG No.  
P1-OR-3402

# DETAIL OF DRAINAGE FOR ON-RAMP (1) S = 1 : 400

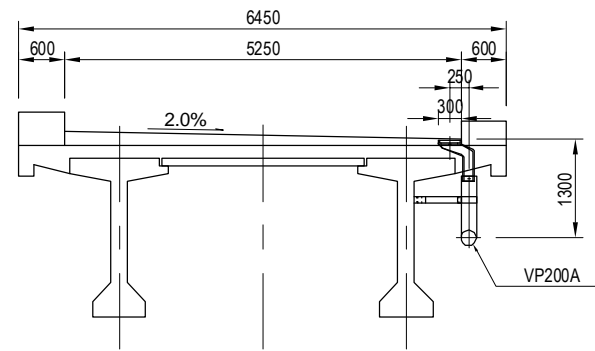


<small>PROJECT NAME</small> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	<small>FINANCED BY</small> JAPAN INTERNATIONAL COOPERATION AGENCY	<small>COUNTERPART</small> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	<small>JICA STUDY TEAM</small> NIPPON KOEI 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="width: 10%;">NAME</th> <th style="width: 10%;">SIGNATURE</th> <th style="width: 10%;">DATE</th> </tr> <tr> <td>PREPARED BY M. OHYAMA</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. OHYAMA		15 Jun.2017	CHECKED BY T. HAYAKAWA		20 Jun.2017	APPROVED BY Y. SANO		21 Jun.2017	<small>DRAWING TITLE</small> <b>DETAIL OF DRAINAGE FOR ON-RAMP (1)</b>	<small>PACKAGE</small> 1 DWG No. P1-OR-3501
NAME	SIGNATURE	DATE																
PREPARED BY M. OHYAMA		15 Jun.2017																
CHECKED BY T. HAYAKAWA		20 Jun.2017																
APPROVED BY Y. SANO		21 Jun.2017																

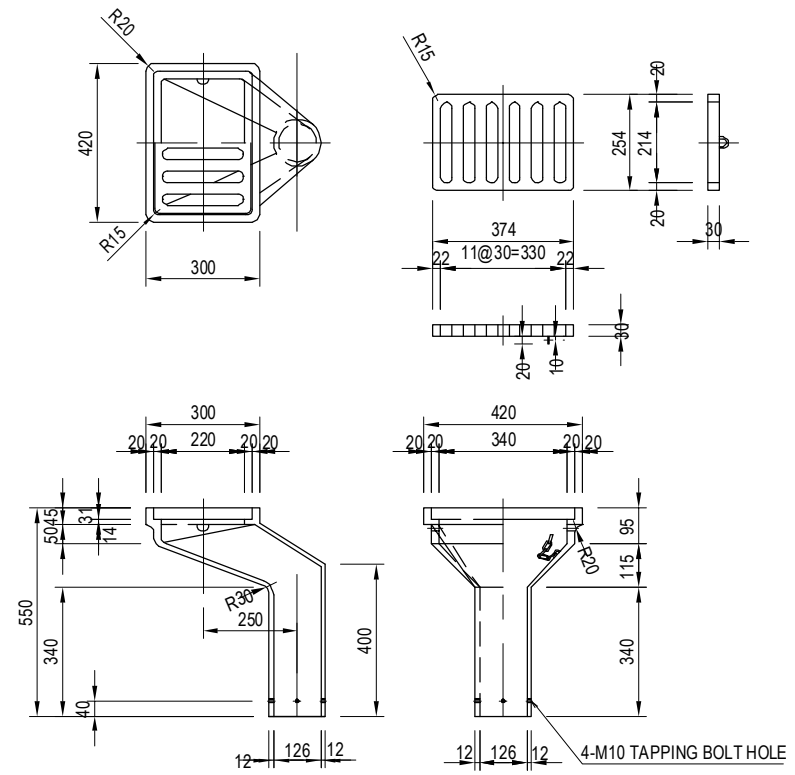


# DETAIL OF DRAINAGE FOR ON-RAMP (2) S=1:100

## CATCH PIT SECTION

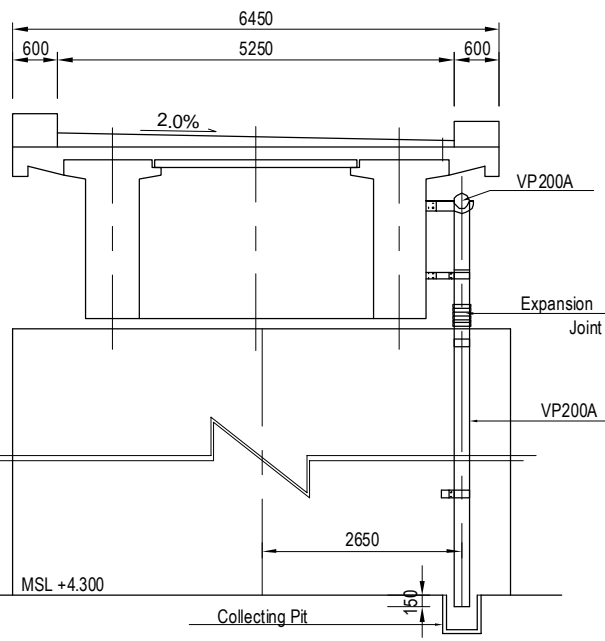


## DETAIL OF CATCH BASIN S=1:20



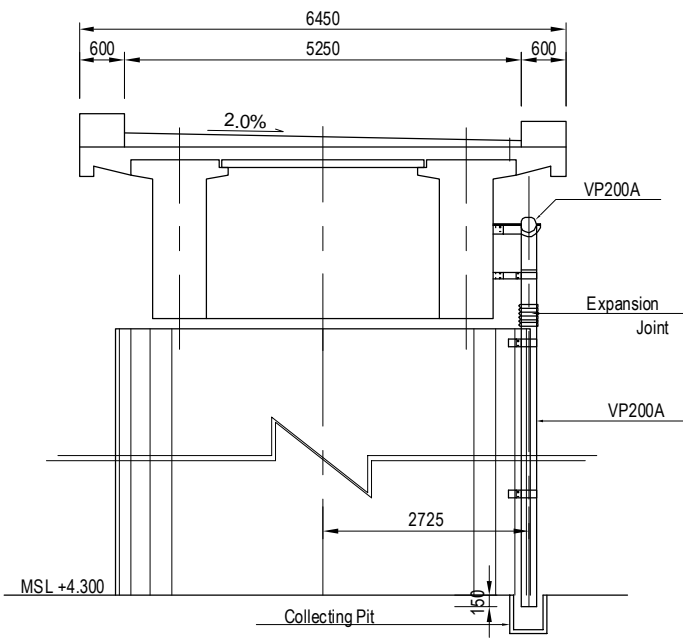
## SUPPORT SECTION (ABUTMENT)

CROSS SECTION

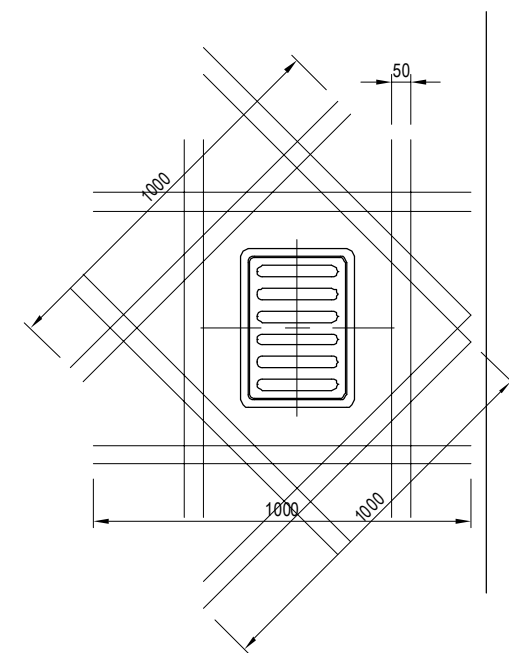


## SUPPORT SECTION (PIER)

CROSS SECTION



## REBAR ARRANGEMENT S=1:20



### BAR STATISTICS TABLE

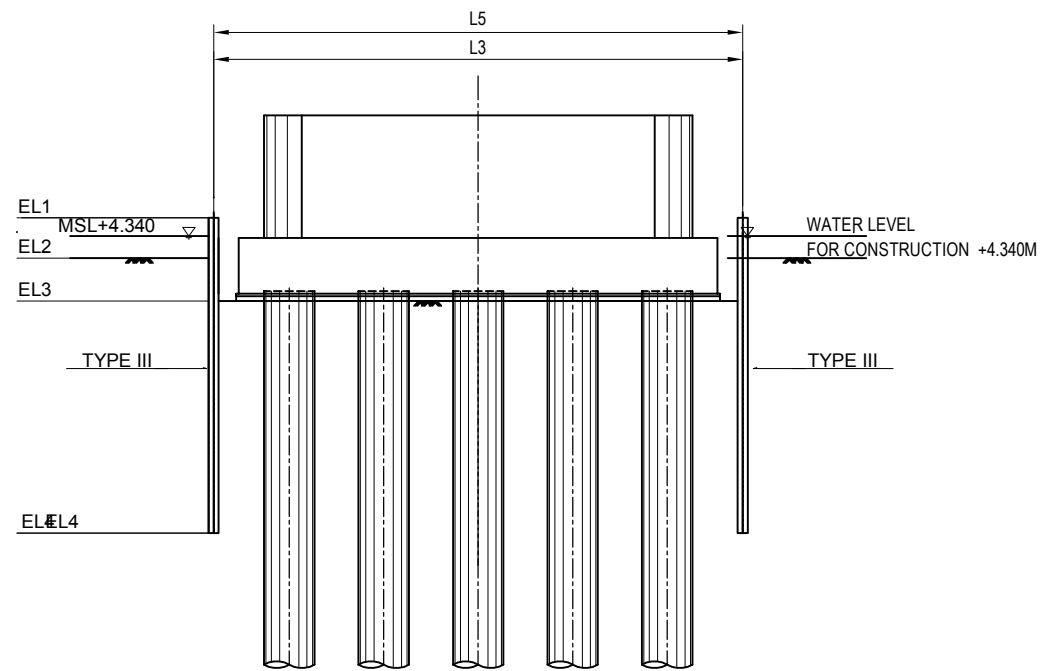
REBAR NO.	DIA (mm)	LENGTH (mm)	NUMBERS	UNIT WEIGHT (kg/m)	WEIGHT PER UNIT (kg)	WEIGHT (kg)	REMARKS	
D 1	16	1 000	32	1.560	1.56	50		
TOTAL							50	
					CATCH PITS	UNIT QTY	TOTAL (kg)	
					6	50	300	

Notes : Contractor should install expansion joint into vertical drainage pipe between superstructure and substructure.  
The expansion joint should have a capability to relative displacement between superstructure and substructure in service state.

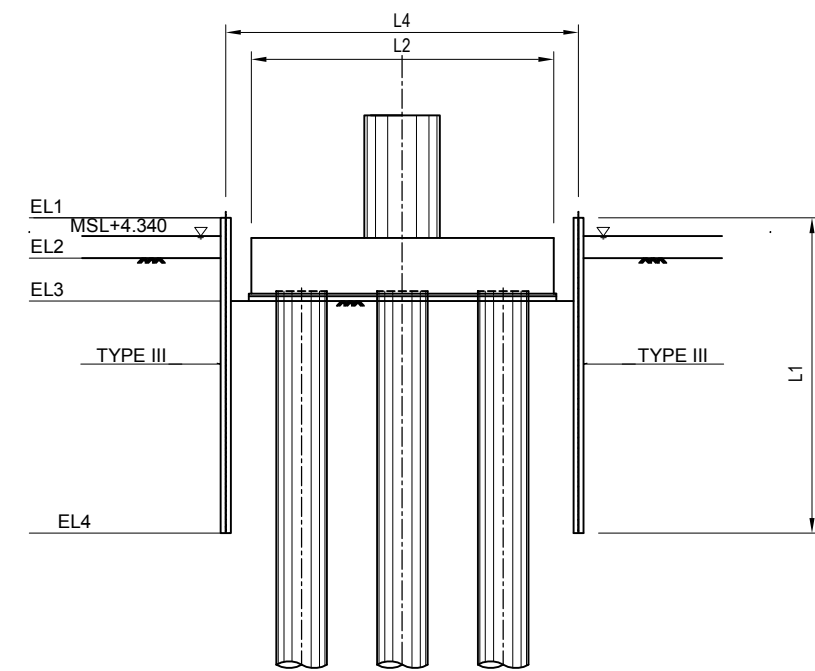
# TEMPORARY COFFERDAM (REFERENCE DRAWING)

S=1:300

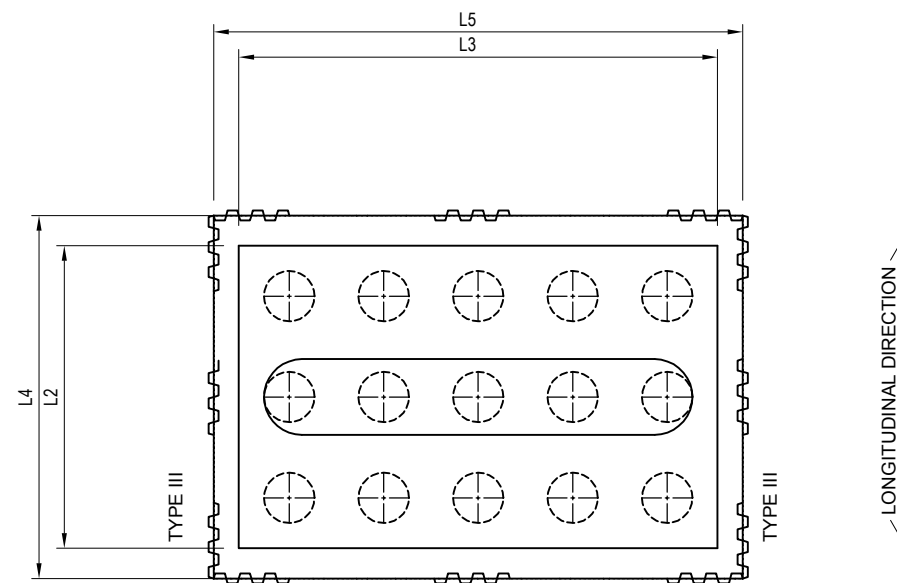
FRONT VIEW



SIDE VIEW



PLAN



QUANTITIES

ITEM	UNIT	SYMBOL	PO1	PO2	PO3
COFFERDAM TYPE	-	-	FS	FS	FS
SHEET PILE LENGTH	M	L1	12.5	12.5	12.5
SHEET PILE WIDTH	M	W	0.40	0.40	0.40
SHEET PILE SHAPE	-	-	III	III	III
SHEET PILE MATERIAL	-	-	SY295	SY295	SY295
UNIT WEIGHT	KG/M	-	60.0	60.0	60.0
ASSUMED GROUND ELEVATION BEFORE EXCAVATION	MSL+ M	EL2	3.300	3.300	3.300
APPROXIMATE DESIGN FLOOR HEIGHT AFTER EXCAVATION	MSL+ M	EL3	1.500	1.500	1.600
TOP ELEVATION OF SHEET PILE	MSL+ M	EL1	4.900	4.900	4.900
TIP ELEVATION OF SHEET PILE	MSL+ M	EL4	-7.600	-7.600	-7.600
PILE CAP DIMENSIONS	LONGITUDINAL	M	L2	10.400	8.000
PILE CAP DIMENSIONS	TRANSVERSAL	M	L3	9.000	8.000
SPACE BETWEEN PILE CAP AND COFFERDAM	M	-	1.0	1.0	1.0
PLANAR DIMENSION OF COFFERDAM	LONGITUDINAL	M	L4	12.400	10.000
PLANAR DIMENSION OF COFFERDAM	TRANSVERSAL	M	L5	11.000	10.000
TOTAL LENGTH IN PLAN	M	-	46.800	40.000	40.000
NUMBER OF SHEET PILE	NOS	-	117	100	100
TOTAL WEIGHT OF SHEET PILE	KG	-	87,750	75,000	75,000

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
PREPARED BY	M. OHYAMA		15 Jun.2017
CHECKED BY	T. HAYAKAWA		20 Jun.2017
APPROVED BY	Y. SANO		21 Jun.2017

DRAWING TITLE  
TEMPORARY COFFERDAM  
(REFERENCE DRAWING)

PACKAGE  
1  
DWG No.  
P1-OR-4011

## QUANTITY TABLE OF SUPERSTRUCTURE AO1-PO3 (REFERENCE DRAWING)

Structure Component	Work Item	Specification	Unit	Quantity	Remark	
Fabrication of PC girder	Concrete	40Mpa	m3	234.5	PC-I Girder, H=2.1m, Girder Length 28.6m, 73.3t/Girder, n=8	
	Metal form	Side & End Form	m2	1210.8		
		Bottom Form	m2	160.3		
	PC strands	12S12.7	kg	8425.0		Longitudinal Tendon
	Steel re-bar	SD345, D13	ton	14.8		
SD345, D16-D25		ton	18.6			
PC pannel	PC pannel	40MPa, t=100mm, L=2.680m	nos	108		
Crossbeam	Concrete	30Mpa	m3	68.4		
	Form		m2	180.0		
	PC bar	φ32	kg	1972.6	Transverse PC bar for Crossbeam	
	Steel re-bar	SD345, D13	ton	2.1		
		SD345, D16-D25	ton	3.8		
Slab	Concrete	30Mpa	m3	152.9		
	Form		m2	288.4		
	Steel re-bar	SD345, D13	ton	4.5		
		SD345, D16-D25	ton	42.3		
Bearing	Elastomeric Bearing (Pad type)	G10	nos	2	600mm x 400mm x 80mm(Σte) [A1]	
		G10	nos	12	600mm x 400mm x 60mm(Σte) [PO1-PO3]	
		G10	nos	2	600mm x 400mm x 100mm(Σte) [P5]	
Anchor bar		S35CN	kg	576	at AO1, PO1~PO3, P5	
Expansion joint	NL-70FL	70mm	m	5.25	Expansion Joint for AO1	
Wheel guard	Concrete	24Mpa	m3	55.4		
	Form		m2	184.6		
	Steel re-bar	SD345, D13	ton	3.5		
Adjustment concrete			m3	43.1		
Waterproof			m2	601.3	Spray Type	
Drain pit			nos	6		
Drainage pipe	superstructure	VP200A	m	75.8		
	substructure	VP200A	m	25.8		

<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.	NAME	SIGNATURE	DATE	<small>DRAWING TITLE</small> QUANTITY TABLE OF SUPERSTRUCTURE AO1-PO3 (REFERENCE DRAWING)	<small>PACKAGE</small> 1 DWG No. P1-OR-4101	
				PREPARED BY	M. OHYAMA				15 Jun.2017
				CHECKED BY	T. HAYAKAWA				20 Jun.2017
APPROVED BY	Y. SANO		21 Jun.2017						

## QUANTITY TABLE OF SUBSTRUCTURE AO1-PO3 (REFERENCE DRAWING)

### QUANTITY OF RC STRUCTURES AO1-PO3 (ABUTMENT AND PIERS)

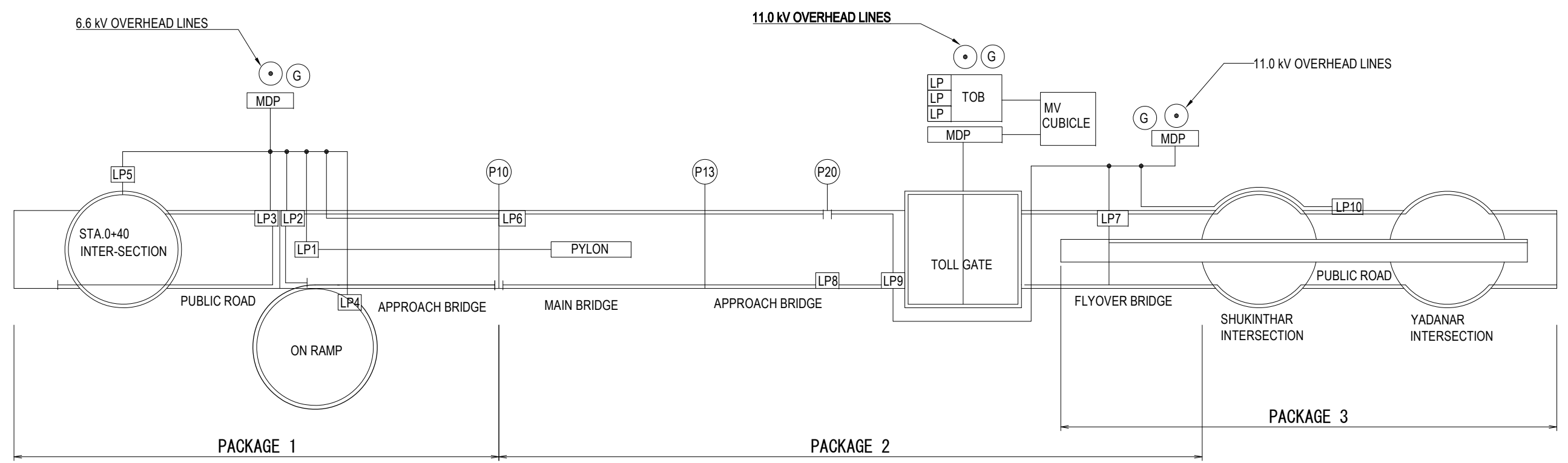
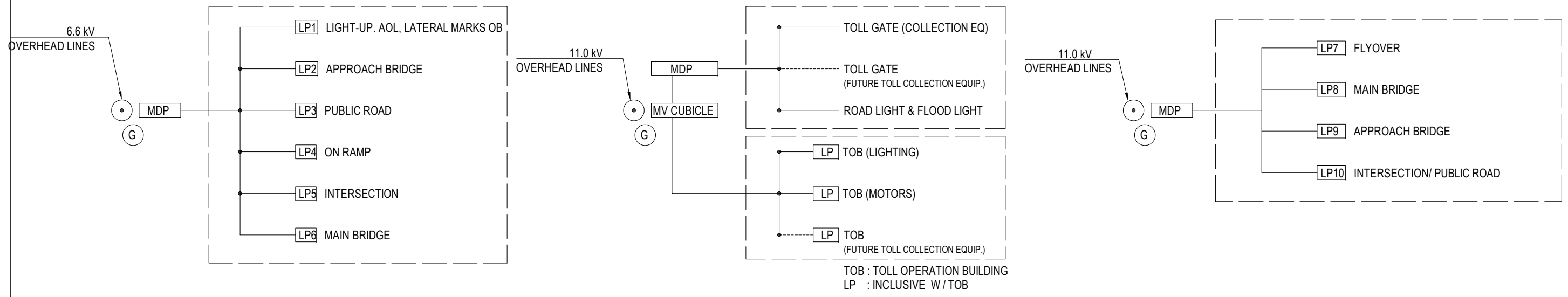
Structure Component	Work Item	Specification	Unit	Quantity		Remark	
					Total of AO1-PO3		
Pier Column, Beam and Pile Cap(Reinforced Concrete Structure)	Concrete	$\sigma_{ck}=30\text{N/mm}^2$	m <sup>3</sup>		-		
		$\sigma_{ck}=24\text{N/mm}^2$	m <sup>3</sup>		614.4		
	Re-bar	SD345	D 13	kg		281	
			D16 ~ D25	"		38,635	
			D29 ~ D32	"		25,665	
			D 35	"		-	
			D 38	"		-	
			D 51	"		-	
			Total			64,581	
	SD390	D29 ~ D32	"		-		
		D 38	"		-		
	Mechanical splice	SD345	D 35	Point		-	
			D 38	"		-	
			D 51	"		-	
Total			"		-		
SD390			D 38	"		-	

### QUANTITY OF CAST-IN-PLACE PILES AO1-PO3

Structure Component	Work Item	Specification	Division	Unit	Package 1		Remark
						Total of AO1-PO3	
Foundation Pile	Pile Diameter	CIP Pile		m		7.5	
	Pile Number	Number		nos		22,000	
	Pile Length	Liner Meter		m		228.0	
	Concrete	$\sigma_{ck}=30\text{N/mm}^2$		m <sup>3</sup>		3,245.6	
	Re-bar	SD345	D 13	kg		98	
			D16 ~ D25	kg		20,821	
			D29 ~ D32	kg		34,897	
			D 35	kg		-	
			D 38	kg		-	
			D 51	kg		-	
			PL	kg		426	
Total			kg		56,242		
Miscellaneous Steels	Steel Pipe (STK400), Plate (SS400)		kg		17,729		

## **G. LIGHTING**

# TYPICAL POWER DISTRIBUTION PLAN

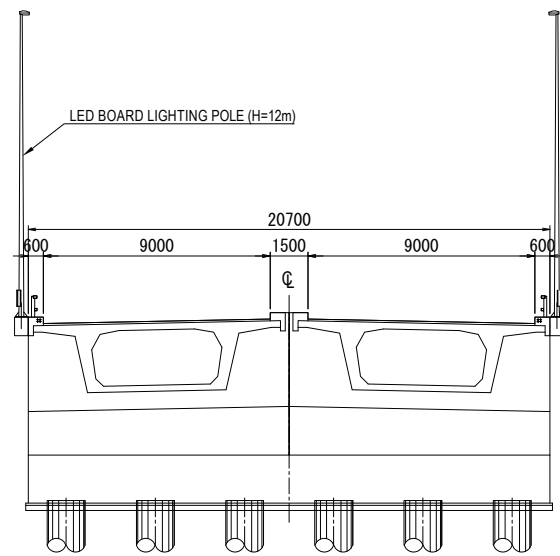
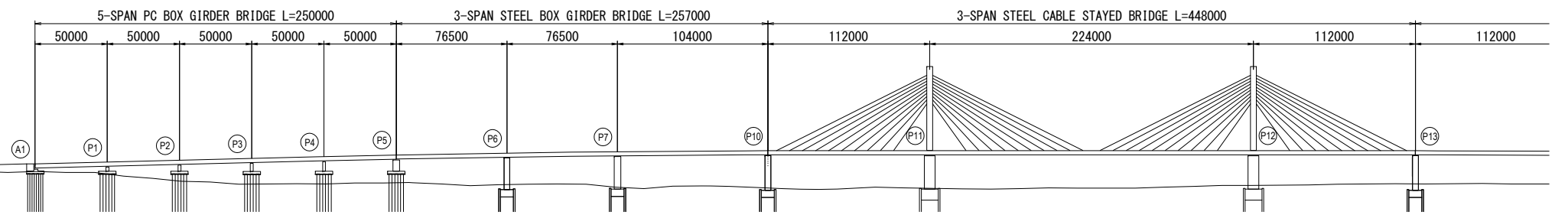
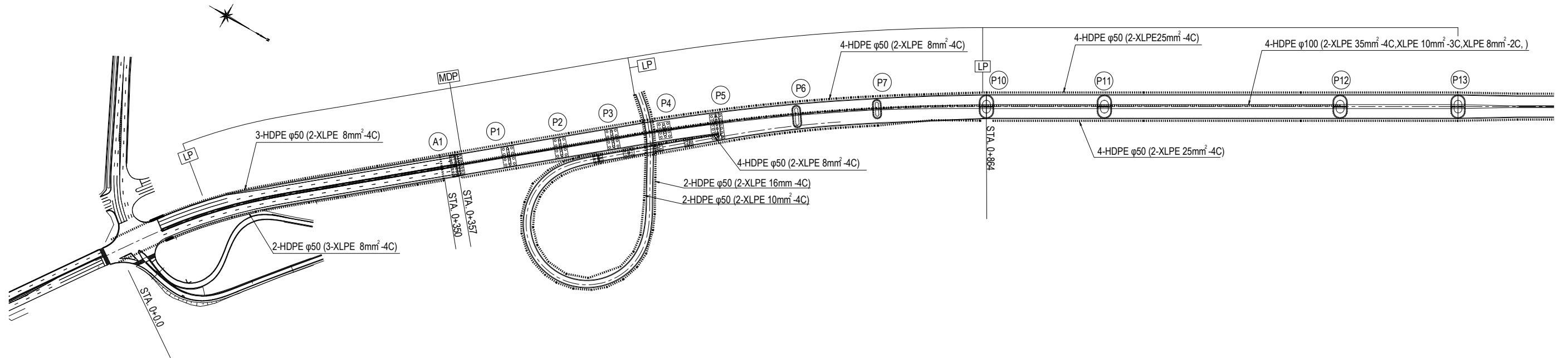


POWER DISTRIBUTION DIAGRAM

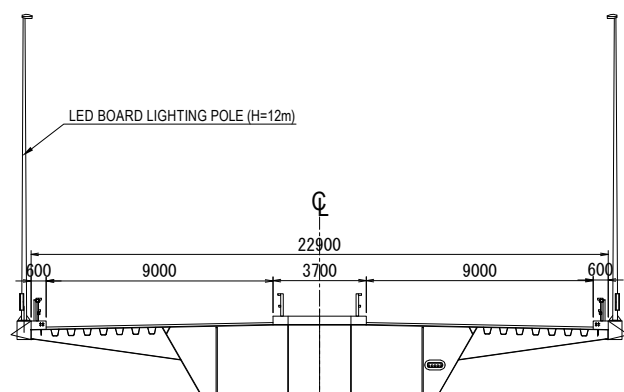
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO. LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE TYPICAL POWER DISTRIBUTION PLAN	PACKAGE	
				PREPARED BY	K. MORIMATA			29 Sep. 2017	1
				CHECKED BY	T. HAYAKAWA			3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct. 2017	P1-EL- 0001



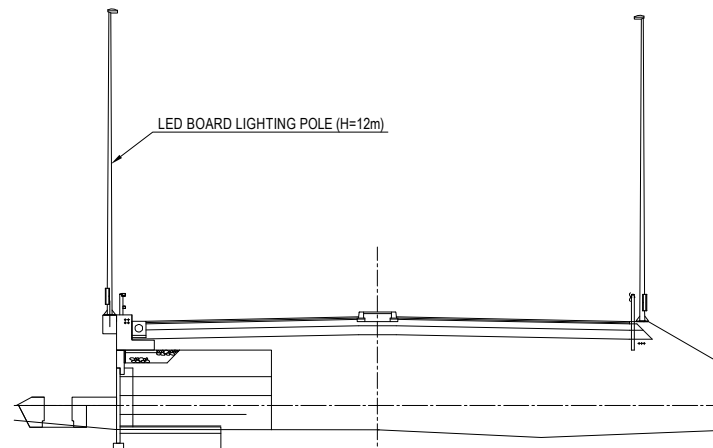
# TYPICAL WIRING PLAN



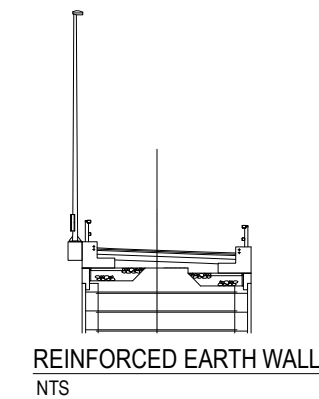
PC BOX GIRDER BRIDGE SECTION  
NTS



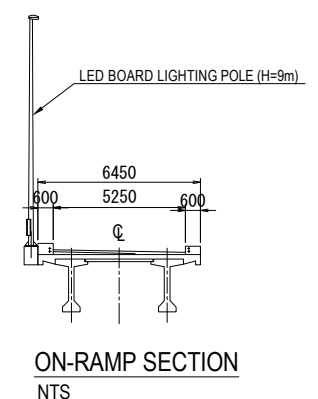
CABLE STAYED BRIDGE SECTION  
NTS



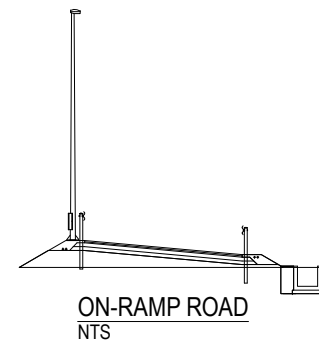
APPROACH ROAD SECTION  
NTS



REINFORCED EARTH WALL  
NTS



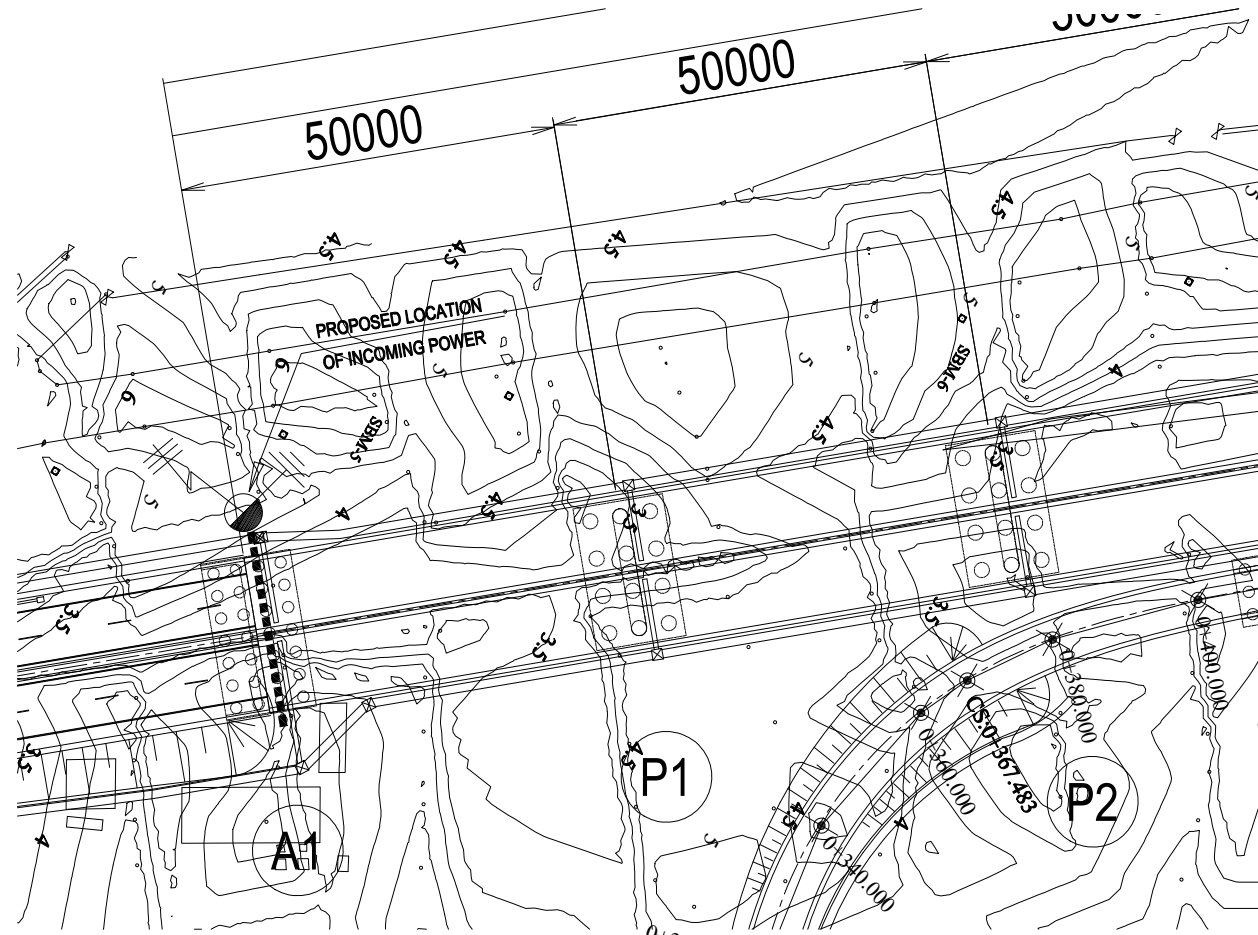
ON-RAMP SECTION  
NTS



ON-RAMP ROAD  
NTS

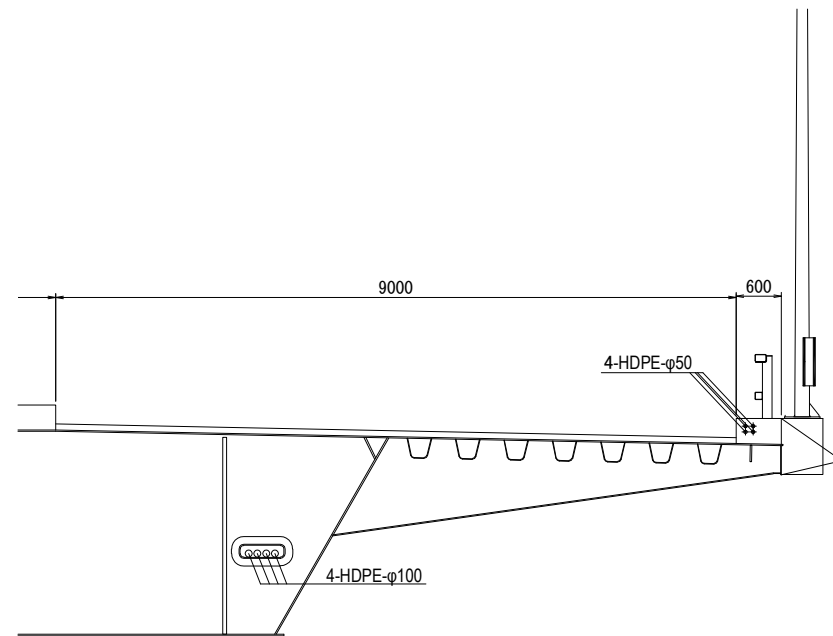
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO. LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE TYPICAL WIRING PLAN	PACKAGE 1 DWG No. P1-EL- 0002
				PREPARED BY	K. MORIMATA	29 Sep. 2017		
				CHECKED BY	T. HAYAKAWA	3 Oct. 2017		
				APPROVED BY	Y. SANO	6 Oct. 2017		

# (REFERENCE) INCOMING POWER RECEIVING FOR ROAD LIGHTING

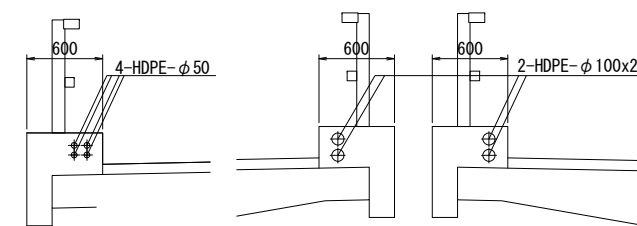


WIRING POSITION

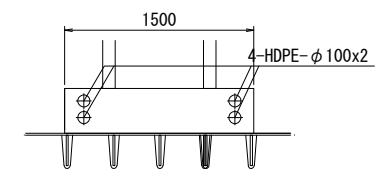
CABLE STAYED BRIDGE CROSS SECTION



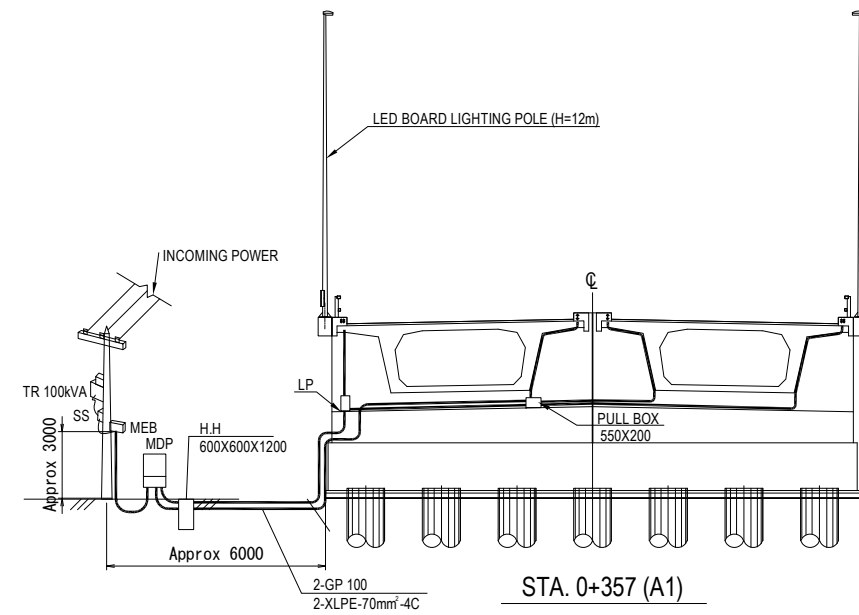
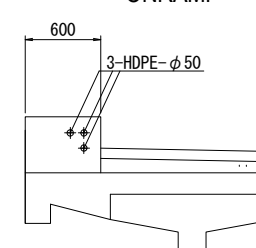
CONCRETE KERB BARRIER AND MEDIAN



PCBOX GIRDER AND STEEL BOX GIRDER

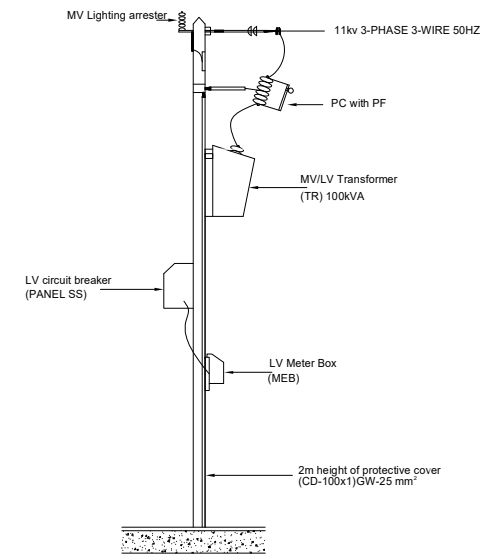


ONRAMP



OUTLINE OF INCOMING POWER RECEIVING (REFERENCE)

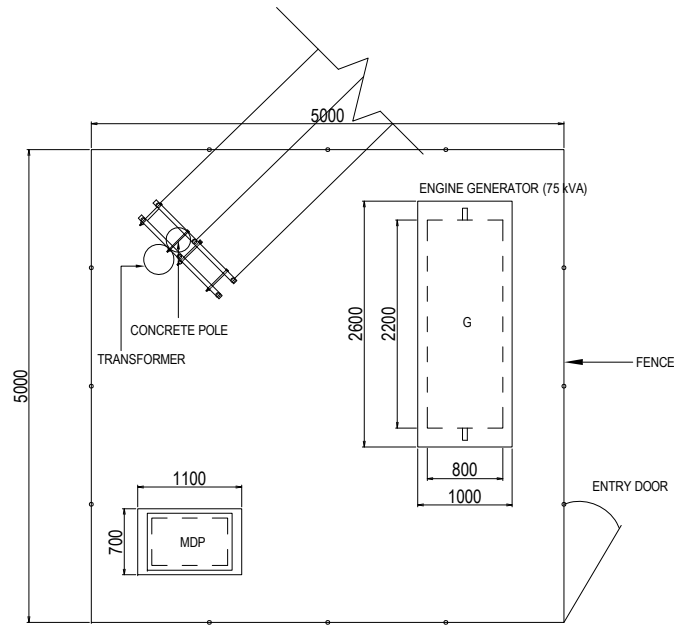
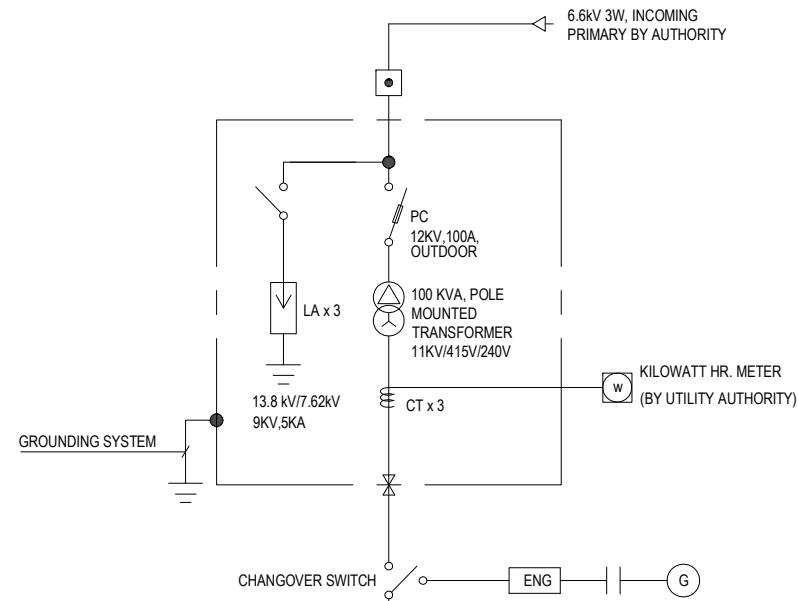
OUTLINE OF INCOMING POWER RECEIVING



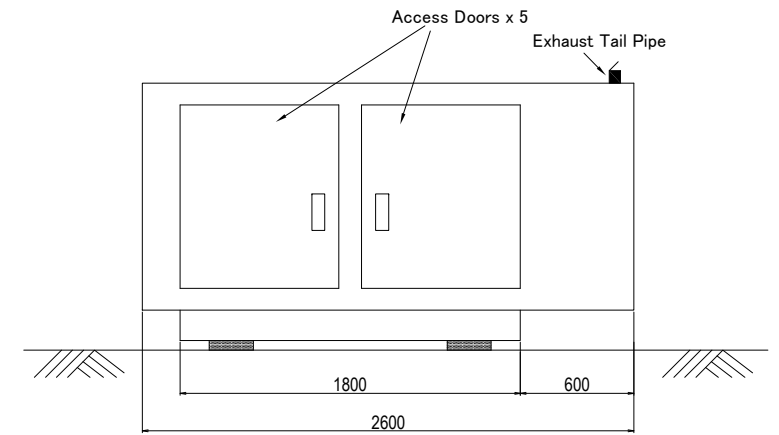
NOTE: Main Distribution Panel should be installed above the high water level (H.W.L) of 4.99 (M.S.L).

