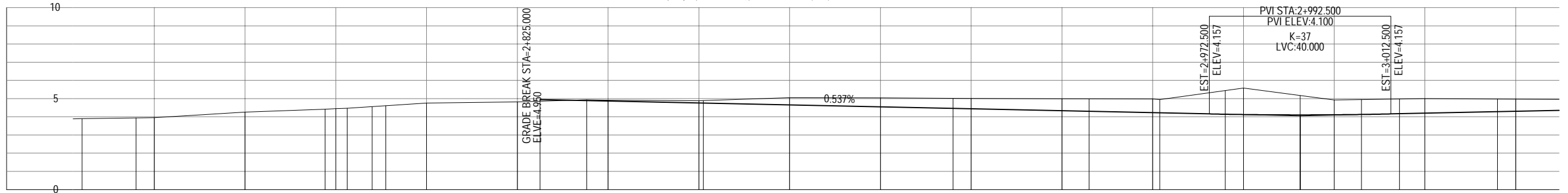
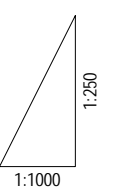
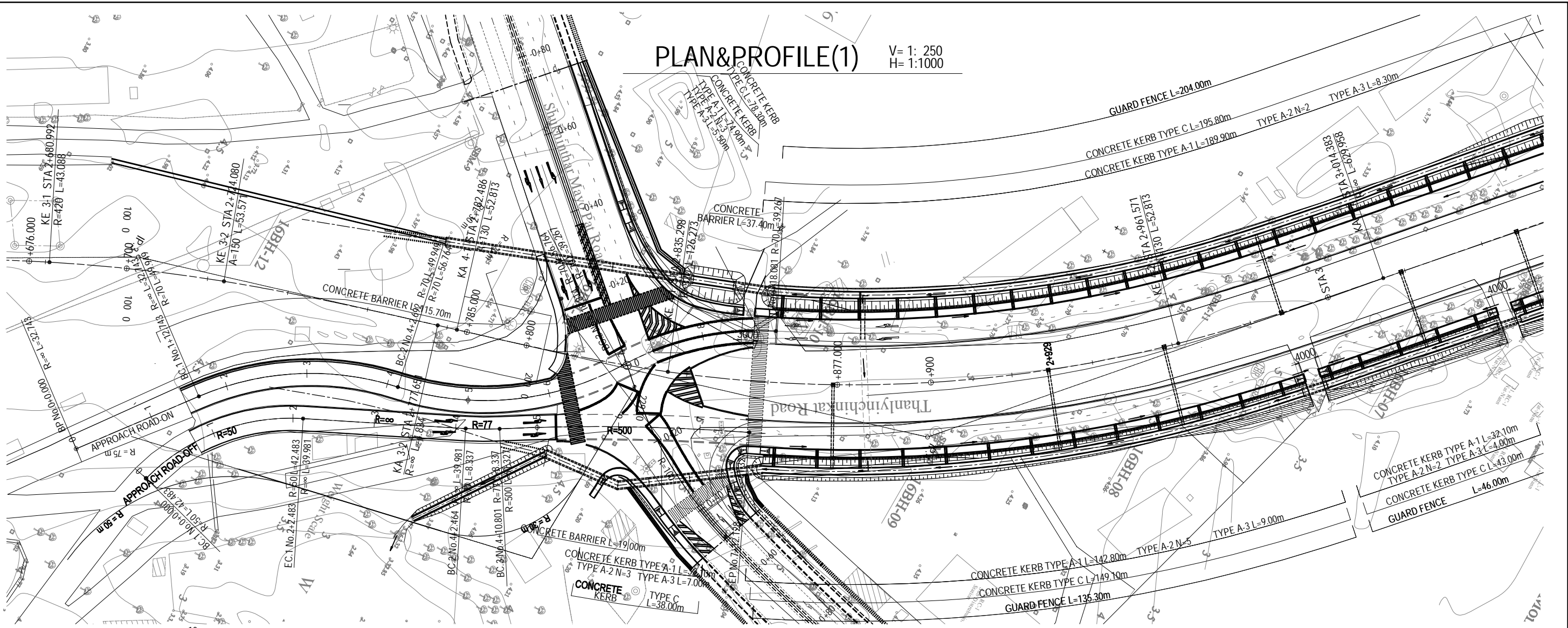


**F. REFERENCE DRAWING (MOC PORTION)**

# PLAN&PROFILE(1)

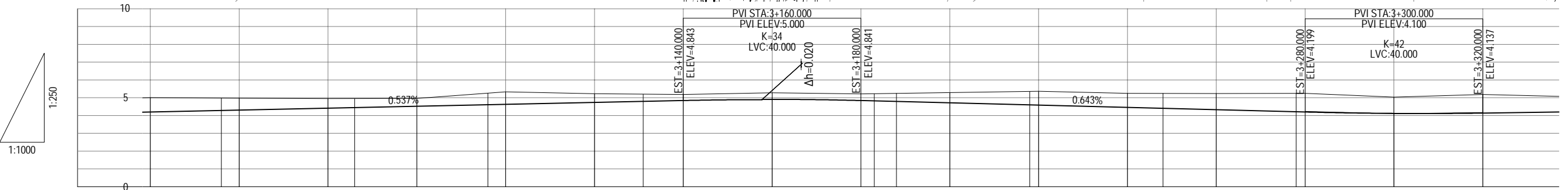
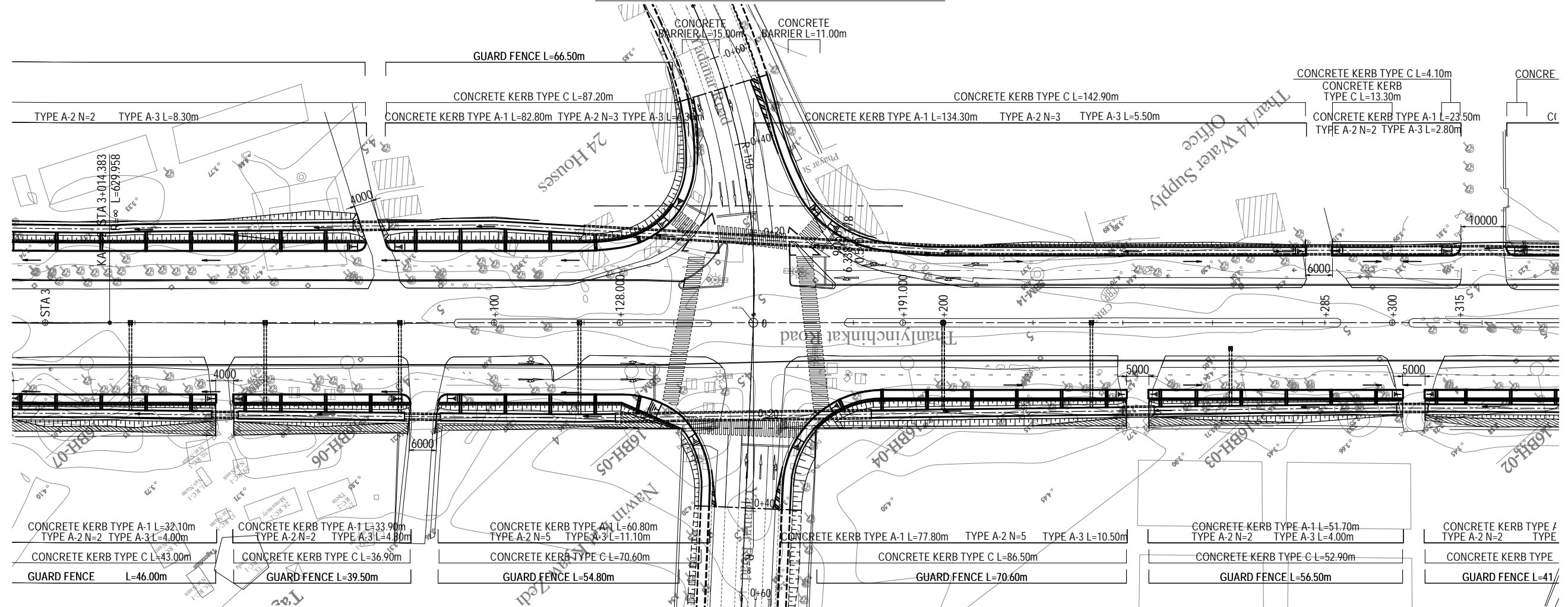
V= 1: 250  
H= 1:1000



GRADE	PROPOSED HEIGHT	EXISTING HEIGHT	STATION	SUPER ELEVATION	CURVE ELEMENTS
		3.90	KE 3-2		L=53.571 A=150.000
		3.94	+736.000		
		3.95	+740.000		
		4.26	+760.000		R=∞ L=4.834
		4.42	KA 3-2		
		4.45	KA 4-1		
		4.56	+788.000		A=130.000 L=52.813
		4.61	+791.000		
		4.75	+800.000		
		4.82	+820.000		2.0%
		4.86	+825.000		
		4.93	KE 4-1		
		4.91	+840.000		IP = IP.4 IA = 32.03.54 CL = 231.898 R=320.000 L=126.273
		4.88	+860.000		
		4.89	+861.000		
		5.05	+880.000		I=0.537% L=167.500
		5.04	+900.000		
		5.02	+916.000		
		5.01	+920.000		4.050
		4.99	+940.000		
		4.99	+946.000		
		4.98	+960.000		EST=2+972.500 ELEV=4.157
		4.95	KE 4-2		
		4.95	+961.000		
		5.44	+976.000		PVI STA=2+992.500 PVI ELEV=4.100 K=37 LVC=40.000
		5.58	+980.000		
		5.17	+992.500		
		4.92	STA3		EST=3+012.500 ELEV=4.157
		4.95	+6.000		
		4.98	KA 4-2		
		5.00	+20.000		A=130.000 L=52.813
		4.98	+36.000		
		4.97	+40.000		

# PLAN&PROFILE(2)

V= 1: 250  
H= 1:1000



GRADE	I=0.537% L=167.500										I=0.643% L=140.000																	
PROPOSED HEIGHT	PH1 4.198	PH1 4.284	PH1 4.305	PH1 4.413	PH1 4.445	PH1 4.520	PH1 4.606	PH1 4.628	PH1 4.735	PH1 4.784	PH1 4.843	PH1 4.881	PH2 4.811	PH2 4.841	PH2 4.822	PH2 4.790	PH2 4.713	PH2 4.697	PH2 4.584	PH2 4.456	PH2 4.404	PH2 4.327	PH2 4.211	PH2 4.169	PH2 4.119	PH2 4.137		
EXISTING HEIGHT	5.00	4.98	4.97	4.95	4.95	4.96	5.26	5.33	5.22	5.20	5.18	5.28	5.21	5.22	5.24	5.29	5.35	5.36	5.25	5.25	5.24	5.25	5.25	5.03	5.18			
STATION	+20.000	+36.000	+40.000	+60.000	+66.000	+80.000	+96.000	+100.000	+120.000	+131.000	+140.000	+160.000	+180.000	+183.000	+188.000	+200.000	+218.000	+220.000	+240.000	+248.000	+260.000	+278.000	+280.000	+300.000	+320.000			
SUPER ELEVATION	-																											
CURVE ELEMENTS	R=∞ L=629.958																											

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	K. TACHIBANA		29 Sep. 2017
CHECKED BY	T. HAYAKAWA		3 Oct. 2017
APPROVED BY	Y. SANO		6 Oct. 2017

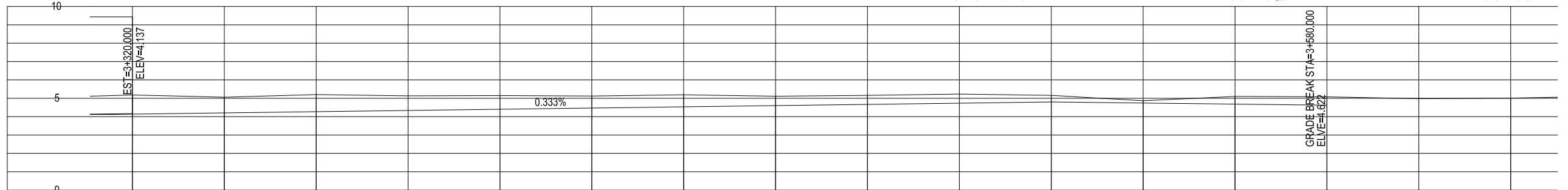
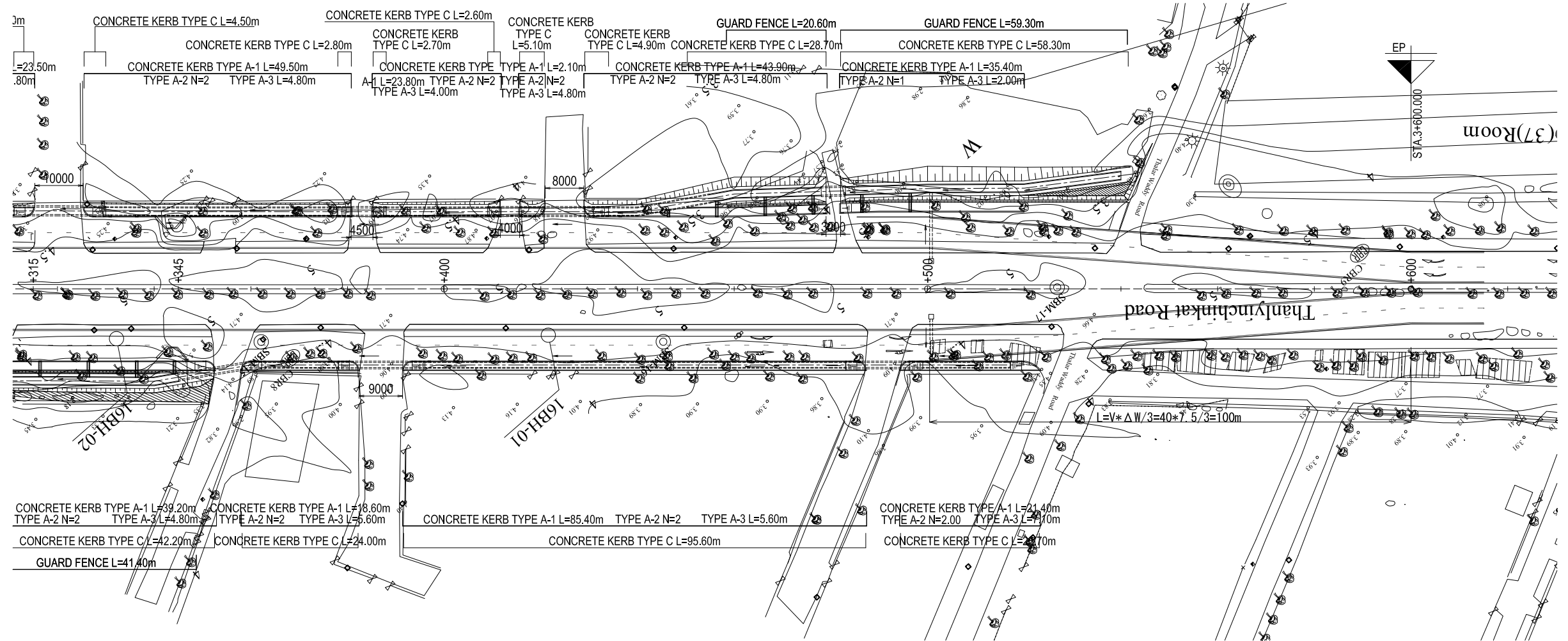
DRAWING TITLE  
PLAN&PROFILE(2)  
V= 1: 250,H= 1:1000