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  (REFERENCE) INCOMING POWER RECEIVING FOR ROAD LIGHTING	PACKAGE	
				PREPARED BY	T. HAYAKAWA			29 Sep. 2017	1
				CHECKED BY	T. HAYAKAWA			3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct. 2017	P1-EL- 0003

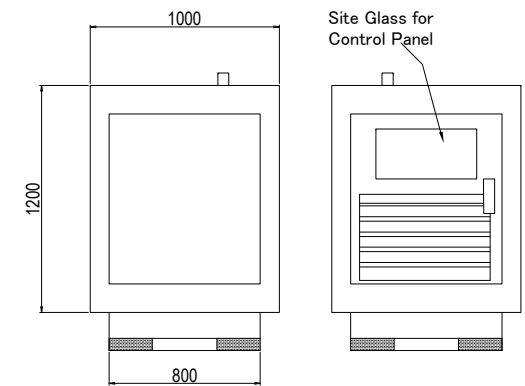
# TYPICAL MV SITE SUBSTATION



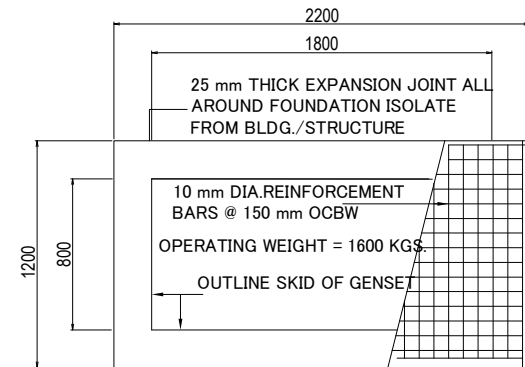
SITE LAYOUT OF INCOMING POWER STATION S=1:80



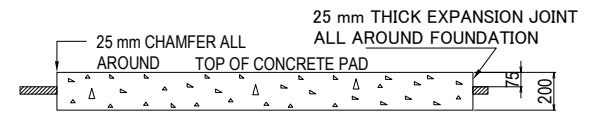
FRONT VIEW



SIDE VIEW

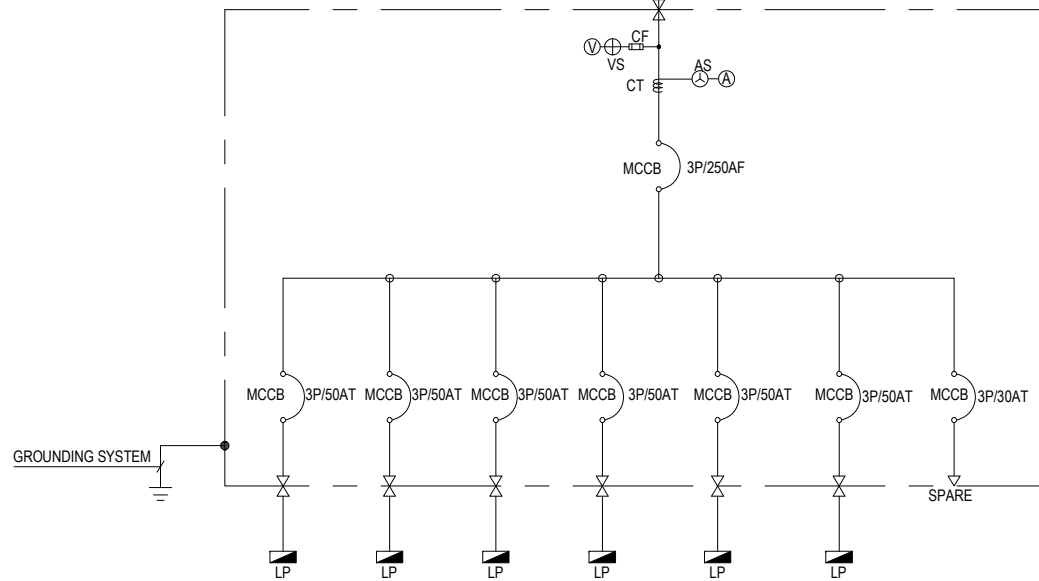


TOP VIEW



CONCRETE FOUNDATION

REFERENCE LAYOUT OF ENGINE GENERATOR S=1:40



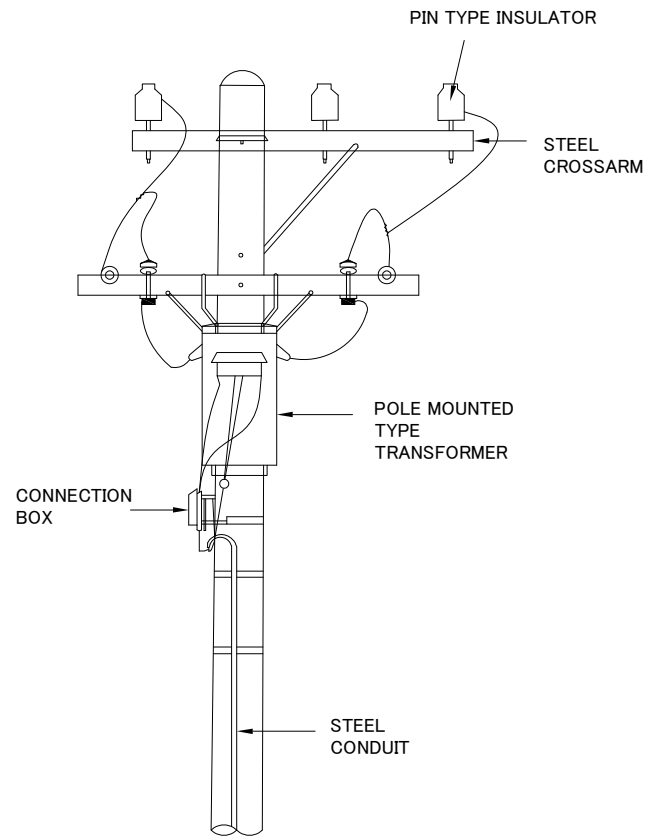
SINGLE LINE DIAGRAM

### LEGEND

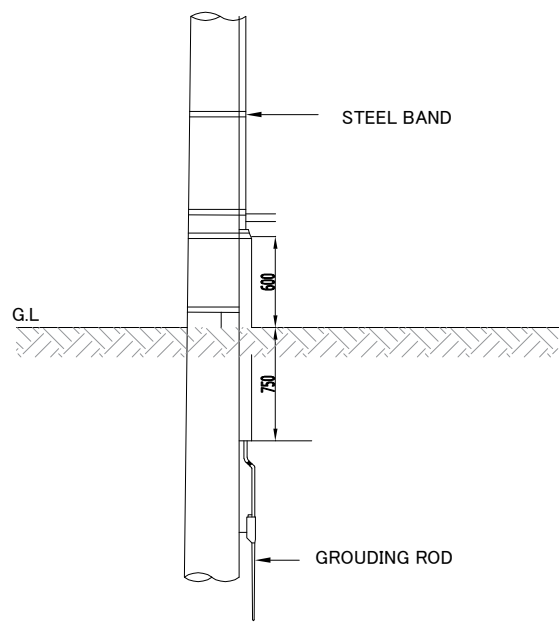
- LIGHTING PANEL
- MOLD-CASE CIRCUIT BREAKER (MCCB)
- GROUNDING
- KILOWATT HR. METER
- POWER TRANSFORMER
- PRIMARY CUTOUT (PC) WITH POWER FUSE (PF)
- LIGHTING ARRESTER (LA)
- GENERATOR
- ENGINE
- AS - AMMETER CHANGE OVER SWITCH
- CF - CURRENT FUSE
- VS - VOLTAGE CHANGE OVER SWITCH
- CT - CURRENT TRANSFORMER
- MDP - MAIN DISTRIBUTION PANEL
- PF - 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	SIGNATURE	DATE	DRAWING TITLE TYPICAL MV SITE SUBSTATION	PACKAGE
				PREPARED BY	K. MORIMATA	29 Sep. 2017		1
				CHECKED BY	T. HAYAKAWA	3 Oct. 2017		DWG No.
				APPROVED BY	Y. SANO	6 Oct. 2017		P1-EL- 0004

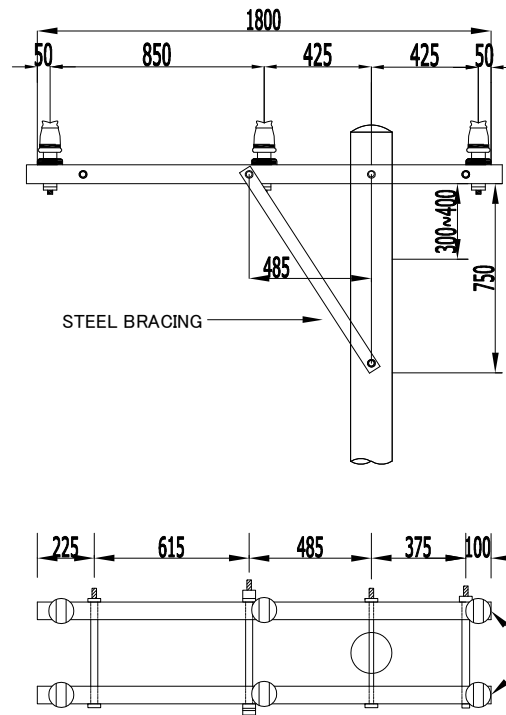
# TYPICAL ELECTRIC POLE ASSEMBLING (6.6kv)



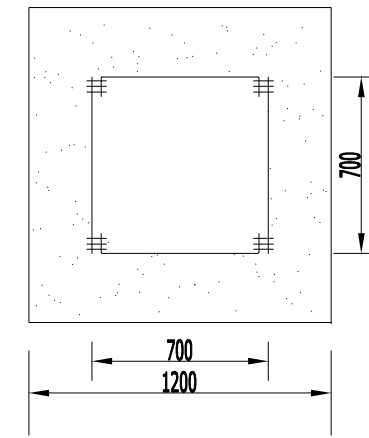
TYPICAL POLE ASSEMBLING FOR  
POLE MOUNTED TRANSFORMER



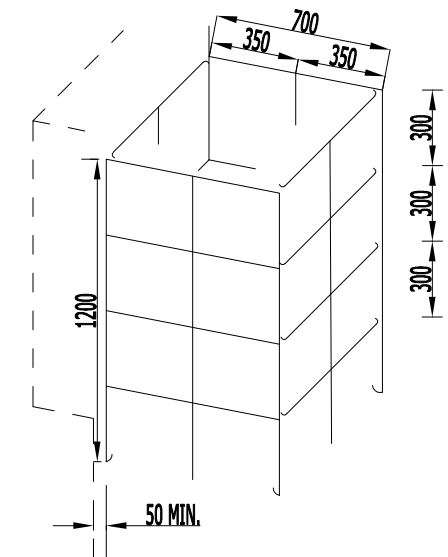
TYPICAL GROUNDING SYSTEM



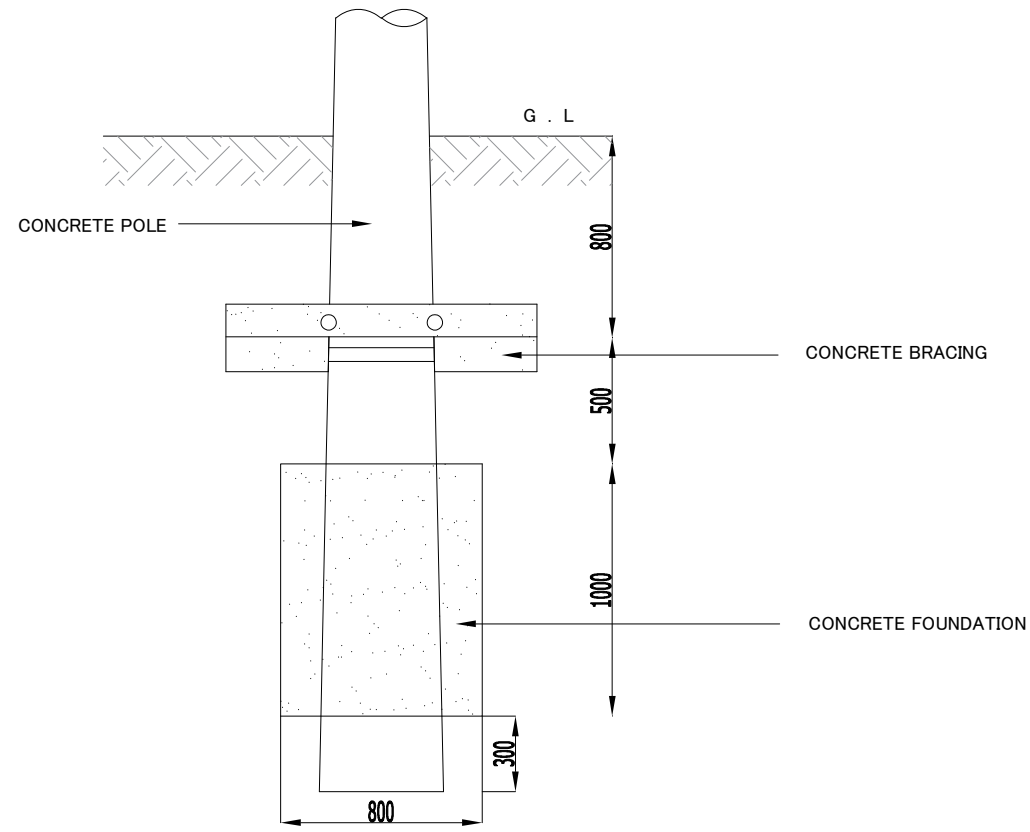
TYPICAL POLE ASSEMBLING FOR  
EXTENDED OVERHEAD LINES



TYPICAL CONCRETE FOUNDATION  
AND RE-BAR ARRANGEMENT



NOTE : REINFORCEMENT BAR WITH MORE THAN 10MM DIA.  
SHALL BE ARRANGED.



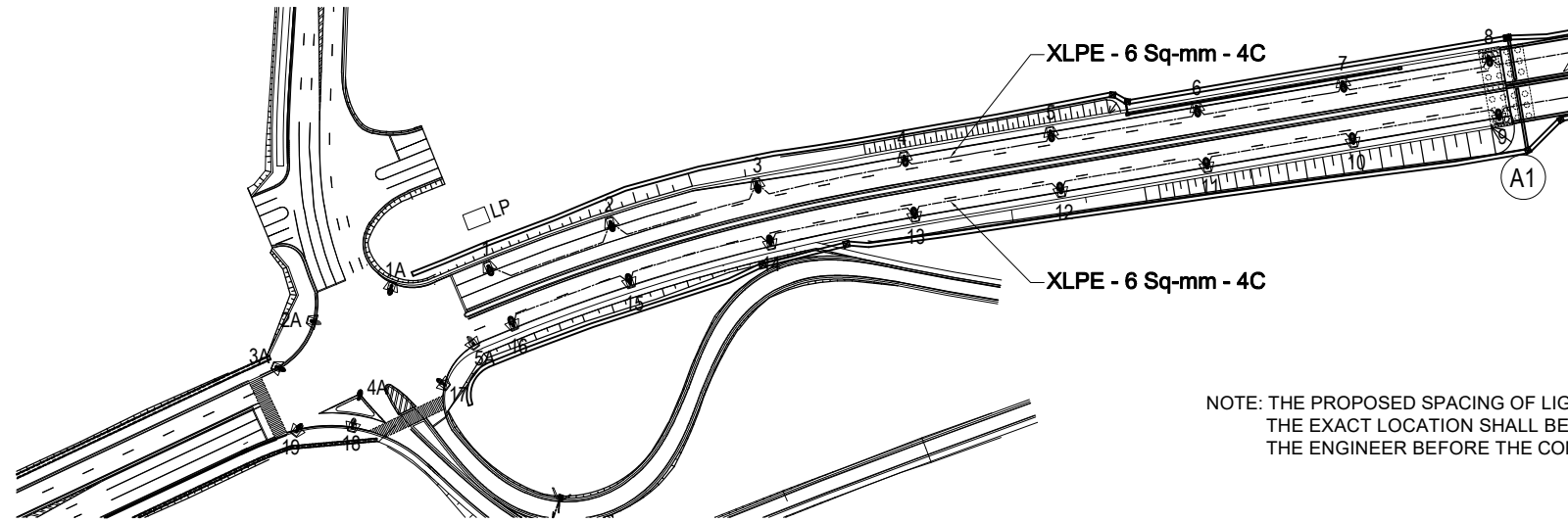
TYPICAL POLE CONCRETE BRACING

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.	PREPARED BY K. MORIMATA		29 Sep. 2017	TYPICAL ELECTRIC POLE ASSEMBLING	1
				CHECKED BY T. HAYAKAWA		3 Oct. 2017		DWG No.
				APPROVED BY Y. SANO		6 Oct. 2017		P1-EL- 0005

# TYPICAL LIGHTING PLAN FOR RETAINING WALL APPROACH (THANLYIN SIDE)

## LEGEND:

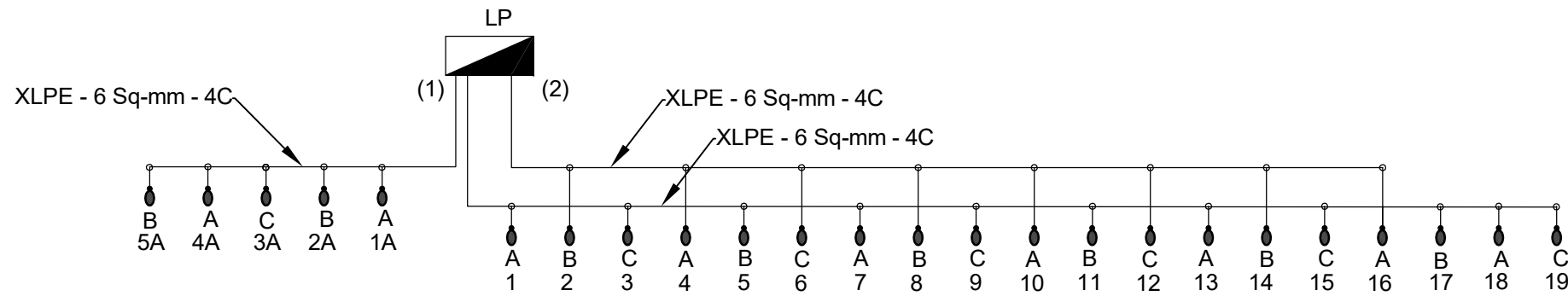
- - ROAD LIGHTING POLE 140(W) 12m HEIGHT
- ⊗ - WARNING LIGHTS, 200 (W)
- ▬ - LIGHTING PANEL
- ⊥ - GROUNDING



NOTE: THE PROPOSED SPACING OF LIGHTING POLE IS 40M AT THE DESIGN STAGE.  
THE EXACT LOCATION SHALL BE PROPOSED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER BEFORE THE COMMENCEMENT OF INSTALLATION

## LIGHTING PLAN FOR RETAINING WALL APPROACH (THANLYIN SIDE)

NTS



## WIRING DIAGRAM

CKT = LP (1)

DESCRIPTION	CONNECTED LOAD (VA)				CIRCUIT BREAKER		
	TOTAL	A	B	C	P	AF	AT
RETAINING WALL APPROACH	165	165			1	25	15
	165			165	1		
	165		165		1		
	165	165			1		
	165			165	1		
	165		165		1		
	165	165			1		
	165			165	1		
	165	165			1		
	165		165		1		
RETAINING WALL APPROACH	165	165			1		
INTERSECTION	177	177			1		
	177		177		1		
	177			177	1		
	177	177			1		
	177		177		1		
SPARE	1000				3		
SPARE							
SUBTOTAL	3,700	1,014	849	837		25	15

CKT = LP (2)

DESCRIPTION	CONNECTED LOAD (VA)				CIRCUIT BREAKER		
	TOTAL	A	B	C	P	AF	AT
RETAINING WALL APPROACH	165		165		1	25	15
	165	165			1		
	165			165	1		
	165		165		1		
	165	165			1		
	165			165	1		
	165		165		1		
RETAINING WALL APPROACH	165	165			1		
SPARE	1000				3		
SPARE							
SUBTOTAL	2320	495	495	330		25	15

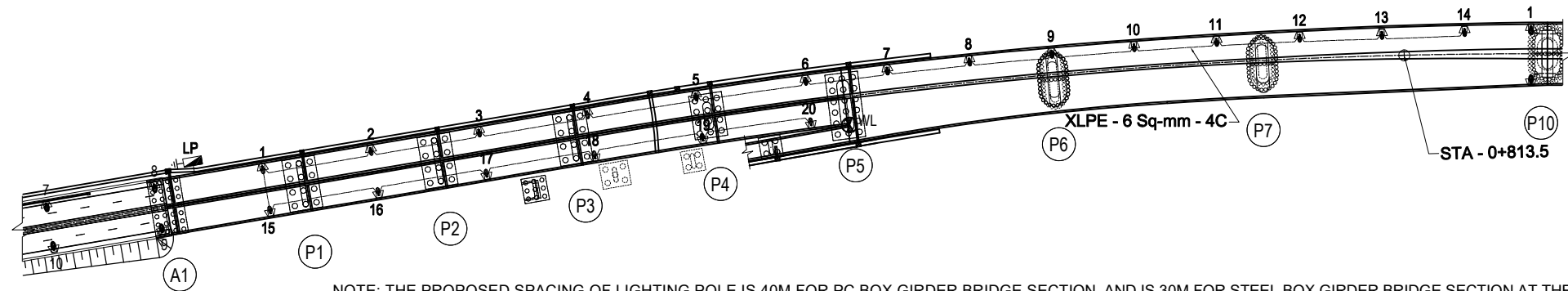
## LOAD SCHEDULE



# TYPICAL LIGHTING PLAN FOR PC BOX GIRDER AND STEEL BOX GIRDER BRIDGE (THANLYIN SIDE)

## LEGEND:

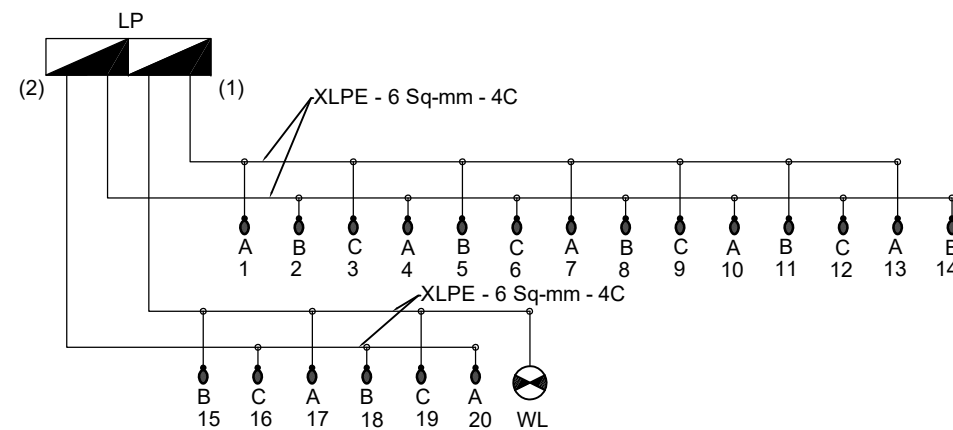
- - ROAD LIGHTING POLE 140(W) 12m HEIGHT
- ⊙ - WARNING LIGHTS, 200 (W)
- ▬ - LIGHTING PANEL
- ⊥ - GROUNDING



NOTE: THE PROPOSED SPACING OF LIGHTING POLE IS 40M FOR PC BOX GIRDER BRIDGE SECTION, AND IS 30M FOR STEEL BOX GIRDER BRIDGE SECTION AT THE DESIGN STAGE. THE EXACT LOCATION SHALL BE PROPOSED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER BEFORE THE COMMENCEMENT OF INSTALLATION

## LIGHTING PLAN FOR PC BOX GIRDER AND STEEL BOX GIRDER (THANLYIN SIDE)

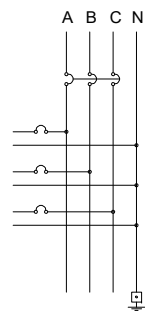
NTS



WIRING DIAGRAM

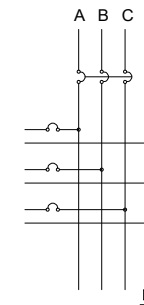
CKT = LP (1)

DESCRIPTION	CONNECTED LOAD (VA)			CIRCUIT BREAKER			
	TOTAL	A	B	C	P	AF	AT
Approach Bridge	165	165			1	25	15
	165			165	1		
	165		165		1		
	165	165			1		
	165			165	1		
	165		165		1		
	165	165			1		
	165		165		1		
Approach Bridge	165			165	1		
Warning Light	200	200					
SPARE	1000				3		
SPARE							
SUBTOTAL	2850	860	495	495		25	15



CKT = LP (2)

DESCRIPTION	CONNECTED LOAD (VA)			CIRCUIT BREAKER			
	TOTAL	A	B	C	P	AF	AT
Approach Bridge	165		165		1	25	15
	165	165			1		
	165			165	1		
	165		165		1		
	165	165			1		
	165			165	1		
	165		165		1		
	165			165	1		
Approach Bridge	165	165			1		
SPARE	1000				3		
SPARE	2650	495	660	495		25	15
SUBTOTAL							



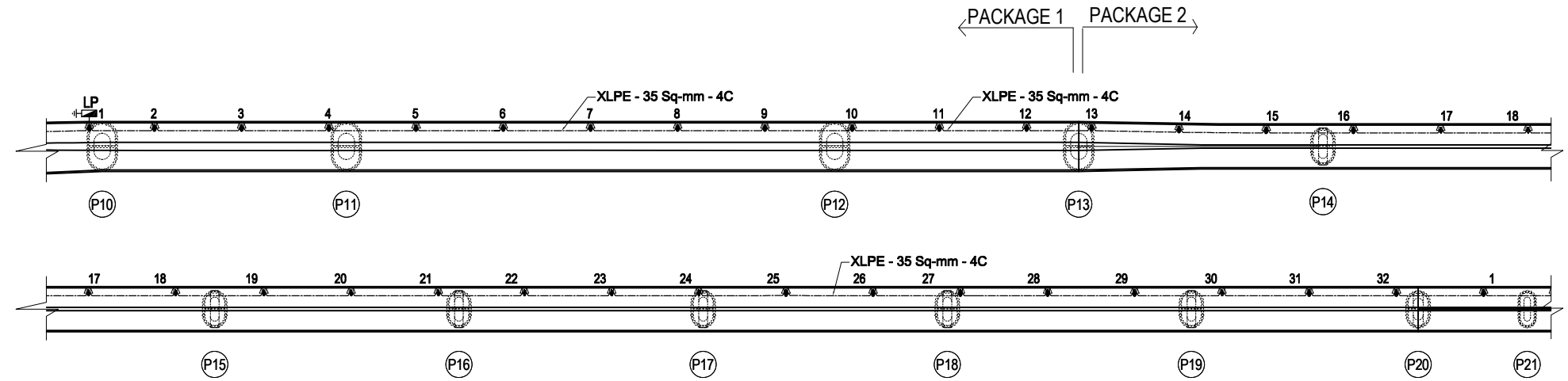
## LOAD SCHEDULE



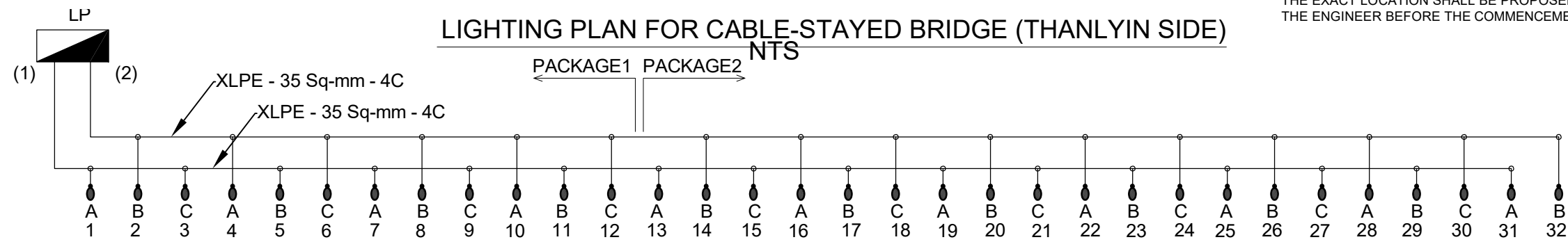
# TYPICAL LIGHTING PLAN FOR CABLE-STAYED BRIDGE (1)

## LEGEND:

- - ROAD LIGHTING POLE 140(W) 12m HEIGHT
- ⊗ - WARNING LIGHTS, 200 (W)
- ▭ - LIGHTING PANEL
- ⊥ - GROUNDING



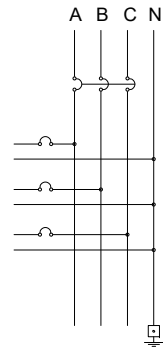
NOTE: THE PROPOSED SPACING OF LIGHTING POLE IS 40M AT THE DESIGN STAGE.  
THE EXACT LOCATION SHALL BE PROPOSED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER BEFORE THE COMMENCEMENT OF INSTALLATION



## WIRING DIAGRAM

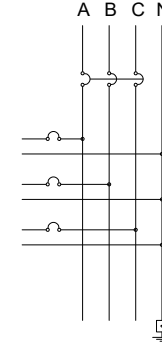
CKT = LP (1)

DESCRIPTION	CONNECTED LOAD (VA)			CIRCUIT BREAKER			
	TOTAL	A	B	C	P	AF	AT
Main Road	165	165			1	30	20
	165			165	1		
	165		165		1		
	165	165			1		
	165			165	1		
	165	165			1		
	165			165	1		
	165			165	1		
	165	165			1		
	165			165	1		
	165			165	1		
	165	165			1		
	165			165	1		
	165			165	1		
	165	165			1		
	165			165	1		
Main Road	165	165			1		
SPARE	1000				3		
SPARE							
SUBTOTAL	3640	990	825	825		30	20



CKT = LP (2)





DESCRIPTION	CONNECTED LOAD (VA)			CIRCUIT BREAKER			
	TOTAL	A	B	C	P	AF	AT
Main Road	165				1	30	20
	165	165			1		
	165			165	1		
	165		165		1		
	165	165			1		
	165			165	1		
	165			165	1		
	165	165			1		
	165			165	1		
	165			165	1		
	165	165			1		
	165			165	1		
	165			165	1		
	165	165			1		
	165			165	1		
	165			165	1		
	165	165			1		
	165			165	1		
Main Road	165				1		
SPARE	1000				3		
SPARE							
SUBTOTAL	3640	825	990	825		30	20

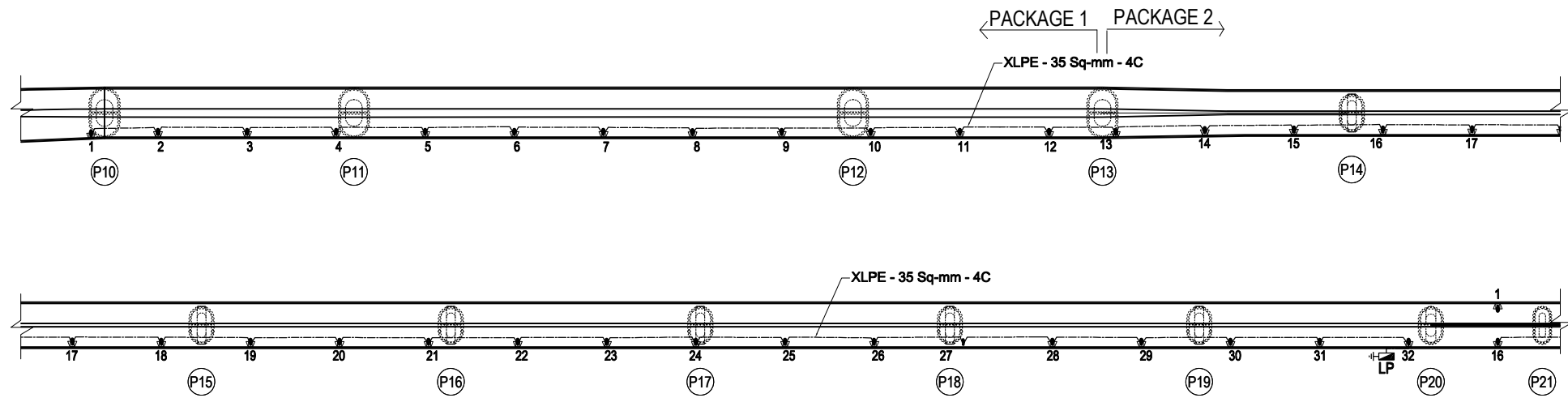


## LOAD SCHEDULE

# TYPICAL LIGHTING PLAN FOR CABLE-STAYED BRIDGE (2)

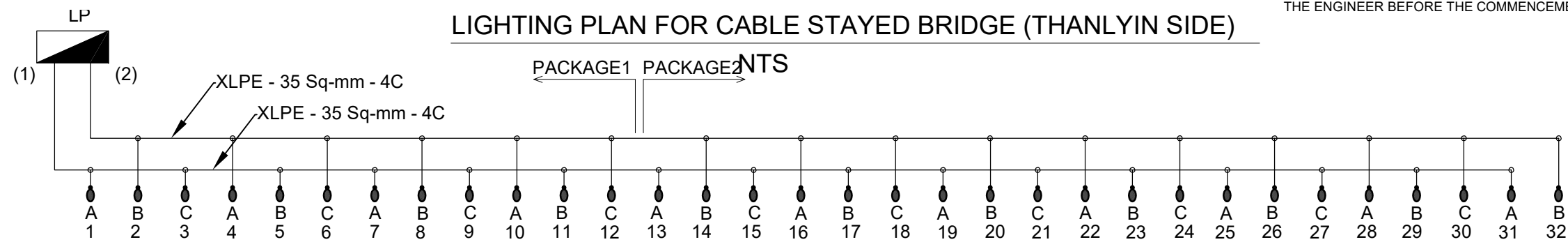
## LEGEND:

-  - ROAD LIGHTING POLE 140(W) 12m HEIGHT
-  - WARNING LIGHTS, 200 (W)
-  - LIGHTING PANEL
-  - GROUNDING



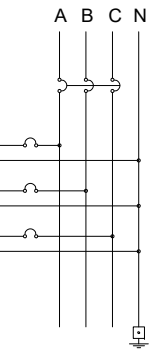
NOTE: THE PROPOSED SPACING OF LIGHTING POLE IS 40M AT THE DESIGN STAGE.  
THE EXACT LOCATION SHALL BE PROPOSED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER BEFORE THE COMMENCEMENT OF INSTALLATION

## LIGHTING PLAN FOR CABLE STAYED BRIDGE (THANLYIN SIDE)

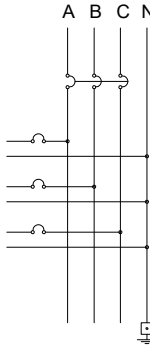


## WIRING DIAGRAM

CKT = LP (1)

DESCRIPTION	CONNECTED LOAD (VA)			CIRCUIT BREAKER				
	TOTAL	A	B	C	P	AF		AT
Main Road	165	165			1	30	20	
	165			165	1			
	165		165		1			
	165	165			1			
	165			165	1			
	165		165		1			
	165	165			1			
	165			165	1			
	165		165		1			
	165	165			1			
	165			165	1			
	165		165		1			
	165	165			1			
	165			165	1			
	165	165			1			
Main Road	165	165			1			
SPARE	1000				3			
SPARE								
<b>SUBTOTAL</b>	<b>3640</b>	<b>990</b>	<b>825</b>	<b>825</b>		<b>30</b>	<b>20</b>	

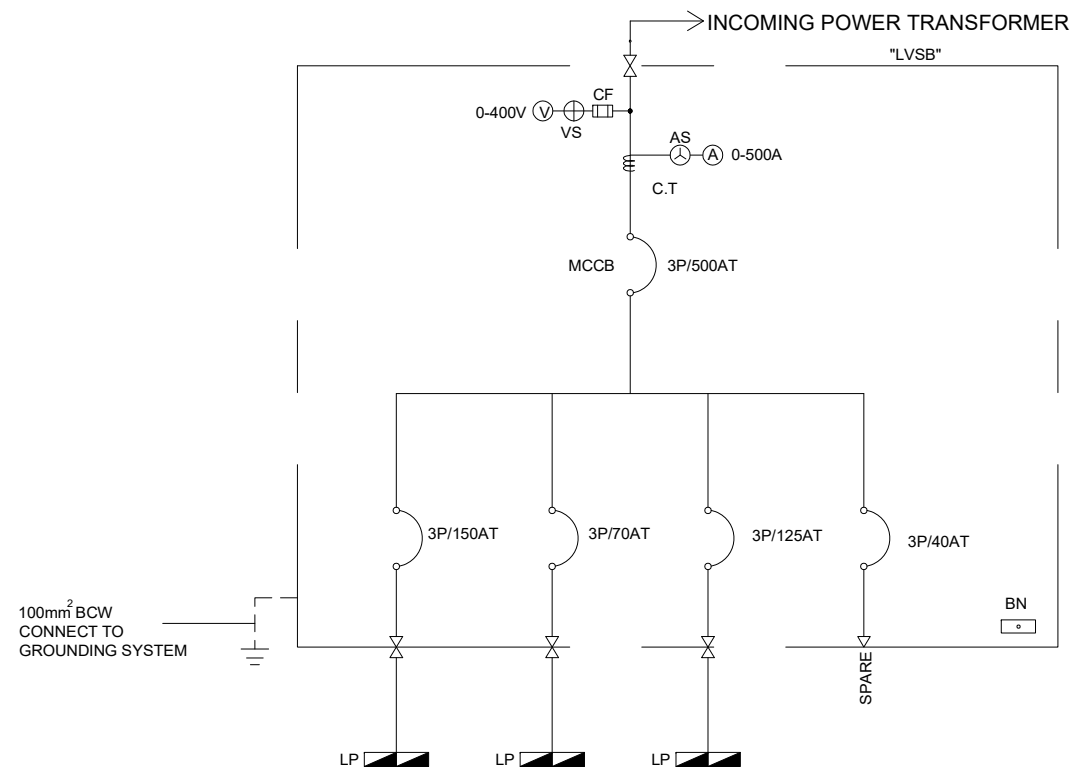
CKT = LP (2)

DESCRIPTION	CONNECTED LOAD (VA)			CIRCUIT BREAKER				
	TOTAL	A	B	C	P	AF		AT
Main Road	165		165		1	30	20	
	165	165			1			
	165			165	1			
	165		165		1			
	165	165			1			
	165			165	1			
	165	165			1			
	165			165	1			
	165		165		1			
	165	165			1			
	165			165	1			
	165		165		1			
	165	165			1			
	165			165	1			
	165	165			1			
Main Road	165		165		1			
SPARE	1000				3			
SPARE								
<b>SUBTOTAL</b>	<b>3640</b>	<b>825</b>	<b>990</b>	<b>825</b>		<b>30</b>	<b>20</b>	

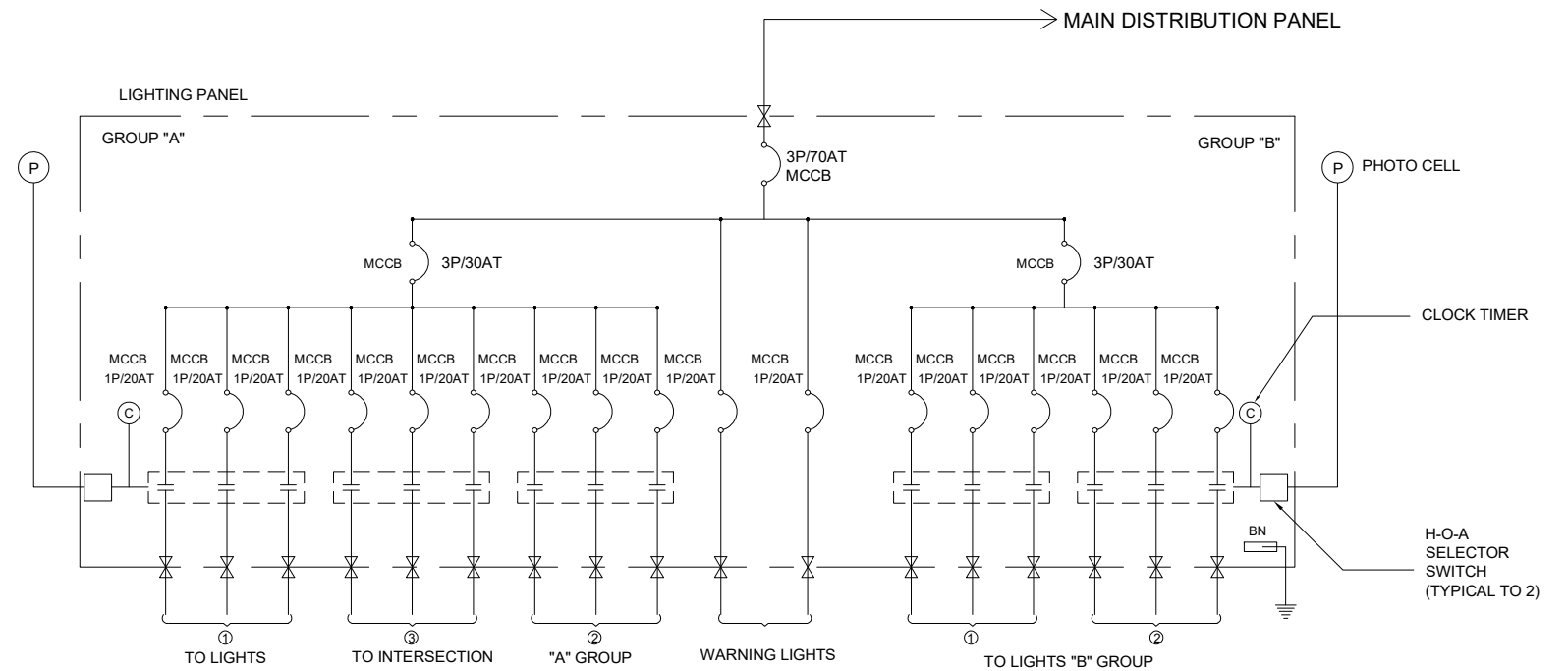
## LOAD SCHEDULE



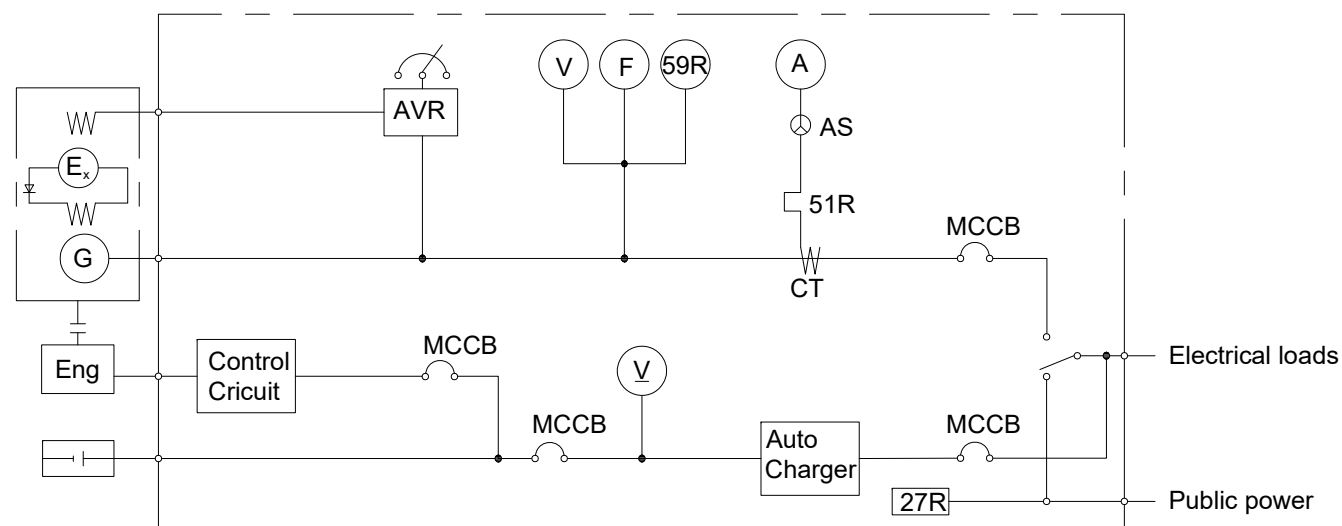
# (REFERENCE) SINGLE LINE DIAGRAM FOR PANELS



SINGLE LINE DIAGRAM FOR MAIN DISTRIBUTION PANEL



SINGLE LINE DIAGRAM FOR LIGHTING PANEL

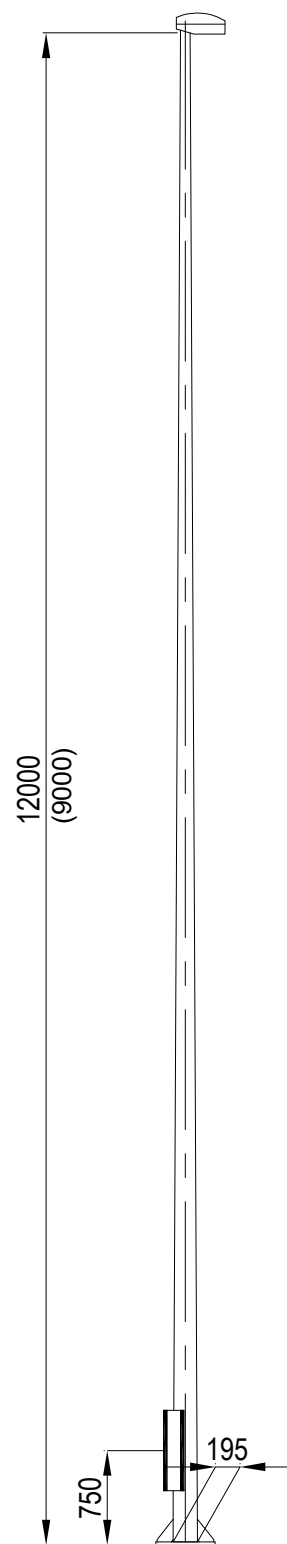


SINGLE LINE DIAGRAM FOR ENGINE GENERATOR CONTROL PANEL

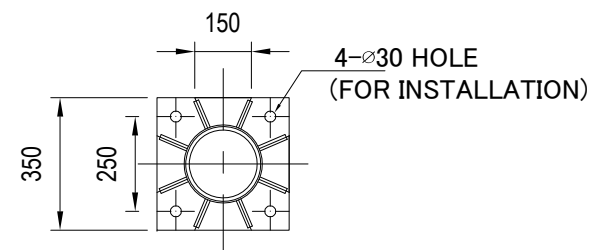
## LEGEND

	: MOLD-CASE CIRCUIT BREAKER		: DIESEL ENGINE
AT	: AMPERE TRIPPING		: GENERATOR
	: GROUNDING		: EXITER
	: CONTACTOR		: AMPERE METER
VS	: VOLTMETER CHANGE OVER SWITCH		: VOLTAGE METER
AS	: AMMETER CHANGOVER SWITCH		: FREQUENCY METER
CT	: CURRENT TRANSFORMER		: BATTERY
			: AUTOMATIC VOLTAGE LEGULATOR
		27R	: LOW VOLTAGE RELAY
		59G	: OVER VOLTAGE
		51R	: OVERCURRENT RELAY

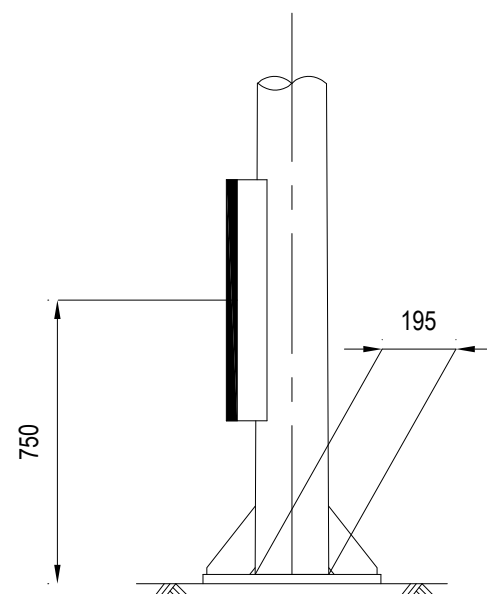
# TYPICAL LED LUMINAIR AND POLE



NOTE: ( ) : FOR ON-RAMP  
OUTLINE OF POLE

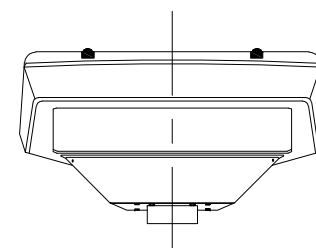


DETAILS OF BASE PLATE

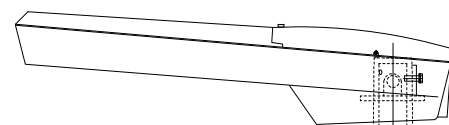


MAINTENANCE OPENING

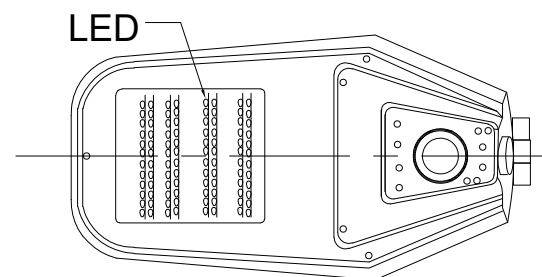
REFERENCE FOR LIGHTING POLE  
NTS



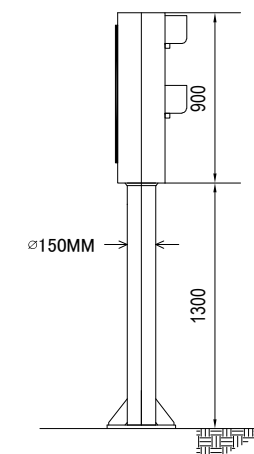
FRONT VIEW



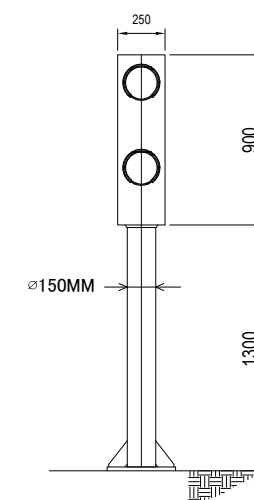
SIDE VIEW



REFERENCE FOR LED LUMINAIR  
NTS



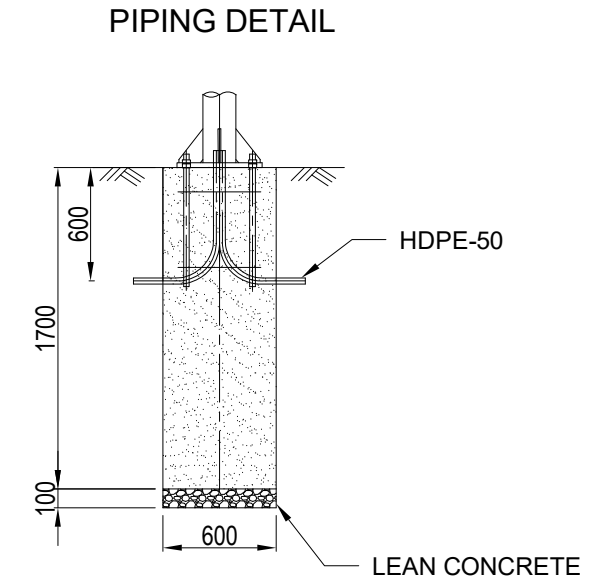
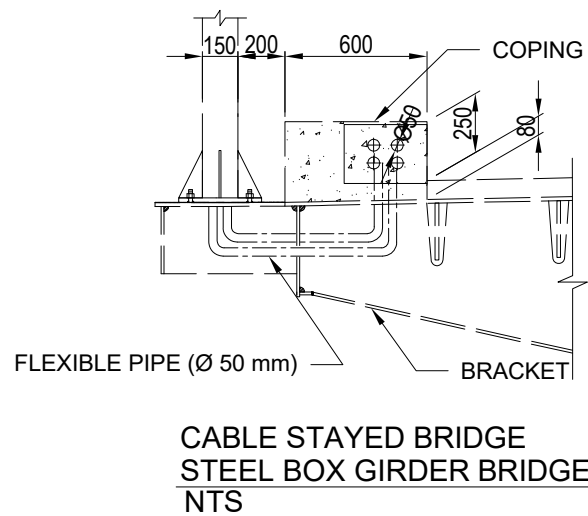
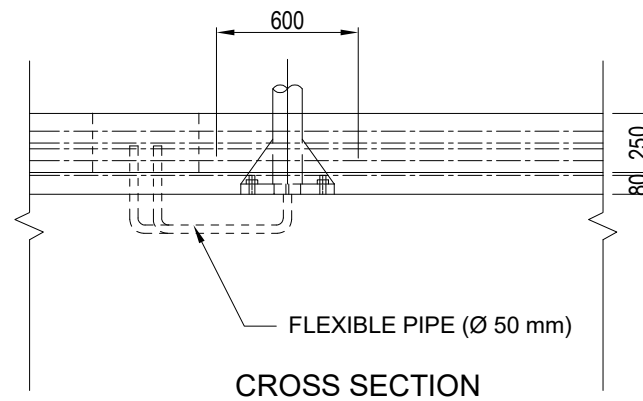
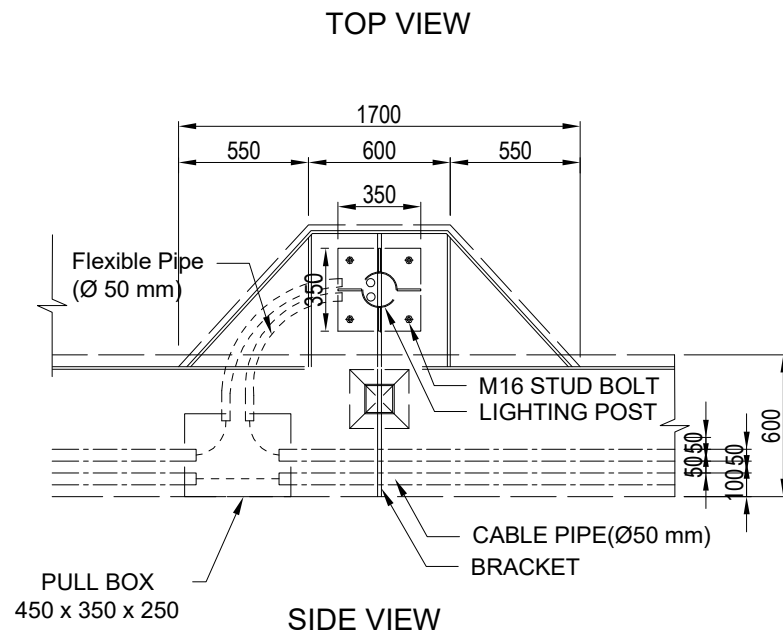
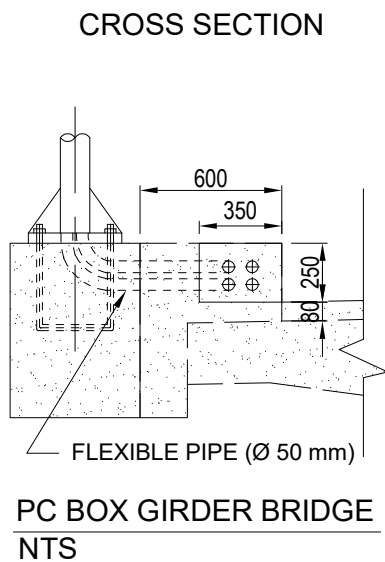
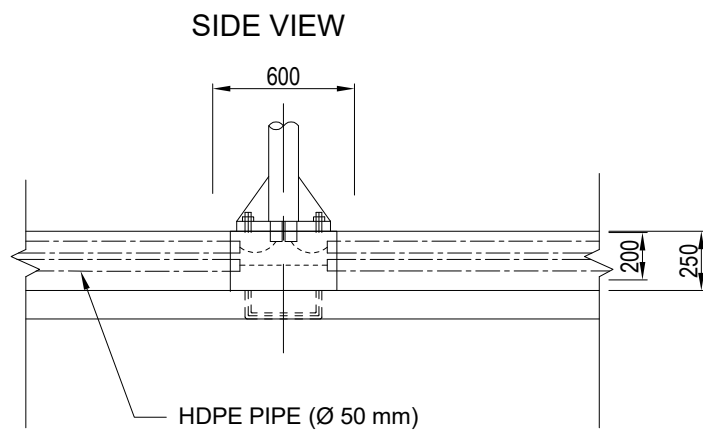
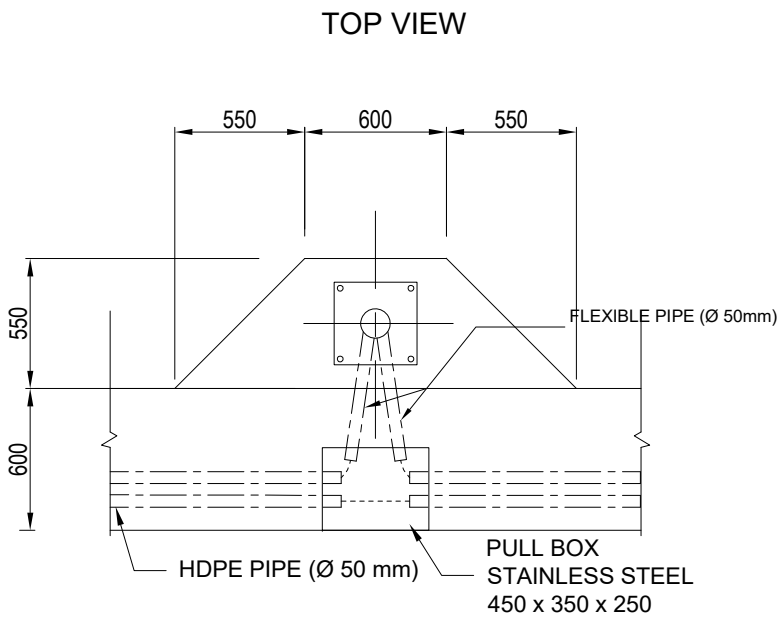
SIDE VIEW  
NTS



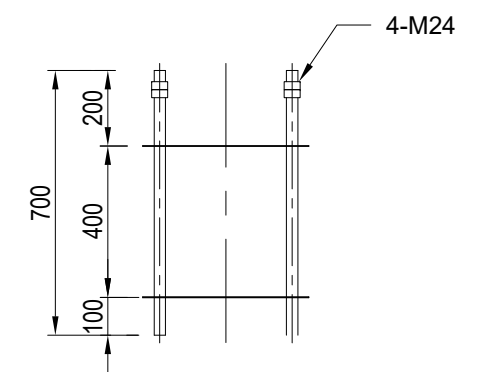
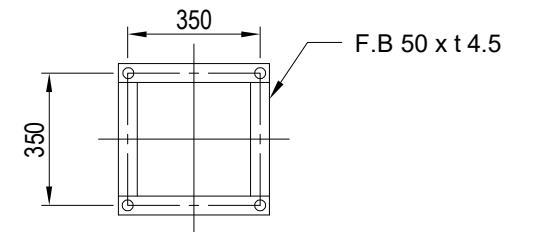
FRONT VIEW  
NTS

REFERENCE WARNING LIGHTS  
NTS

# TYPICAL FOUNDATION DETAILS FOR ROAD LIGHTING POLE



DETAIL OF ANCHOR BOLT

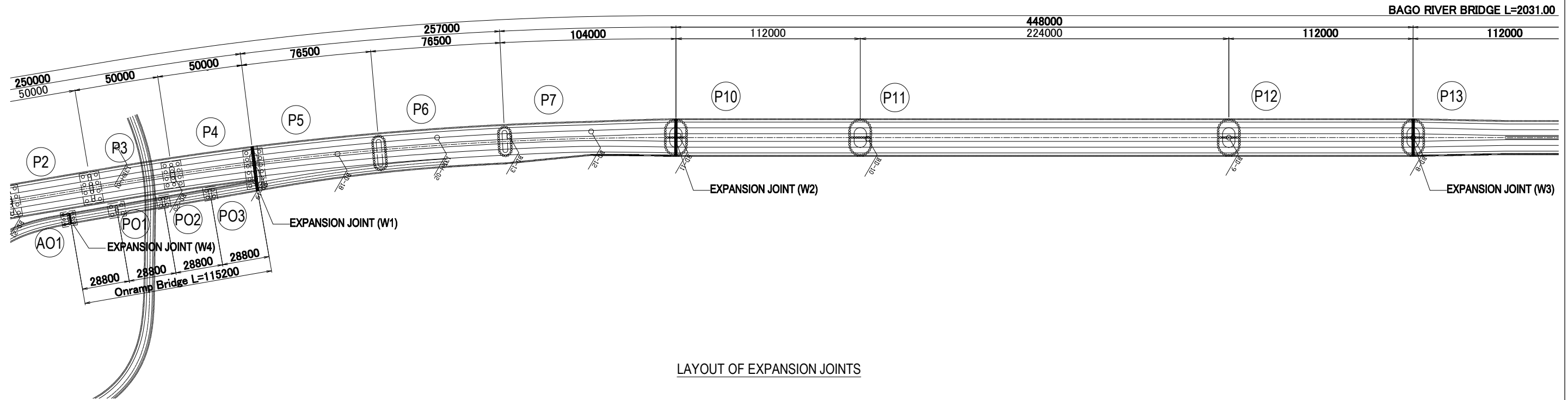


FOR PUBLIC ROAD LIGHTING POLE  
NTS

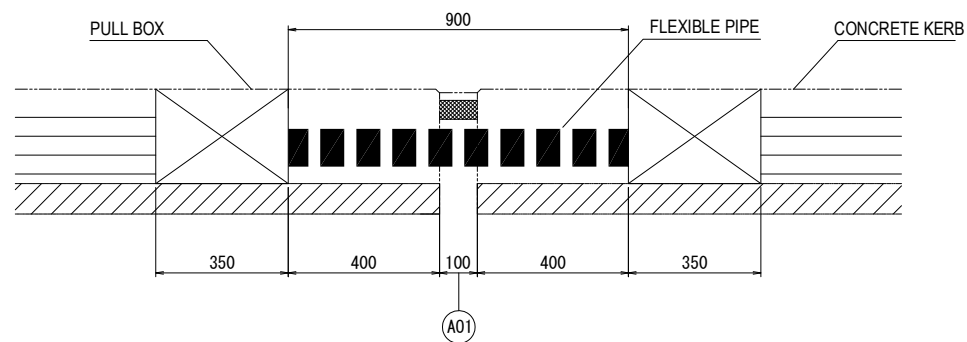
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE TYPICAL FOUNDATION DETAILS FOR ROAD LIGHTING POLE	PACKAGE	
				PREPARED BY	K. MORIMATA			29 Sep. 2017	1
				CHECKED BY	T. HAYAKAWA			3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct. 2017	P1-EL- 0013



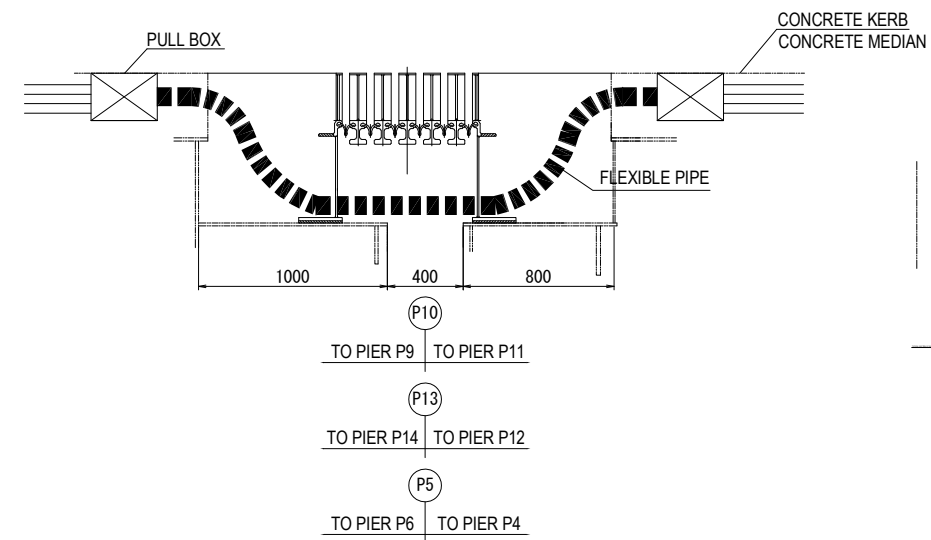
# (REFERENCE) INSTALLATION DETAIL FOR FLEXIBLE PIPE



LAYOUT OF EXPANSION JOINTS

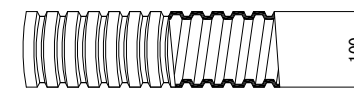


TYPICAL INSTALLATION DETAIL OF FLEXIBLE PIPE (A01))



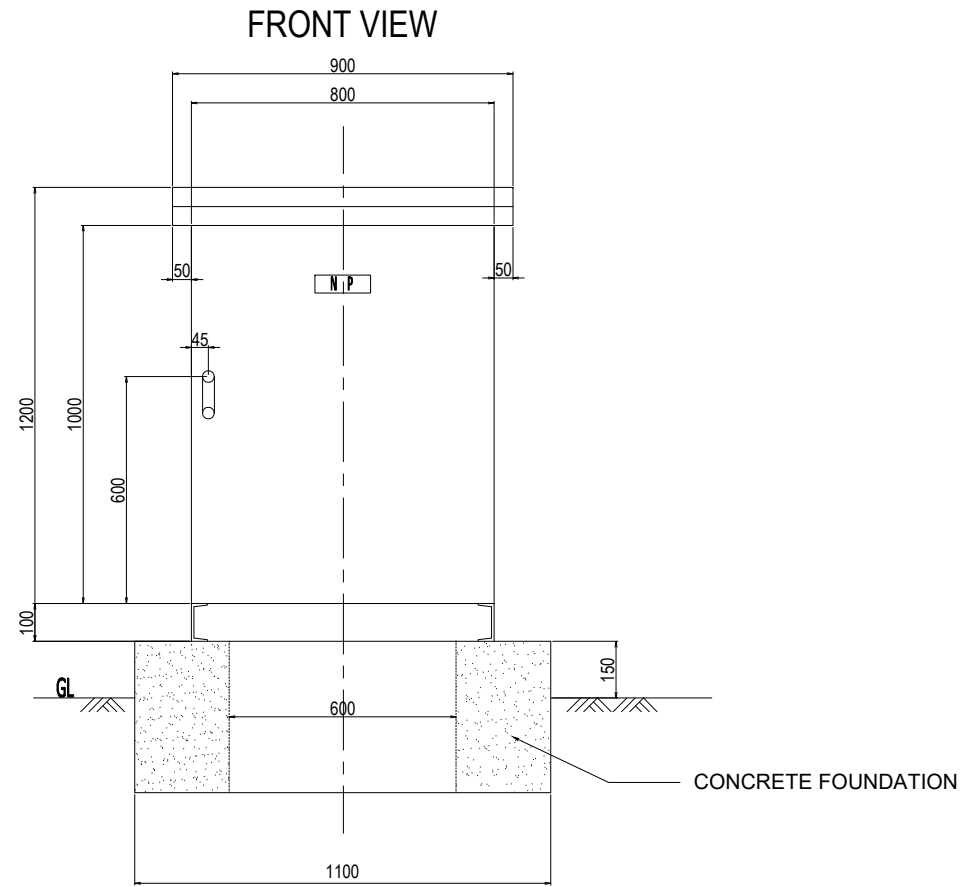
TYPICAL INSTALLATION DETAIL OF FLEXIBLE PIPE (P10,P13)

	No	W (mm)
EXPANSION	1	3500
	2	3500
	3	3500
	4	1000

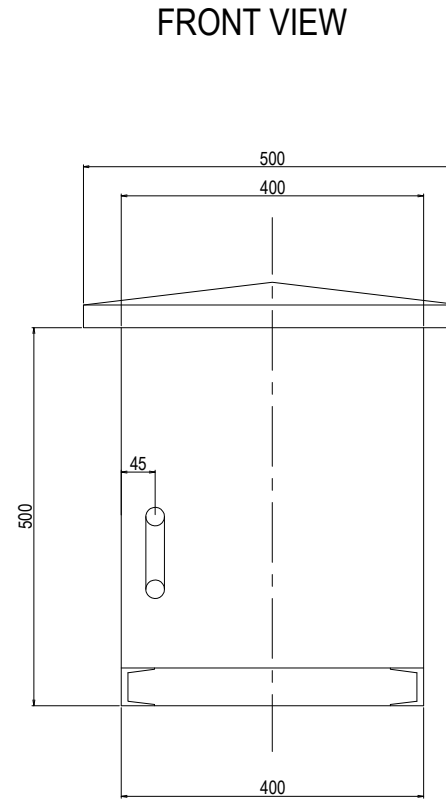


DIAMETER OF FLEXIBLE PIPE

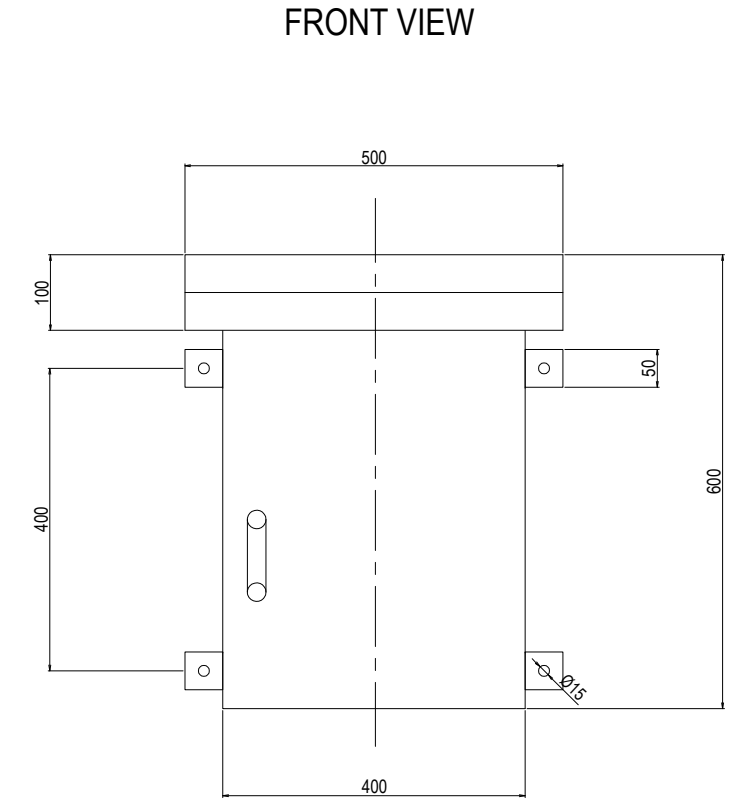
# (REFERENCE) OUTLINE OF ELECTRIC PANELS



**MAIN DISTRIBUTION PANEL** S=1:20



**LIGHTING PANEL** S=1:10













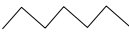
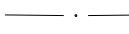


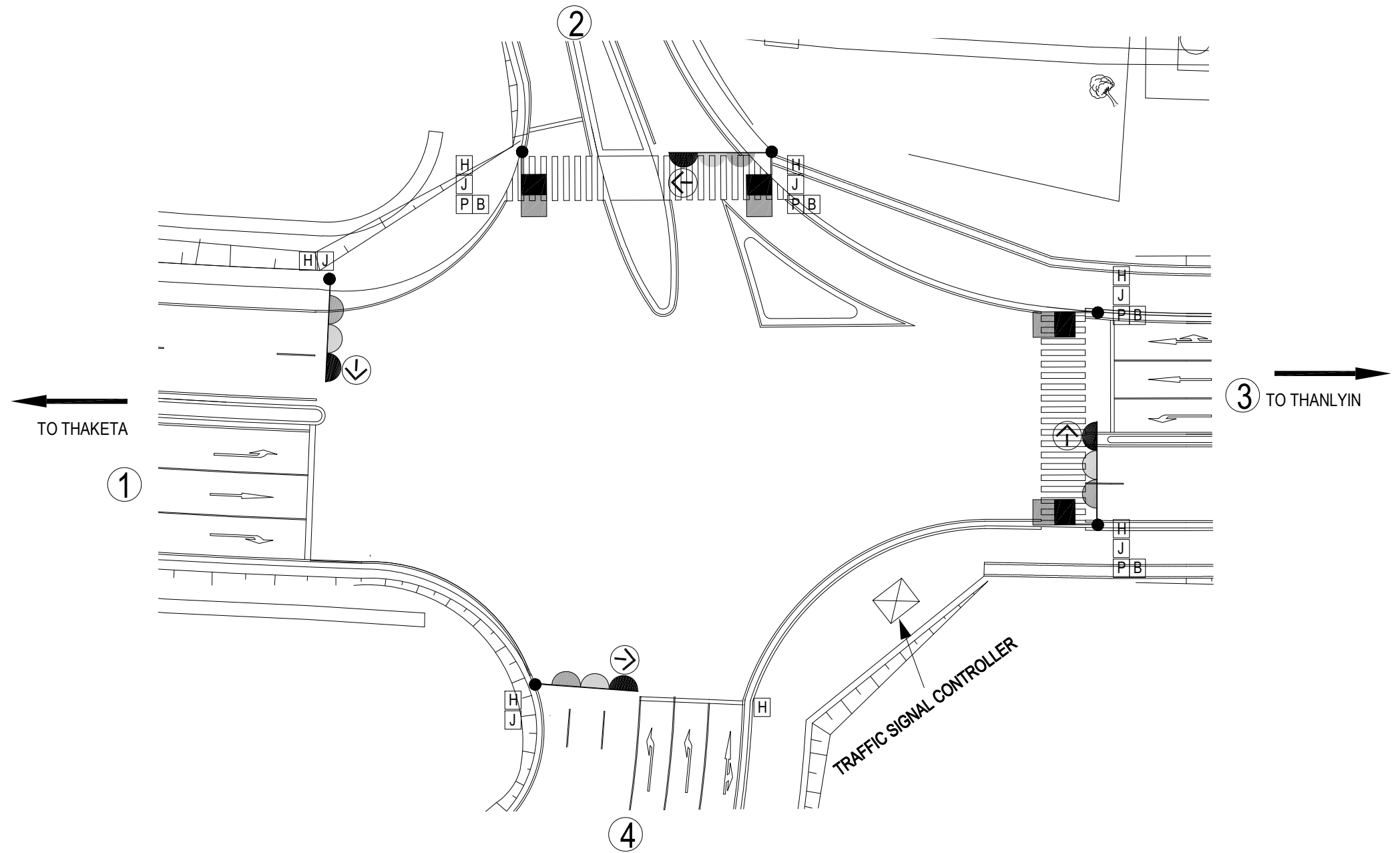
**POLE MOUNTED TYPE BOX** S=1:10

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	PACKAGE			
				PREPARED BY	K. MORIMATA				29 Sep. 2017	(REFERENCE) OUTLINE OF ELECTRIC PANELS	1
				CHECKED BY	T. HAYAKAWA				3 Oct. 2017		DWG No.
				APPROVED BY	Y. SANO				6 Oct. 2017		P1-EL- 0015