PACKAGE  
0  
DWG No.  
P0-RD-0110



# PLAN&PROFILE(3)

V= 1: 250  
H= 1:1000



GRADE																
PROPOSED HEIGHT	5.18-PH2 4.137	5.06-PH2 4.203	5.20-PH2 4.270	5.13-PH2 4.336	5.15-PH2 4.403	5.12-PH2 4.469	5.19-PH2 4.536	5.11-PH2 4.602	5.16-PH2 4.669	5.23-PH2 4.735	5.16-PH2 4.802	4.87-PH2 4.742	5.10-PH2 4.682	5.08-PH2 4.622	4.98	5.01
EXISTING HEIGHT																
STATION	+320.000	+340.000	+360.000	+380.000	+400.000	+420.000	+440.000	+460.000	+480.000	+500.000	+520.000	+540.000	+560.000	+580.000	+600.000	+620.000
SUPER ELEVATION	-----															
CURVE ELEMENTS	R=∞ L=629.958															

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	K. TACHIBANA		29 Sep. 2017
CHECKED BY	T. HAYAKAWA		3 Oct. 2017
APPROVED BY	Y. SANO		6 Oct. 2017

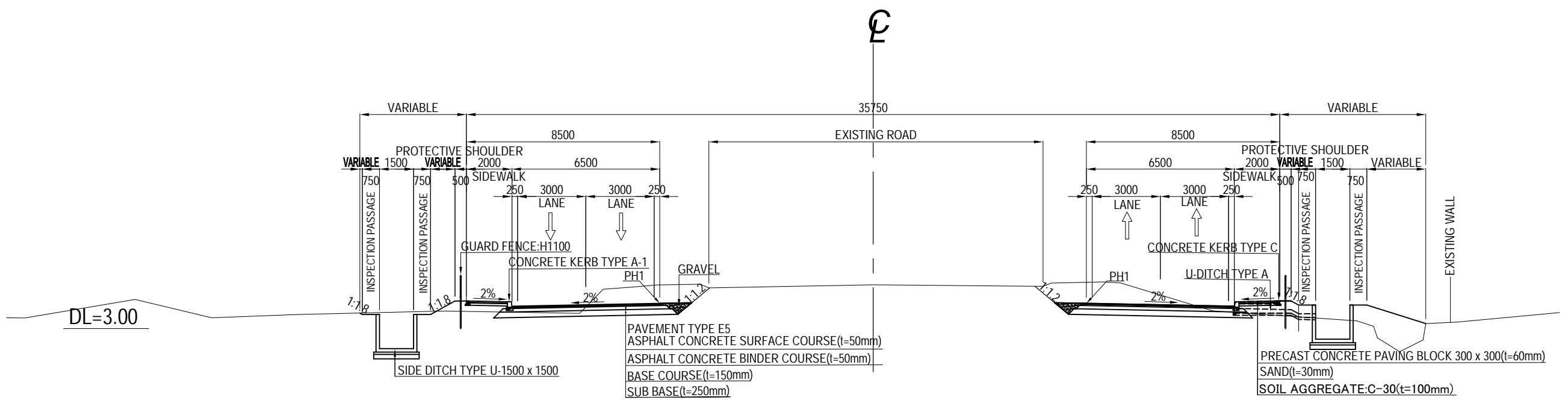
DRAWING TITLE  
**PLAN&PROFILE(3)**  
V= 1: 250,H= 1:1000

PACKAGE  
0  
DWG No.  
P0-RD-0120



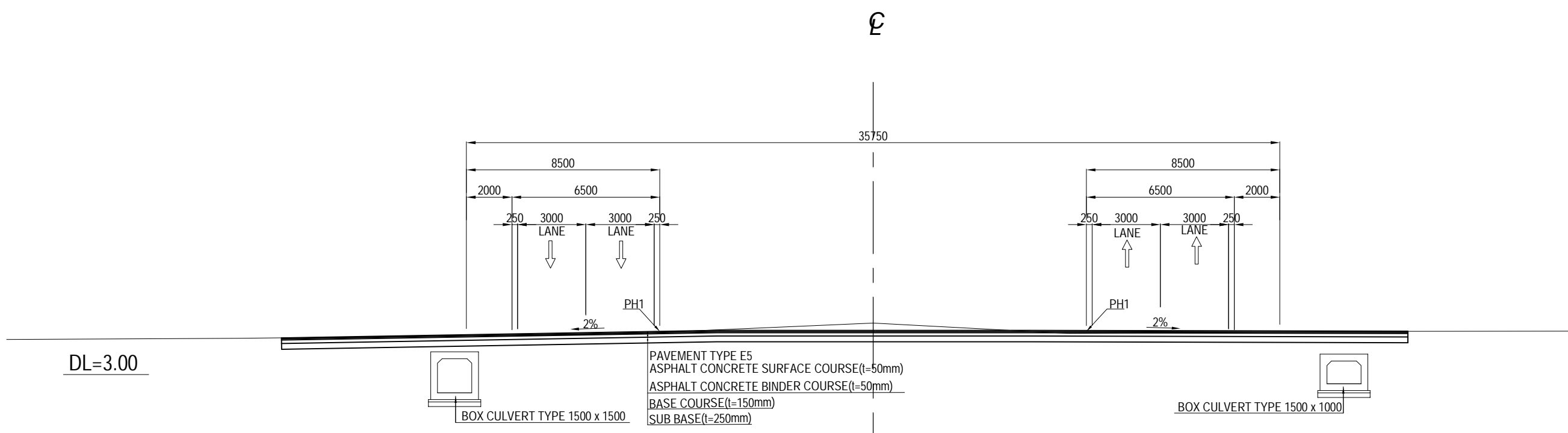
TYPICAL CROSS SECTION (1) S=1:200

℄



"SHUKHINTHAR INTERSECTION - YADANAR INTERSECTION" SECTION

℄

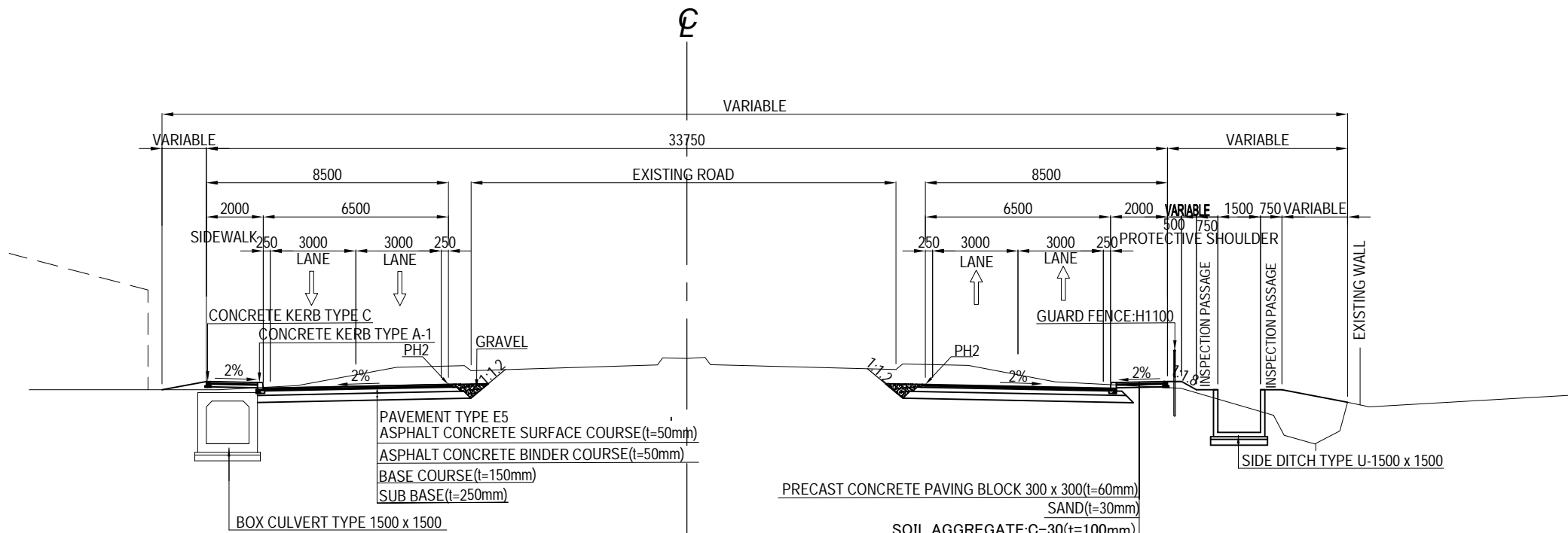


INTERSECTION

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 TYPICAL CROSS SECTION (1) S=1:200	PACKAGE	
				PREPARED BY	K. TACHIBANA			29 Sep.2017	0
				CHECKED BY	T. HAYAKAWA			3 Oct.2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct.2017	PO-RD-0200

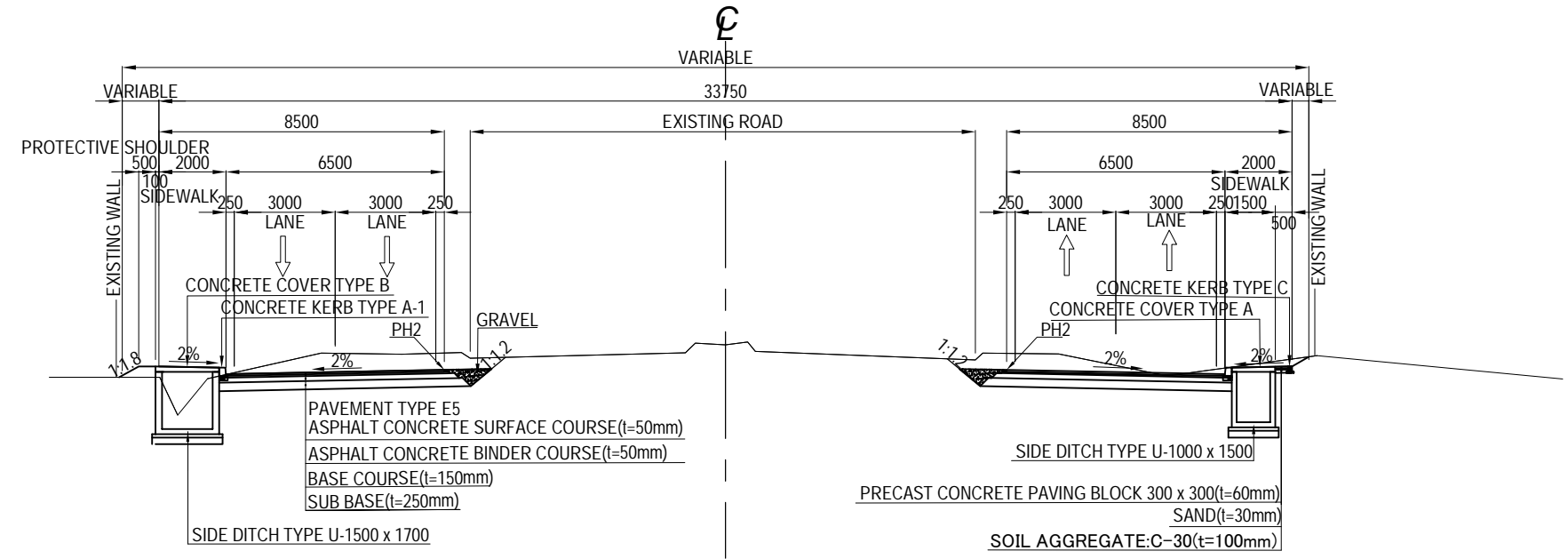
# TYPICAL CROSS SECTION (2) S=1:200

DL=3.00



"NEAR THE WATER SUPPLY OFFICE" SECTION

DL=3.00

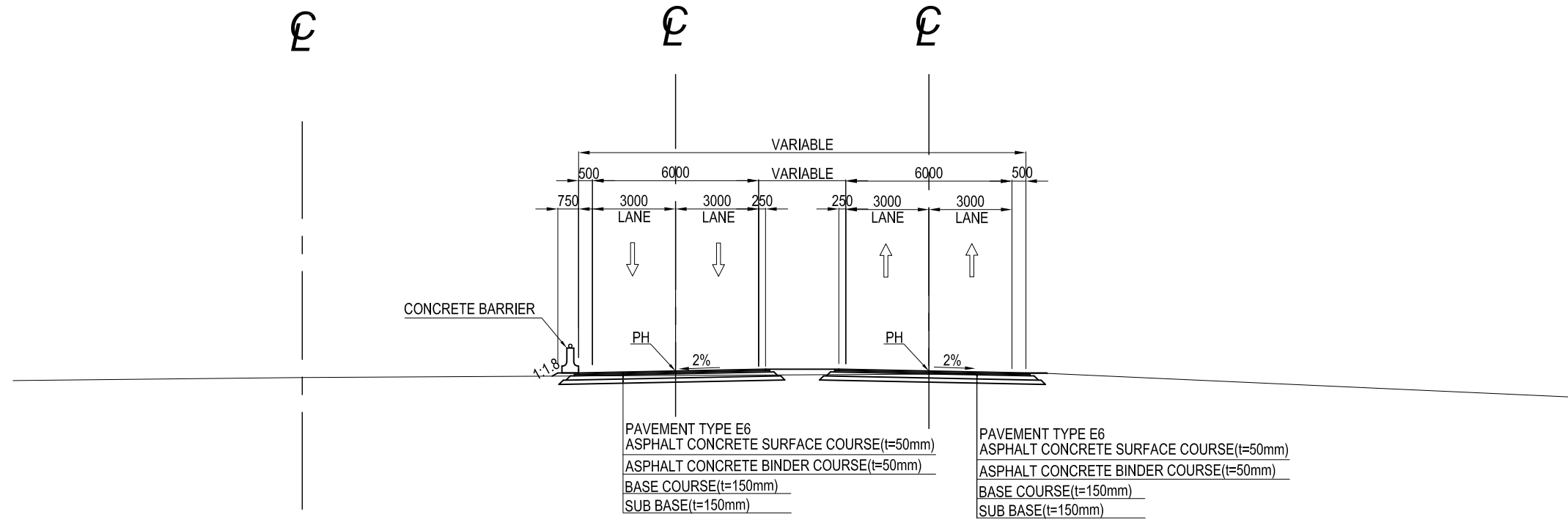


"MECHANICALLY-STABILISED EARTH WALL" SECTION

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE TYPICAL CROSS SECTION (2) S=1:200	PACKAGE	
				PREPARED BY	K. TACHIBANA			29 Sep.2017	0
				CHECKED BY	T. HAYAKAWA			3 Oct.2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct.2017	P3-RD-0210