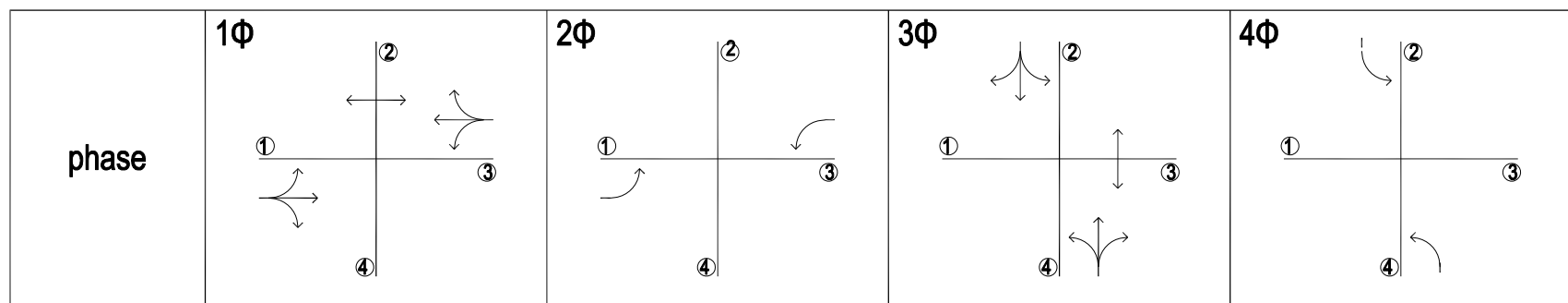
# TYPICAL TRAFFIC SIGNAL SYSTEM PLAN FOR STA.0+40 INTERSECTION

## 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
-  : Cable
-  : Underground piping
- SVV : Control -use vinyl insulated vinyl sheathed cable
- IV : Indoor PVC
- E : Grounding



TRAFFIC SIGNAL SYSTEM PLAN  
NTS



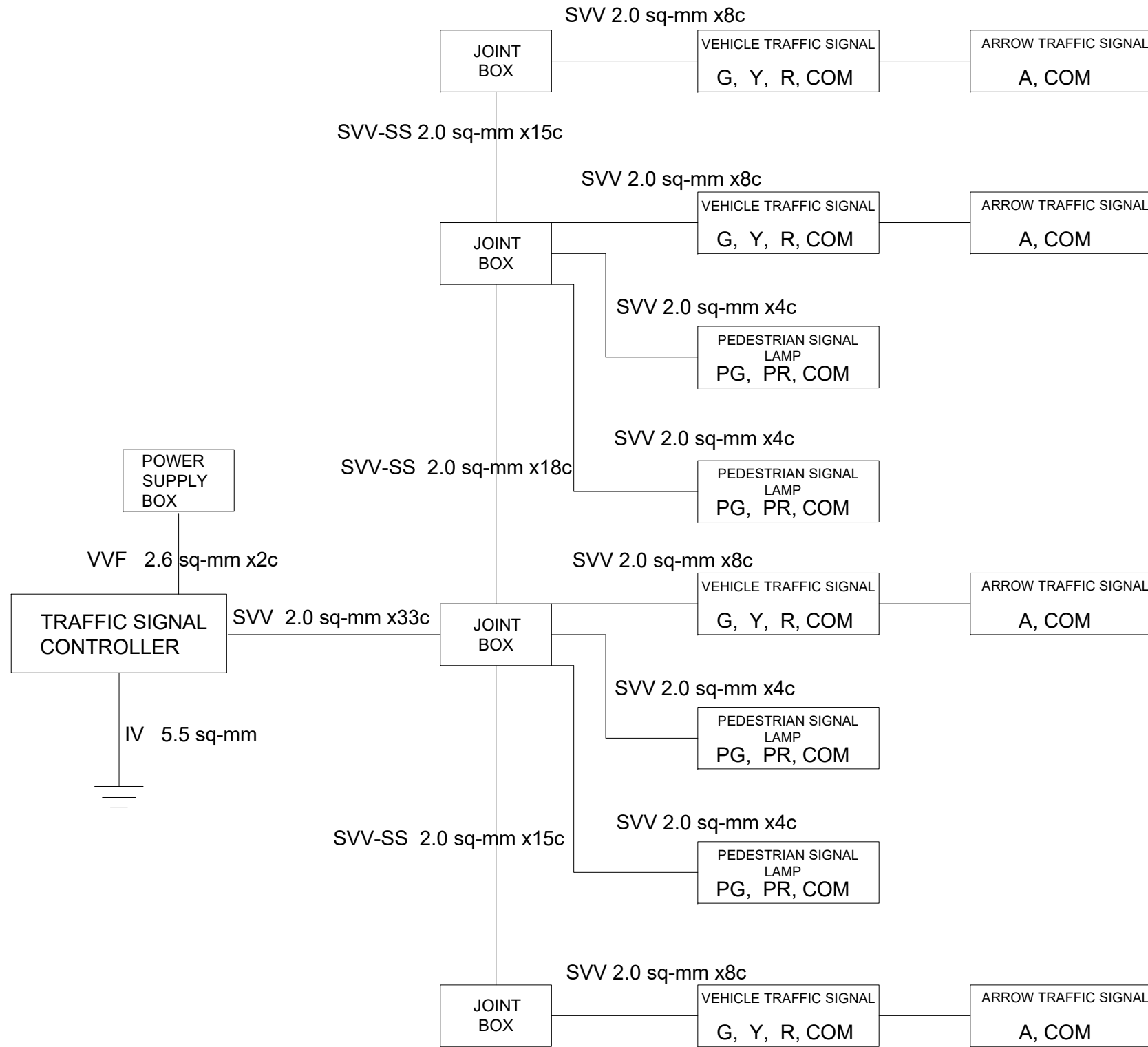
## TRAFFIC SIGNAL AND PEDESTRIAN PHASING DIAGRAM

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	K. MORIMATA				29 Sep. 2017	TYPICAL TRAFFIC SIGNAL SYSTEM PLAN FOR STA.0+40 INTERSECTION	1
				CHECKED BY	T. HAYAKAWA				3 Oct. 2017		DWG No.
APPROVED BY	Y. SANO		6 Oct. 2017	P1-EL- 0016							

# TYPICAL TRAFFIC SIGNAL CONTROL SYSTEM DIAGRAM

## LEGND

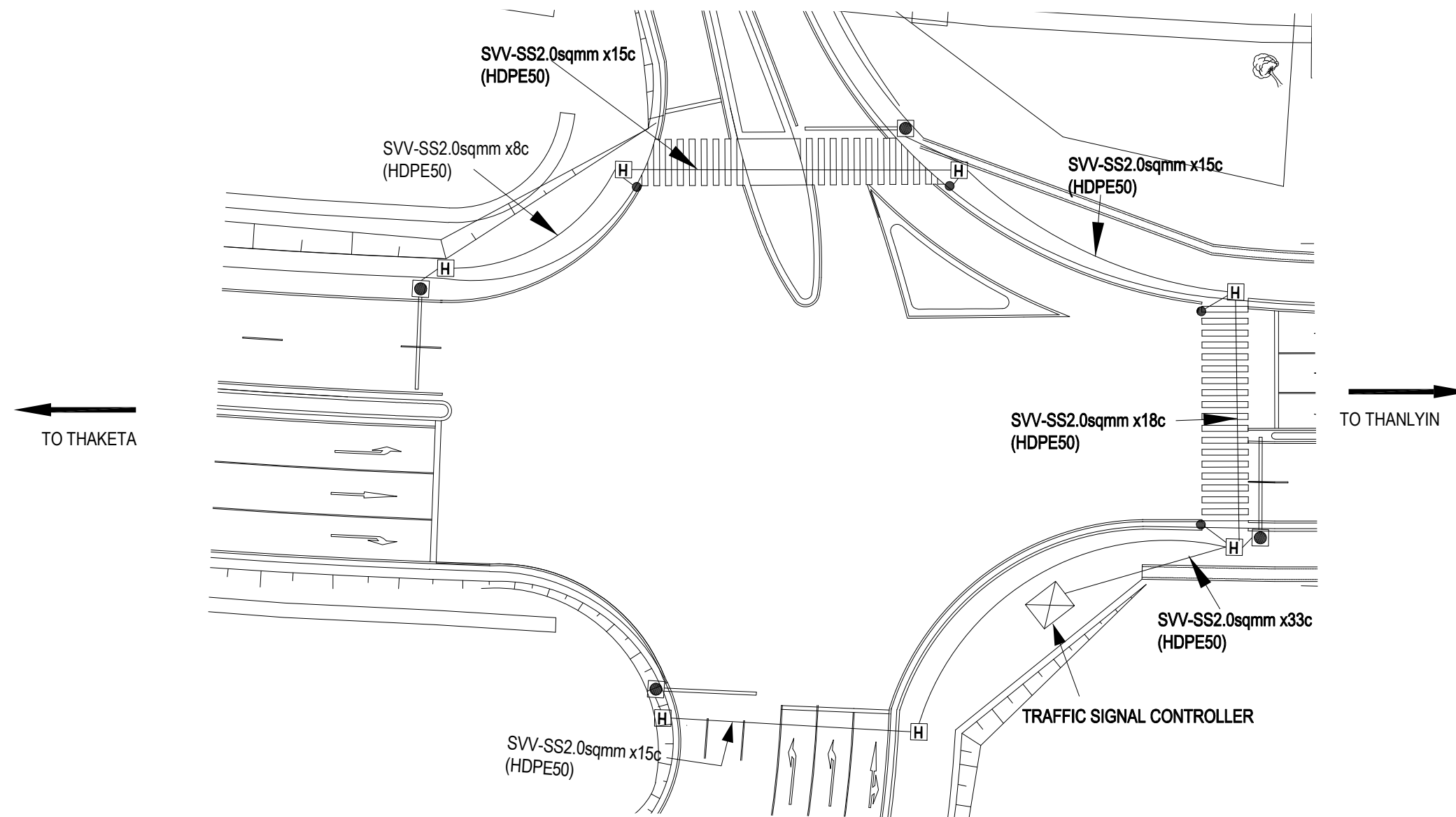
- G : Vehicle traffic signal : Green light
- Y : Vehicle traffic signal : Yellow light
- R : Vehicle traffic signal : Red light
- A : Arrow traffic signal : Green light
- PG : Pedestrian signal lamp : Green light
- PR : Pedestrian signal lamp : Red light
- COM : Common for all indication



## TYPICAL TRAFFIC SIGNAL CONTROL SYSTEM DIAGRAM FOR STA.0+40 INTERSECTION

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	K. MORIMATA				29 Sep. 2017	TYPICAL TRAFFIC SIGNAL CONTROL SYSTEM DIAGRAM	1
				CHECKED BY	T. HAYAKAWA				3 Oct. 2017		DWG No.
				APPROVED BY	Y. SANO				6 Oct. 2017		P1-EL- 0017

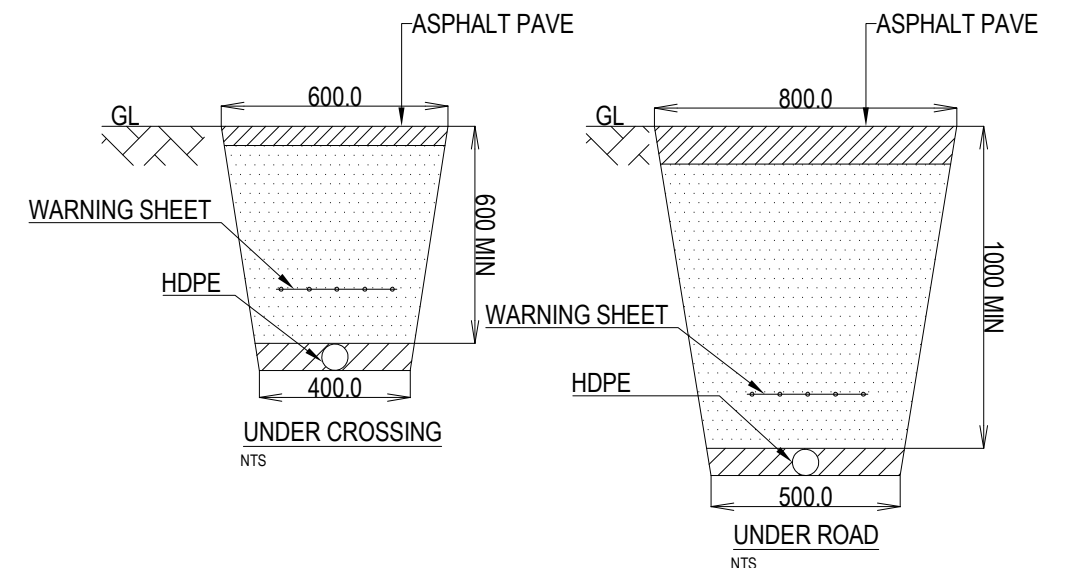
# TYPICAL UNDERGROUND WIRING PLAN FOR STA.0+40 INTERSECTION



UNDERGROUND WIRING PLAN FOR STA.0+40 INTERSECTION  
1:400

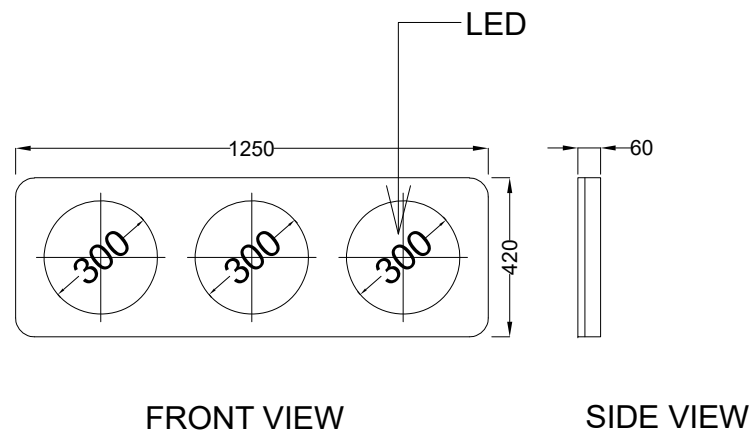
## LEGEND

- : Base mounted pole signal head pole (with arm)
- : Pedestrian signal head pole (with push-button)
- : Underground wiring

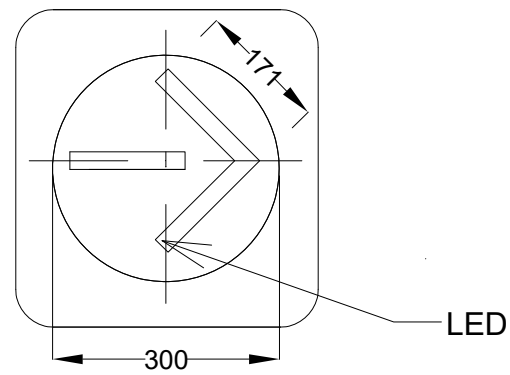


PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO. LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE TYPICAL UNDERGROUND WIRING PLAN FOR STA.0+40 INTERSECTION	PACKAGE	
				PREPARED BY	K. MORIMATA			29 Sep. 2017	1
				CHECKED BY	T. HAYAKAWA			3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct. 2017	P1-EL- 0018

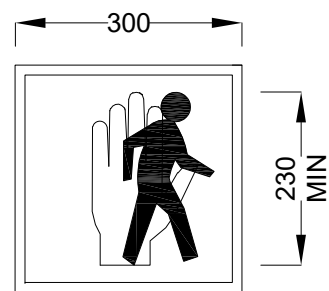
# (REFERENCE) TRAFFIC SIGNAL HEAD AND POLES



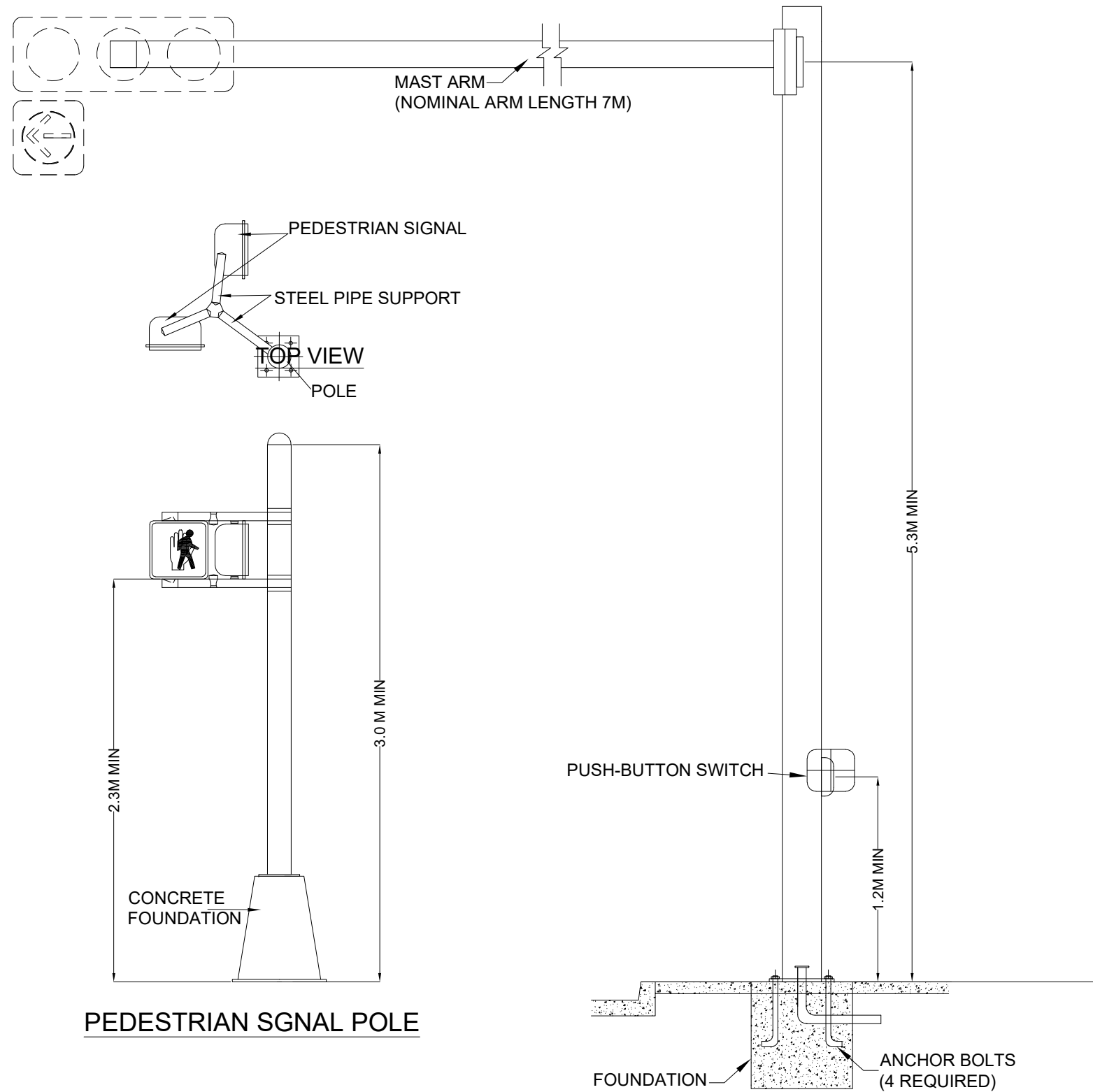
FRONT VIEW SIDE VIEW  
TYPICAL SIGNAL HEAD S=1:20



TYPICAL ARROW SIGNAL DETAIL S=1:10



TYPICAL PEDESTRIAN SIGNAL S=1:10



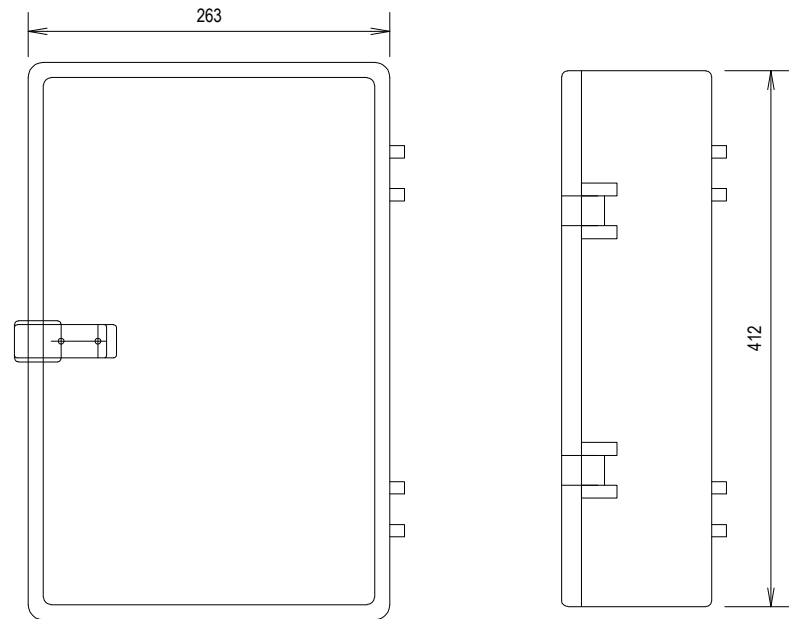
PEDESTRIAN SIGNAL POLE

TRAFFIC SIGNAL HEAD POLE

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 (REFERENCE) TRAFFIC SIGNAL HEAD AND POLES	PACKAGE	
				PREPARED BY	K. MORIMATA			29 Sep. 2017	1
				CHECKED BY	T. HAYAKAWA			3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct. 2017	P1-EL- 0019

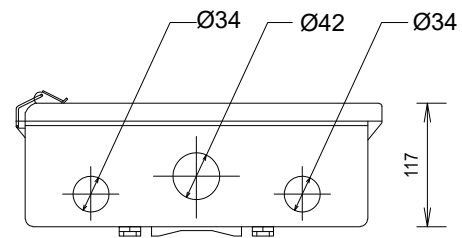


# (REFERENCE) OUTLINE OF TRAFFIC SIGNAL CONTROLLER AND JUNCTION BOX



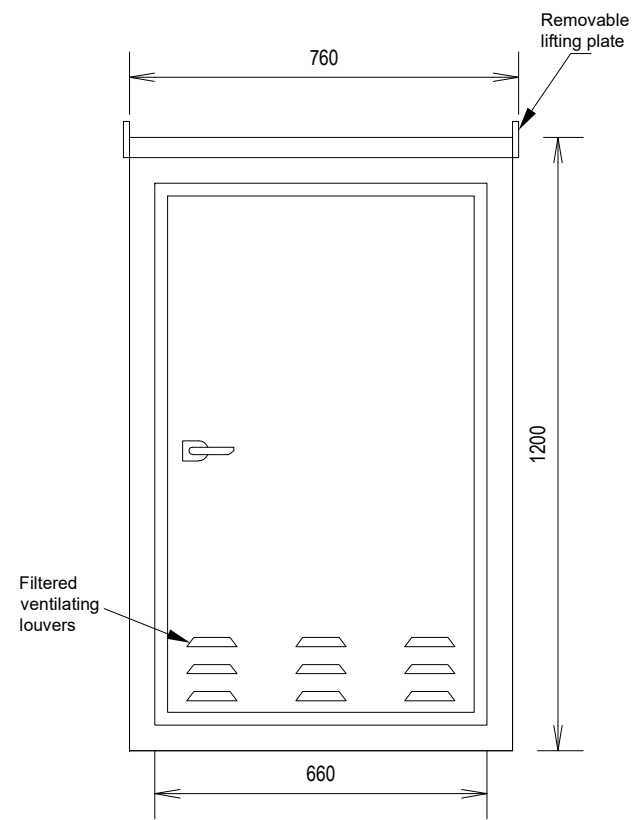
FRONT VIEW  
UNIT : mm

SIDE VIEW  
UNIT : mm

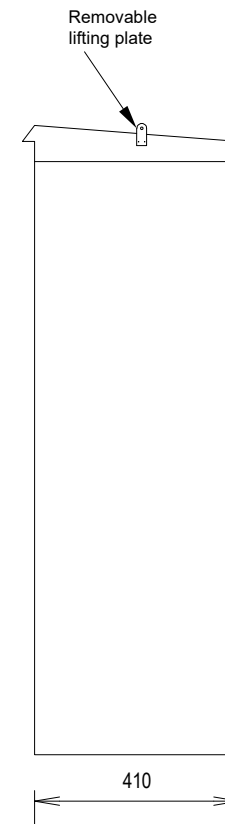


BOTTOM VIEW  
UNIT : mm

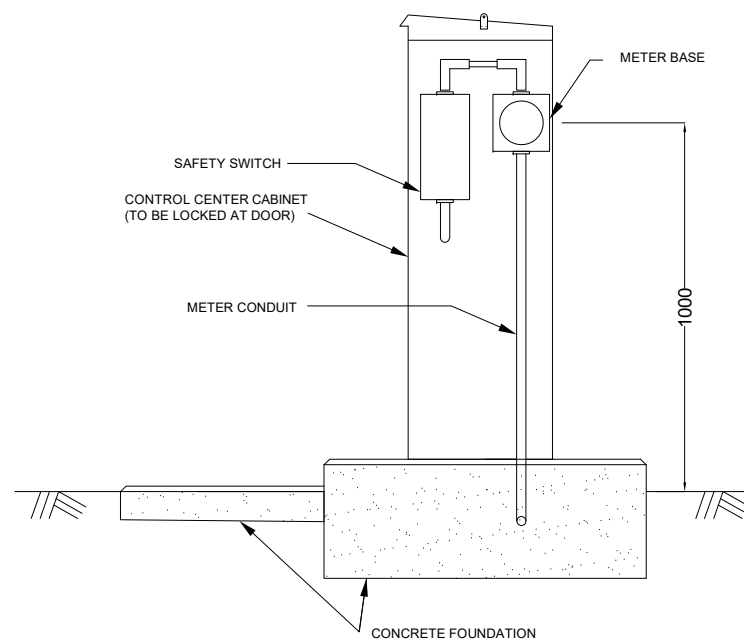
TYPICAL OUTLINE OF JUNCTION BOX  
NTS



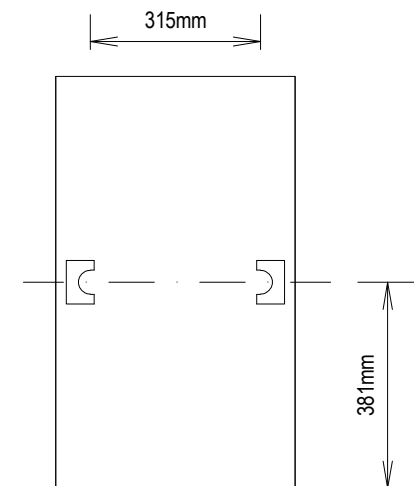
FRONT VIEW



SIDE VIEW



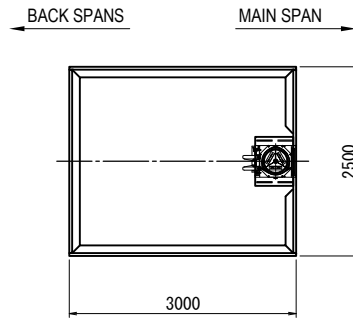
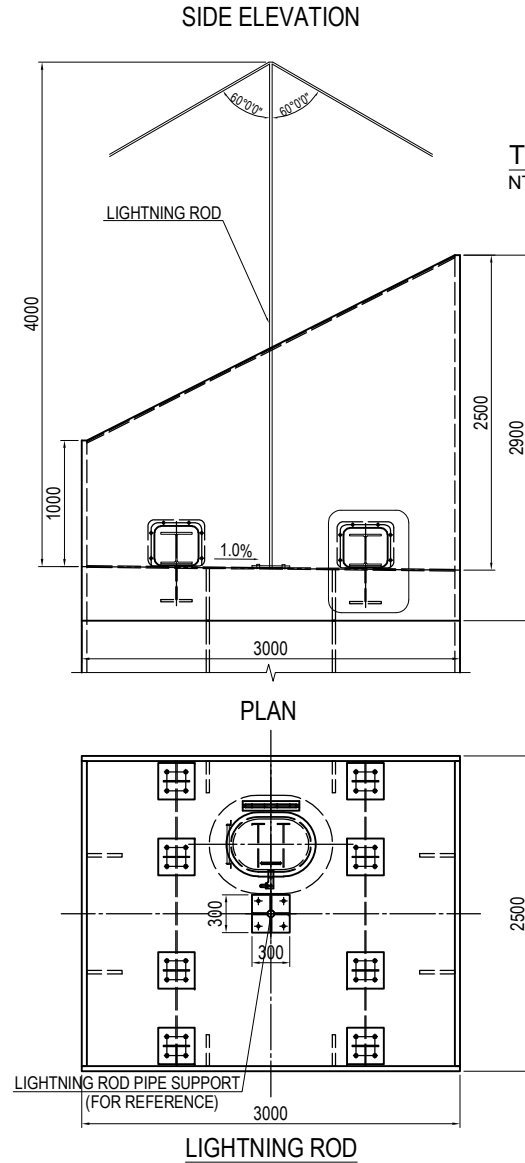
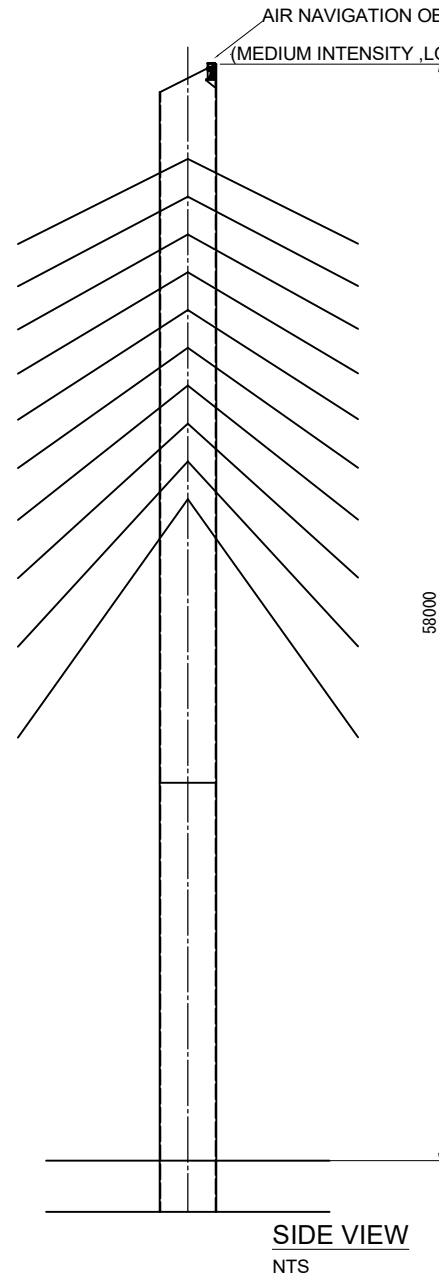
SIDE VIEW  
UNIT : mm



TYPICAL TRAFFIC SIGNAL CONTROLLER

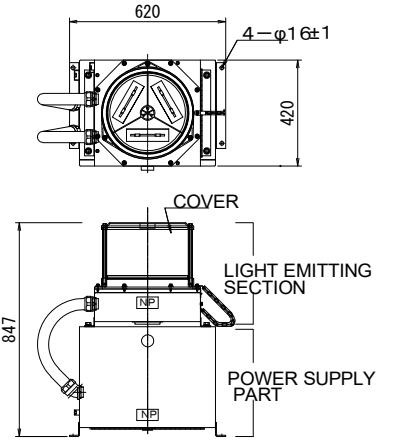
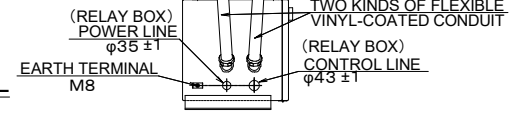
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE (REFERENCE) OUTLINE OF TRAFFIC SIGNAL CONTROLLER AND JUNCTION BOX	PACKAGE	
				PREPARED BY	K. MORIMATA			29 Sep. 2017	1
				CHECKED BY	T. HAYAKAWA			3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct. 2017	P1-EL- 0020

(REFERENCE) TYPICAL AVIATION OBSTRUCTION LIGHT PLAN

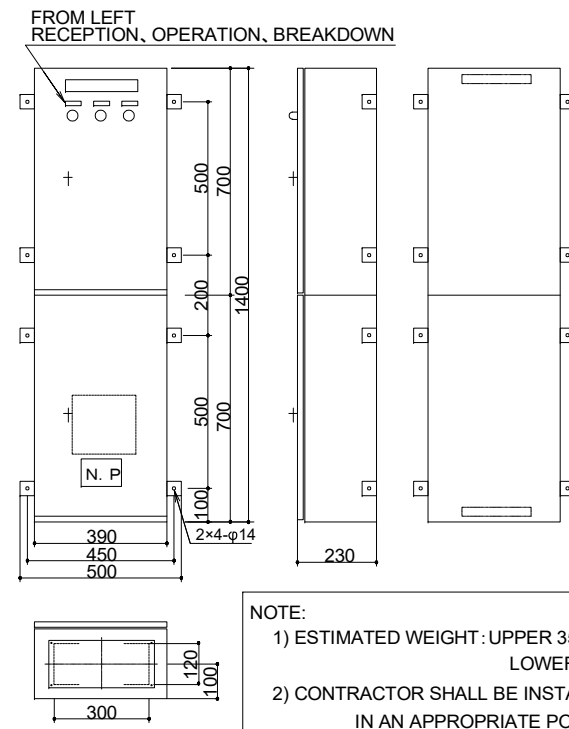


**TOP-VIEW FOR OBSTRUCTION LIGHT BASE OF OBSTACLE LIGHTS DETAIL**  
NTS

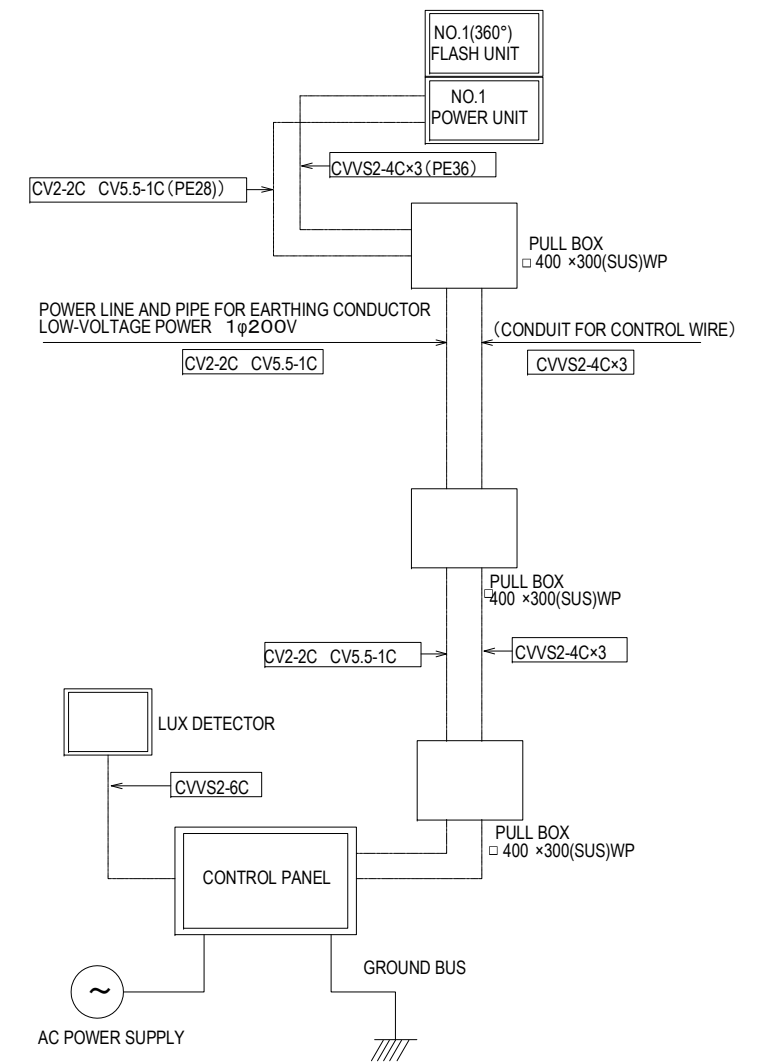
AVIATION OBSTRUCTION LIGHT  
(FLSH UNIT)+(POWER UNIT)



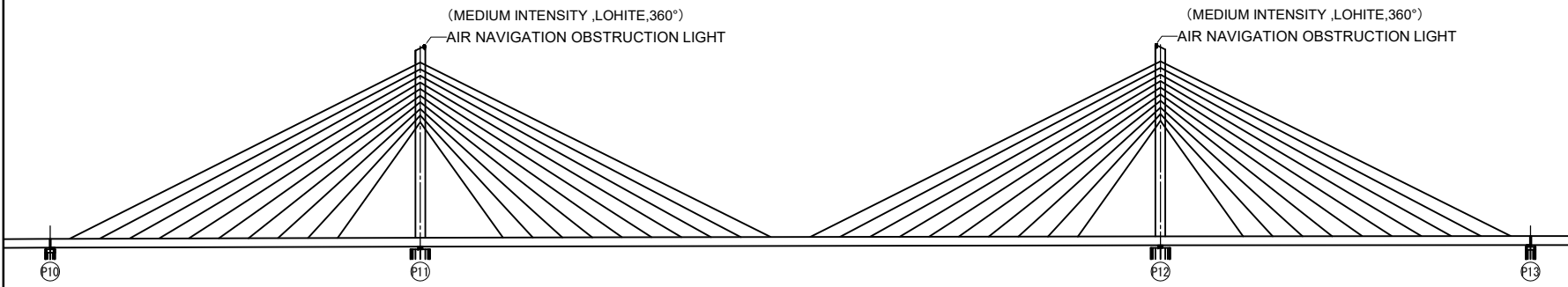
**TYPICAL SITTING OF LIGHT**



**TYPICAL OUTLINE OF CONTROL PANEL**



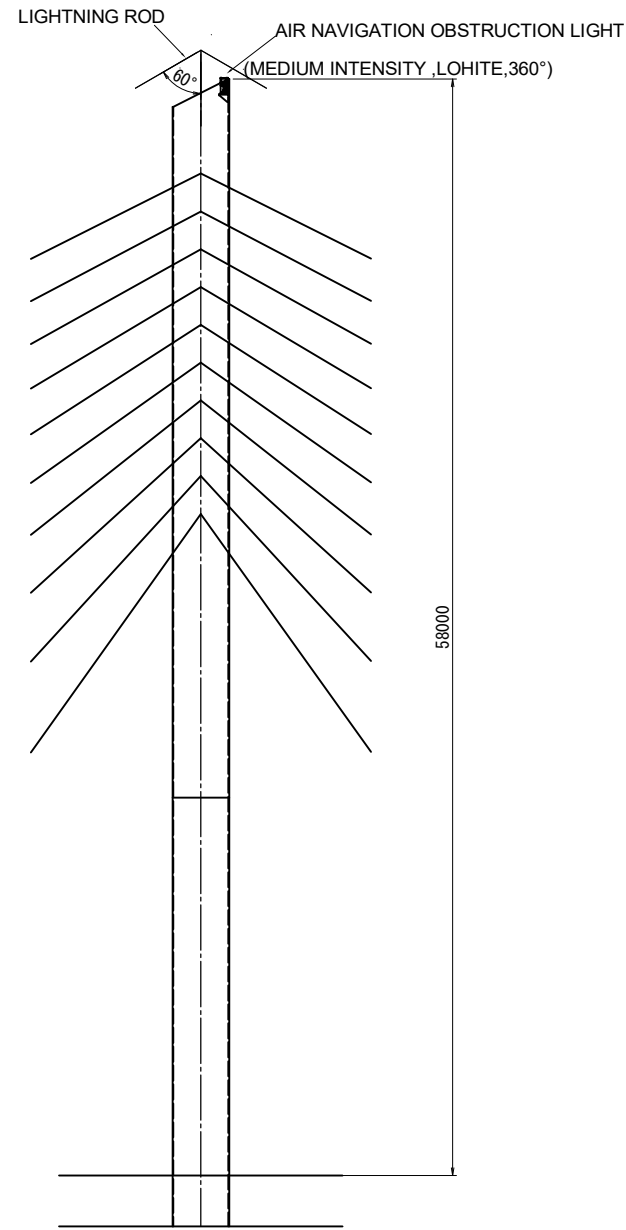
**TYPICAL SYSTEM DYAGRAM**



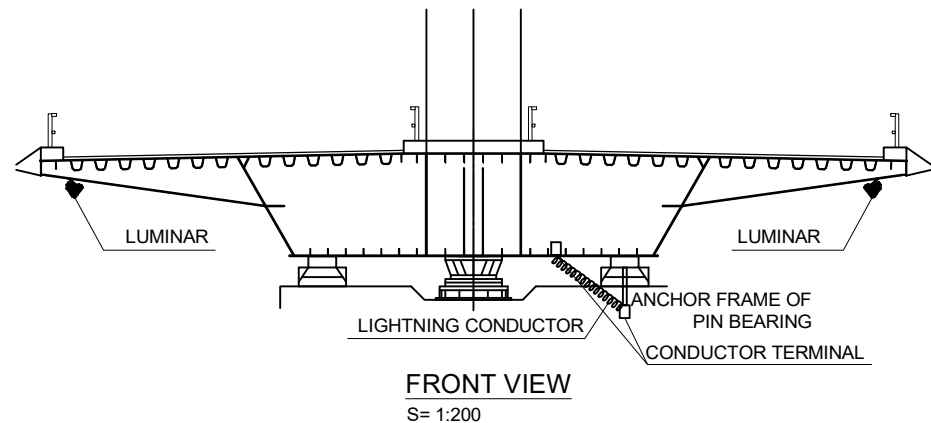
**LAYOUT PLAN OF AIR NAVIGATION OBSTRUCTION LIGHT**  
NTS

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 (REFERENCE) TYPICAL AVIATION OBSTRUCTION LIGHT PLAN	PACKAGE 1 DWG No. P1-EL- 0021
				PREPARED BY	K . MORIMATA	29 Sep. 2017		
				CHECKED BY	T. HAYAKAWA	3 Oct. 2017		
				APPROVED BY	Y. SANO	6 Oct. 2017		

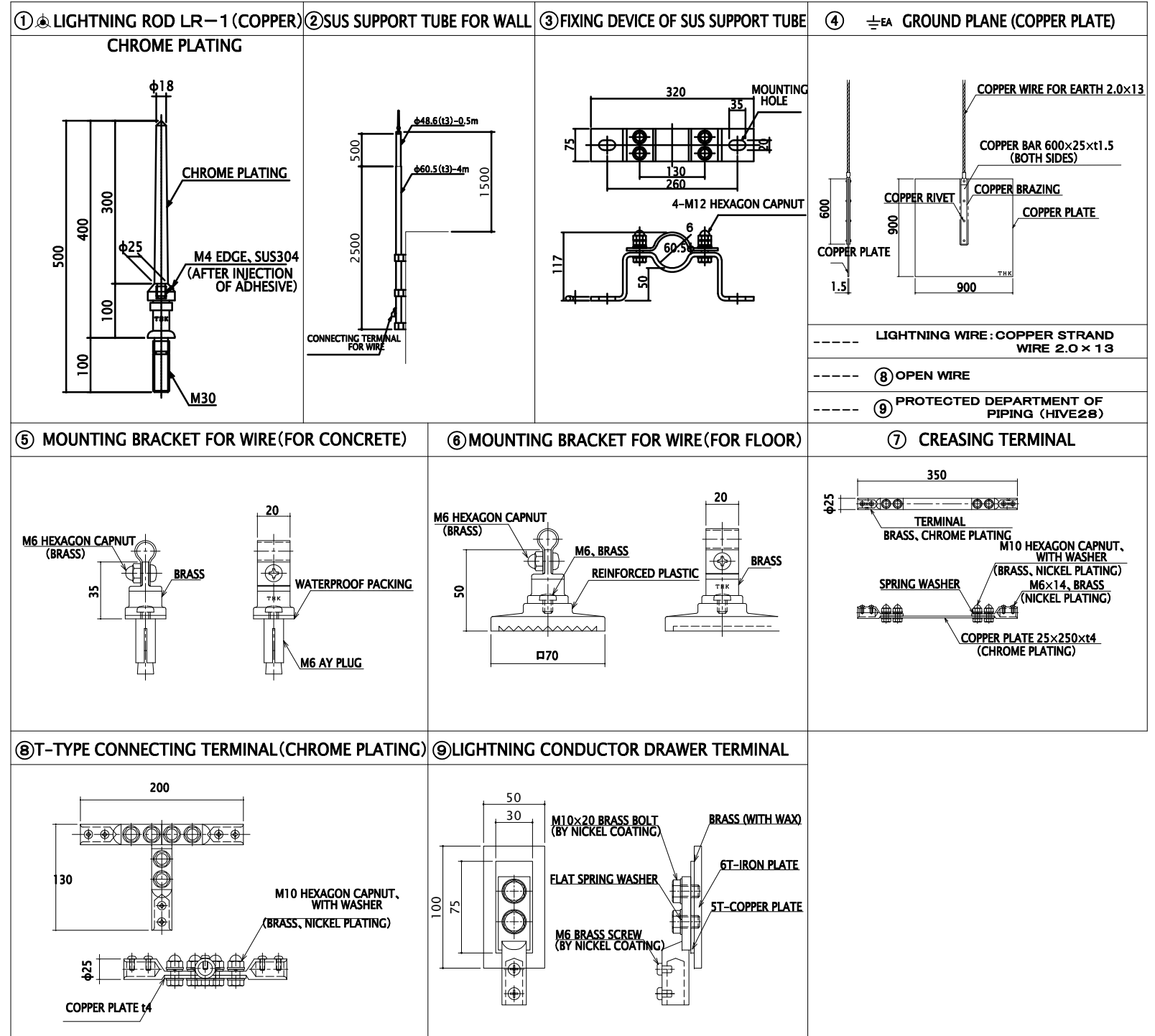
# (REFERENCE) TYPICAL ACCESSORIES FOR LIGHTNING PROTECTION SYSTEM



SIDE VIEW  
S= 1:400



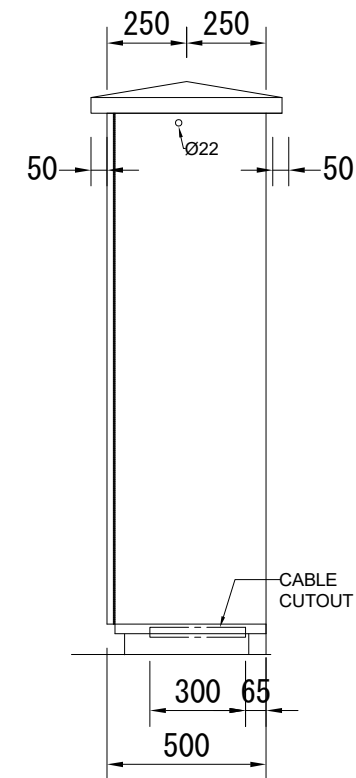
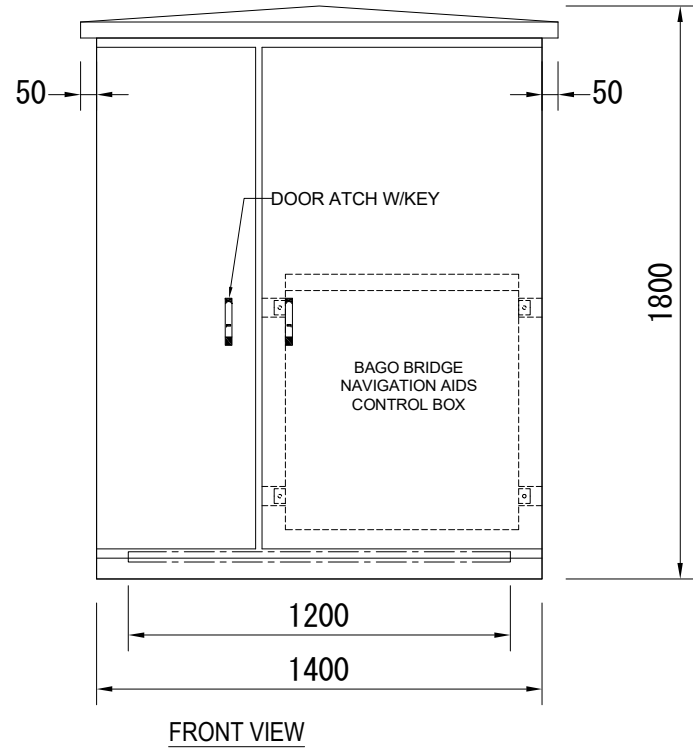
FRONT VIEW  
S= 1:200



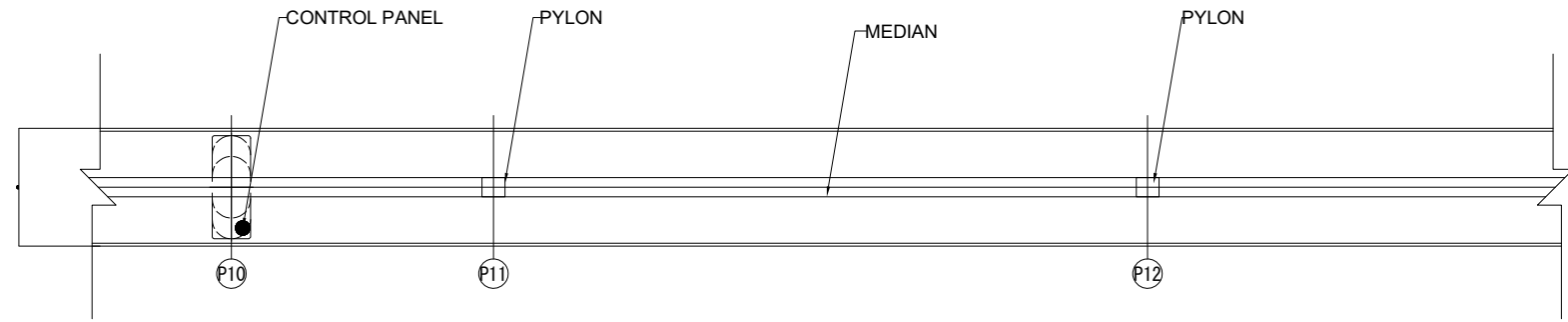
REFERENCE ACCESSORIES FOR LIGHTNING PROTECTION SYSTEM  
NTS

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 K. MORIMATA	SIGNATURE <i>[Signature]</i>	DATE 29 Sep. 2017	DRAWING TITLE (REFERENCE) TYPICAL ACCESSORIES FOR LIGHTNING PROTECTION SYSTEM	PACKAGE 1 DWG No. P1-EL- 0022
				CHECKED BY T. HAYAKAWA	<i>[Signature]</i>	3 Oct. 2017		
				APPROVED BY Y. SANO	<i>[Signature]</i>	6 Oct. 2017		

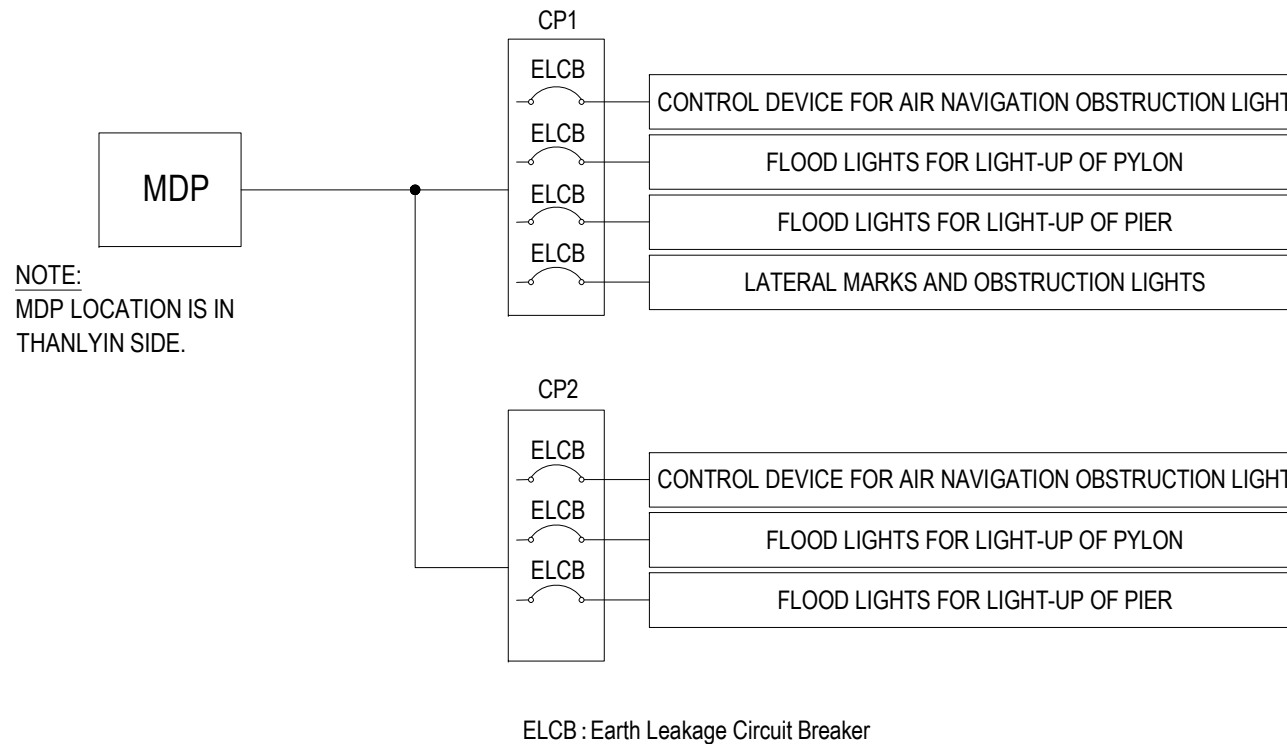
# (REFERENCE) CONTROL PANEL FOR OBSTRUCTION LIGHT



OUTSIDE VIEW OF CONTROL PANEL  
NTS

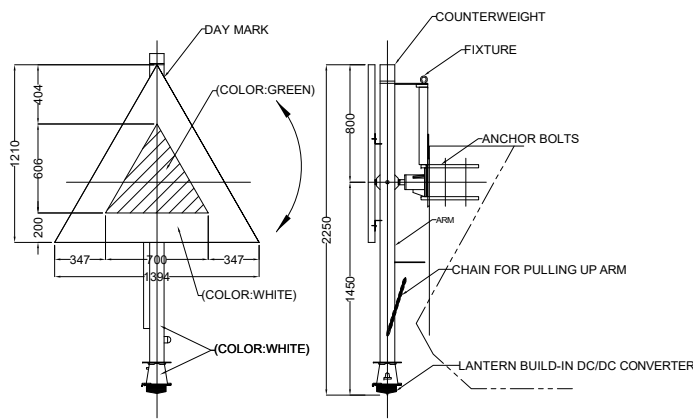


LOCATION PLAN FOR CONTROL PANEL  
NTS



TYPICAL BLOCK DIAGRAM FOR OBSTRUCTION LIGHTS AND LIGHT-UP  
NTS

# TYPICAL NAVIGATION LATERAL MARKS AND OBSTRUCTION LIGHT

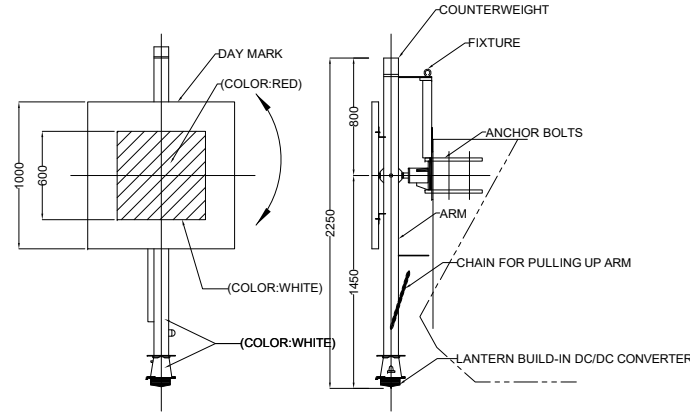


FRONT VIEW

SIDE VIEW

**SPECIFICATIONS OF BRIDGE LIGHT  
<STARBOARD LANTERN>**

1. BRIDGE LIGHT BODY
  - (a) MODEL : RBL-30R
  - (b) MATERIAL(ARM) : ALUMINIUM ALLOY
  - (c) MATERIAL(DAYMARK) : ALUMINIUM ALLOY
  - (d) HEIGHT OVERALL : APPROX. 2.4m
  - (e) FOCAL PLANE HEIGHT : APPROX. 1.5m
  - (f) TOTAL MASS : APPROX. 75kg (INCLUDING LANTRN)
  - (g) COLOUR(ARM) : WHITE
  - (h) COLOR(DAYMARK) : RED AND WHITE
2. LANTERN
  - (a) Model : RL - 123
  - (b) INPUT VOLTAGE : DC24V
  - (c) LIGHT SOURCE : LED
  - (d) LENS : POLYCARBONATE
  - (e) LIGHT COLOUR : RED
  - (f) CHARACTER : FIXED
  - (g) EFFECTIVE INTENSITY : 14cd
  - (h) LUMINOUS RANGE : 3 N.M. (T=0.74)
  - (i) COLOR : WHITE

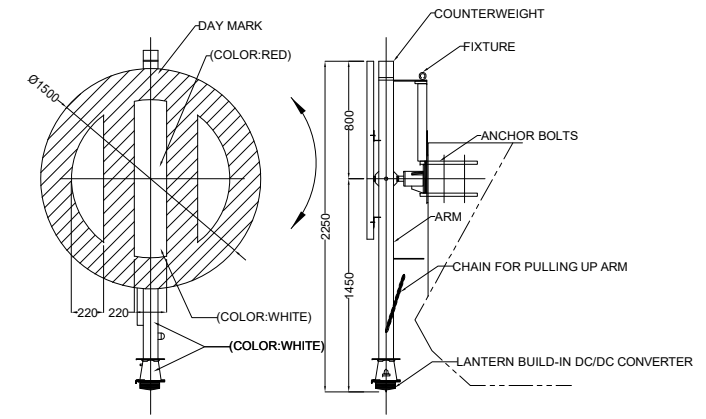


FRONT VIEW

SIDE VIEW

**SPECIFICATIONS OF BRIDGE LIGHT  
<PORT LANTERN>**

1. BRIDGE LIGHT BODY
  - (a) MODEL : RBL-30L
  - (b) MATERIAL(ARM) : ALUMINIUM ALLOY
  - (c) MATERIAL(DAYMARK) : ALUMINIUM ALLOY
  - (d) HEIGHT OVERALL : APPROX. 2.4m
  - (e) FOCAL PLANE HEIGHT : APPROX. 1.5m
  - (f) TOTAL MASS : APPROX. 75kg (INCLUDING LANTRN)
  - (g) COLOUR(ARM) : WHITE
  - (h) COLOR(DAYMARK) : GREEN AND WHITE
2. LANTERN
  - (a) Model : RL - 123
  - (b) INPUT VOLTAGE : DC24V
  - (c) LIGHT SOURCE : LED
  - (d) LENS : POLYCARBONATE
  - (e) LIGHT COLOUR : GREEN
  - (f) CHARACTER : FIXED
  - (g) EFFECTIVE INTENSITY : 14cd
  - (h) LUMINOUS RANGE : 3 N.M. (T=0.74)
  - (i) COLOR : WHITE

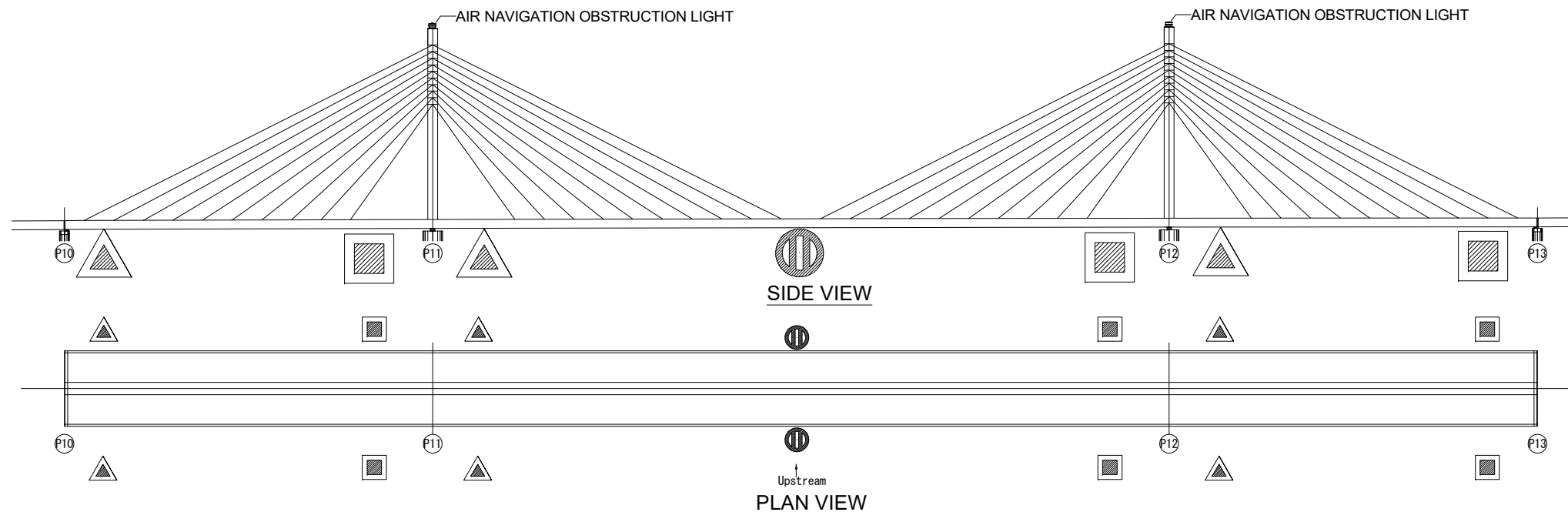


FRONT VIEW

SIDE VIEW

**SPECIFICATIONS OF BRIDGE LIGHT  
<SAFE WATER LANTERN>**

1. BRIDGE LIGHT BODY
  - (a) MODEL : RBL-30C
  - (b) MATERIAL(ARM) : ALUMINIUM ALLOY
  - (c) MATERIAL(DAYMARK) : ALUMINIUM ALLOY
  - (d) HEIGHT OVERALL : APPROX. 2.4m
  - (e) FOCAL PLANE HEIGHT : APPROX. 1.5m
  - (f) TOTAL MASS : APPROX. 75kg (INCLUDING LANTRN)
  - (g) COLOUR(ARM) : WHITE
  - (h) COLOR(DAYMARK) : RED AND WHITE
2. LANTERN
  - (a) Model : RL - 123
  - (b) INPUT VOLTAGE : DC24V
  - (c) LIGHT SOURCE : LED
  - (d) LENS : POLYCARBONATE
  - (e) LIGHT COLOUR : WHITE
  - (f) CHARACTER : FIXED
  - (g) EFFECTIVE INTENSITY : 14cd
  - (h) LUMINOUS RANGE : 3 N.M. (T=0.74)
  - (i) COLOR : WHITE

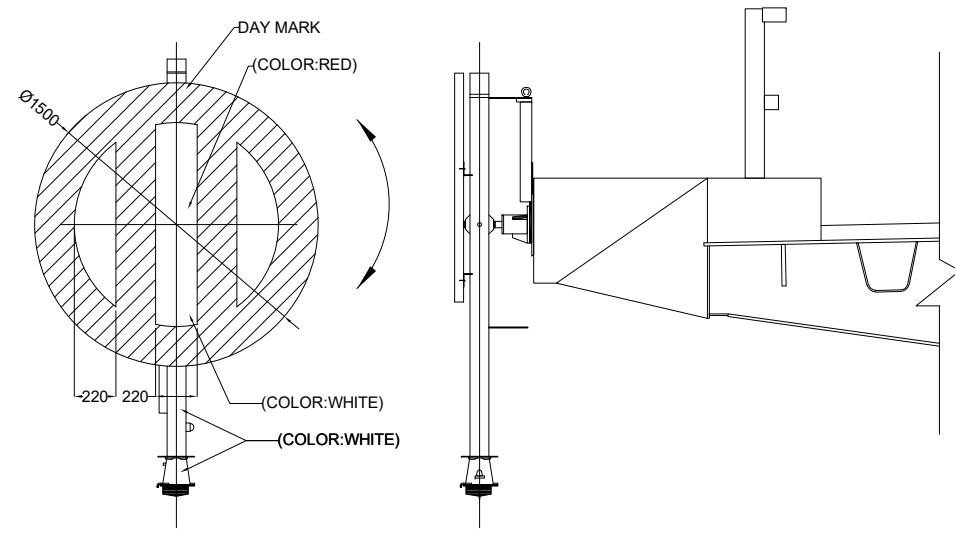
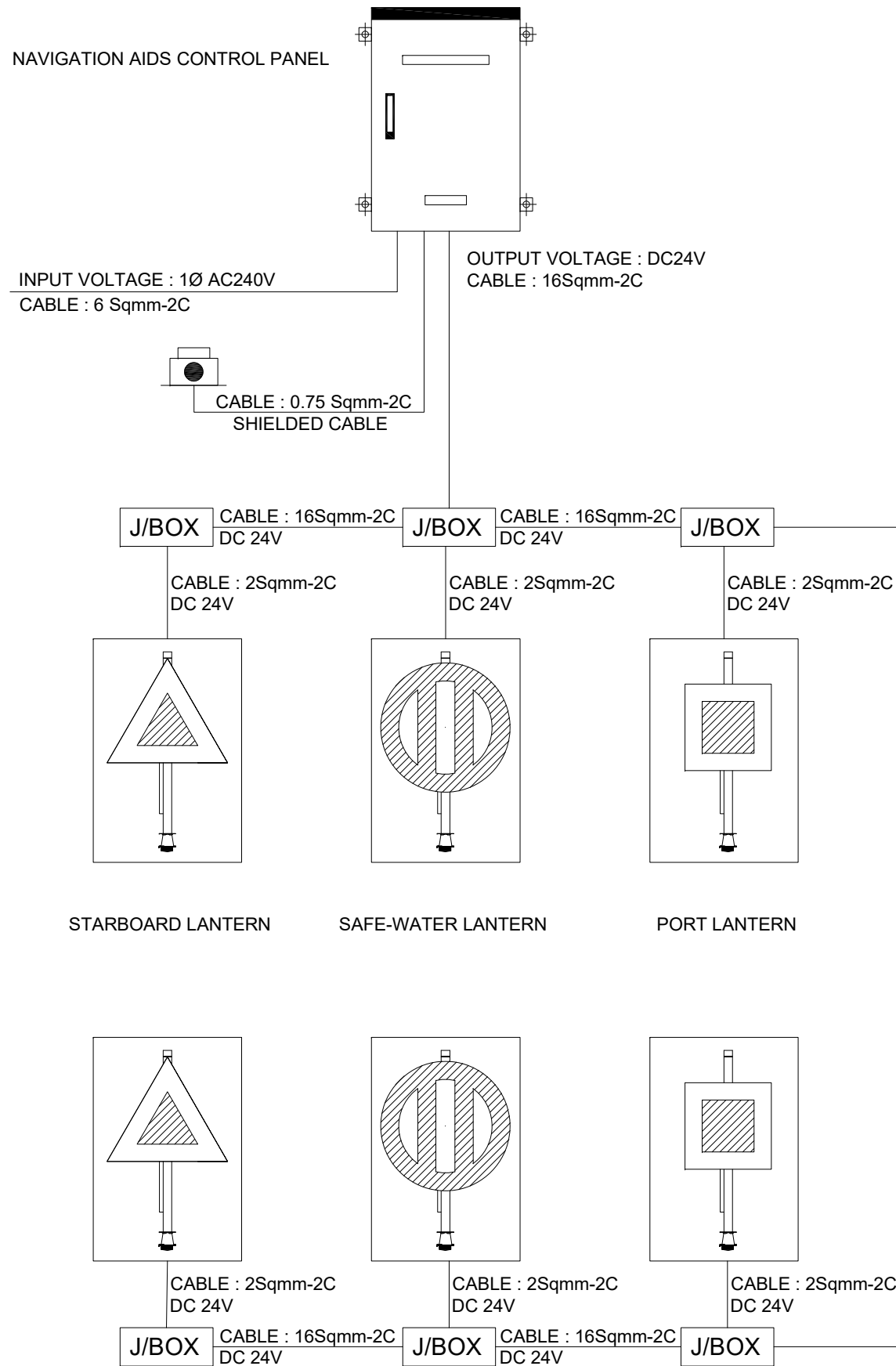


SIDE VIEW

PLAN VIEW

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 NAVIGATION LATERAL MARKS AND OBSTRUCTION LIGHT	PACKAGE
				PREPARED BY	K. MORIMATA	29 Sep. 2017		1
				CHECKED BY	T. HAYAKAWA	3 Oct. 2017		DWG No.
APPROVED BY	Y. SANO	6 Oct. 2017		P1-EL- 0024				

# TYPICAL SCHEMATIC DIAGRAM



TYPICAL INSTALLATION FOR LATERAL REMARKS AND OBSTRUCTION LIGHT  
NTS

NOTE:  
Operation and maintenance method

- Insulation resistance test is not allowed at panel circuit. Remove all DC circuit, in case of necessity of insulation test.
- Automatic/ Manual selector switch is pull type. Prior to operation, pull toward first then turn switch.
- Off the breaker (MCCB2), prior to replace the battery set.
- The Photocell switch is set at 300Lx operated.
- Equipment transfer is set at 240V /100V.

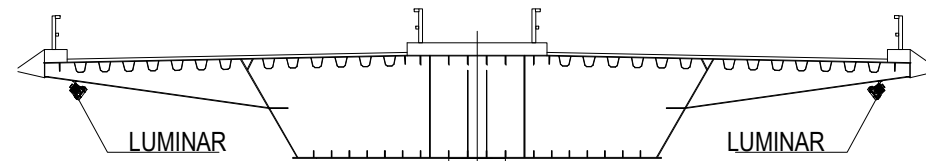
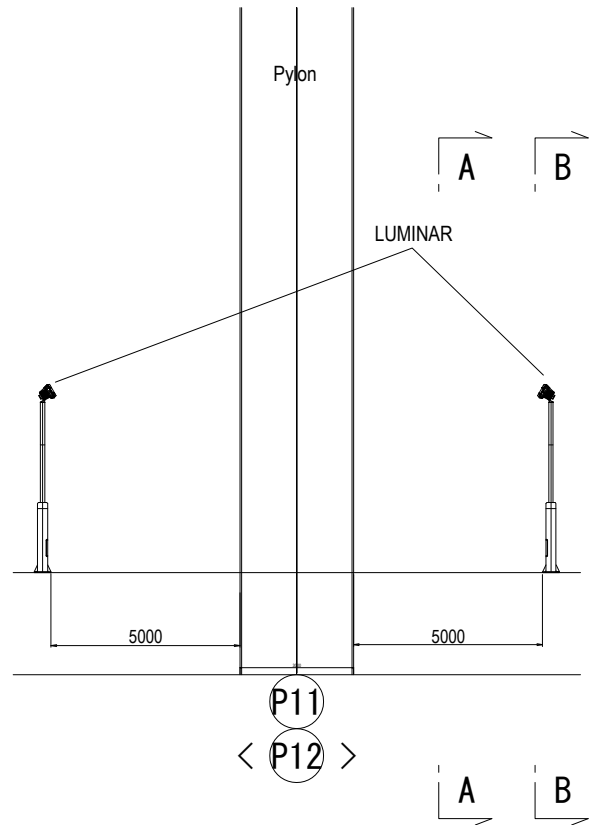
The system may not operate at less than 220V of input voltage.  
If so, change the connection terminal (input side) to suitable voltage.  
(the equipment operates from 90V to 110V at output side.)

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 SCHEMATIC DIAGRAM	PACKAGE	
				PREPARED BY	K. MORIMATA			29 Sep. 2017	1
				CHECKED BY	T. HAYAKAWA			3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct. 2017	P1-EL- 0025

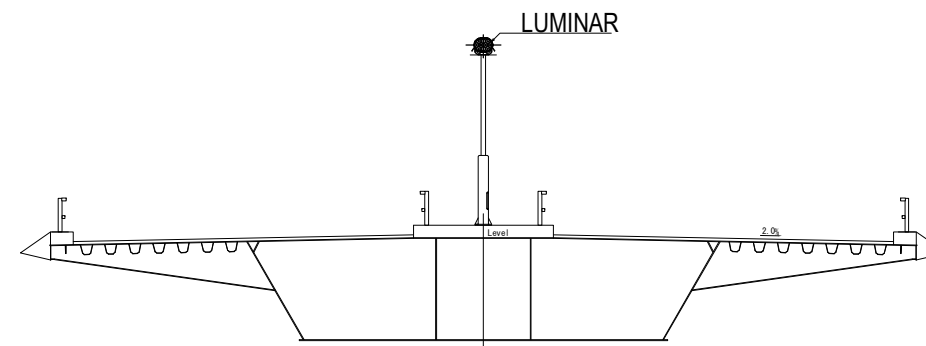


# (REFERENCE) TYPICAL FLOOD LIGHT INSTALLATION

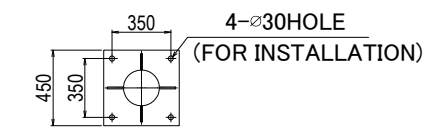
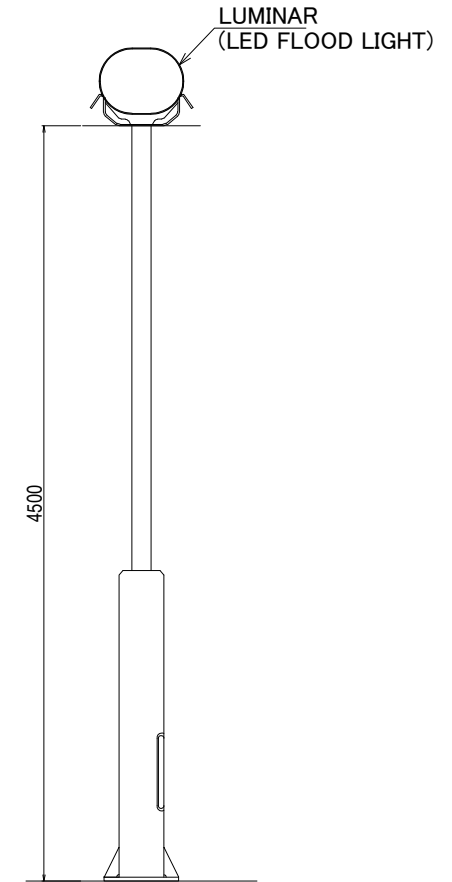
**POSITION**  
NTS



**A - A**  
NTS

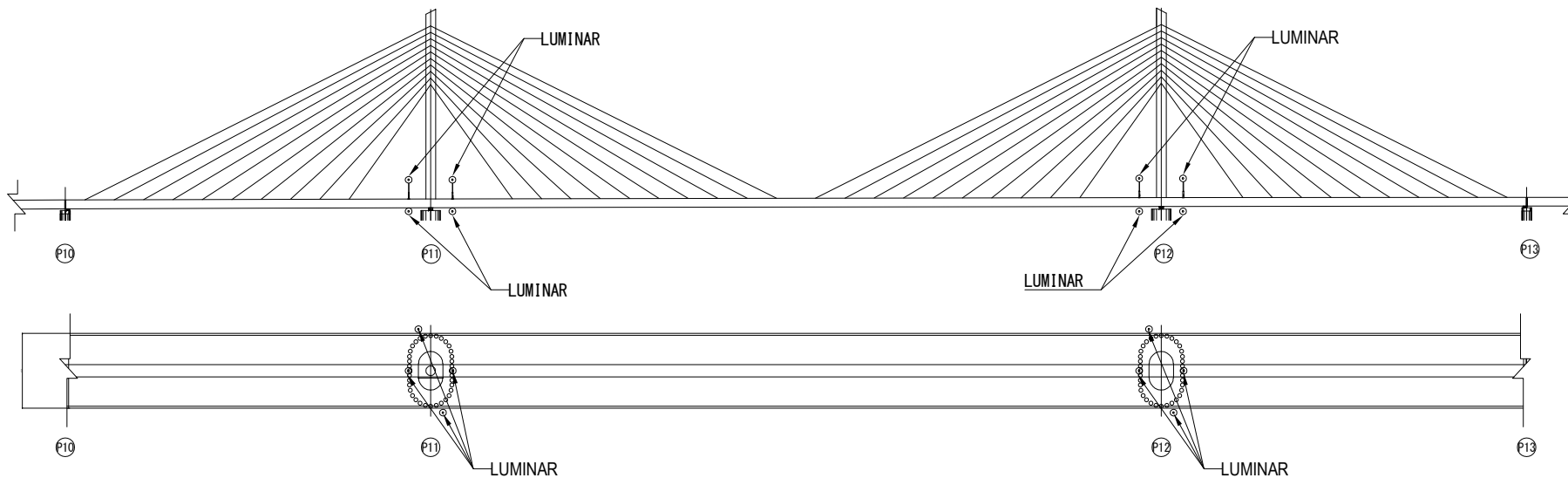


**B - B**  
NTS



**OUTLINE VIEW OF FLOOD LIGHT**  
NTS

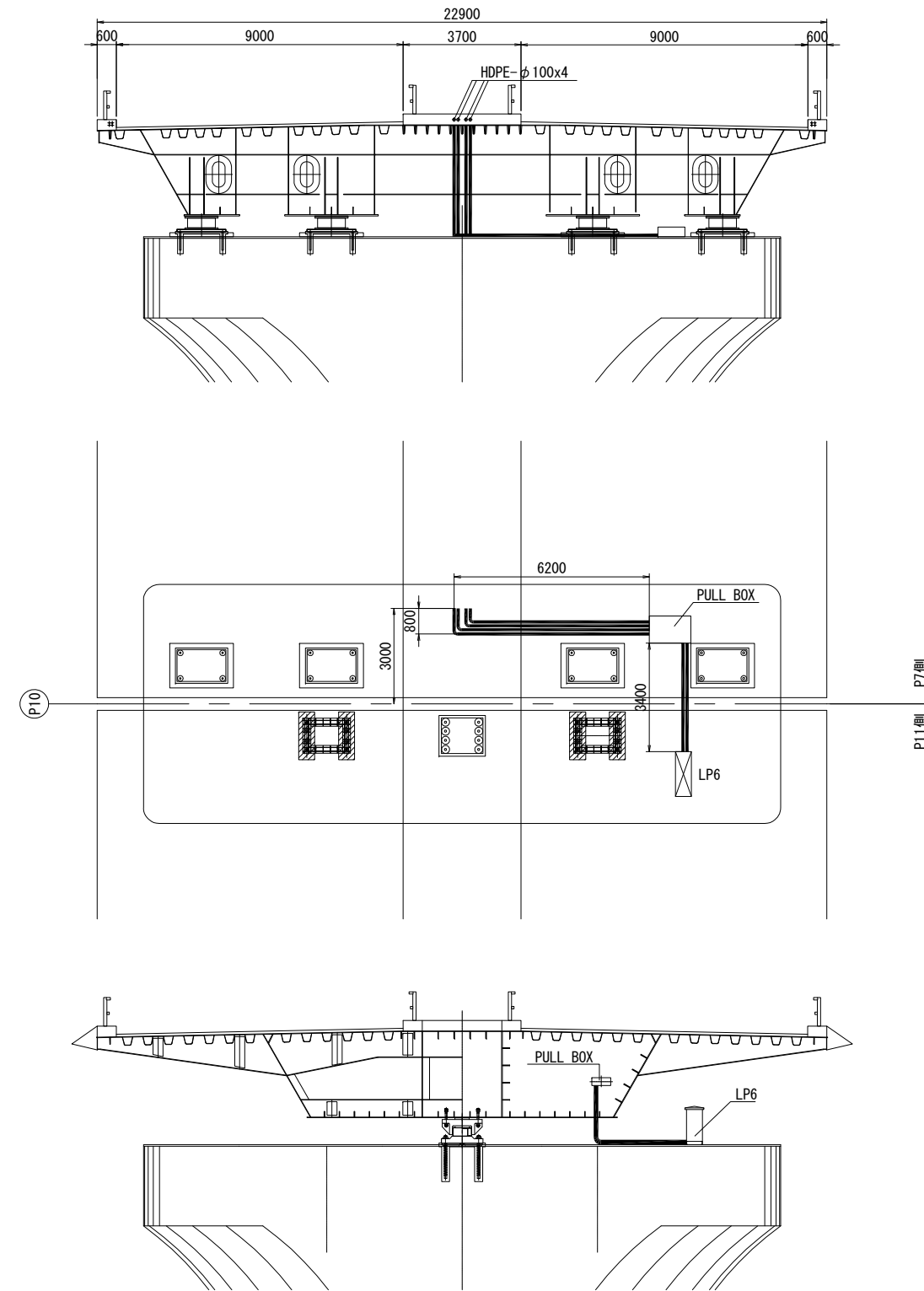
**SIDE VIEW**  
NTS



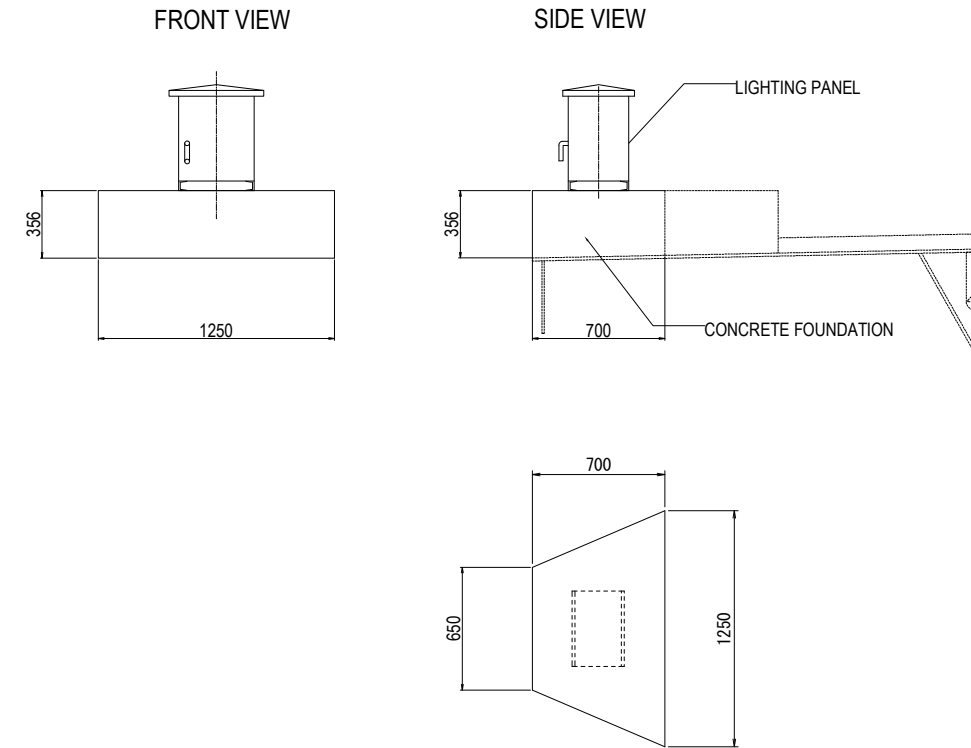
**LAYOUT OF ILLUMINATOR**  
NTS

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	K. MORIMATA				29 Sep. 2017
				CHECKED BY	T. HAYAKAWA				3 Oct. 2017
				APPROVED BY	Y. SANO				6 Oct. 2017
							(REFERENCE) TYPICAL FLOOD LIGHT INSTALLATION	1	
								DWG No.	
								P1-EL- 0026	