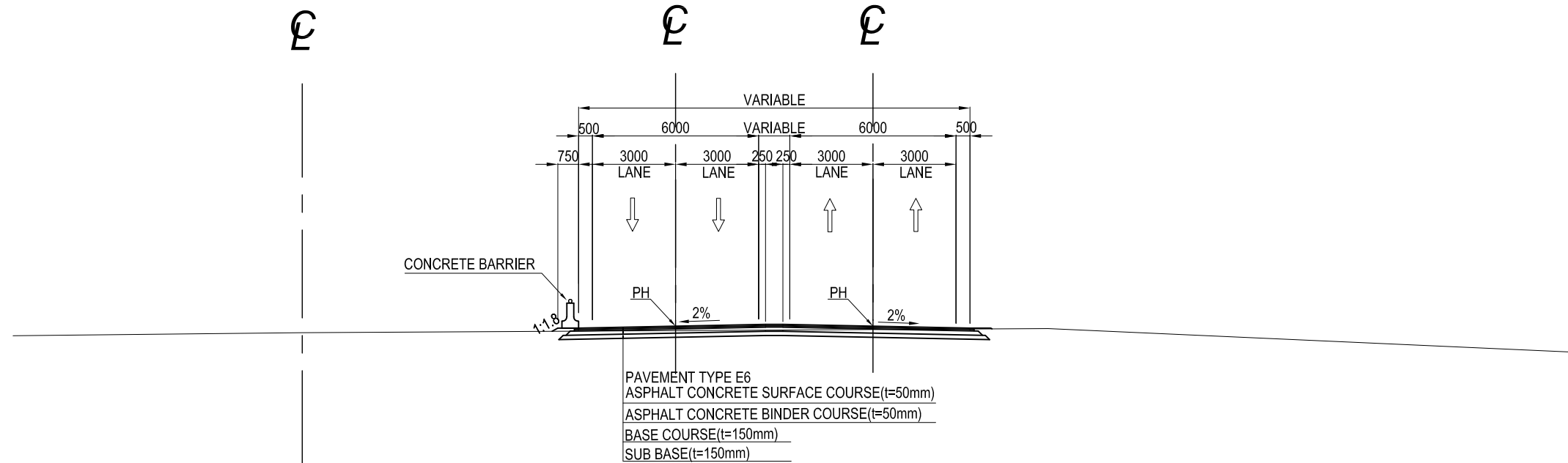
TYPICAL CROSS SECTION (3) S=1:200

DL=3.00



"SHUKHINTHAR INTERSECTION TEMPORARY ROAD" SEPARATION SECTION

DL=3.00



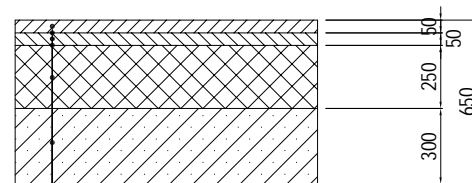
"SHUKHINTHAR INTERSECTION TEMPORARY ROAD" SECTION

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE TYPICAL CROSS SECTION (3) S=1:200	PACKAGE	
				PREPARED BY	K. TACHIBANA			29 Sep. 2017	0
				CHECKED BY	T. HAYAKAWA			3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct. 2017	P0-RD-0220



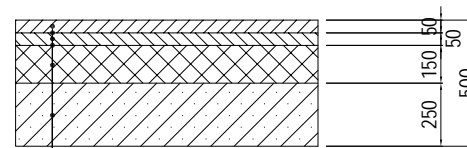
# DETAIL OF ASPHALT CONCRETE PAVEMENT S=1:30

### Type E3



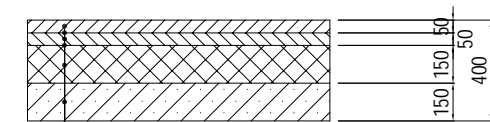
AC SURFACE COURSE (t=50mm)  
 TACK COAT 0.4 l/m<sup>2</sup>  
 AC SURFACE BASE (t=50mm)  
 PRIME COAT 0.4 l/m<sup>2</sup>  
 BASE COURSE (t=250mm)  
 SUB BASE (t=300mm)

### Type E5



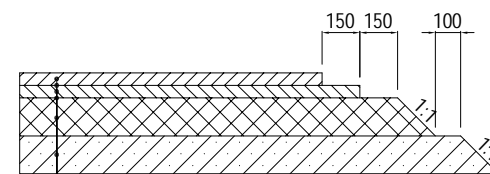
AC SURFACE COURSE (t=50mm)  
 TACK COAT 0.4 l/m<sup>2</sup>  
 AC SURFACE BASE (t=50mm)  
 PRIME COAT 0.4 l/m<sup>2</sup>  
 BASE COURSE (t=150mm)  
 SUB BASE (t=250mm)

### Type E6



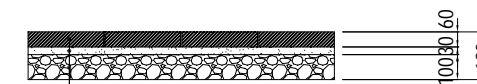
AC SURFACE COURSE (t=50mm)  
 TACK COAT 0.4 l/m<sup>2</sup>  
 AC SURFACE BASE (t=50mm)  
 PRIME COAT 0.4 l/m<sup>2</sup>  
 BASE COURSE (t=150mm)  
 SUB BASE (t=150mm)

### END OF PAVEMENT



AC SURFACE COURSE (t=50mm)  
 TACK COAT 0.4 l/m<sup>2</sup>  
 AC SURFACE BASE (t=50mm)  
 PRIME COAT 0.4 l/m<sup>2</sup>  
 BASE COURSE  
 SUB BASE

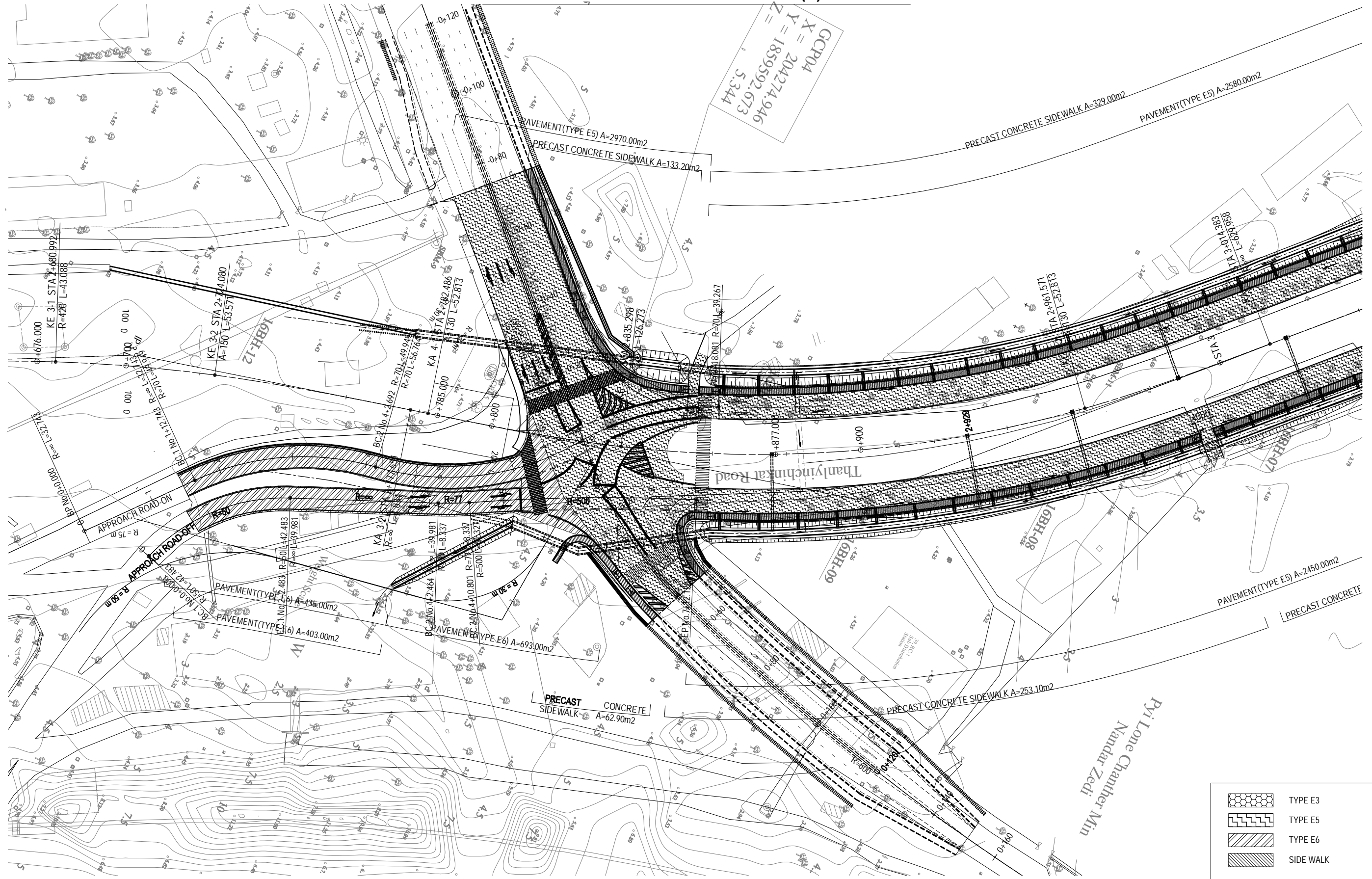
### Side Walk



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

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.		NAME PREPARED BY K. TACHIBANA CHECKED BY T. HAYAKAWA APPROVED BY Y. SANO	SIGNATURE 	DATE 29 Sep.2017 3 Oct.2017 6 Oct.2017	DRAWING TITLE DETAIL OF ASPHALT CONCRETE PAVEMENT S=1:30	PACKAGE 0 DWG No. P3-RD-0300
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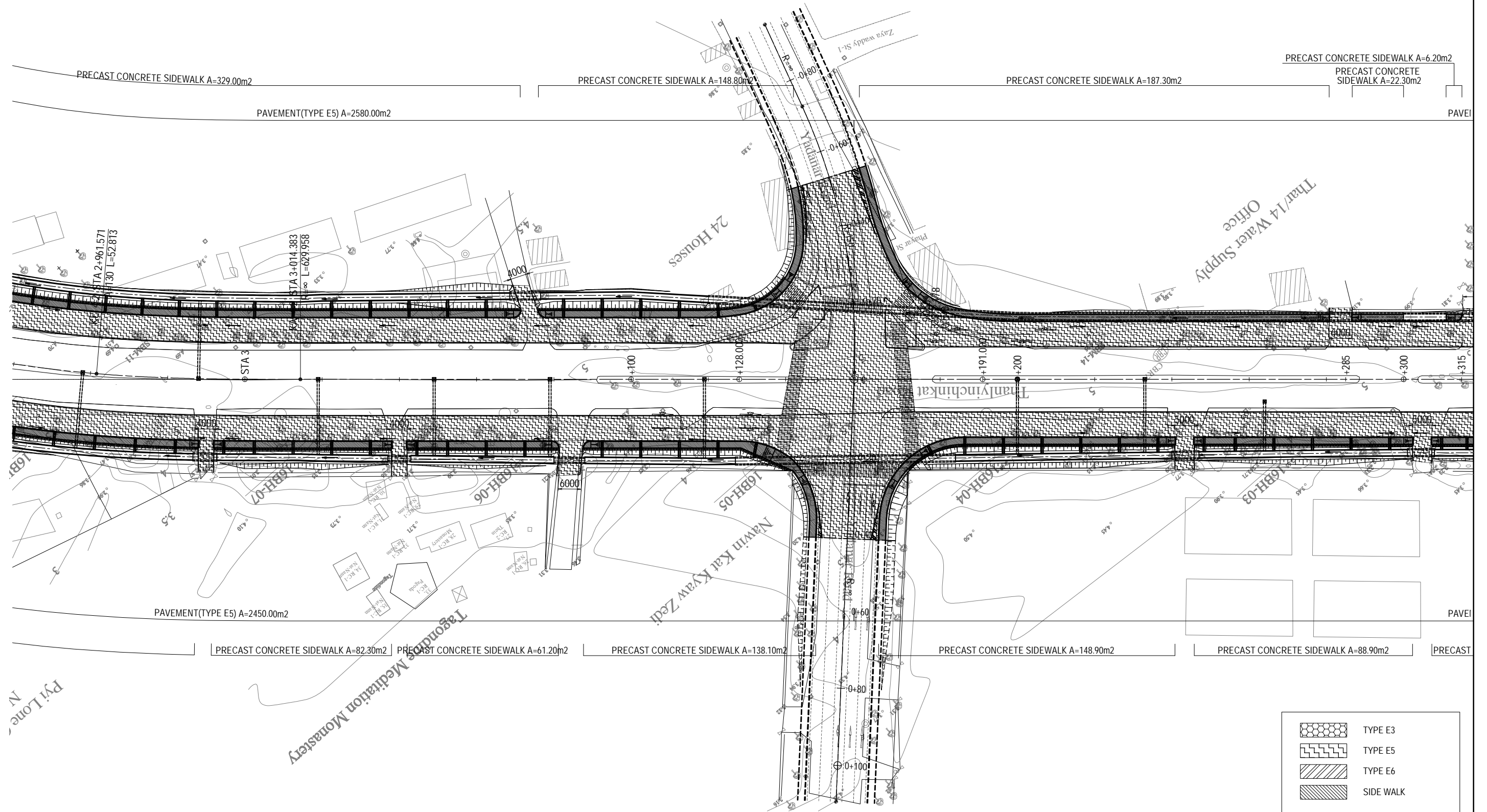
# PLAN FOR PAVEMENT TYPE(1) S= 1:1000



PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE PLAN FOR PAVEMENT TYPE(1) S=1:1000	PACKAGE 0 DWG No. P3-RD-0310	
				PREPARED BY	K. TACHIBANA				29 Sep.2017
				CHECKED BY	T. HAYAKAWA				3 Oct.2017
				APPROVED BY	Y. SANO				6 Oct.2017



# PLAN FOR PAVEMENT TYPE(2) S= 1:1000

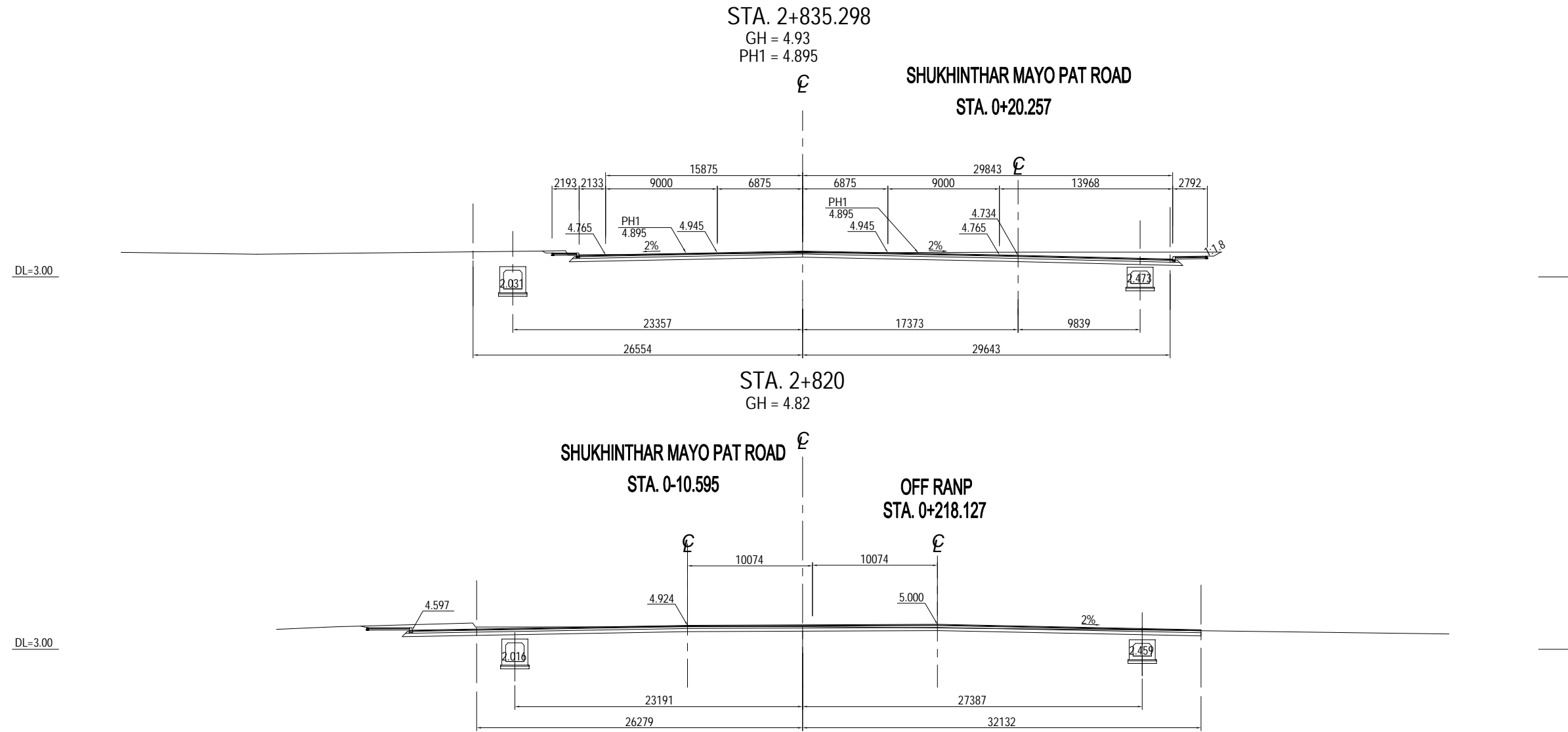


PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE PLAN FOR PAVEMENT TYPE(2) S=1:1000	PACKAGE	
				PREPARED BY	K. TACHIBANA			29 Sep.2017	0
				CHECKED BY	T. HAYAKAWA			3 Oct.2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct.2017	P3-RD-0320





# CROSS SECTION(1) S= 1:400



Note: Elevation of each cross section is based on Mean Sea Level (MSL).

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO. LTD. NIPPON ENGINEERING CONSULTANTS CO. LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE CROSS SECTION(1) S= 1:400	PACKAGE	
				PREPARED BY	K. TACHIBANA			29 Sep.2017	0
				CHECKED BY	T. HAYAKAWA			3 Oct.2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct.2017	P0-RD-0400

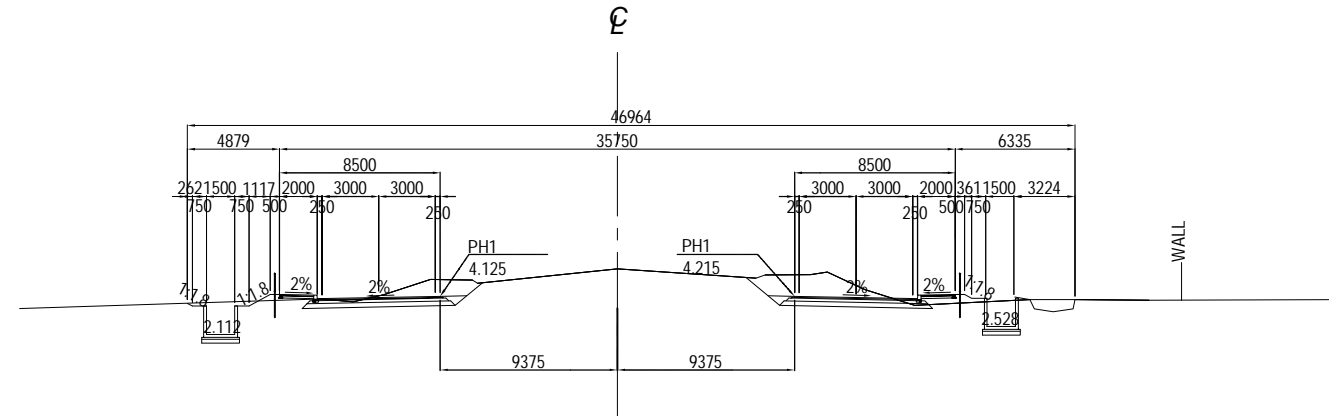






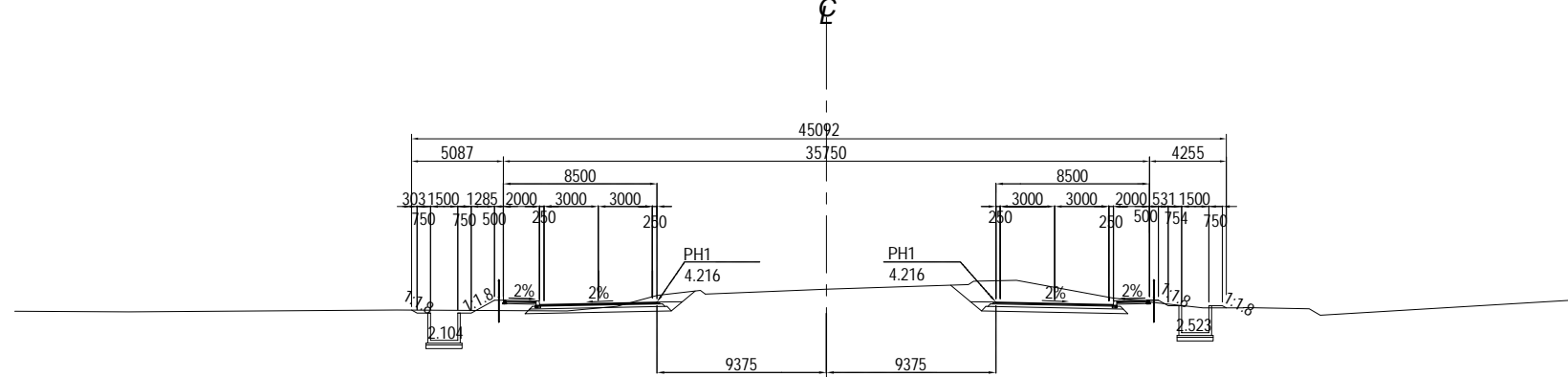
# CROSS SECTION(4) S= 1:400

STA. 2+980  
GH = 5.58  
PH1 = 4.125



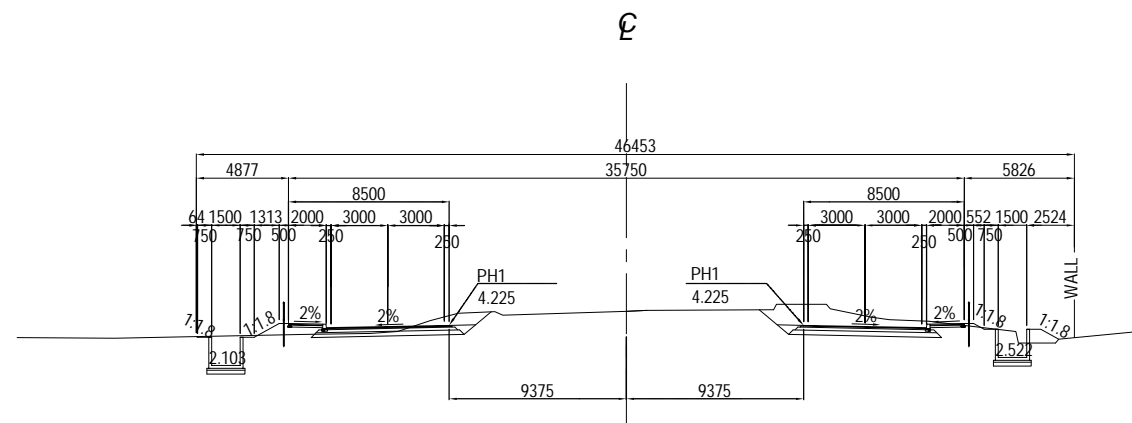
DL=3.00

STA. 2+961.571  
GH = 4.95  
PH1 = 4.216



DL=3.00

STA. 2+960  
GH = 4.97  
PH1=4.225



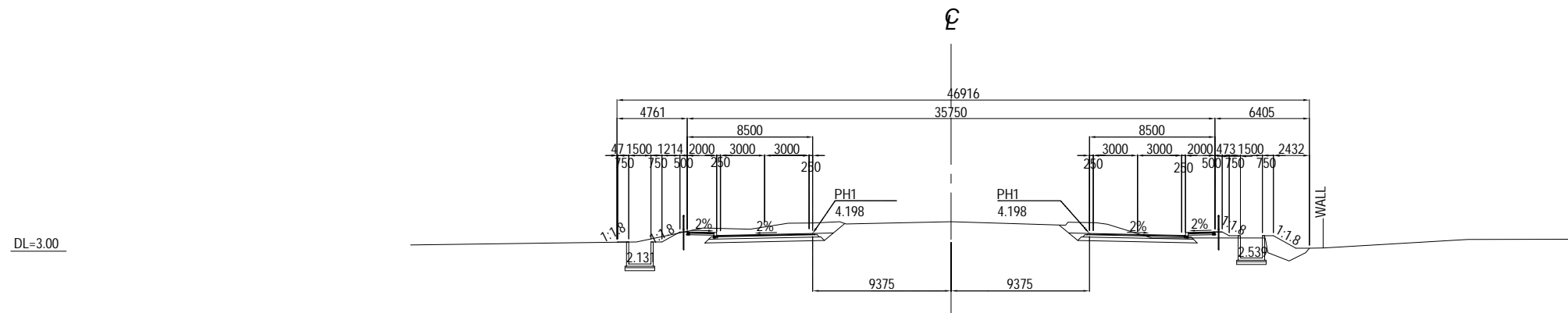
DL=3.00

Note: Elevation of each cross section is based on Mean Sea Level (MSL).

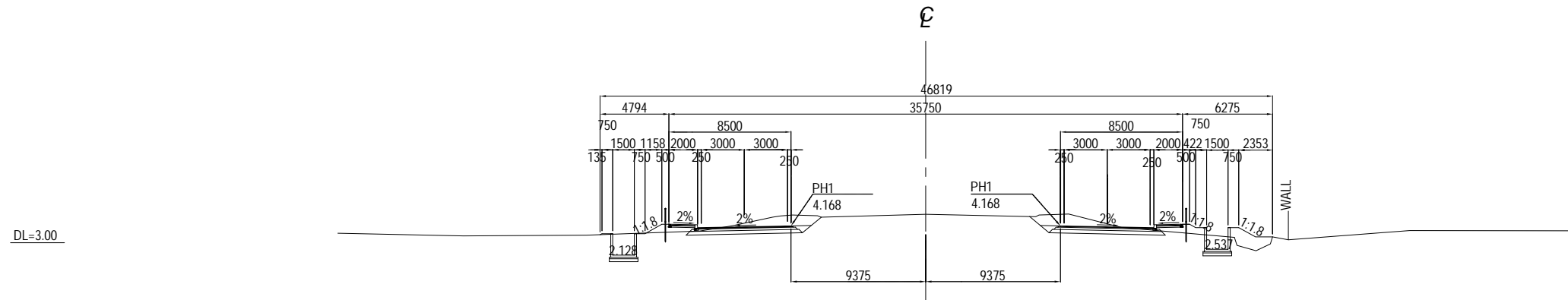
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE CROSS SECTION(4) S= 1:400	PACKAGE	
				PREPARED BY	K. TACHIBANA			29 Sep.2017	0
				CHECKED BY	T. HAYAKAWA			3 Oct.2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct.2017	P0-RD-0430

# CROSS SECTION(5) S= 1:400

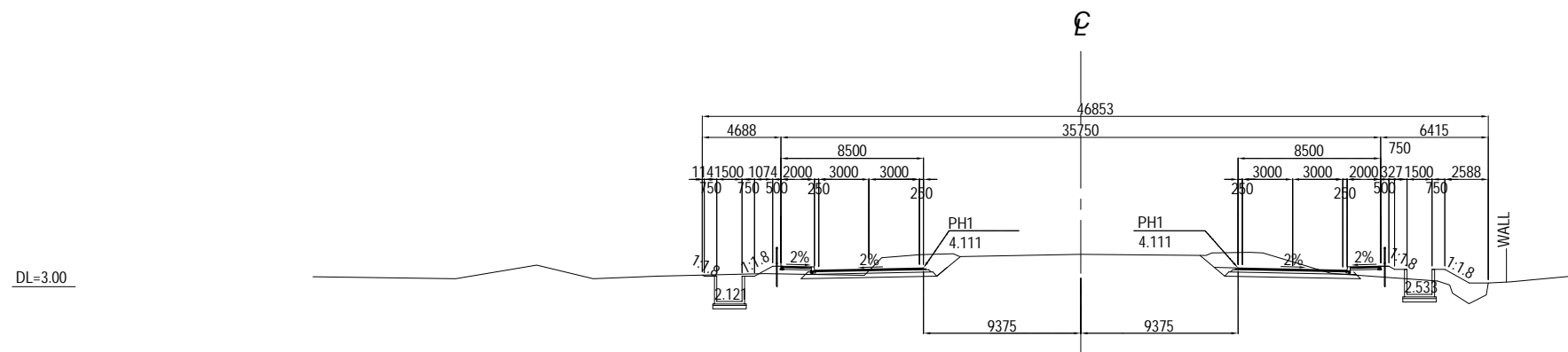
STA. 3+020  
GH = 4.99  
PH1 = 4.198



STA. 3+014.383  
GH = 4.98  
PH1 = 4.168



STA. 3+0.0  
GH = 4.92  
PH1 = 4.111



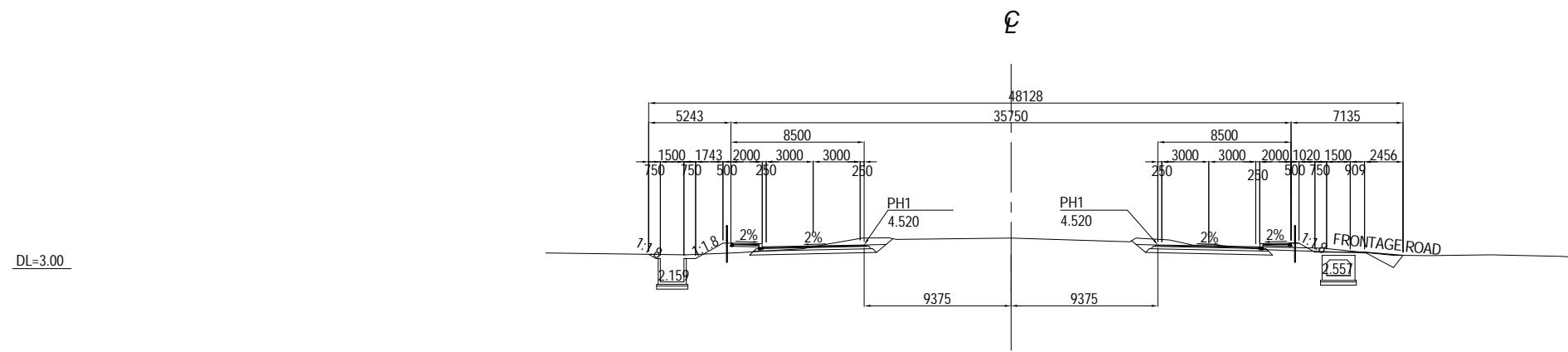
Note: Elevation of each cross section is based on Mean Sea Level (MSL).

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.	K. TACHIBANA		29 Sep.2017	CROSS SECTION(5) S= 1:400	0
				T. HAYAKAWA		3 Oct.2017		DWG No.
				Y. SANO		6 Oct.2017		P0-RD-0440



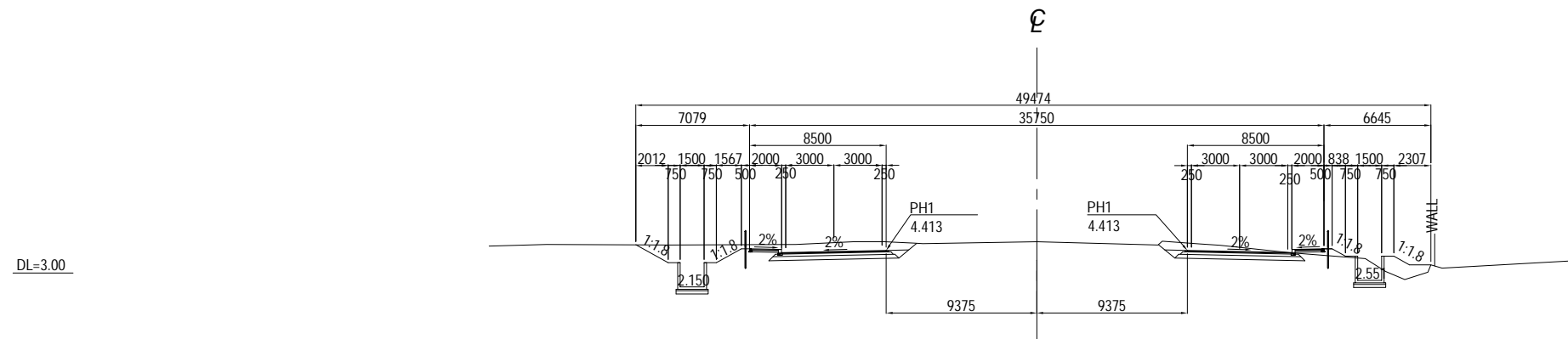
# CROSS SECTION(6) S= 1:400

STA. 3+080  
GH = 4.96  
PH1 = 4.520



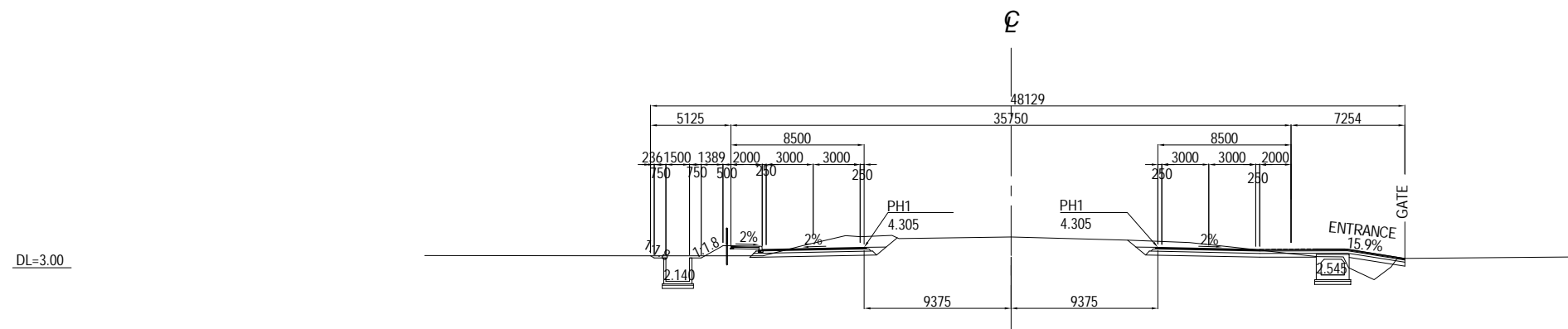
DL=3.00

STA. 3+060  
GH = 4.95  
PH1 = 4.413



DL=3.00

STA. 3+040  
GH = 4.97  
PH1 = 4.305



DL=3.00

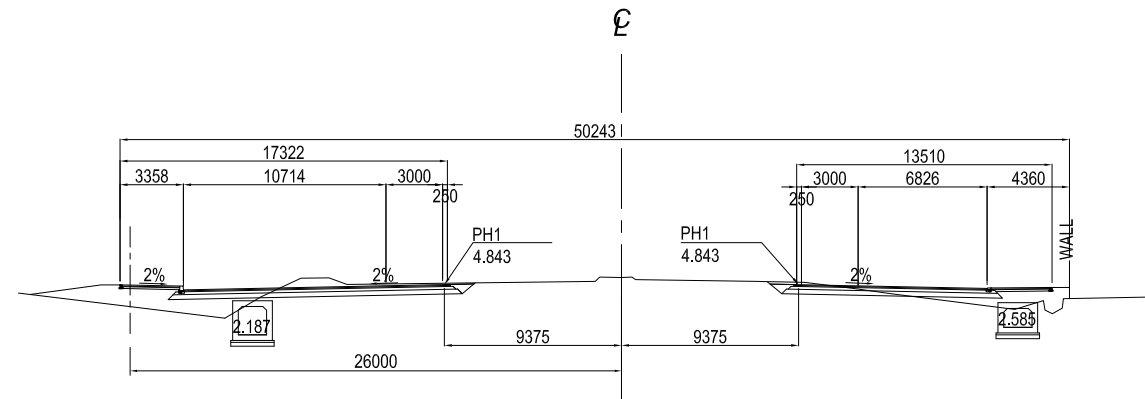
Note: Elevation of each cross section is based on Mean Sea Level (MSL).

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE CROSS SECTION(6) S= 1:400	PACKAGE 0 DWG No. P0-RD-0450	
				PREPARED BY	K. TACHIBANA				29 Sep.2017
				CHECKED BY	T. HAYAKAWA				3 Oct.2017
				APPROVED BY	Y. SANO				6 Oct.2017

# CROSS SECTION(7) S= 1:400

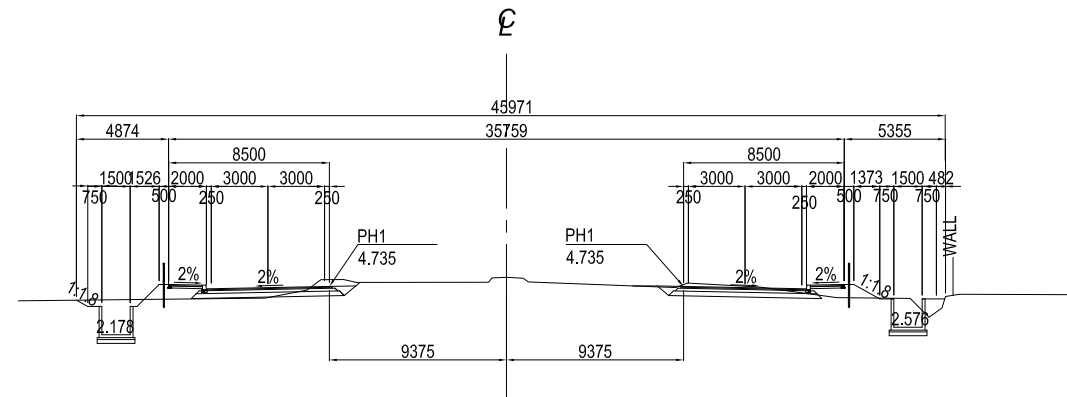
STA. 3+140  
GH = 5.22  
PH1 = 4.843

DL=3.00



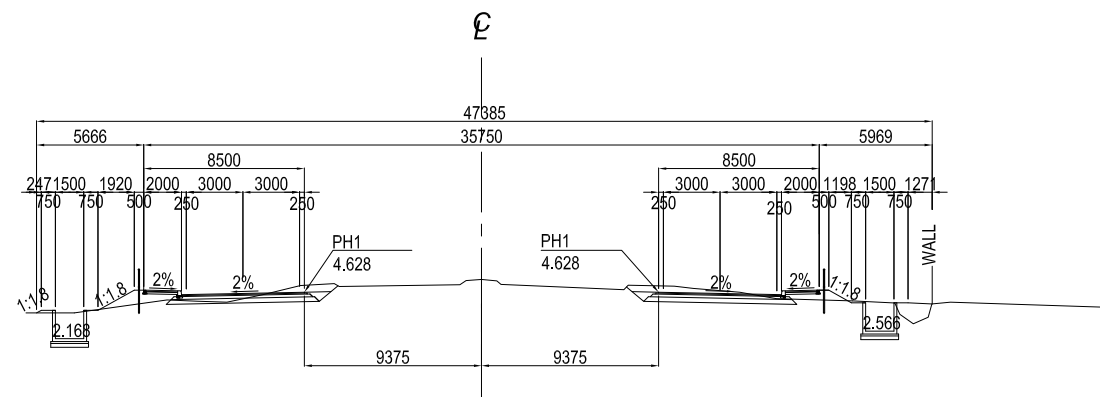
STA. 3+120  
GH = 5.22  
PH1 = 4.735

DL=3.00



STA. 3+100  
GH = 5.30  
PH1 = 4.628

DL=3.00

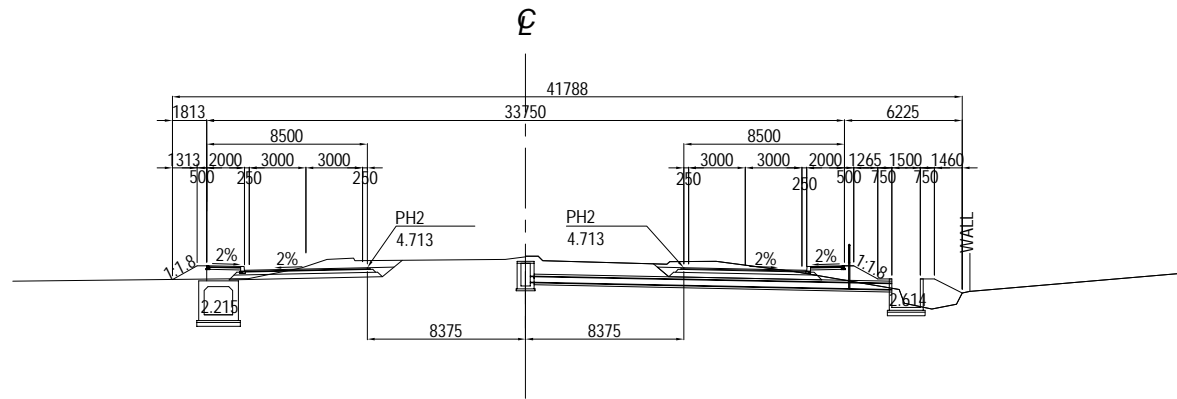


Note: Elevation of each cross section is based on Mean Sea Level (MSL).