# (REFERENCE) TYPICAL WIRING PLAN AND LIGHTING PANEL AT P10



TYPICAL CONCRETE FOUNDATION FOR LIGHTING PANEL



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 (REFERENCE) TYPICAL WIRING PLAN AND LIGHTING PANEL AT P10	PACKAGE	
				PREPARED BY	K. MORIMATA			29 Sep. 2017	1
				CHECKED BY	T. HAYAKAWA			3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct. 2017	P1-EL- 0027

## QUANTITY TABLE OF LIGHTING AND ELECTRICAL WORKS (REFERENCE DRAWING)

QUANTITY OF ROAD LIGHTING SYSTEM

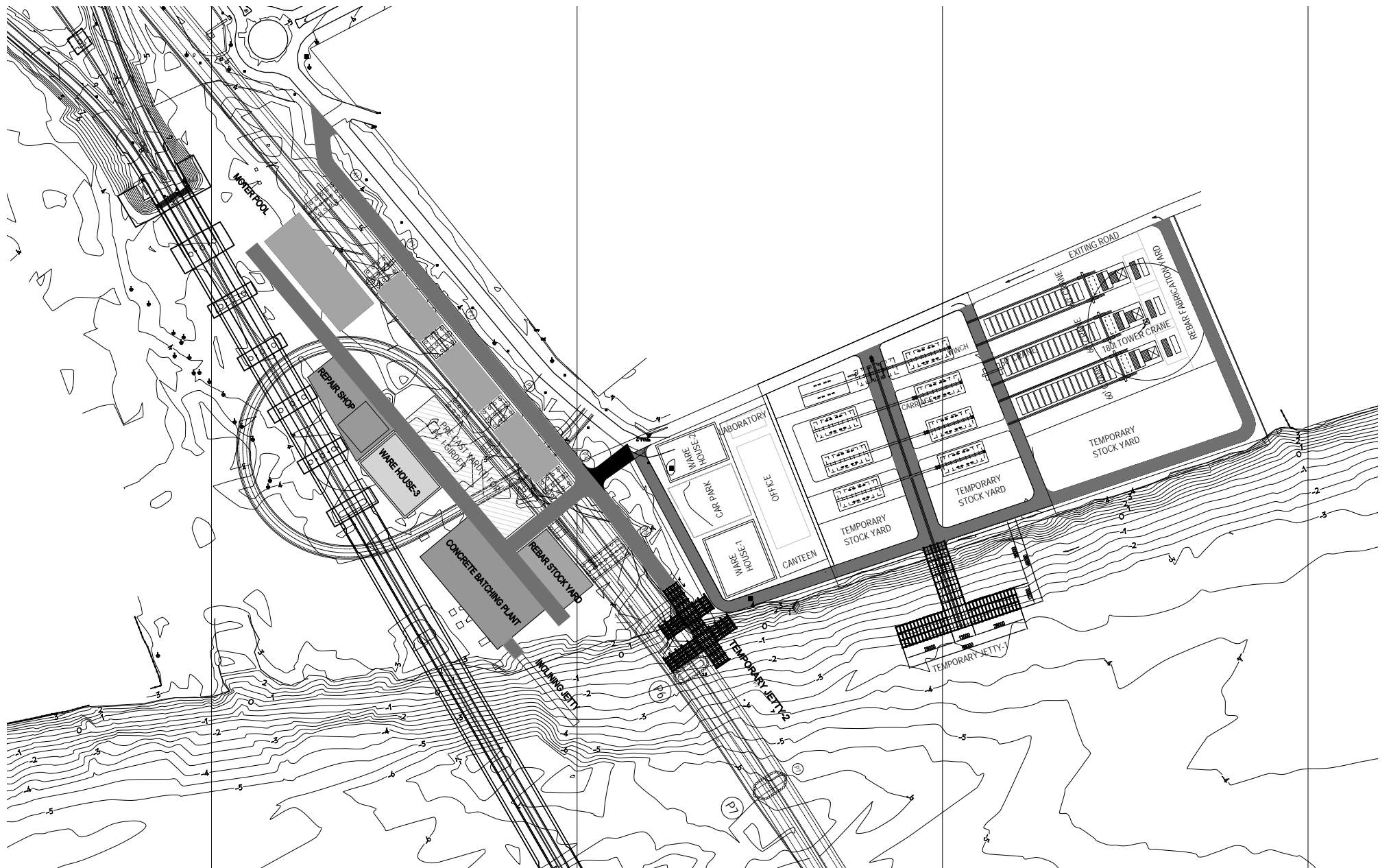
Item Description	Unit	Total
Lighting Pole Type B (H=12m.)	No.	63.0
Lighting Pole Type C (H=9m)	No.	35.0
LED Lamp (51W)	No.	35.0
LED Lamp (140W)	No.	63.0
LED Lamp (380W)	No.	12.0
HID Lamp (400W)	No.	5.0
Lighting Panel Type A (17 lines)	No.	4.0
Lighting Panel Type B (4 lines)	No.	4.0
Pull Box Type A (300 x 350 x 175)	No.	112.0
Pull Box Type B (550 x 200 x 600)	No.	220.0
Pull Box Type C (400 x 300 x 200)	No.	6.0
Grounding System	No.	10.0
4 Core/XLPE 35 sq. mm Electric Wire Cable	m	1980.0
4 Core/XLPE 25 sq. mm Electric Wire Cable	m	2328.0
4 Core/XLPE 16 sq. mm Electric Wire Cable	m	1404.0
4 Core/XLPE 10 sq. mm Electric Wire Cable	m	3150.0
4 Core/XLPE 8 sq. mm Electric Wire Cable	m	4372.0
HDPE Pipe (25mm dia.)	m	53.0
HDPE Pipe (50mm dia.)	m	12345.0
HDPE Pipe (100mm dia.)	m	100.0
FEP Pipe (25mm dia.)	m	28.0
FEP Pipe (50mm dia.)	m	207.0
Steel Conduit (10mm dia.)	m	800.0
Handhole (600 x 600 x 1200)	No.	2.0
Handhole (600 x 600 x 600)	No.	12.0
MV Site Substation (6.6kV)	L.S.	1.0
Warning Light	No.	1.0
Aviation Obstruction Lights (LED 25W White)	No.	2.0
Control Panel for Aviation Obstruction Lights	No.	2.0
CV 0.75sq.mm x 2c	m	30.0
CV 2.0sq.mm x 2c	m	95.0
CV 5.5sq.mm x 1c	m	65.0
CV 6.6sq.mm x 2c	m	65.0
CV 16sq.mm x 2c	m	1120.0
CVV 2.0sq.mm x 4c x 3	m	65.0
CVV 2.0sq.mm x 6c	m	20.0
Navigation Lateral Marks (Left) with LED Signal Light	No.	4.0
Navigation Lateral Marks (Right) with LED Signal Light	No.	4.0
Navigation Lateral Marks (Centre) with LED Signal Light	No.	2.0
Control Panel for Navigation Lateral Marks	No.	1.0
Joint Box (200 x 200 x 150)	No.	10.0
Lightning Rod	No.	2.0
Copper Wire (30 sq.mm)	m	20.0
Drawer Conductor Terminal	No.	12.0
Connection Conductor Terminal	No.	4.0

QUANTITY OF TRAFFIC SIGNAL CONTROL SYSTEM

Item Description	Unit	Total
Traffic Signal Pole	No.	9.0
Pedestrian Signal Pole	No.	9.0
Traffic Signal Head	No.	12.0
Arrow Signal Head	No.	8.0
Pedestrian Signal Head and Push Button	No.	18.0
Handhole (600 x 600 x 800)	No.	15.0
Traffic Signal Controller	No.	1.0
HDPE Pipe (50mm dia.)	m	309.0
HDPE Pipe (25mm dia.)	m	208.0
SVV-SS 2.0sq.mm x 4c	m	77.0
SVV-SS 2.0sq.mm x 15c	m	157.0
SVV-SS 2.0sq.mm x 18c	m	69.0
SVV-SS 2.0sq.mm x 21c	m	32.0
SVV-SS 2.0sq.mm x 33c	m	10.0
SVV-2.0sq.mm x 4c	m	302.0
SVV-2.0sq.mm x 8c	m	162.0

## **H. REFERENCE DRAWING**

(REFERENCE) GENERAL LAYOUT OF CONSTRUCTION YARD S=1:2000

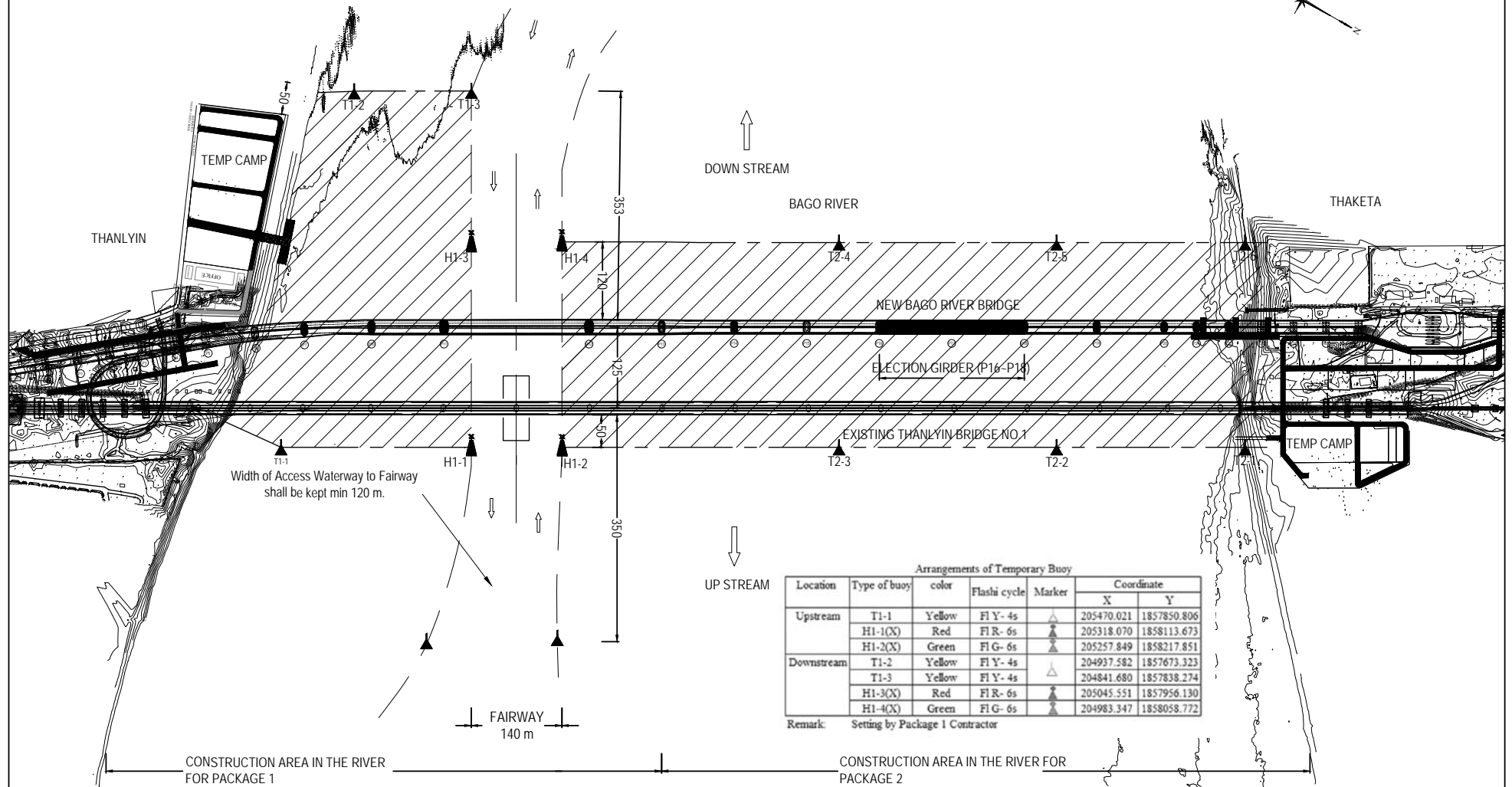


PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTRY REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE (REFERENCE) GENERAL LAYOUT OF CONSTRUCTION YARD	PACKAGE	
				PREPARED BY	T. ICHIKAWA			15 Jun.2017	1
				CHECKED BY	T. HAYAKAWA			20 Jun.2017	DWG No.
				APPROVED BY	Y. SANO			21 Jun.2017	P1-REF-001

(REFERENCE) NAVIGATION CONTROL PLAN (1)

S=1:6000

TEMPORARY FAIRWAY  
CONSTRUCTION STAG 1: FOUNDATION AND PIER WORKS AND ERECTION GIRDER (P16-P18)



Arrangements of Temporary Buoy						
Location	Type of buoy	color	Flashi cycle	Marker	Coordinate	
					X	Y
Upstream	T1-1	Yellow	Fl Y- 4s	▲	205470.021	1857850.806
	H1-1(X)	Red	Fl R- 6s	▲	205318.070	1858113.673
	H1-2(X)	Green	Fl G- 6s	▲	205257.849	1858217.851
Downstream	T1-2	Yellow	Fl Y- 4s	▲	204937.582	1857673.323
	T1-3	Yellow	Fl Y- 4s	▲	204841.680	1857838.274
	H1-3(X)	Red	Fl R- 6s	▲	205045.551	1857956.130
	H1-4(X)	Green	Fl G- 6s	▲	204983.347	1858058.772

Remark: Setting by Package 1 Contractor

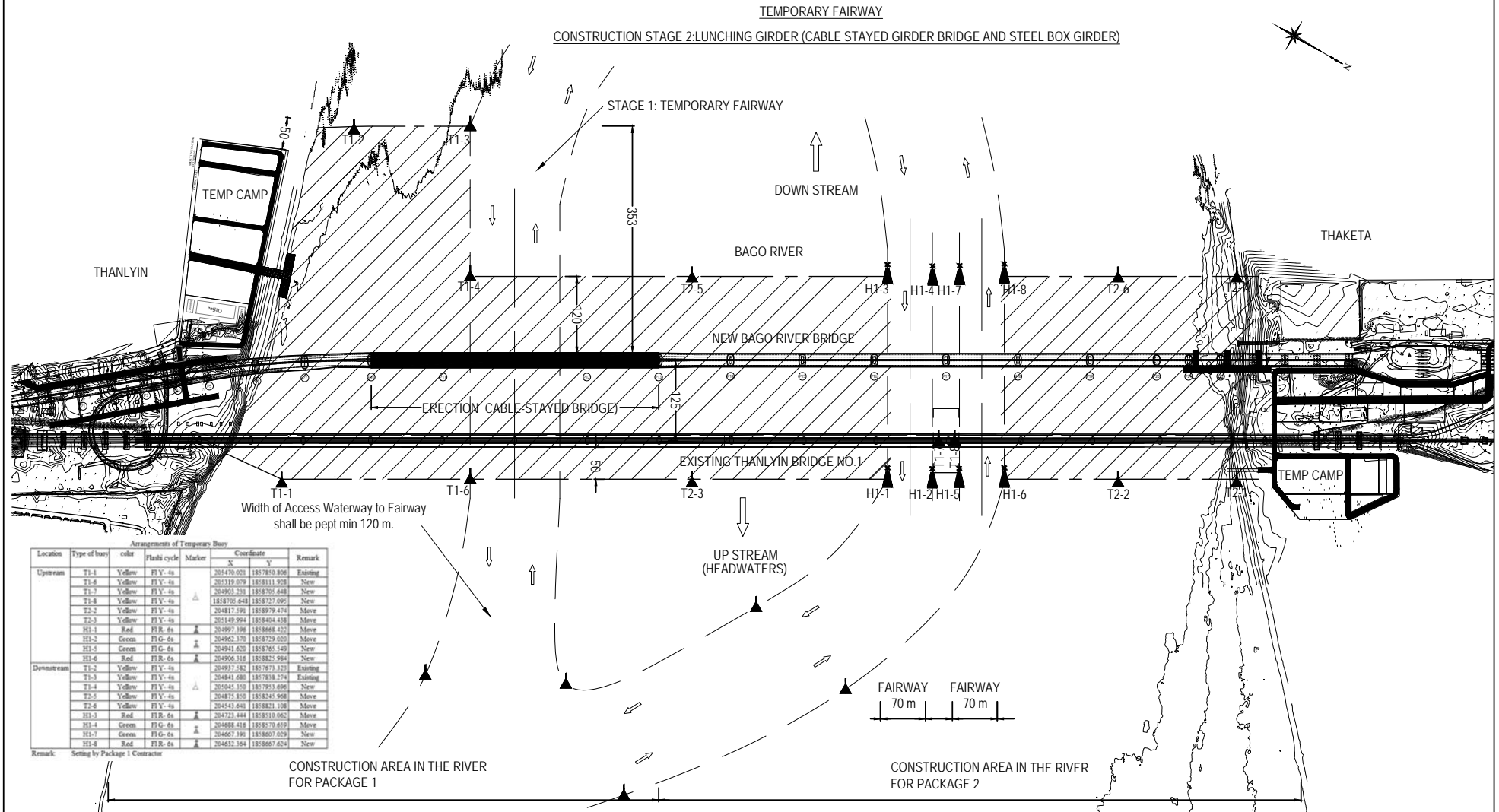
Note : Water depth of Access Waterway and Fairway shall be kept min 5.0 m depth.

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 (REFERENCE) NAVIGATION CONTROL PLAN (1)	PACKAGE	
				PREPARED BY	T. ICHIKAWA			15 Jun.2017	1
				CHECKED BY	T. HAYAKAWA			20 Jun.2017	DWG No.
				APPROVED BY	Y. SANO			21 Jun.2017	P1-REF-0002



(REFERENCE) NAVIGATION CONTROL PLAN (2)

S=1:6000



Arrangements of Temporary Buoy

Location	Type of buoy	color	Flash cycle	Marker	Coordinate X Y	Remark
Upstream	T1-1	Yellow	Fl Y. 4s	▲	20470.021 1857850.806	Existing
	T1-6	Yellow	Fl Y. 4s	▲	20519.079 1858111.928	New
	T1-7	Yellow	Fl Y. 4s	▲	204903.211 1858705.648	New
	T1-8	Yellow	Fl Y. 4s	▲	1858701.648 1858727.095	New
	T2-2	Yellow	Fl Y. 4s	▲	204817.591 1858979.474	Move
	T2-3	Yellow	Fl Y. 4s	▲	205149.994 1858404.438	Move
	T2-5	Yellow	Fl Y. 4s	▲	204997.396 1858468.272	Move
Downstream	H1-1	Red	Fl R. 6s	▲	204962.370 1858729.020	Move
	H1-2	Green	Fl G. 6s	▲	204941.620 1858765.549	New
	H1-3	Green	Fl G. 6s	▲	204906.316 1858825.984	New
	H1-4	Red	Fl R. 6s	▲	204917.582 1857973.232	Existing
	H1-5	Yellow	Fl Y. 4s	▲	204841.680 1857938.274	Existing
	H1-6	Yellow	Fl Y. 4s	▲	205045.350 1857953.686	New
	H1-7	Yellow	Fl Y. 4s	▲	204875.850 1858245.968	Move
	H1-8	Yellow	Fl Y. 4s	▲	204543.841 1858821.108	Move
	H1-9	Red	Fl R. 6s	▲	204723.444 1858110.462	Move
	H1-10	Green	Fl G. 6s	▲	204688.416 1858370.659	Move
H1-11	Green	Fl G. 6s	▲	204667.391 1858607.029	New	
H1-12	Red	Fl R. 6s	▲	204632.364 1858667.634	New	

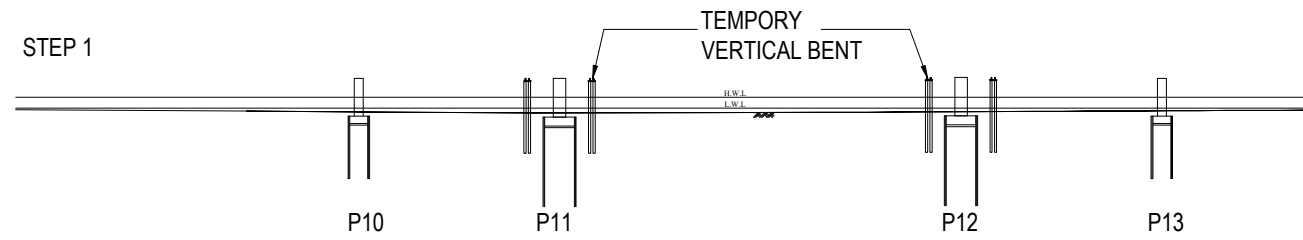
Remark: Setting by Package 1 Contractor

Note : Water depth of Access Waterway and Fairway shall be kept min 5.0 m depth.

# (REFERENCE) CONSTRUCTION SEQUENCE OF CABLE STAYED BRIDGE

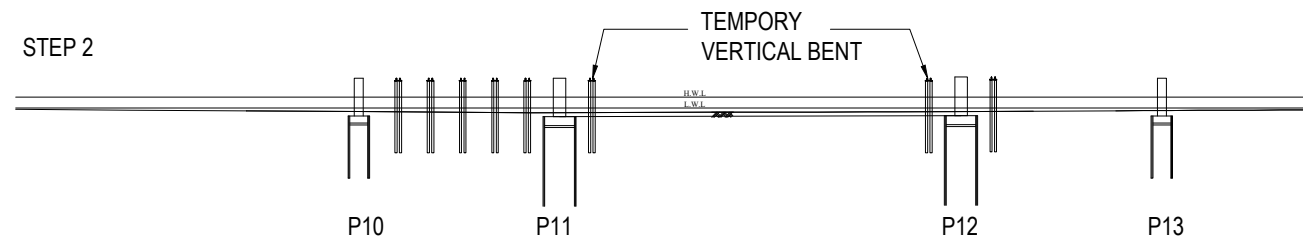
S=1:4000

STEP 1



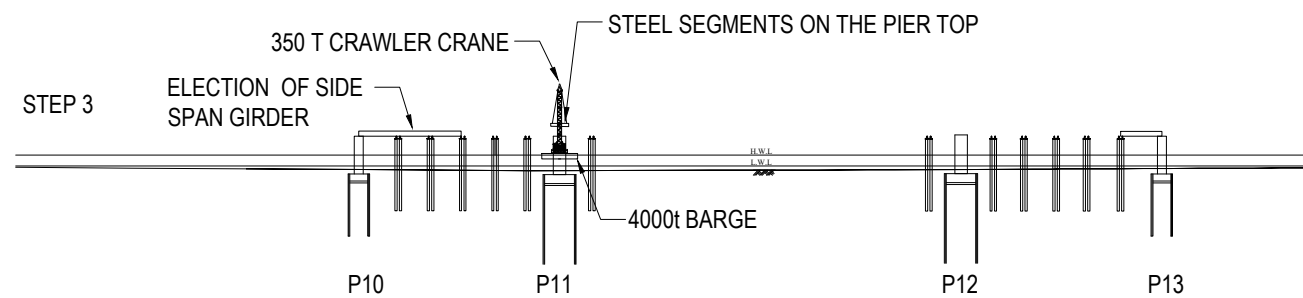
- Construct Piers P10 and P13.

STEP 2



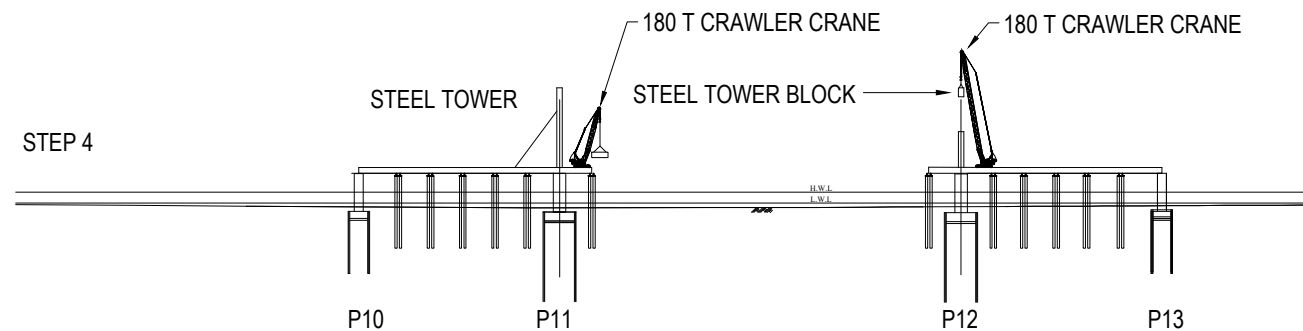
- Temporary Vertical bents are attached to the tower piers.

STEP 3



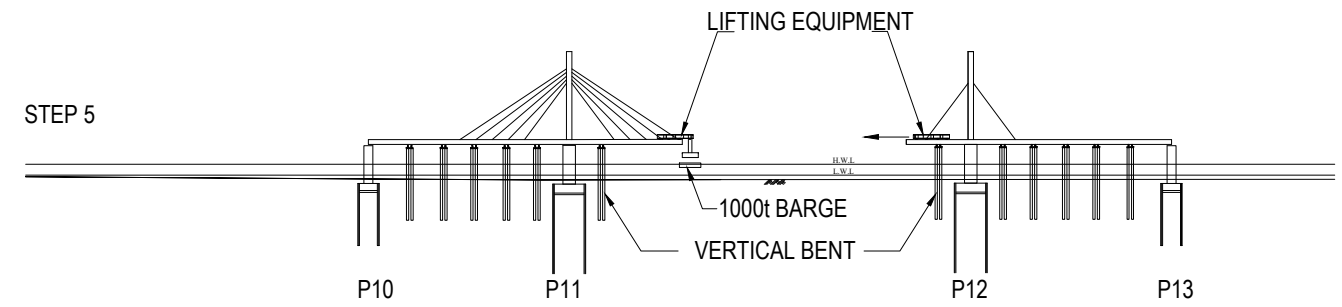
- Erect side span girder by 350 T Crawler Crane.
- Temporary supports are attached to the tower piers.
- Steel segment on the pier top are erected by 350 T Crawler crane.

STEP 4



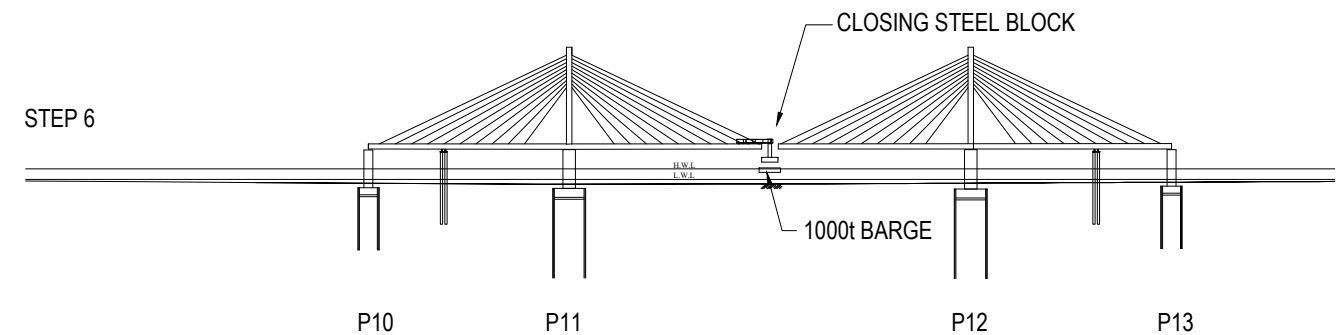
- After side span steel girder segment is connected to pier top steel girder segment.
- 180T Crawler Crane are mounted on the girder deck.
- Construct Steel Towers on Pier 11 and 12 are constructed.

STEP 5



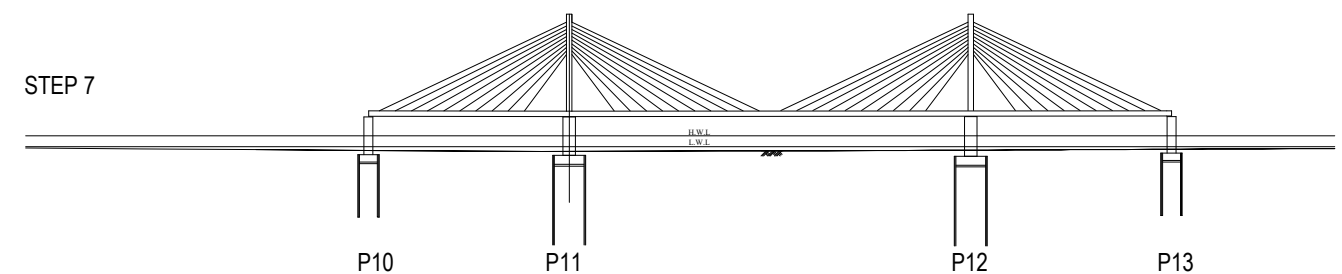
- Install stay cable to the girder segment.
- Erect a steel girder block with cantilever method using stay cables by Lifting Equipment on the deck.

STEP 6



- Remain one temporary bent and others are removed.
- Finally closing steel blocks are erected by lifting equipment using Set-backing method.

STEP 7

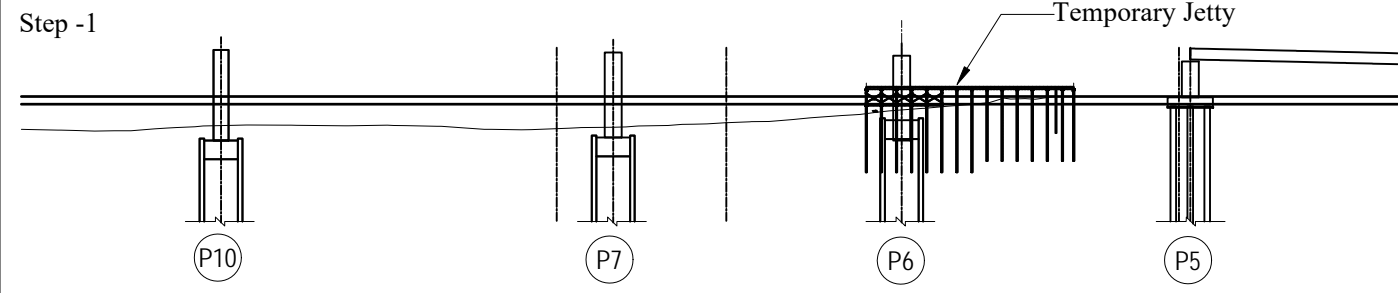


- Erection is completed.

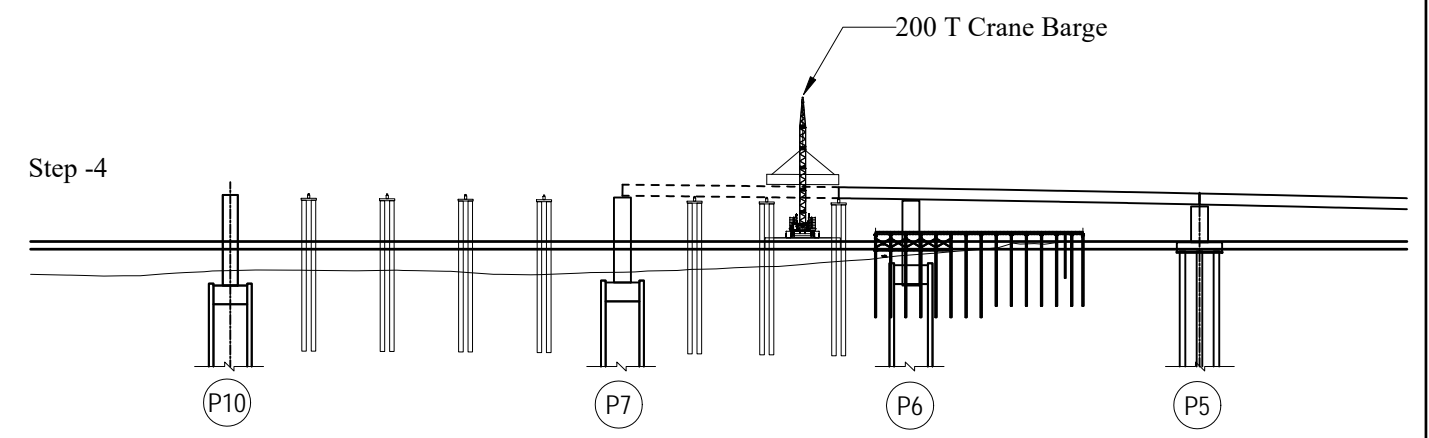
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO. LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	PREPARED BY T. ICHIKAWA	SIGNATURE 	DATE 15 Jun.2017	DRAWING TITLE <b>(REFERENCE) CONSTRUCTION SEQUENCE OF CABLE STAYED BRIDGE</b>	PACKAGE 1
CHECKED BY T. HAYAKAWA	SIGNATURE 	DATE 20 Jun.2017	DWG No.					
APPROVED BY Y. SANO	SIGNATURE 	DATE 21 Jun.2017	P1-REF-0004					

# (REFERENCE) CONSTRUCTION SEQUENCE OF CONTINUOUS STEEL BOX GIRDER

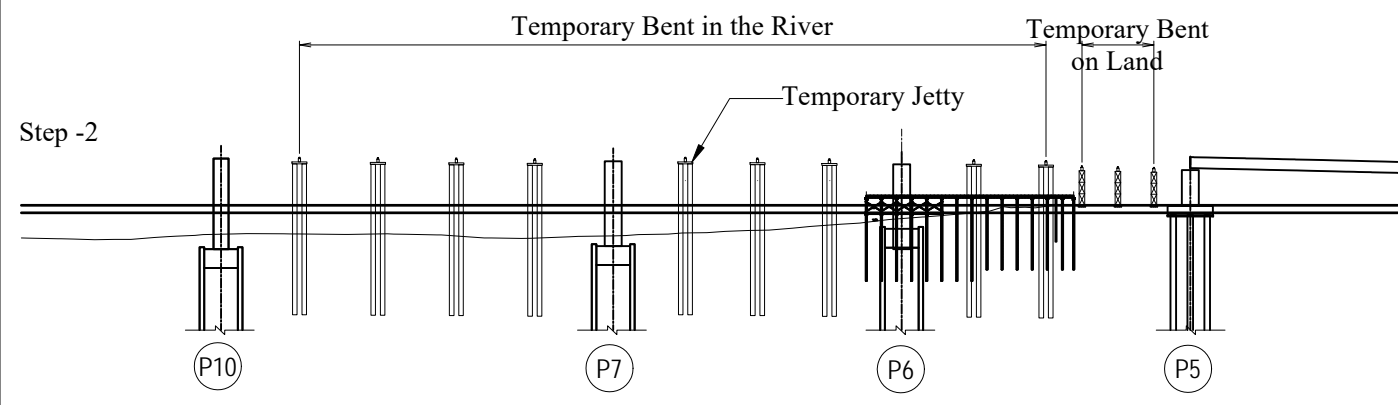
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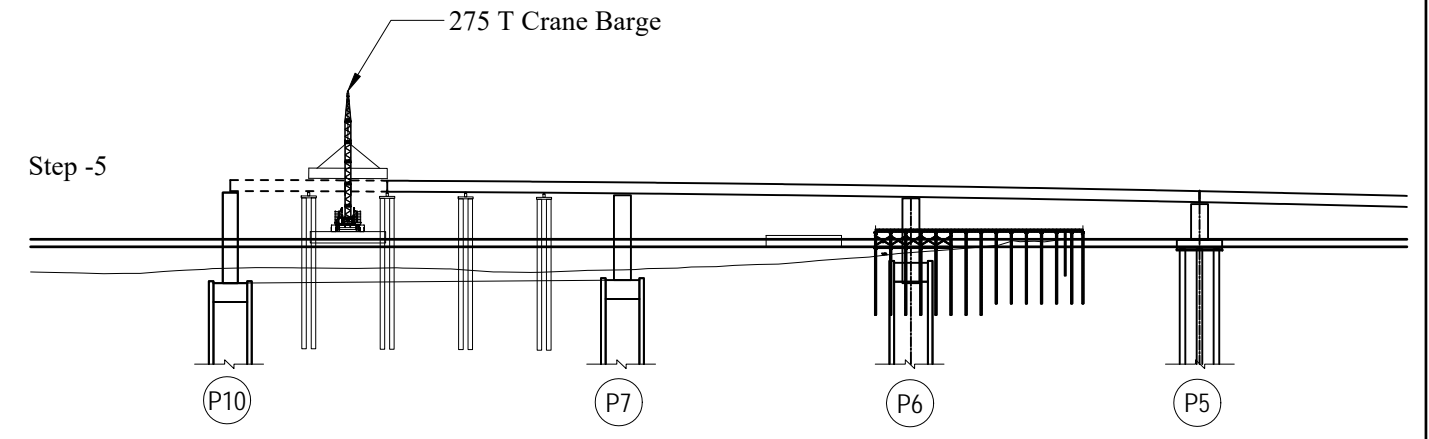
- Installation of temporary jetty between P5 and P6.