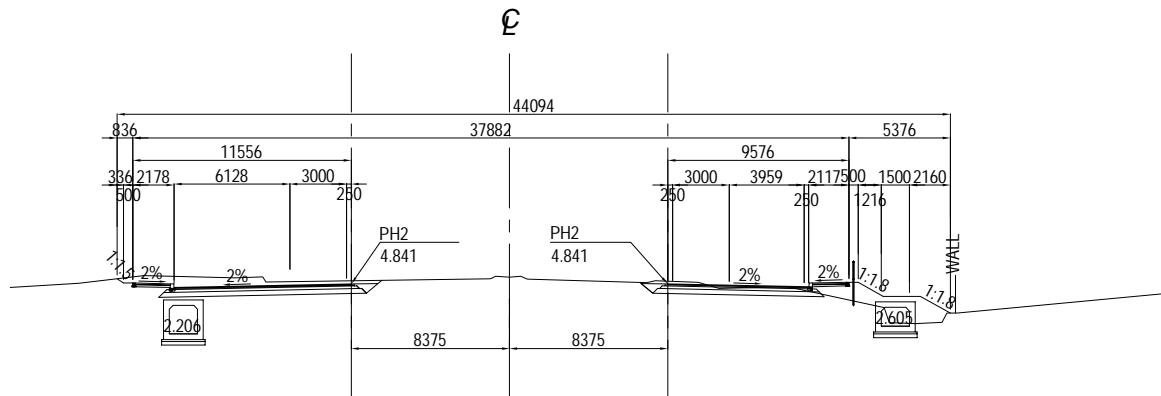
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE CROSS SECTION(7) S= 1:400	PACKAGE 0 DWG No. P0-RD-0460	
				PREPARED BY	K. TACHIBANA				29 Sep. 2017
				CHECKED BY	T. HAYAKAWA				3 Oct. 2017
				APPROVED BY	Y. SANO				6 Oct. 2017

# CROSS SECTION(8) S= 1:400

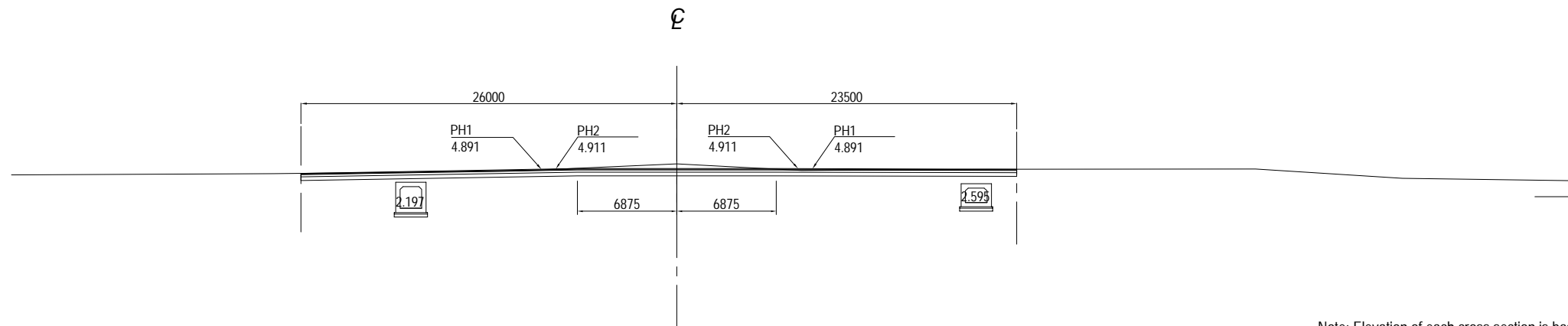
STA. 3+200  
GH = 5.29  
PH2 = 4.713



STA. 3+180  
GH = 5.21  
PH2 = 4.841



STA. 3+160  
GH = 5.26  
PH1 = 4.891 PH2 = 4.911

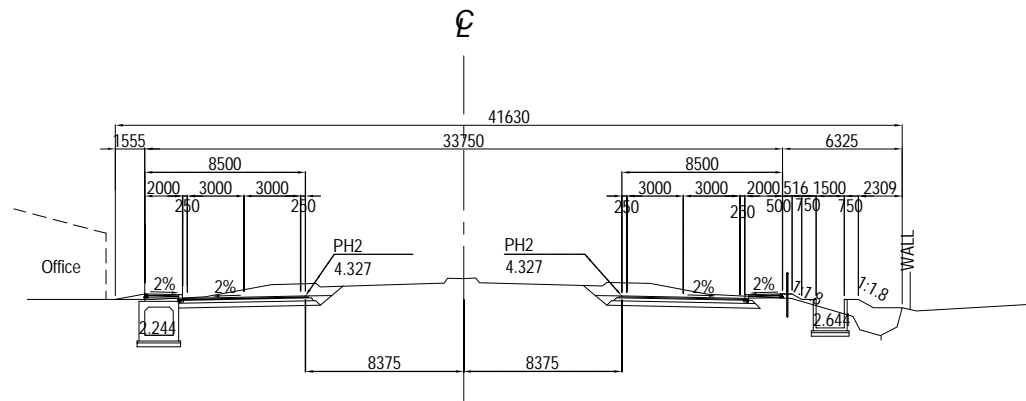


Note: Elevation of each cross section is based on Mean Sea Level (MSL).

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO.,LTD. NIPPON ENGINEERING CONSULTANTS CO.,LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE CROSS SECTION(8) S= 1:400	PACKAGE	
				PREPARED BY	K. TACHIBANA			29 Sep.2017	0
				CHECKED BY	T. HAYAKAWA			3 Oct.2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct.2017	P0-RD-0470

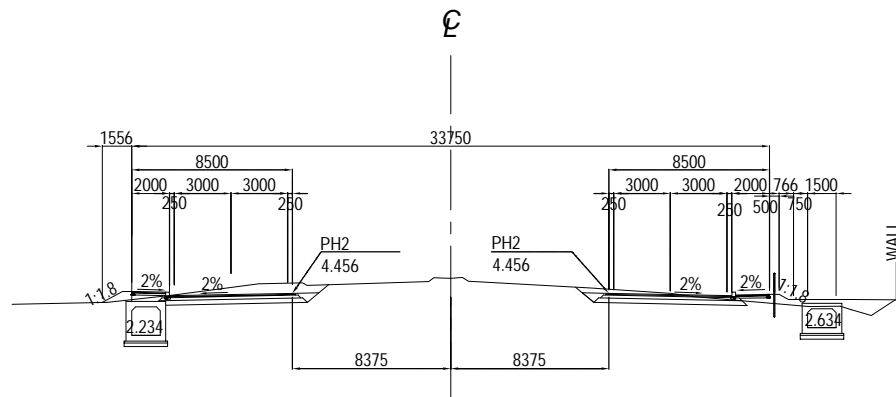
# CROSS SECTION(9) S= 1:400

STA. 3+260  
GH = 5.24  
PH2 = 4.327



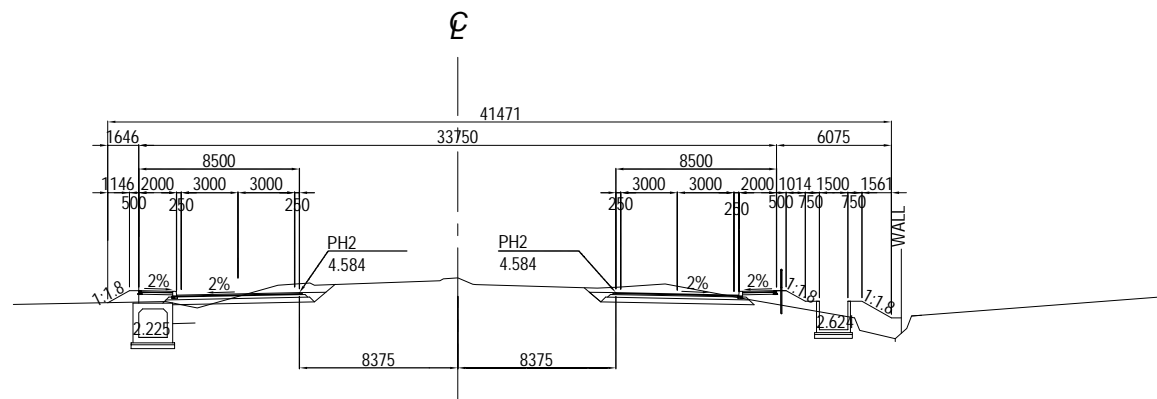
DL=3.00

STA. 3+240  
GH = 5.25  
PH2 = 4.456



DL=3.00

STA. 3+220  
GH = 5.36  
PH2 = 4.584



DL=3.00

Note: Elevation of each cross section is based on Mean Sea Level (MSL).

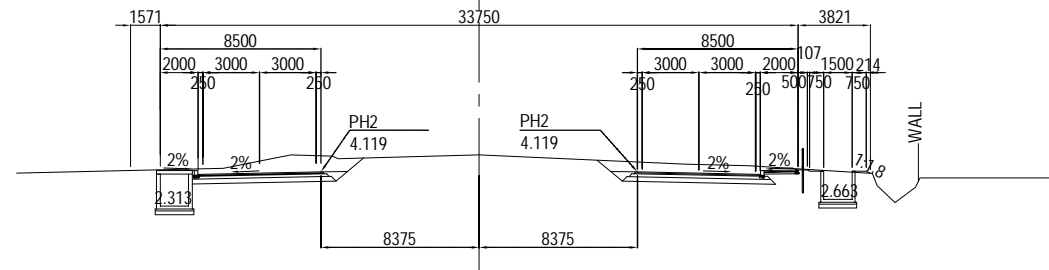
PROJECT NAME	FINANCED BY	COUNTERPART	JICA STUDY TEAM	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE
DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	JAPAN INTERNATIONAL COOPERATION AGENCY	REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	PREPARED BY	K. TACHIBANA	29 Sep.2017	CROSS SECTION(9) S= 1:400	0
				CHECKED BY	T. HAYAKAWA	3 Oct.2017		DWG No.
				APPROVED BY	Y. SANO	6 Oct.2017		P0-RD-0480



# CROSS SECTION(10) S= 1:400

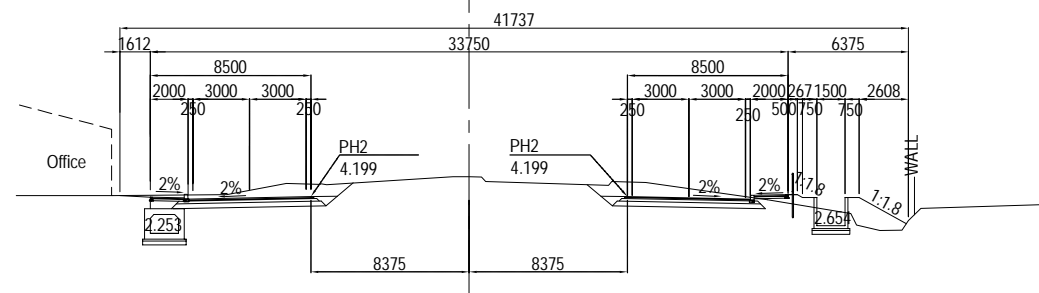
STA. 3+300  
GH = 5.03  
PH2 = 4.119

℄



STA. 3+280  
GH = 5.25  
PH2 = 4.199

℄



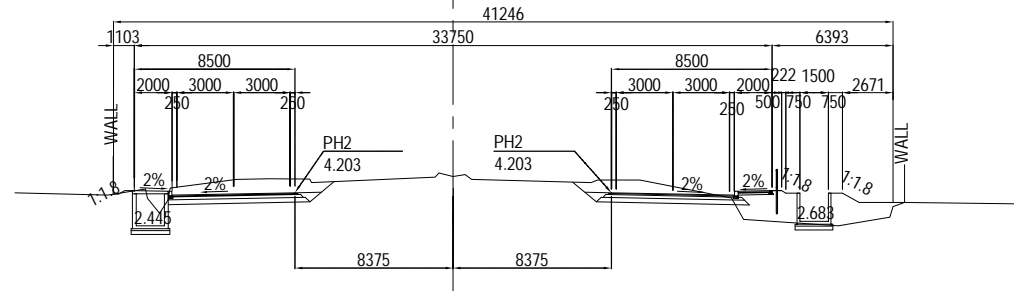
Note: Elevation of each cross section is based on Mean Sea Level (MSL).