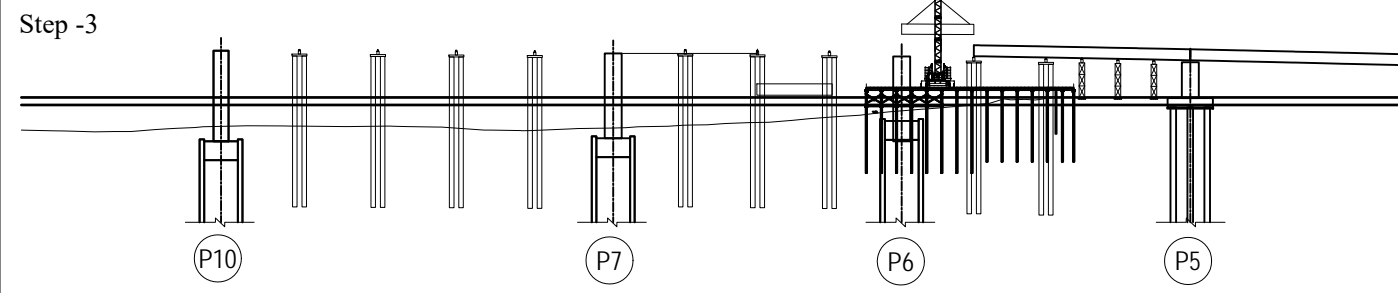
- Girder blocks between P6 and P7 erect using 200t Crane Barge.



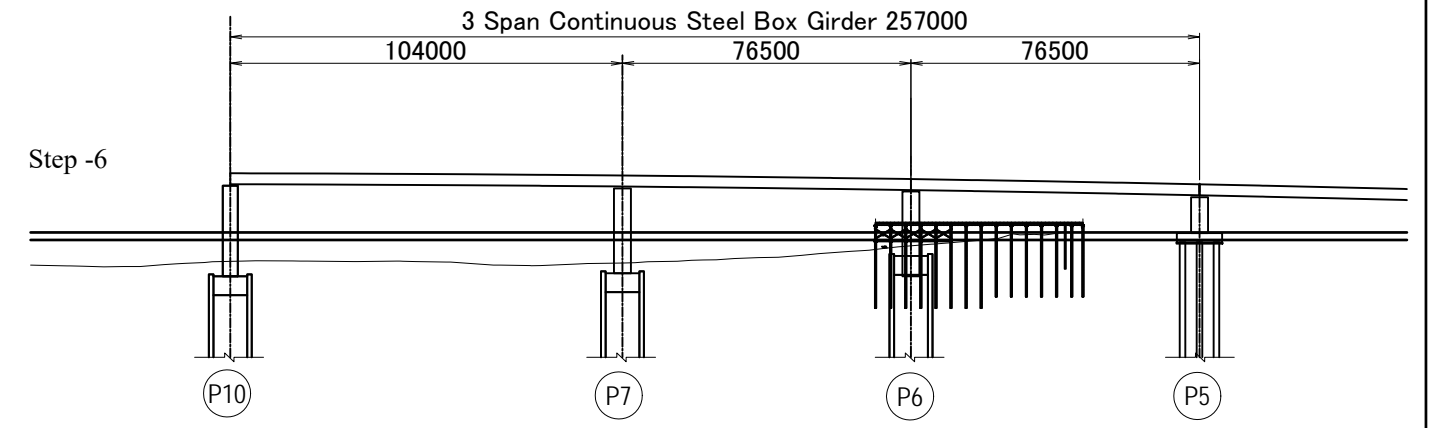
- Installation of temporary bents in the river and on land.



- Girder blocks between P7 and P10 erects using 275t Crane Barge.



- Girder blocks between P5 and P6 erect using 200t Crawler Crane on land and temporary jetty.



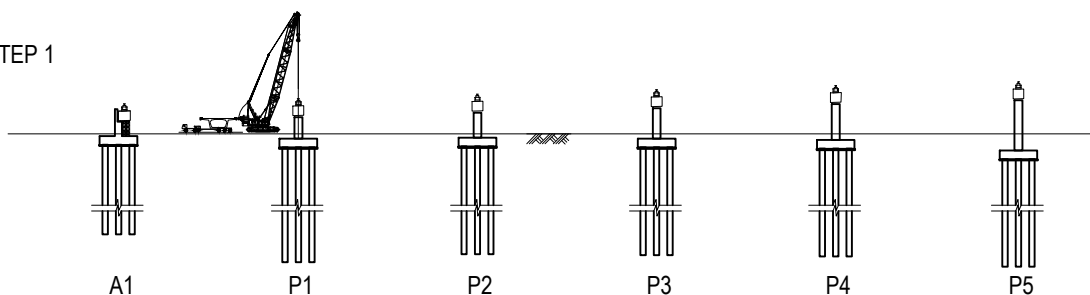
- After erection all girder blocks, all temporary bents are removed.
- Completed.

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 (REFERENCE) CONSTRUCTION SEQUENCE OF CONTINUOUS STEEL BOX GIRDER	PACKAGE	
				PREPARED BY	T. ICHIKAWA			15 Jun.2017	1
				CHECKED BY	T. HAYAKAWA			20 Jun.2017	DWG No.
				APPROVED BY	Y. SANO			21 Jun.2017	P1-REF-0005

# (REFERENCE) CONSTRUCTION SEQUENCE OF CONTINUOUS PC BOX GIRDER

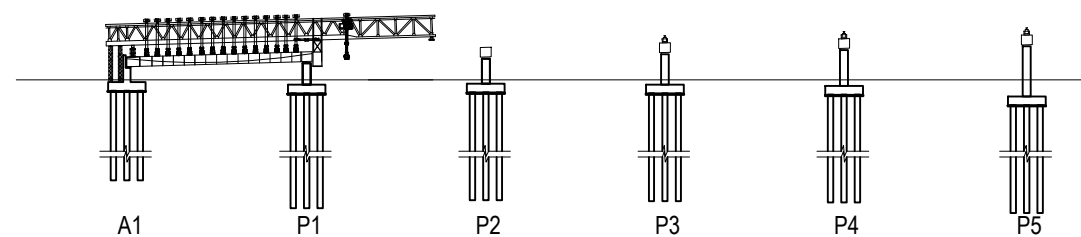
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STEP 1



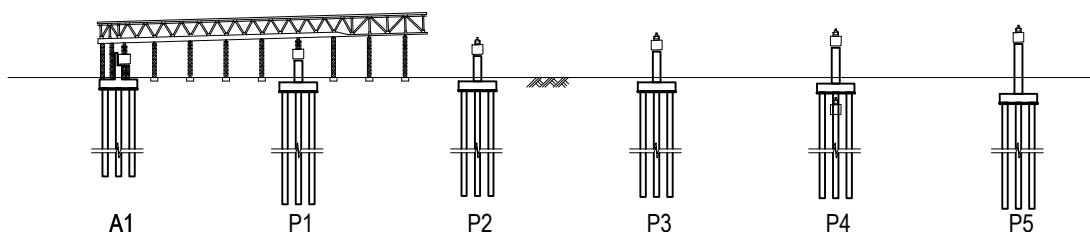
• In advance of segment erection, bearing shoes are set on abutment and piers. Pier head segments are erected by 200t crawler crane and fixed by PC bars.

STEP 4



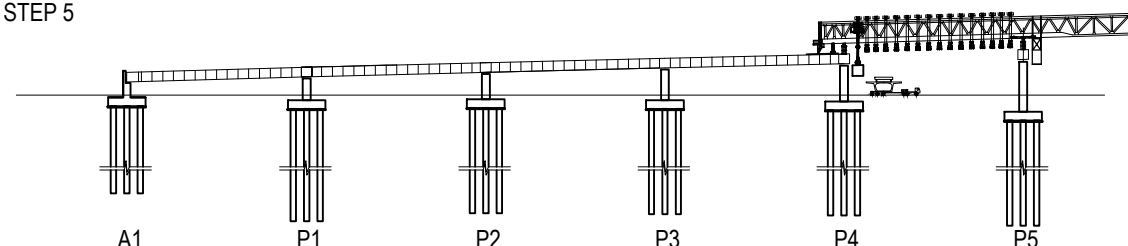
• After all segment are suspended at the designed position, epoxy adhesive applies to the segment which is pulling and connected by PC bars. Mortar is placed in wet joints at both sides. Permanent inner and external tendons for span are installed and tensioned by hydraulic jack.

STEP 2



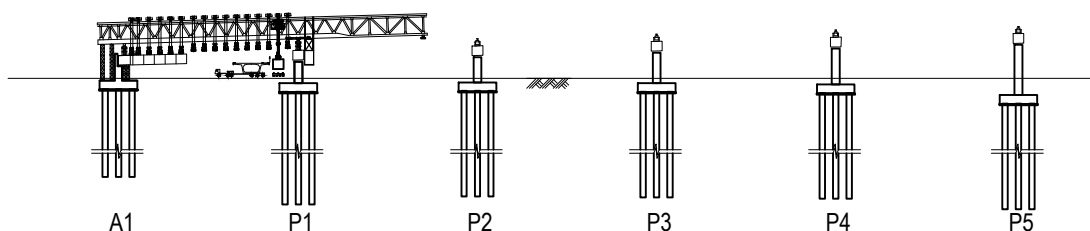
• For assembling of erection girder, temporary bent are installed. The erection girder and erection apparatus are set in designated position and girder support fixed on the pier head segment.

STEP 5



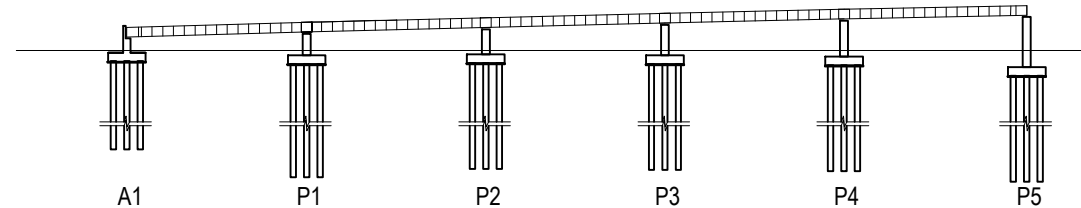
• After completion of one span erection sequence, erection girder advances to next span and erects segments in the same procedure up to Pier 5.

STEP 3



• Pre-cast segments are transported by trailer under the erection girder and lifted by electric hoist and moved to the setting position. The segment transfers the load to temporary hanging beam and adjusts the slope and gradient by jack.

STEP 6

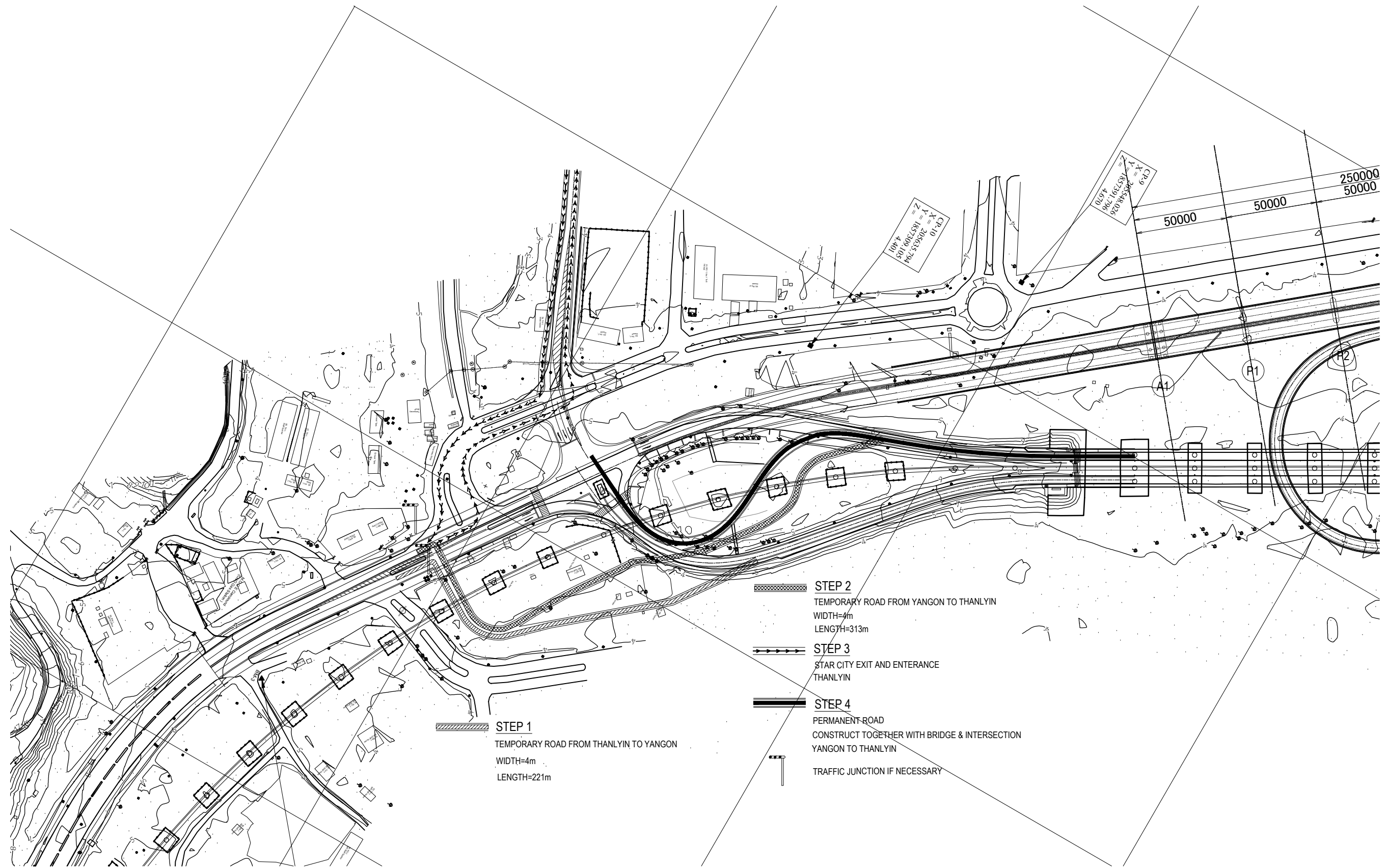




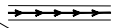


• Demolition of erection girder and then completion.

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 (REFERENCE) CONSTRUCTION SEQUENCE OF CONTINUOUS PC BOX GIRDER	PACKAGE 1 DWG No. P1-REF-0006	
				PREPARED BY	T. ICHIKAWA				15 Jun.2017
				CHECKED BY	T. HAYAKAWA				20 Jun.2017
				APPROVED BY	Y. SANO				21 Jun.2017

(REFERENCE) DIVERSION OF EXISTING TRAFFIC DURING CONSTRUCTION OF INTERSECTION

S=1:2000



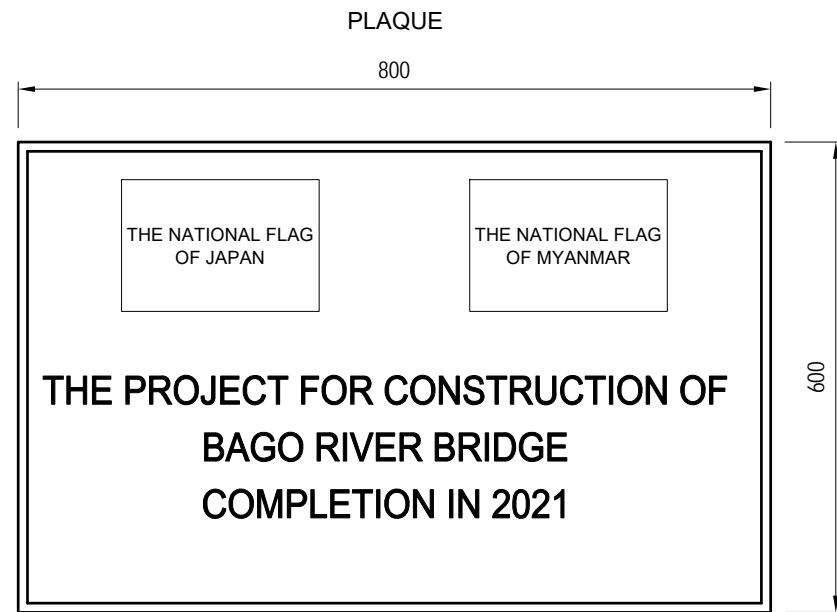
-  **STEP 1**  
TEMPORARY ROAD FROM THANLYIN TO YANGON  
WIDTH=4m  
LENGTH=221m
-  **STEP 2**  
TEMPORARY ROAD FROM YANGON TO THANLYIN  
WIDTH=4m  
LENGTH=313m
-  **STEP 3**  
STAR CITY EXIT AND ENTERANCE  
THANLYIN
-  **STEP 4**  
PERMANENT ROAD  
CONSTRUCT TOGETHER WITH BRIDGE & INTERSECTION  
YANGON TO THANLYIN
-  TRAFFIC JUNCTION IF NECESSARY

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 	NAME	SIGNATURE	DATE	DRAWING TITLE (REFERENCE) DIVERSION OF EXISTING TRAFFIC DURING CONSTRUCTION OF INTERSECTION	PACKAGE	
				PREPARED BY	T. ICHIKAWA			15 Jun.2017	1
				CHECKED BY	T. HAYAKAWA			20 Jun.2017	DWG No.
				APPROVED BY	Y. SANO			21 Jun.2017	P1-REF-0007

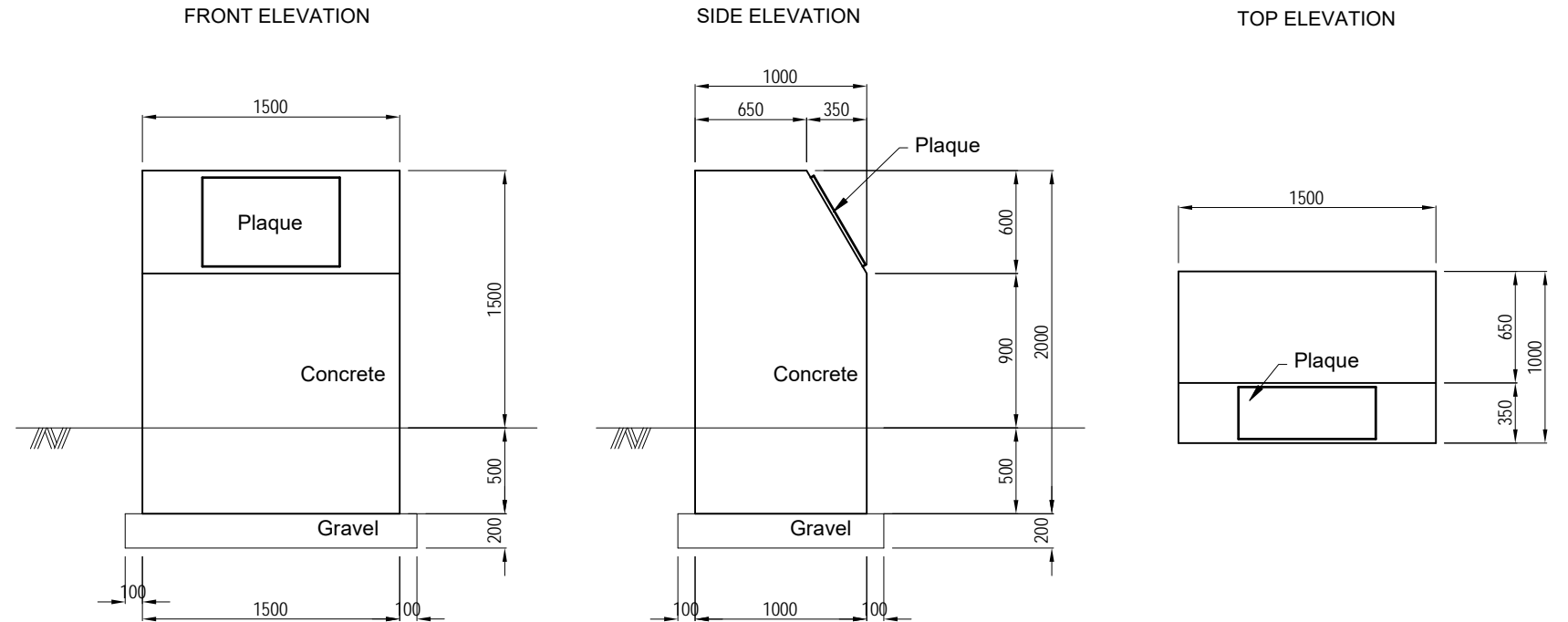


# (REFERENCE) MONUMENT AND BRIDGE RECORD

## MONUMENT



Note) Design & sentence shall be confirmed to the Engineer during construction period.



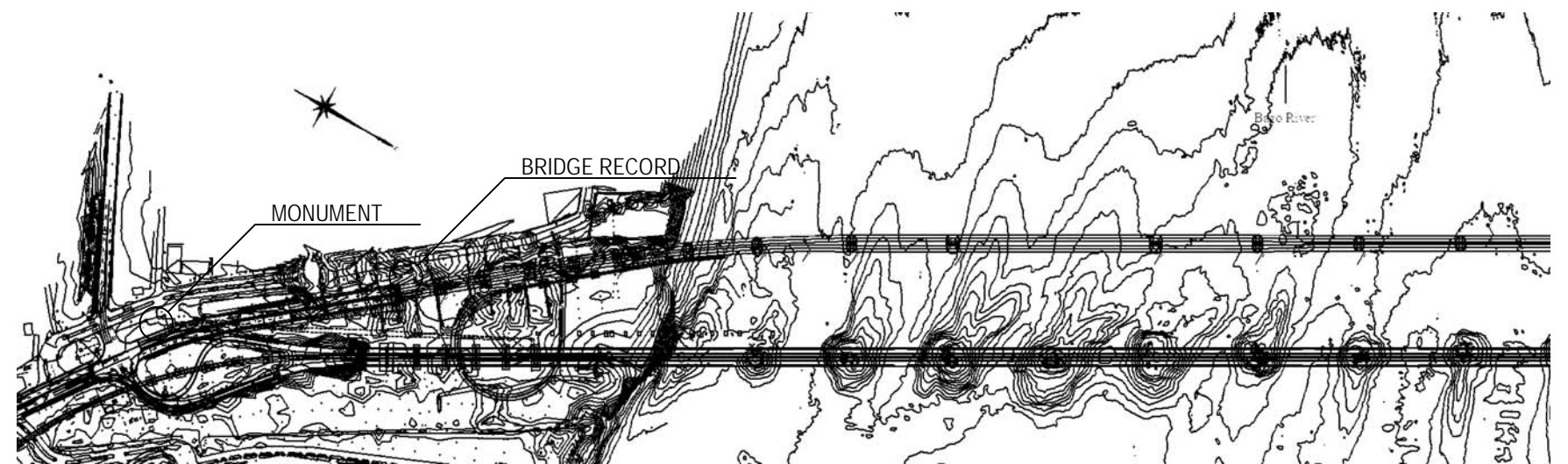
Note) Design and details of monument shall be confirmed to the Engineer during construction period.

## BRIDGE RECORD



Note) Design & sentence shall be confirmed to the Engineer during construction period.

## LOCATION



Note) Location for monument and bridge record shall be confirmed to the Engineer during construction period.

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.	T. HAYAKAWA		29 Sep. 2017	(REFERENCE) MONUMENT AND BRIDGE RECORD	1
				T. HAYAKAWA		3 Oct. 2017		DWG No.
				Y. SANO		6 Oct. 2017		P1-REF-0008



# (REFERENCE) NETWORK PLAN

## Primary Control Point By GPS

Point No	Easting	Northing	Elevation
GPS 01	205,842.773	1,857,184.685	5.698
GPS 011	205,760.156	1,857,254.692	5.543
GPS 02	205,321.737	1,857,693.657	4.426
GPS 021	205,410.480	1,857,584.129	4.262
GPS 03	204,535.795	1,859,088.346	4.115
GPS 031	204,453.920	1,859,180.786	3.874
GPS 04	204,274.946	1,859,592.673	5.344
GPS 041	204,205.987	1,859,475.724	5.066
GPS 05	203,521.369	1,860,268.348	4.914
GPS 051	203,458.184	1,860,271.486	5.105

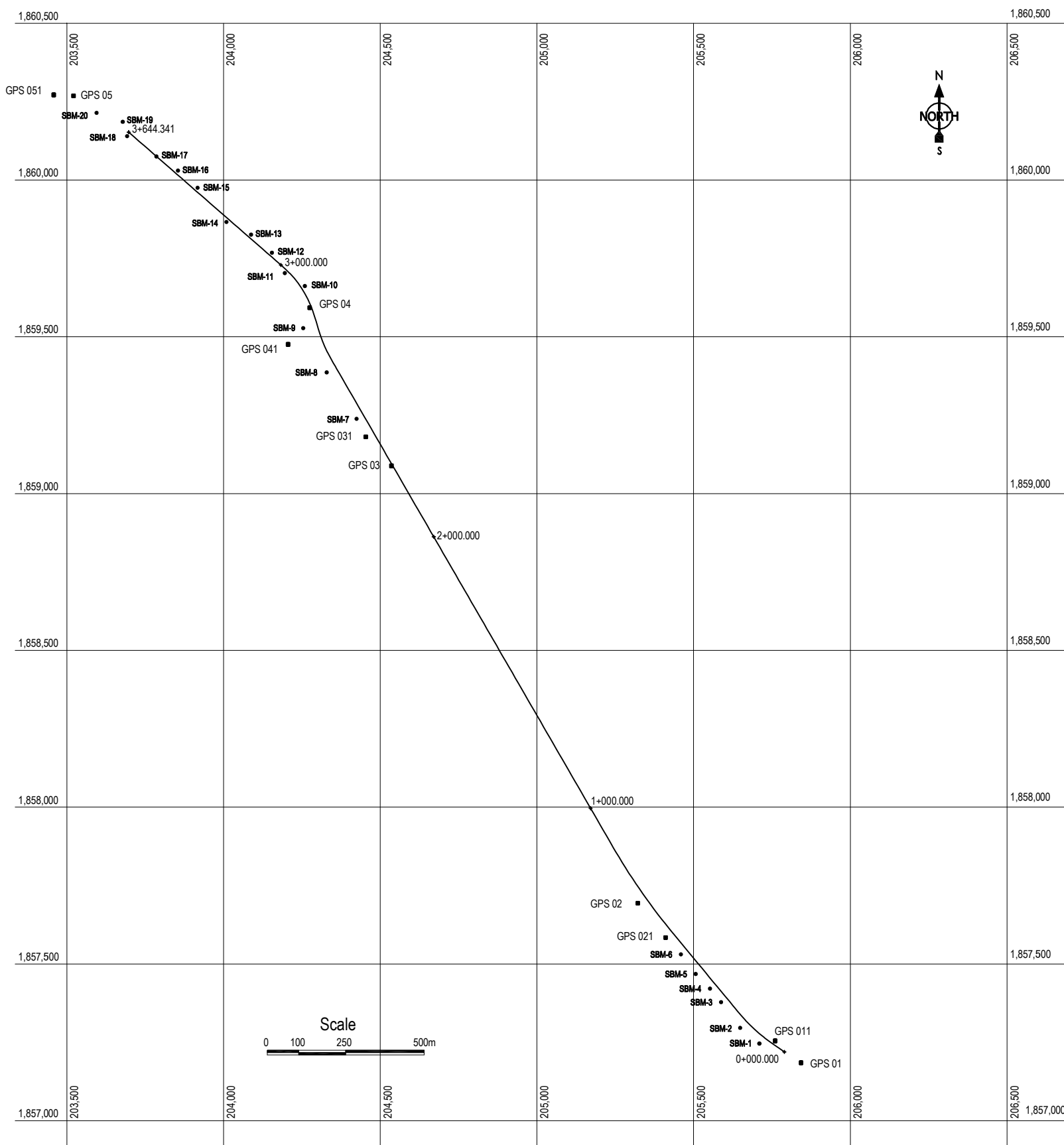
## Secondary Control Point By TS

Point No	Easting	Northing	Elevation
SBM-1	205,709.674	1,857,245.921	4.664
SBM-2	205,648.458	1,857,295.972	3.968
SBM-3	205,587.614	1,857,378.019	4.452
SBM-4	205,552.160	1,857,421.174	4.242
SBM-5	205,506.509	1,857,467.950	4.582
SBM-6	205,459.429	1,857,530.545	4.476
SBM-7	204,424.427	1,859,238.491	4.324
SBM-8	204,329.282	1,859,386.470	4.361
SBM-9	204,254.242	1,859,527.666	4.472
SBM-10	204,259.481	1,859,662.039	5.476
SBM-11	204,195.472	1,859,703.336	4.441
SBM-12	204,154.484	1,859,768.248	4.809
SBM-13	204,087.886	1,859,825.931	4.820
SBM-14	204,009.411	1,859,866.246	4.668
SBM-15	203,917.301	1,859,975.432	4.711
SBM-16	203,854.596	1,860,030.075	4.662
SBM-17	203,785.802	1,860,075.169	5.150
SBM-18	203,692.328	1,860,139.951	4.536
SBM-19	203,678.453	1,860,185.673	4.496
SBM-20	203,595.035	1,860,214.212	4.526

Elevation : Direct Leveling above Mean Sea Level

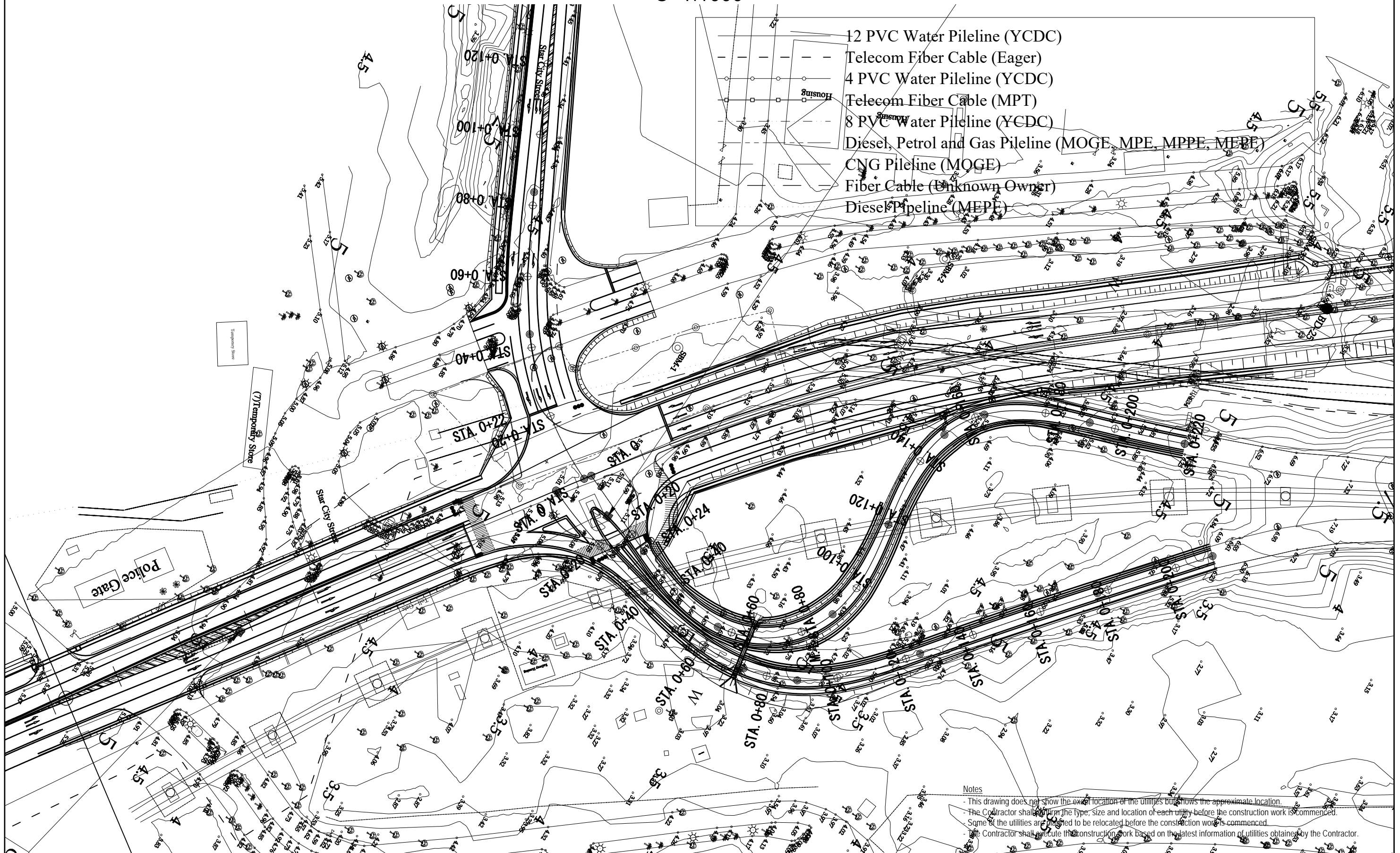
## Existing Control Points from SD

Point No	Easting	Northing	Elevation
GCP 08	204,426.731	1,867,438.719	————
SD 2	197,289.025	1,863,904.781	————
BM76097	214,396.8	1,851,646.3	23.895



(REFERENCE) EXISTING UNDERGROUND UTILITIES LAYOUT (1)

S=1:1000



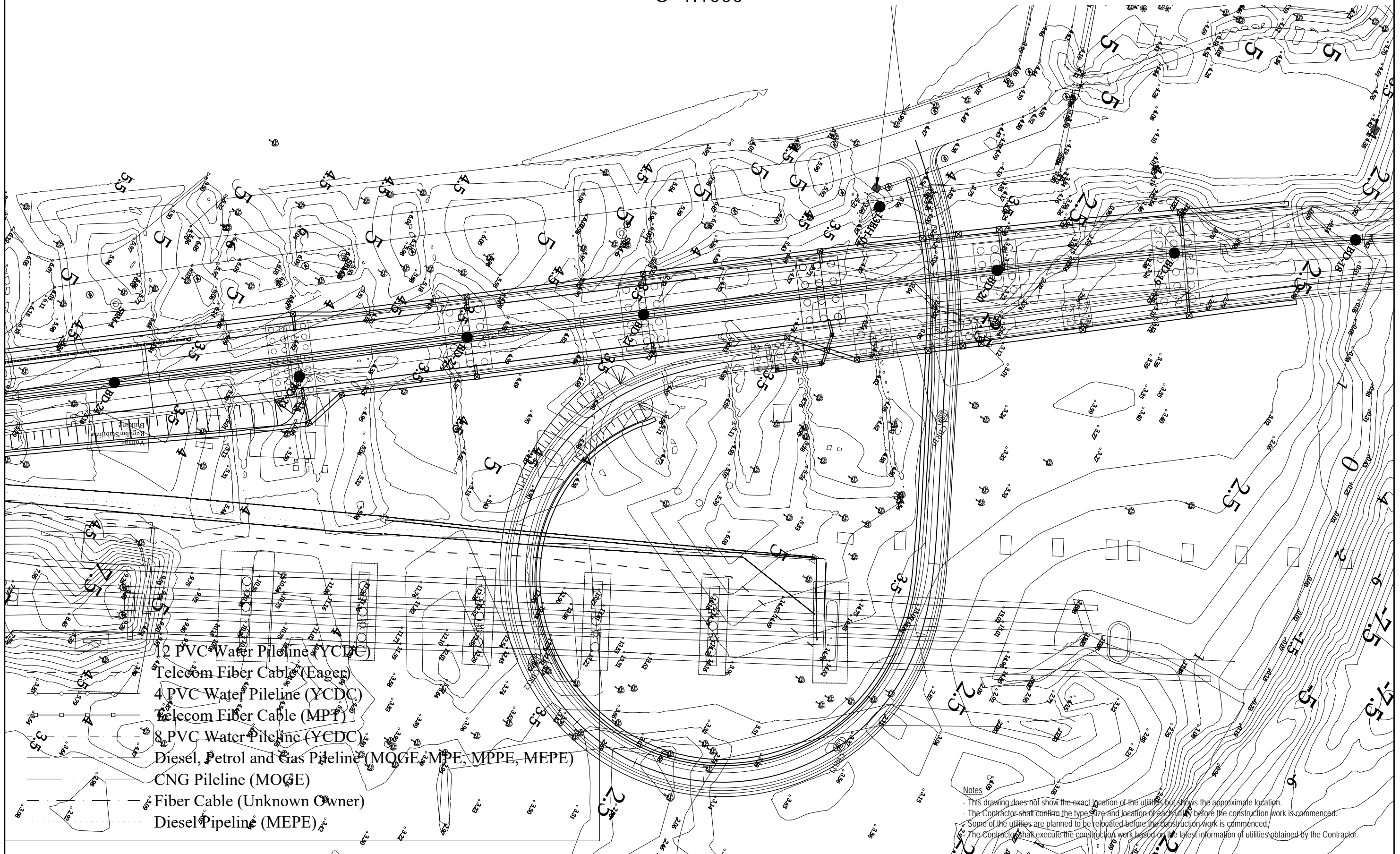
Notes  
 - This drawing does not show the exact location of the utilities but shows the approximate location.  
 - The Contractor shall confirm the type, size and location of each utility before the construction work is commenced.  
 - Some of the utilities are planned to be relocated before the construction work is commenced.  
 - The Contractor shall execute the construction work based on the latest information of utilities obtained by the Contractor.

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	SIGNATURE 	DATE 29 Sept.2017	DRAWING TITLE (REFERENCE) EXISTING UNDERGROUND UTILITIES LAYOUT (1)	PACKAGE 1
				PREPARED BY T. HAYAKAWA	CHECKED BY T. HAYAKAWA	DATE 3 Oct.2017		DWG No. P1-REF-0011
				APPROVED BY Y. SANO	SIGNATURE 	DATE 6 Oct.2017		



(REFERENCE) EXISTING UNDERGROUND UTILITIES LAYOUT (2)

S=1:1000



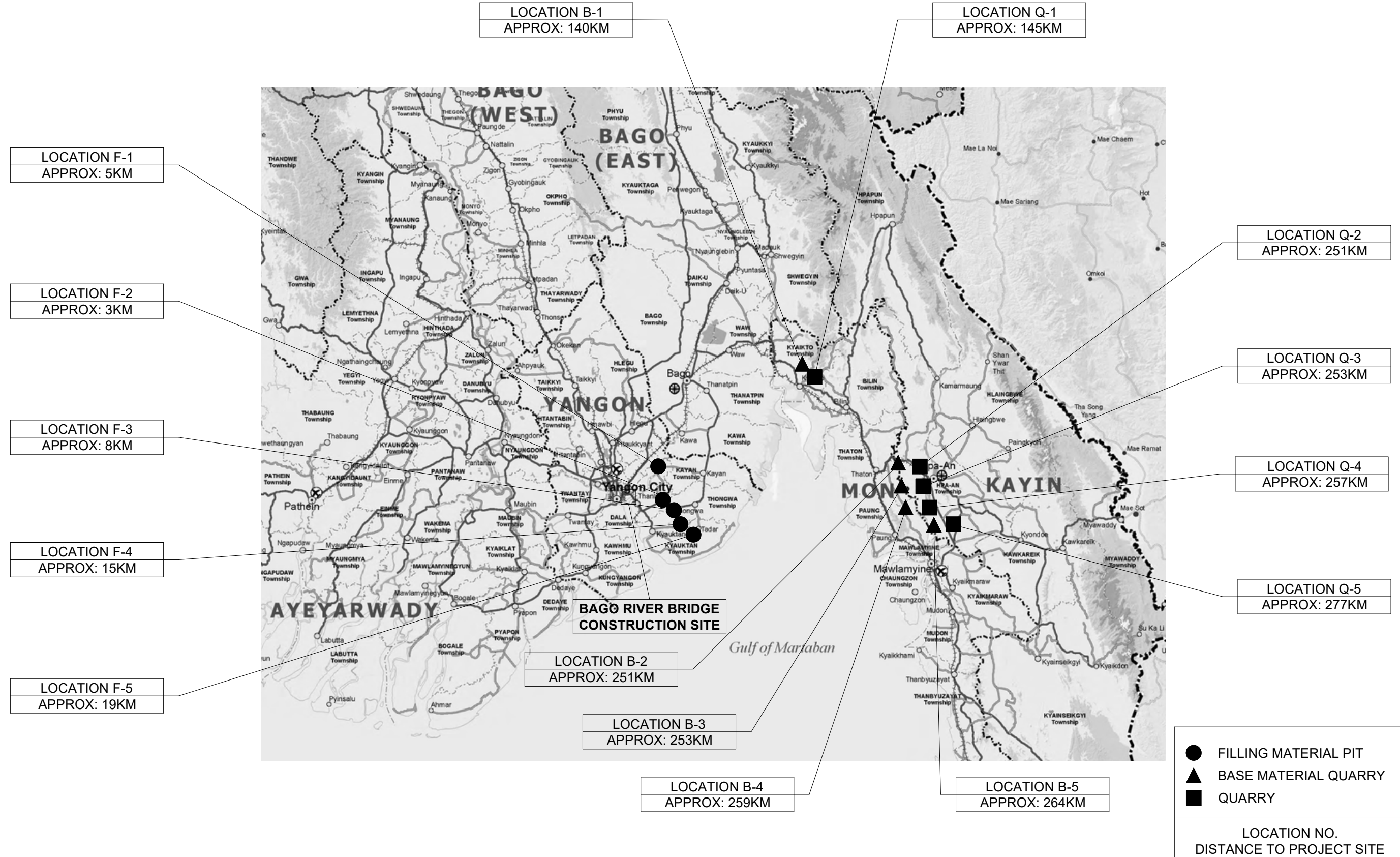
- 12 PVC Water Pipeline (YCDC)
- Telecom Fiber Cable (Eager)
- 4 PVC Water Pipeline (YCDC)
- Telecom Fiber Cable (MPT)
- 8 PVC Water Pipeline (YCDC)
- Diesel, Petrol and Gas Pipeline (MOGE, MPE, MPPE, MEPE)
- CNG Pipeline (MOGE)
- Fiber Cable (Unknown Owner)
- Diesel Pipeline (MEPE)

Notes  
 - This drawing does not show the exact location of the utilities but shows the approximate location.  
 - The Contractor shall confirm the type, size and location of each utility before the construction work is commenced.  
 - Some of the utilities are planned to be relocated before the construction work is commenced.  
 - The Contractor shall execute the construction work based on the latest information of utilities obtained by the Contractor.

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 (REFERENCE) EXISTING UNDERGROUND UTILITIES LAYOUT (2)	PACKAGE	
				PREPARED BY	T. HAYAKAWA			29 Sept. 2017	1
				CHECKED BY	T. HAYAKAWA			3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO		6 Oct. 2017	P1-REF-0012	

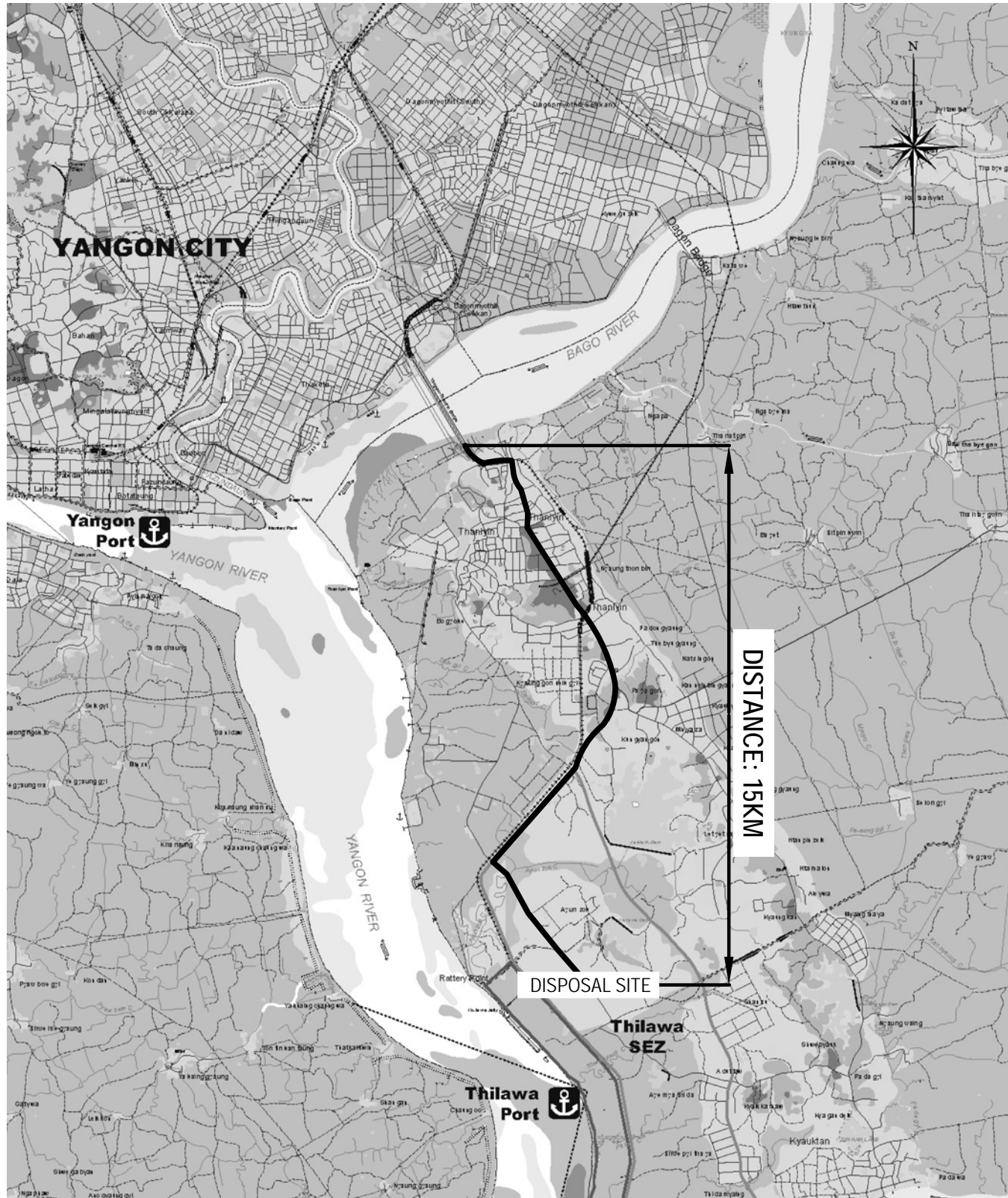


# (REFERENCE) QUARRY SITE LOCATION

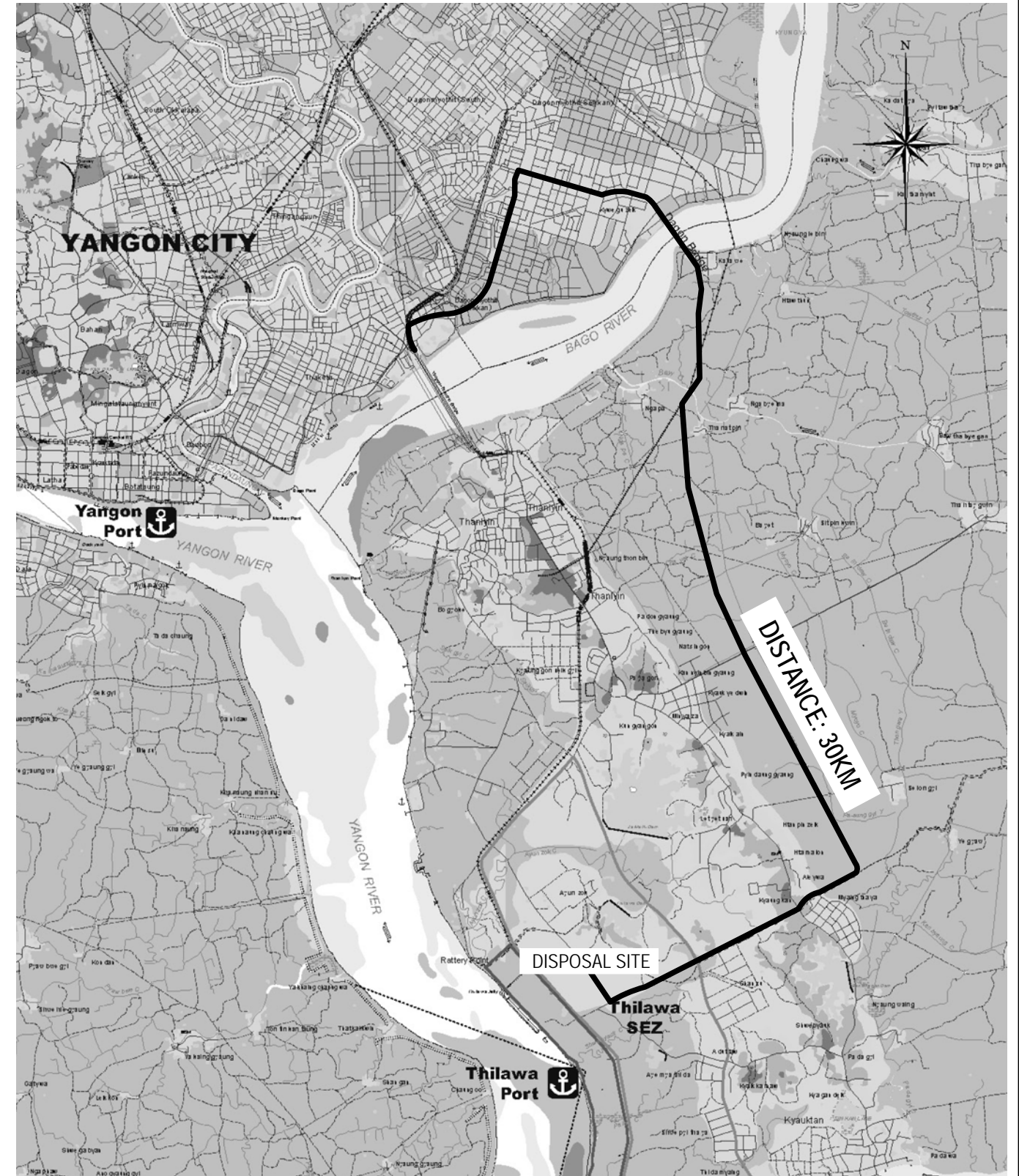




(REFERENCE) LAND TRANSPORTATION ROUTE TO WASTE DISPOSAL SITE IN THILAWA SEZ



LAND ROUTE 1  
FROM PACKAGE 1 TO DIPOSAL SITE



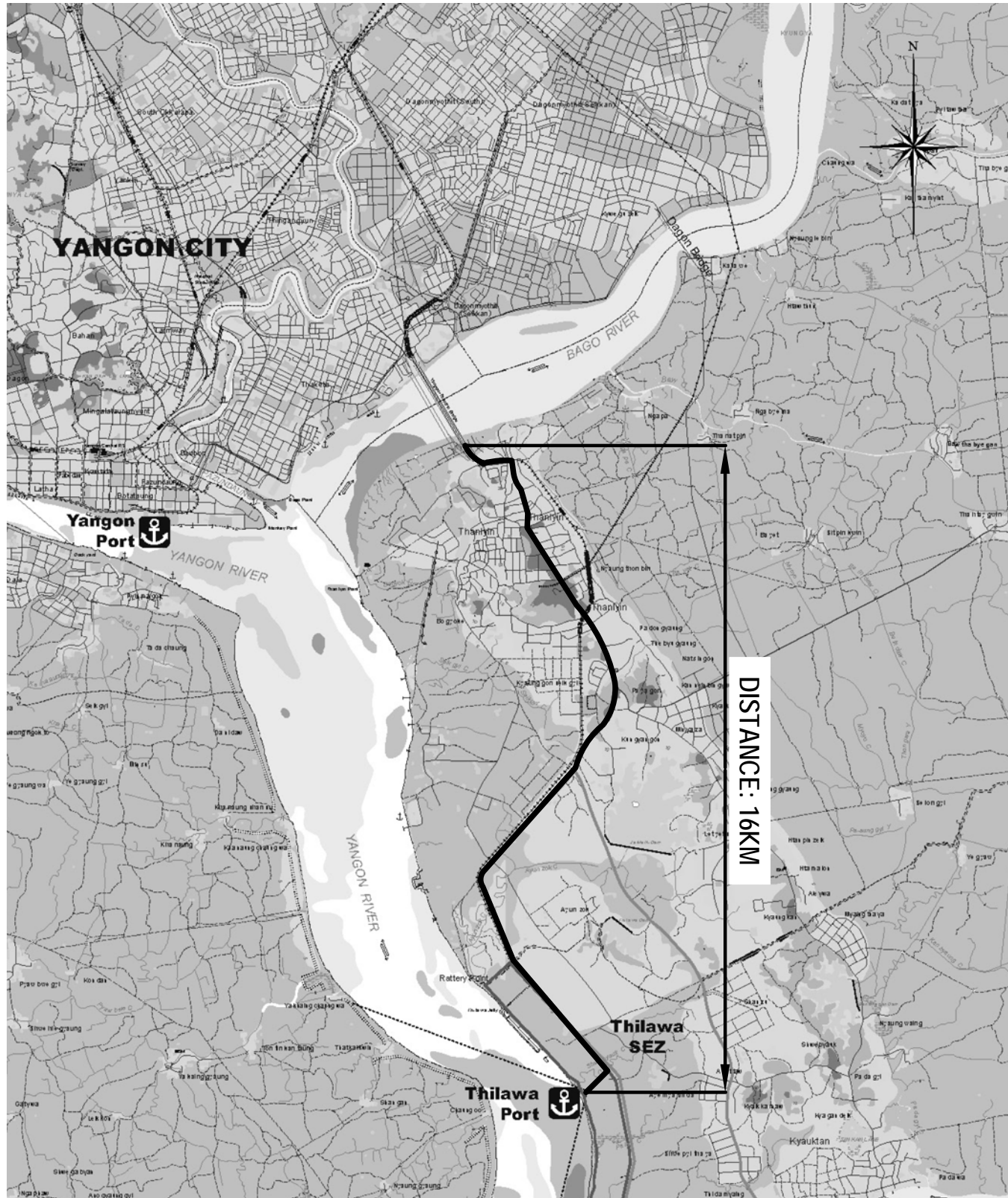
LAND ROUTE 2  
FROM PACKAGE 2 & 3 TO DIPOSAL SITE

NOTE: The site shown in this drawing is a candidate for the waste disposal site. The contractor may change the waste disposal site according to Engineer's instruction.

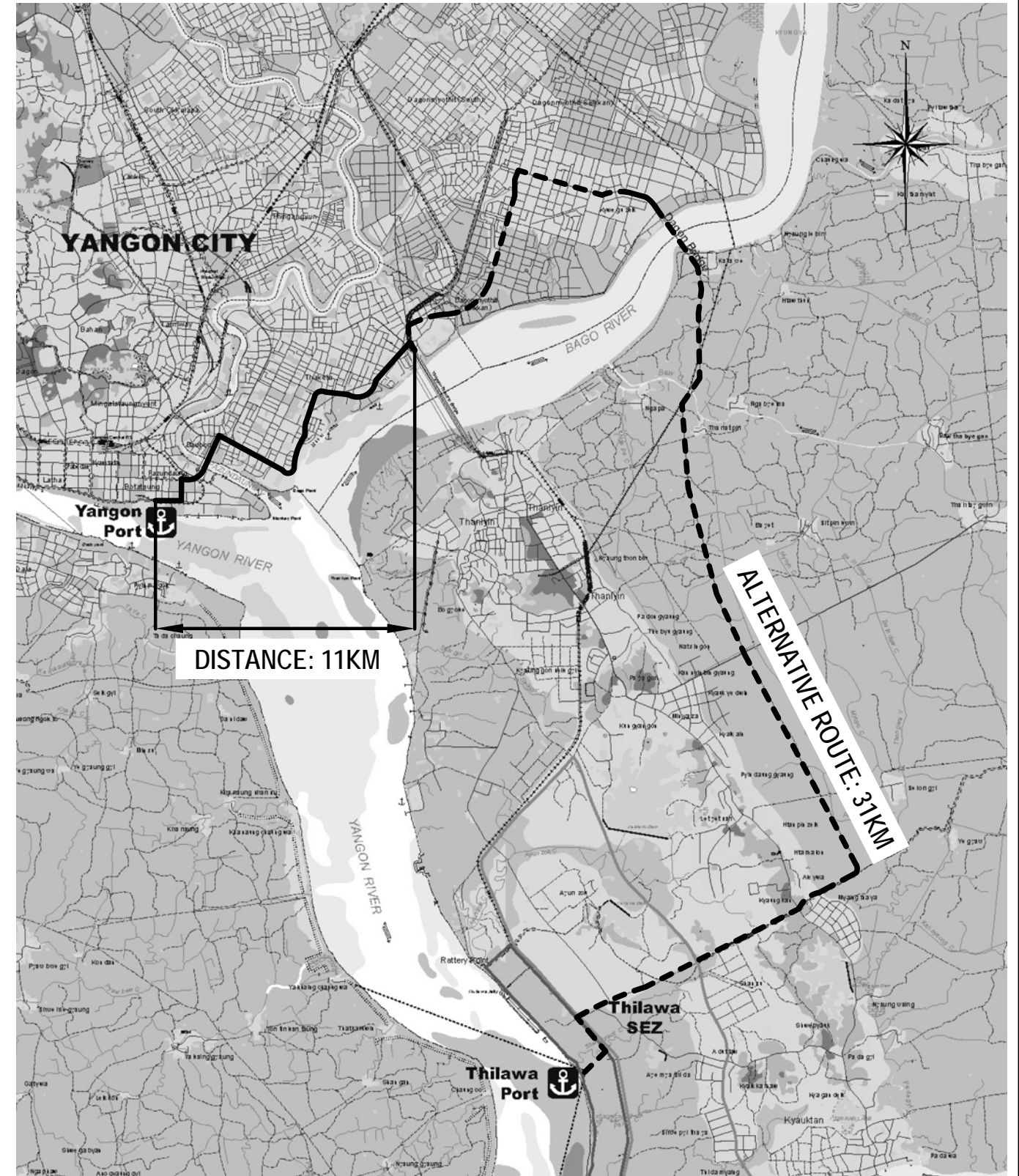
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE (REFERENCE) LAND TRANSPORTATION ROUTE TO WASTE DISPOSAL SITE IN THILAWA SEZ	PACKAGE	
				PREPARED BY	T. HAYAKAWA			4 Aug.2017	1
				CHECKED BY	T. HAYAKAWA			14 Aug.2017	DWG No.
				APPROVED BY	Y. SANO			16 Aug.2017	P1-REF-1002



(REFERENCE) LAND TRANSPORTATION ROUTE FROM LANDING PORT



LAND ROUTE 1  
FROM THILAWA PORT TO PACKAGE 1



LAND ROUTE 2  
FROM YANGON PORT TO PACKAGE 2 & 3  
(FROM THILAWA PORT TO PACKAGE 2 & 3)

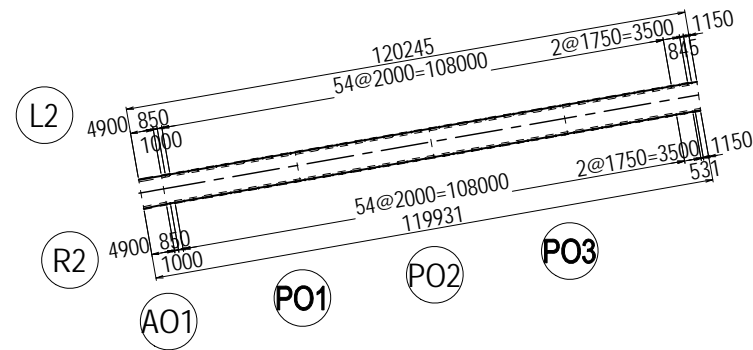
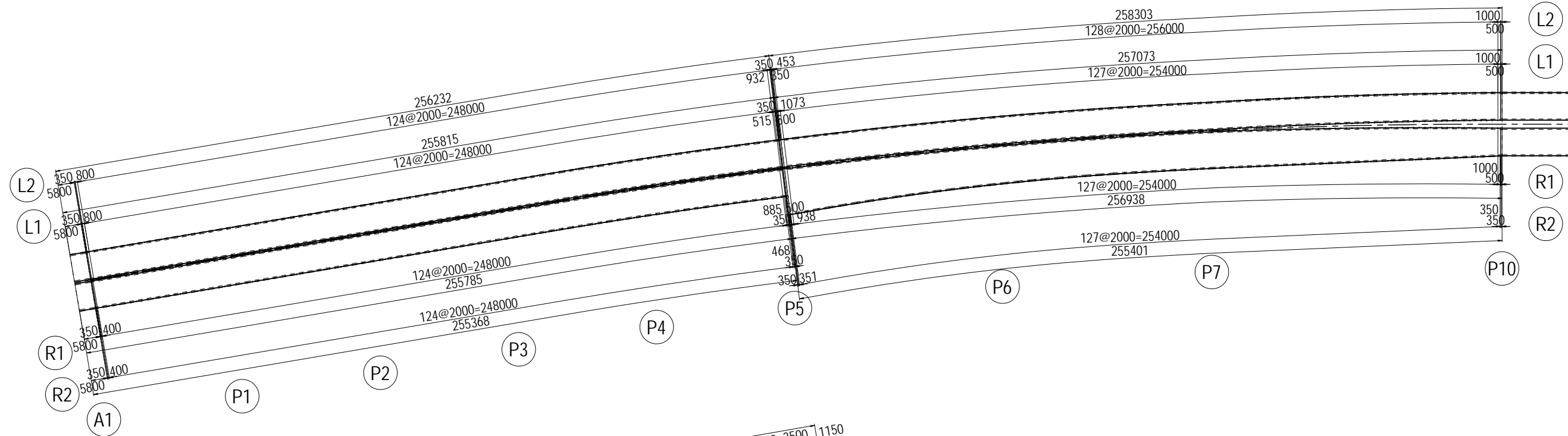
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO.,LTD. NIPPON ENGINEERING CONSULTANTS CO.,LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE (REFERENCE) LAND TRANSPORTATION ROUTE FROM LANDING PORT	PACKAGE	
				PREPARED BY	T. HAYAKAWA			4 Aug.2017	1
				CHECKED BY	T. HAYAKAWA			14 Aug.2017	DWG No.
				APPROVED BY	Y. SANO			16 Aug.2017	P1-REF-1003



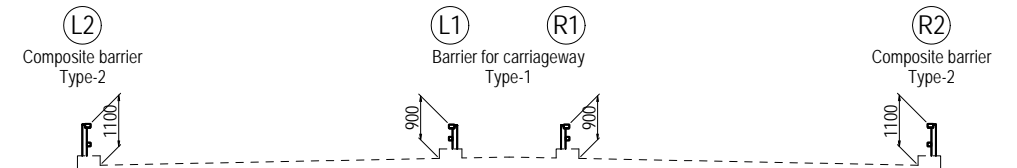
# (REFERENCE) DIAGRAM OF RAILING POST

S=1:800

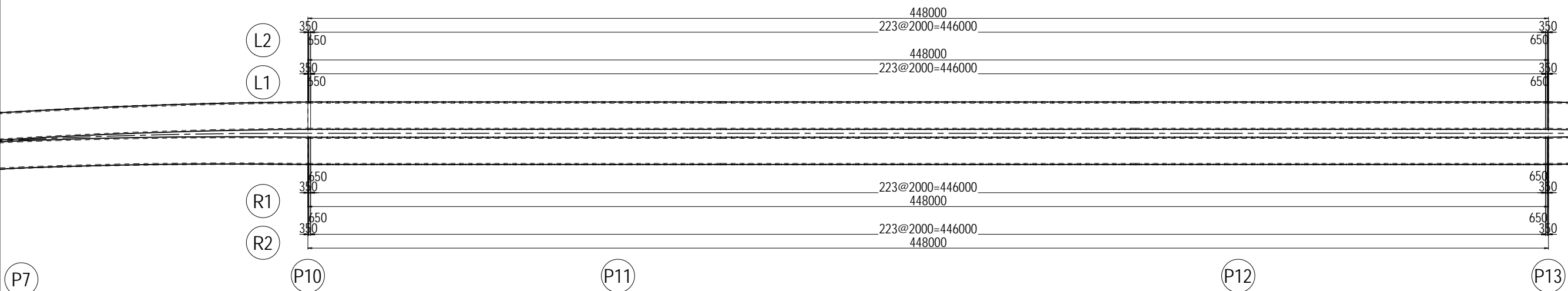
A1 - P5 (PC BOX GIRDER), P5-P10 (STEEL BOX GIRDER)



## LEGEND



## P10 - P13 (CABLE STAYED BRIDGE)

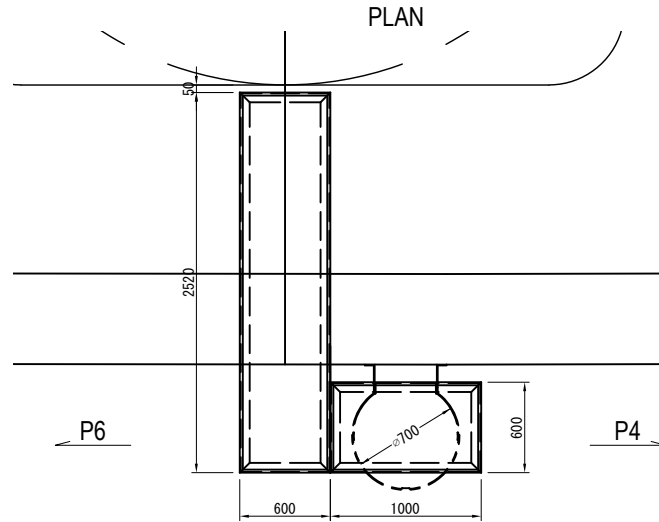


Elevation represents above MSL unless otherwise indicated.

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 (REFERENCE) DIAGRAM OF RAILING POST	PACKAGE	
				PREPARED BY	T. HAYAKAWA			29 Sep. 2017	1
				CHECKED BY	T. HAYAKAWA			3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct. 2017	P1-REF-2001

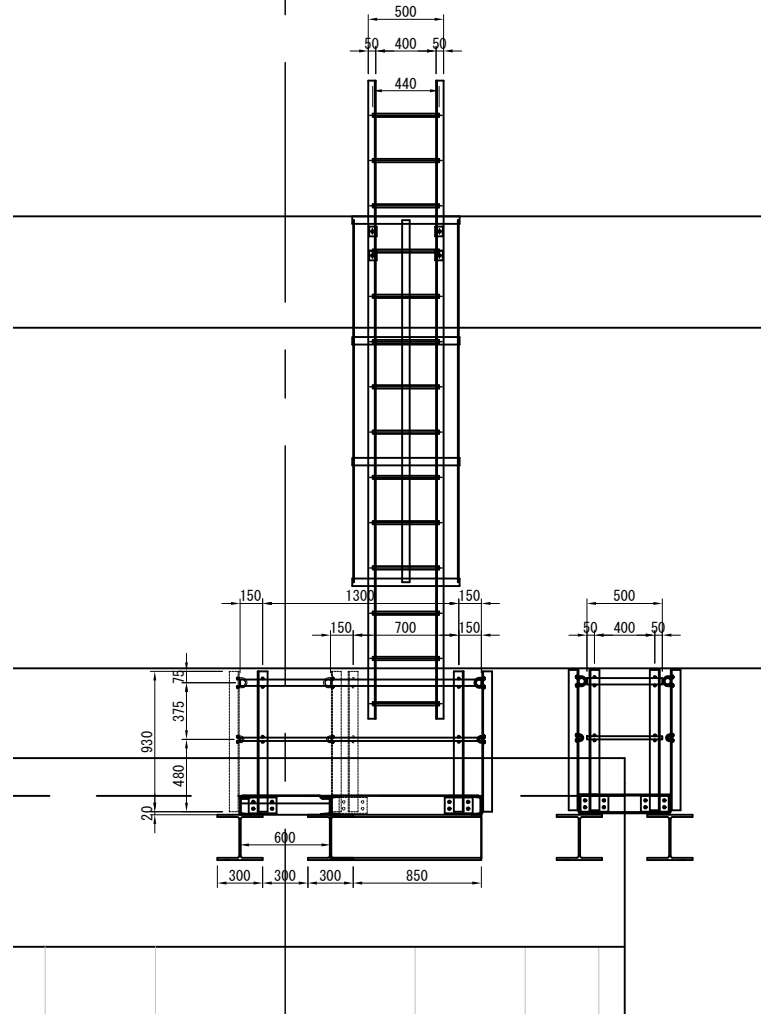
# (REFERENCE) INSPECTION LADDER FROM DECK

LADDER ON P5 PIER

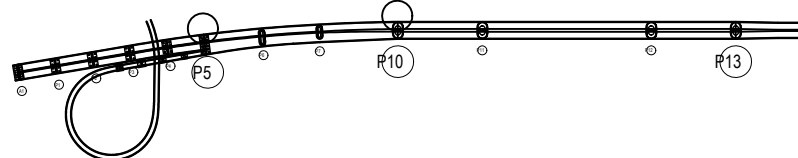


- LADDER**  
 2-L 50x50x6x4230  
 3-FB 50x4.5x2400  
 4-FB 50x4.5x2057  
 14-RB 22φx440  
 4-FB 65x6x264  
 4-Concrete Anchor M6x125  
 4-BN M6x40
- PATHWAY (2)**  
 1-CH PL 560x3.2x960  
 2-C 125x65x6x8x1000  
 2-C 125x65x6x8x600  
 3-FB 50x6x588  
 12-BN M10x30  
 1-PL 240x9x580  
 1-PL 100x9x580
- SUPPORT BEAM**  
 2-H 300x300x15x10x2570  
 2-H 300x300x15x10x1023  
 2-H 300x300x15x10x850  
 2-PL 320x320x10  
 2-PL 320x390x10  
 8-PL 280x145x10  
 16-Concrete Anchor M6x125
- PATHWAY (1)**  
 1-CH PL 560x3.2x2480  
 2-C 125x65x6x8x2520  
 2-C 125x65x6x8x600  
 4-FB 50x6x588  
 26-BN M10x30  
 2-PL 240x9x580  
 2-PL 100x9x580
- HANDRAIL (1)**  
 5-L 65x65x6x930  
 5-PL 105x6x185  
 1-PIPE 42.7x2.3x2520  
 1-PIPE 21.7x1.9x2520  
 1-PIPE 42.7x2.3x1920  
 1-PIPE 21.7x2.3x1920  
 5-U-bolt 32A  
 5-U-bolt 15A  
 20-Nut M10
- HANDRAIL (2)**  
 6-L 65x65x6x930  
 6-PL 105x6x185  
 1-PIPE 42.7x2.3x1600  
 1-PIPE 21.7x1.9x1600  
 1-PIPE 42.7x2.3x1000  
 1-PIPE 21.7x2.3x1000  
 1-PIPE 42.7x2.3x500  
 1-PIPE 21.7x2.3x500  
 6-U-bolt 32A  
 6-U-bolt 15A  
 24-Nut M10

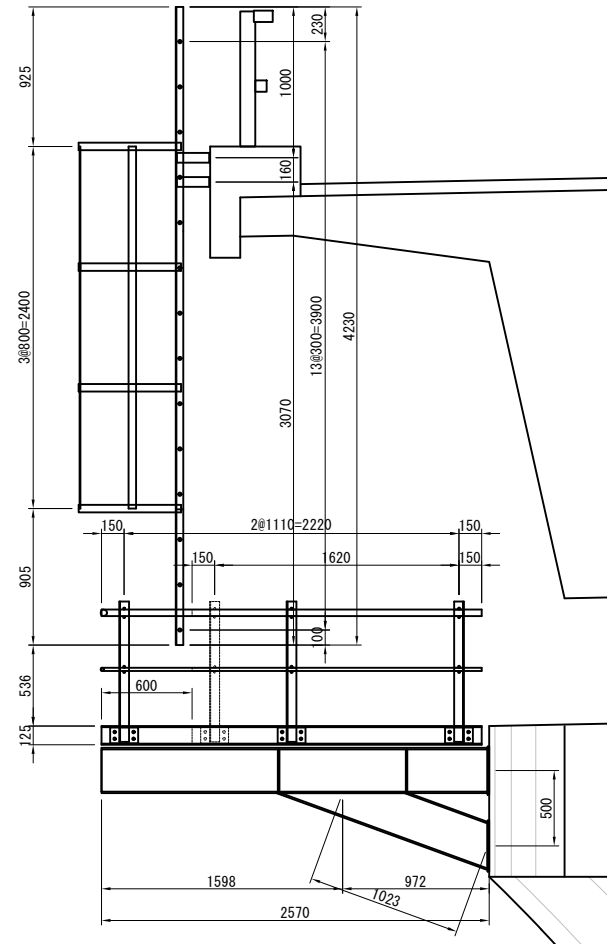
ELEVATION



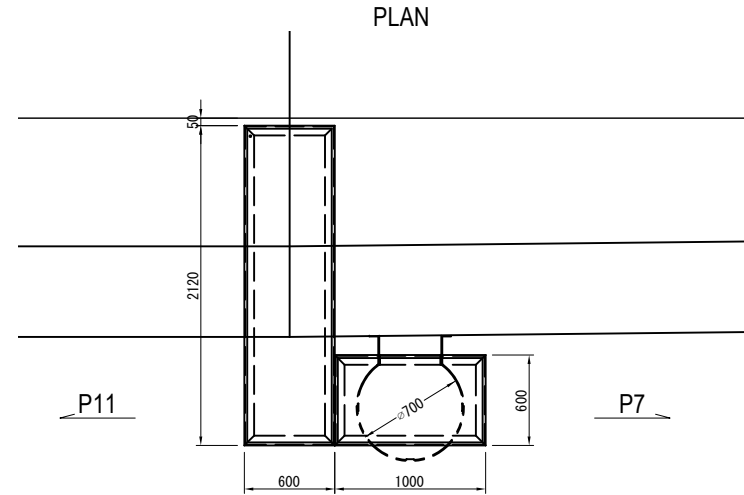
LOCATION



SECTION

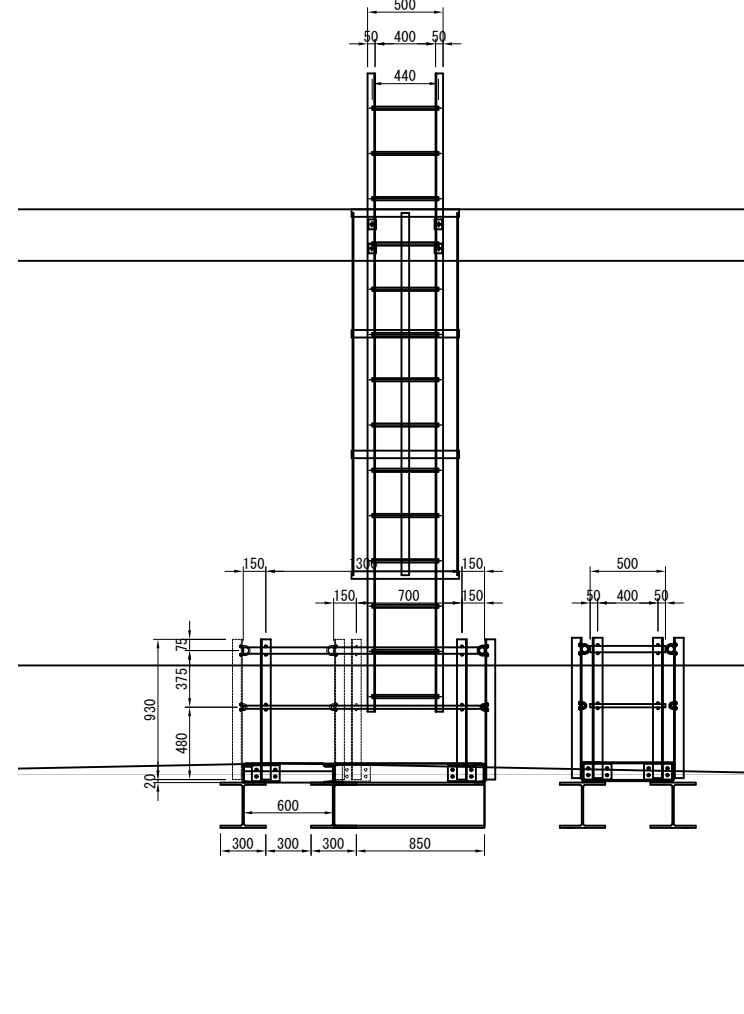


LADDER ON P10 PIER

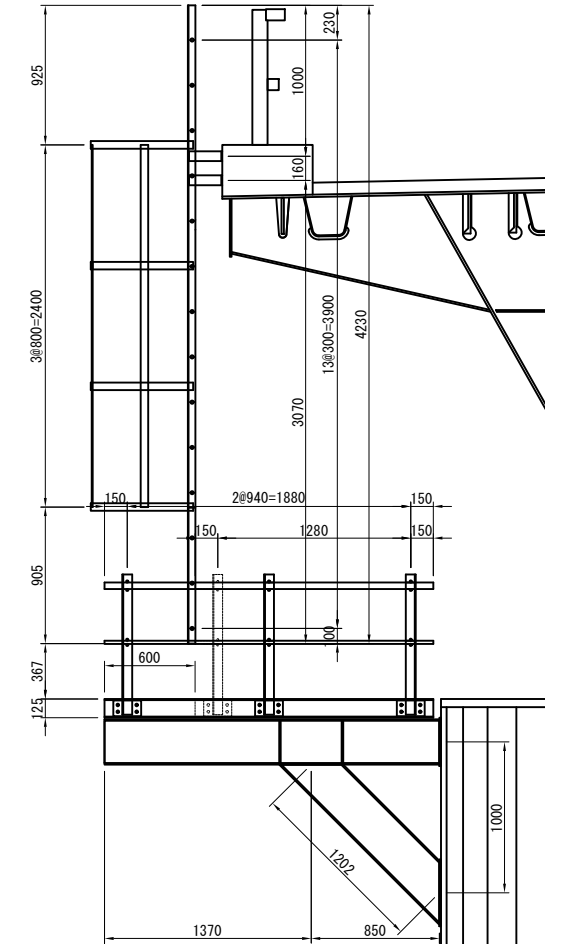


- LADDER**  
 2-L 50x50x6x4230  
 3-FB 50x4.5x2400  
 4-FB 50x4.5x2057  
 14-RB 22φx440  
 4-FB 65x6x264  
 4-Concrete Anchor M6x125  
 4-BN M6x40
- PATHWAY (2)**  
 1-CH PL 560x3.2x960  
 2-C 125x65x6x8x1000  
 2-C 125x65x6x8x600  
 3-FB 50x6x588  
 12-BN M10x30  
 1-PL 240x9x580  
 1-PL 100x9x580
- SUPPORT BEAM**  
 2-H 300x300x15x10x2220  
 2-H 300x300x15x10x1202  
 2-H 300x300x15x10x850  
 2-PL 320x320x10  
 2-PL 320x444x10  
 8-PL 280x145x10  
 16-Concrete Anchor M6x125
- PATHWAY (1)**  
 1-CH PL 560x3.2x2080  
 2-C 125x65x6x8x2120  
 2-C 125x65x6x8x600  
 4-FB 50x6x588  
 26-BN M10x30  
 2-PL 240x9x580  
 2-PL 100x9x580
- HANDRAIL (1)**  
 5-L 65x65x6x930  
 5-PL 105x6x185  
 1-PIPE 42.7x2.3x2180  
 1-PIPE 21.7x1.9x2180  
 1-PIPE 42.7x2.3x1580  
 1-PIPE 21.7x2.3x1580  
 5-U-bolt 32A  
 5-U-bolt 15A  
 20-Nut M10
- HANDRAIL (2)**  
 6-L 65x65x6x930  
 6-PL 105x6x185  
 1-PIPE 42.7x2.3x1600  
 1-PIPE 21.7x1.9x1600  
 1-PIPE 42.7x2.3x1000  
 1-PIPE 21.7x2.3x1000  
 1-PIPE 42.7x2.3x500  
 1-PIPE 21.7x2.3x500  
 6-U-bolt 32A  
 6-U-bolt 15A  
 24-Nut M10

ELEVATION



SECTION



Note: The formed steels of the inspection ladder shall be SM400 unless otherwise specified.

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 (REFERENCE) INSPECTION LADDER FROM DECK	PACKAGE	
				PREPARED BY	T. HAYAKAWA			29 Sep. 2017	1
				CHECKED BY	T. HAYAKAWA			3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct. 2017	P1-REF-2002