PROJECT NAME	FINANCED BY	COUNTERPART	JICA STUDY TEAM	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE
DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	JAPAN INTERNATIONAL COOPERATION AGENCY	REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	PREPARED BY CHECKED BY APPROVED BY	K. TACHIBANA T. HAYAKAWA Y. SANO	29 Sep.2017 3 Oct.2017 6 Oct.2017	CROSS SECTION(10) S= 1:400	0 DWG No. P0-RD-0490

# CROSS SECTION(11) S= 1:400

STA. 3+340  
GH = 5.06  
PH2 = 4.203

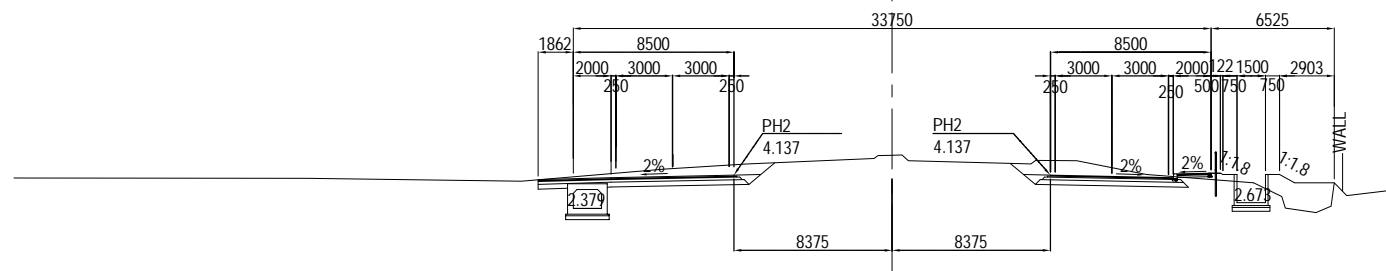
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DL=3.00

STA. 3+320  
GH = 5.18  
PH2 = 4.137

℄



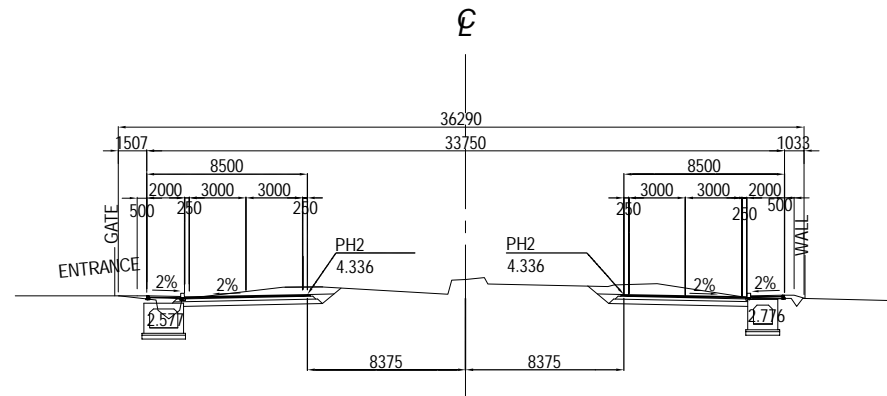
DL=3.00

Note: Elevation of each cross section is based on Mean Sea Level (MSL).

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.	K. TACHIBANA		29 Sep.2017	CROSS SECTION(11) S= 1:400	0
				T. HAYAKAWA		3 Oct.2017		DWG No.
				Y. SANO		6 Oct.2017		P0-RD-0500

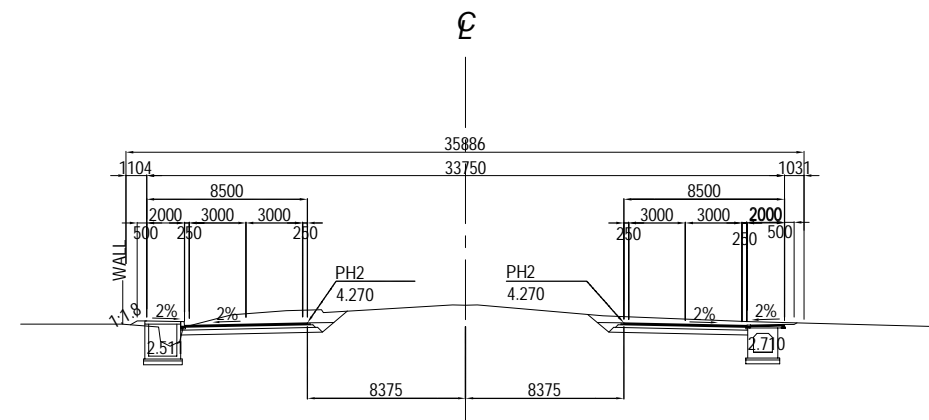
# CROSS SECTION(12) S= 1:400

STA. 3+380  
GH = 5.13  
PH2 = 4.336



DL=3.00

STA. 3+360  
GH = 5.20  
PH2 = 4.270



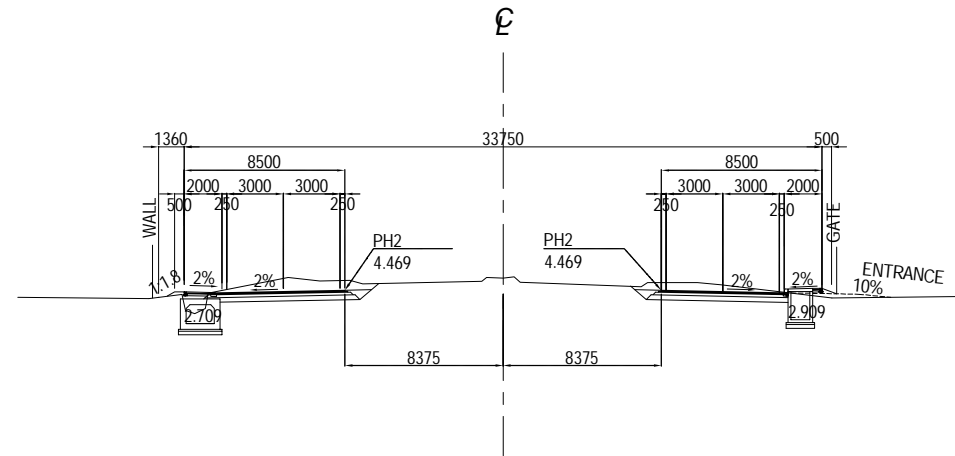
DL=3.00

Note: Elevation of each cross section is based on Mean Sea Level (MSL).

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.	K. TACHIBANA		29 Sep. 2017	CROSS SECTION(12) S= 1:400	0
				T. HAYAKAWA		3 Oct. 2017		DWG No.
				Y. SANO		6 Oct. 2017		P0-RD-0510

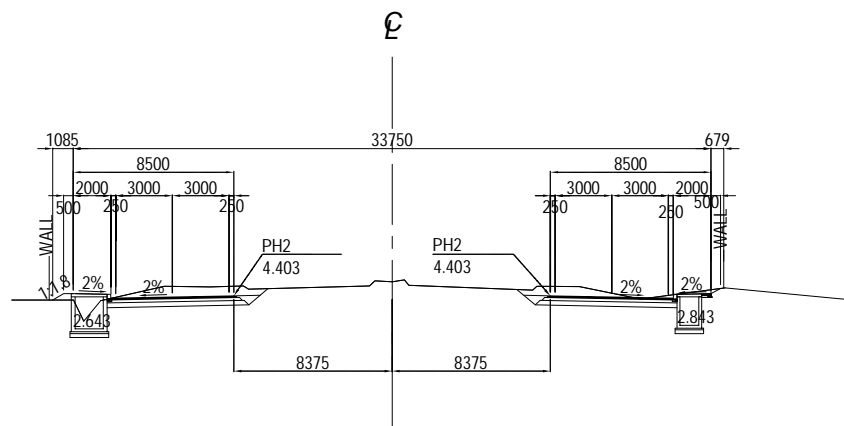
# CROSS SECTION(13) S= 1:400

STA. 3+420  
GH = 5.12  
PH2 = 4.469



DL=3.00

STA. 3+400  
GH = 5.15  
PH2 = 4.403



DL=3.00

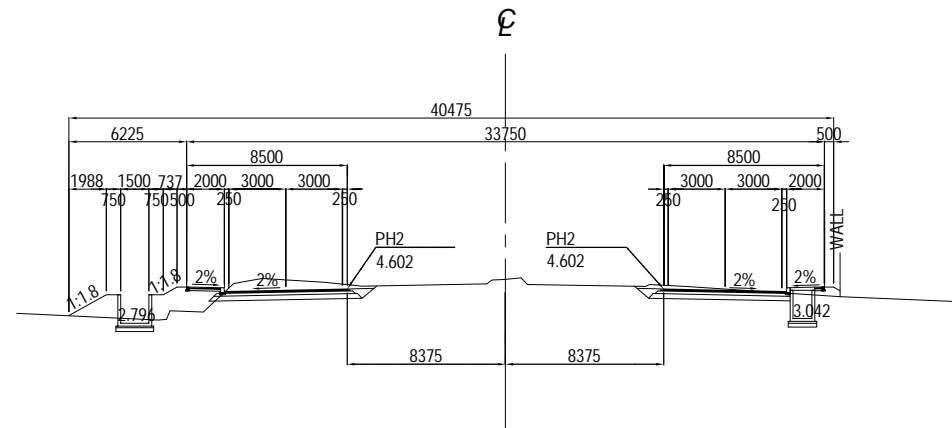
Note: Elevation of each cross section is based on Mean Sea Level (MSL).

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE CROSS SECTION(13) S= 1:400	PACKAGE	
				PREPARED BY	K. TACHIBANA			29 Sep.2017	0
				CHECKED BY	T. HAYAKAWA			3 Oct.2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct.2017	P0-RD-0520



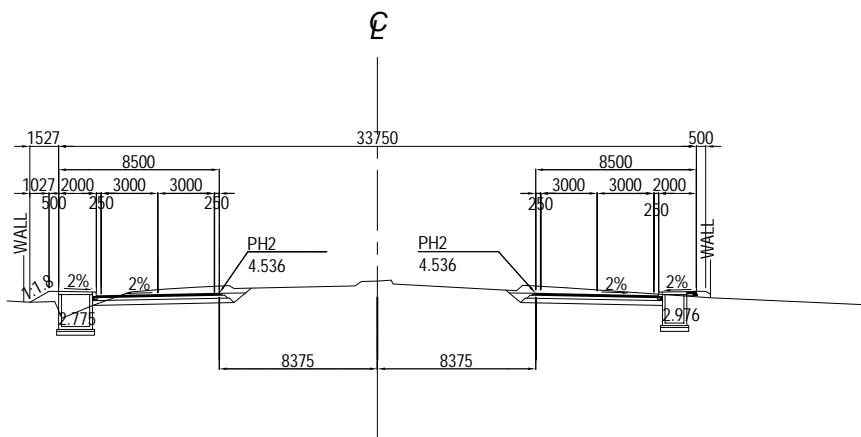
# CROSS SECTION(14) S= 1:400

STA. 3+460  
GH = 5.11  
PH2 = 4.602



DL=3.00

STA. 3+440  
GH = 5.19  
PH2 = 4.536



DL=3.00

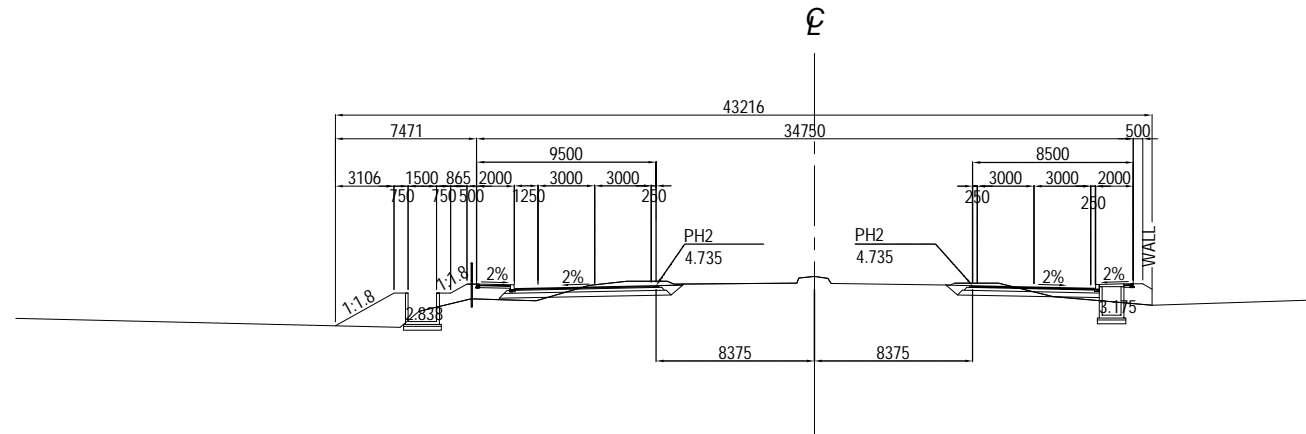
Note: Elevation of each cross section is based on Mean Sea Level (MSL).

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE CROSS SECTION(14) S= 1:400	PACKAGE	
				PREPARED BY	K. TACHIBANA			29 Sep.2017	0
				CHECKED BY	T. HAYAKAWA			3 Oct.2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct.2017	P0-RD-0530

# CROSS SECTION(15) S= 1:400

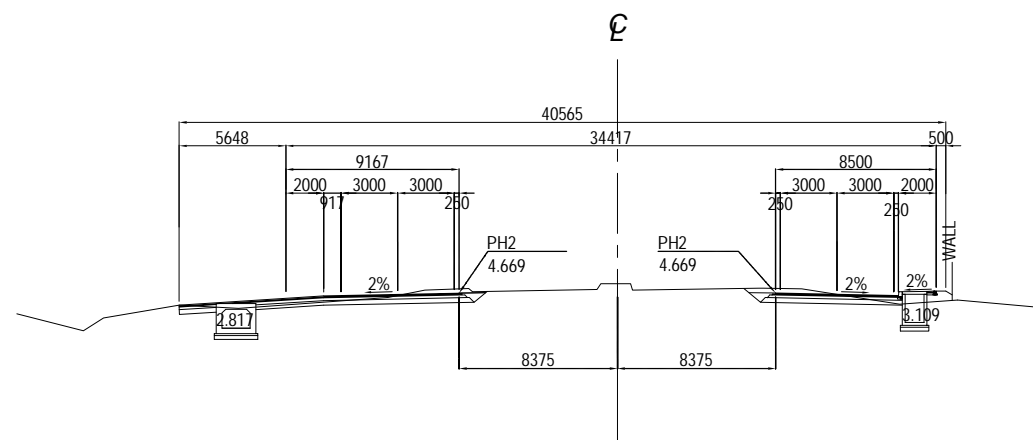
STA. 3+500  
GH = 5.23  
PH2 = 4.735

DL=3.00



STA. 3+480  
GH = 5.16  
PH2 = 4.669

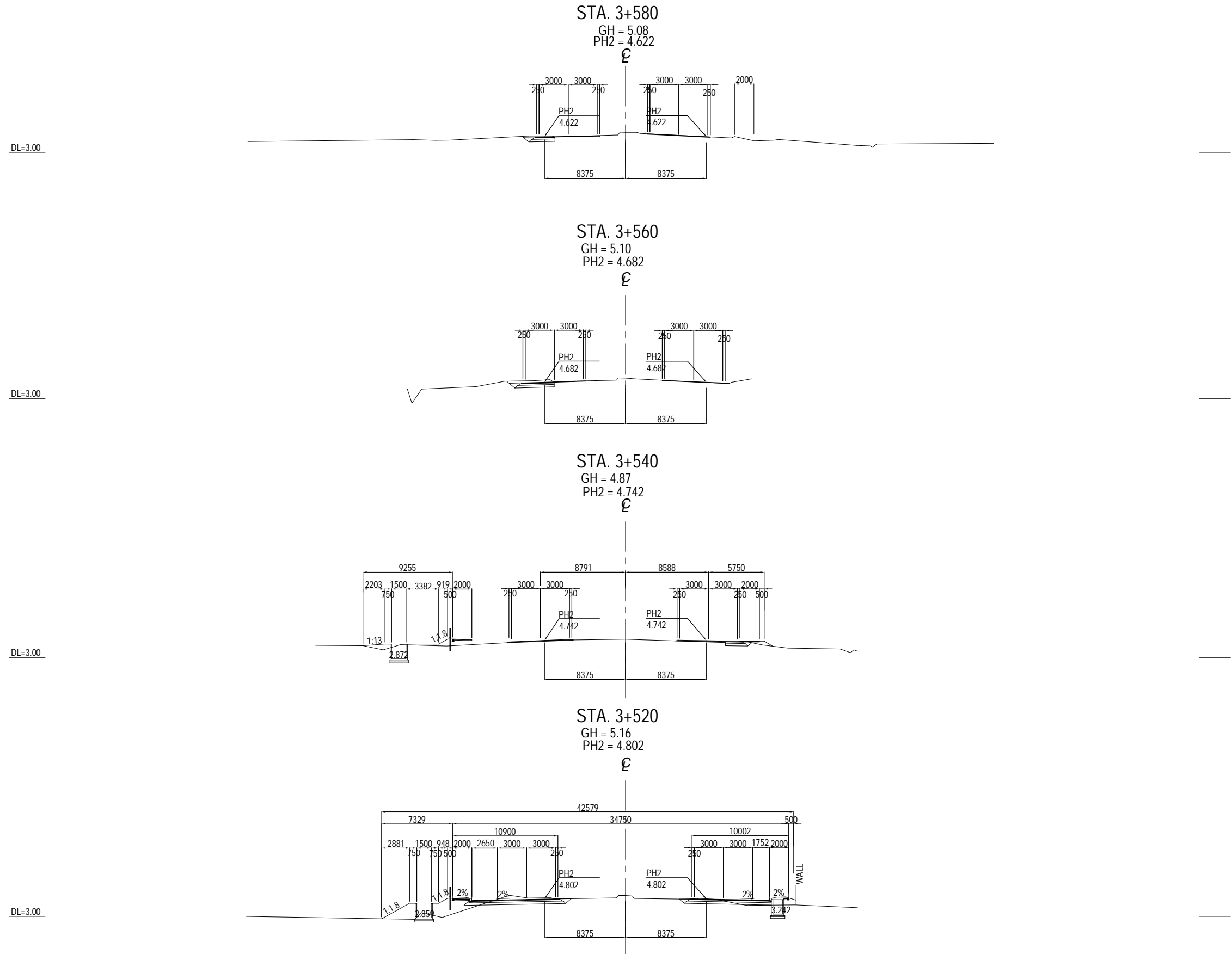
DL=3.00



Note: Elevation of each cross section is based on Mean Sea Level (MSL).

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.	K. TACHIBANA		29 Sep.2017	CROSS SECTION(15) S= 1:400	0
				T. HAYAKAWA		3 Oct.2017		DWG No.
				Y. SANO		6 Oct.2017		P0-RD-0540

# CROSS SECTION(16) S= 1:400



Note: Elevation of each cross section is based on Mean Sea Level (MSL).

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO.,LTD. NIPPON ENGINEERING CONSULTANTS CO.,LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE CROSS SECTION(16) S= 1:400	PACKAGE 0 DWG No. P0-RD-0550	
				PREPARED BY	K. TACHIBANA				29 Sep.2017
				CHECKED BY	T. HAYAKAWA				3 Oct.2017
				APPROVED BY	Y. SANO				6 Oct.2017

# INTERSECTION PLAN, PROFILE AND SECTION (SHUKHINTHAR INTERSECTION STA.2+830)

SHUKHINTHAR MAYO PAT ROAD/AWARAT ST

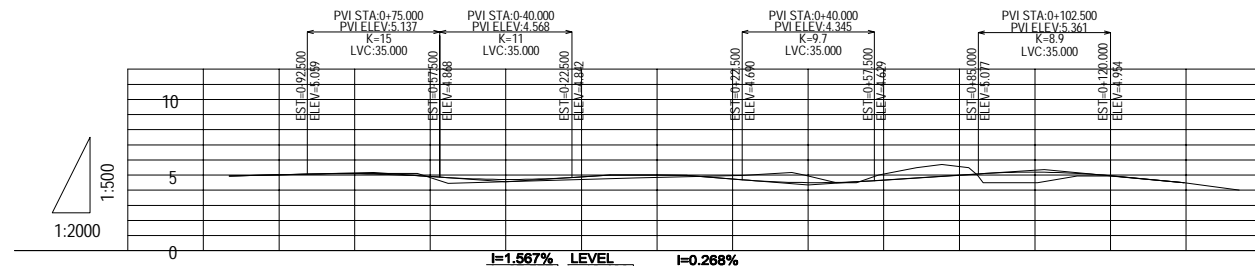
STA	EASTING	NORTHING	ELEMENT	DIRECTION	BR	P	ER	L
BP	0+286.8224	204092.659200	1859373.180867	S	L			292.345
BC.1	0+5.5228	204286.365525	1859592.141060	R	L	100.000		43.312
BC.2	0+48.8349	204307.258946	1859629.694478	R	L	600.000		135.124
EP	0+183.9593	204331.207129	1859762.389763	E				

APPROACH ROAD-ON

No	EASTING	NORTHING	ELEMENT	DIRECTION	BR	P	ER	L
BP	0+0.000	204367.454022	1859480.659695	S	L			32.743
BC.1	1+12.743	204341.376097	1859500.459242	R	L	70.000		49.949
BC.2	4+2.433	204315.188197	1859541.750719	R	L	70.000		56.764
BC.3	6+18.814	204283.398817	1859586.904210	R	R	70.000		39.267
EP	8+18.081	204257.313166	1859615.564452	E				

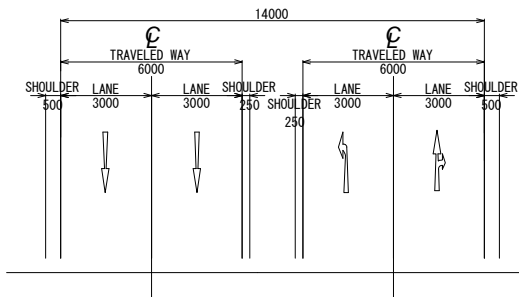
APPROACH ROAD-OFF

No	EASTING	NORTHING	ELEMENT	DIRECTION	BR	P	ER	L
BC.1	0+0.000	204365.245444	1859499.164484	R	R	50.000		42.483
EC.1	2+2.483	204333.436371	1859525.375230	S	L			39.981
BC.2	4+2.464	204315.803013	1859561.257828	R	L	77.000		8.337
BC.3	4+10.801	204311.728750	1859568.526403	R	R	500.000		61.327
EP	7+12.128	204282.146606	1859622.203211	E				

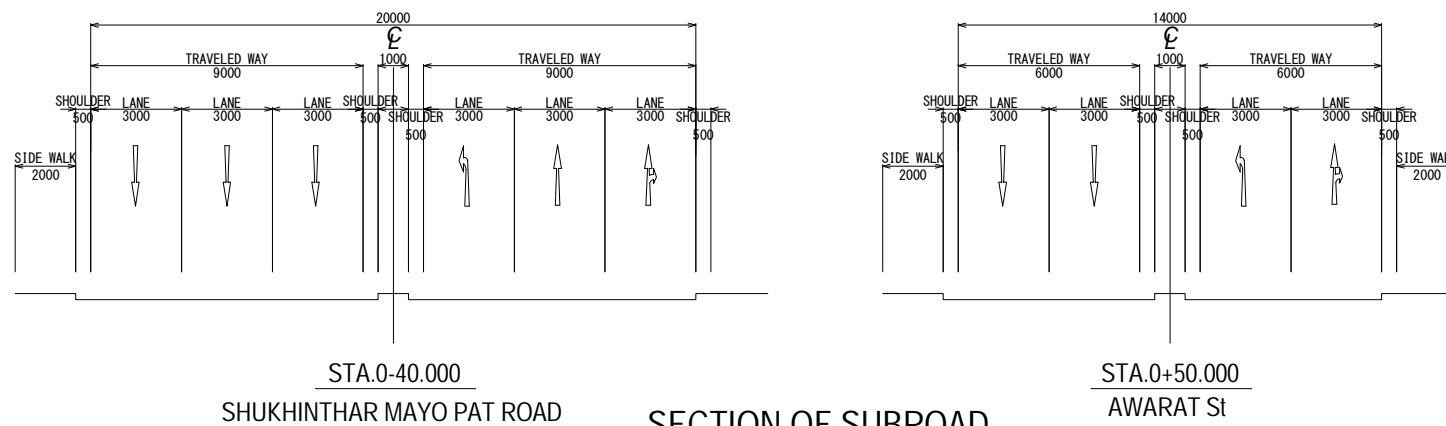


GRADE	PROPOSED HEIGHT	EXISTING HEIGHT	STATION	SUPER ELEVATION	CURVE ELEMENTS
4.930	4.930	4.93	STA 0+100.000	0.113, 2.00%	L=292.345
5.002	5.002	5.01	STA 0+100.000	2.00%	
5.062	5.062	5.11	STA 0+100.000	0.520, 2.00%	R=100.000 IP 1 IA=24.4858 CL=43.312
5.137	5.062	5.11	STA 0+100.000	2.00%	
4.981	4.981	4.83	STA 0+100.000	1.119, 2.00%	R=600.000 IP 2 IA=12.5412 CL=135.124
4.708	4.981	4.83	STA 0+100.000	2.00%	
5.000	5.000	4.71	STA 0+100.000	12.650, 2.00%	R=600.000 IP 2 IA=12.5412 CL=135.124
5.000	5.000	4.77	STA 0+100.000	2.00%	
4.979	4.979	4.86	STA 0+100.000	1.119, 2.00%	R=600.000 IP 2 IA=12.5412 CL=135.124
4.979	4.979	4.89	STA 0+100.000	2.00%	
4.739	4.739	4.97	STA 0+100.000	1.119, 2.00%	R=600.000 IP 2 IA=12.5412 CL=135.124
4.502	4.739	4.97	STA 0+100.000	2.00%	
4.502	4.502	4.94	STA 0+100.000	1.119, 2.00%	R=600.000 IP 2 IA=12.5412 CL=135.124
4.527	4.502	4.94	STA 0+100.000	2.00%	
4.670	4.527	4.50	STA 0+100.000	1.119, 2.00%	R=600.000 IP 2 IA=12.5412 CL=135.124
4.670	4.527	4.50	STA 0+100.000	2.00%	
4.985	4.670	5.07	STA 0+100.000	1.119, 2.00%	R=600.000 IP 2 IA=12.5412 CL=135.124
4.985	4.670	5.07	STA 0+100.000	2.00%	
5.193	4.985	5.57	STA 0+100.000	1.119, 2.00%	R=600.000 IP 2 IA=12.5412 CL=135.124
5.193	4.985	5.57	STA 0+100.000	2.00%	
4.954	5.193	4.95	STA 0+100.000	1.119, 2.00%	R=600.000 IP 2 IA=12.5412 CL=135.124
4.954	5.193	4.95	STA 0+100.000	2.00%	
4.500	4.954	4.50	STA 0+100.000	1.119, 2.00%	R=600.000 IP 2 IA=12.5412 CL=135.124
4.500	4.954	4.50	STA 0+100.000	2.00%	
4.500	4.500	4.50	STA 0+100.000	1.119, 2.00%	R=600.000 IP 2 IA=12.5412 CL=135.124
4.500	4.500	4.50	STA 0+100.000	2.00%	

PROFILE OF SUBROAD  
SCALE: H-1:2000, V-1:500



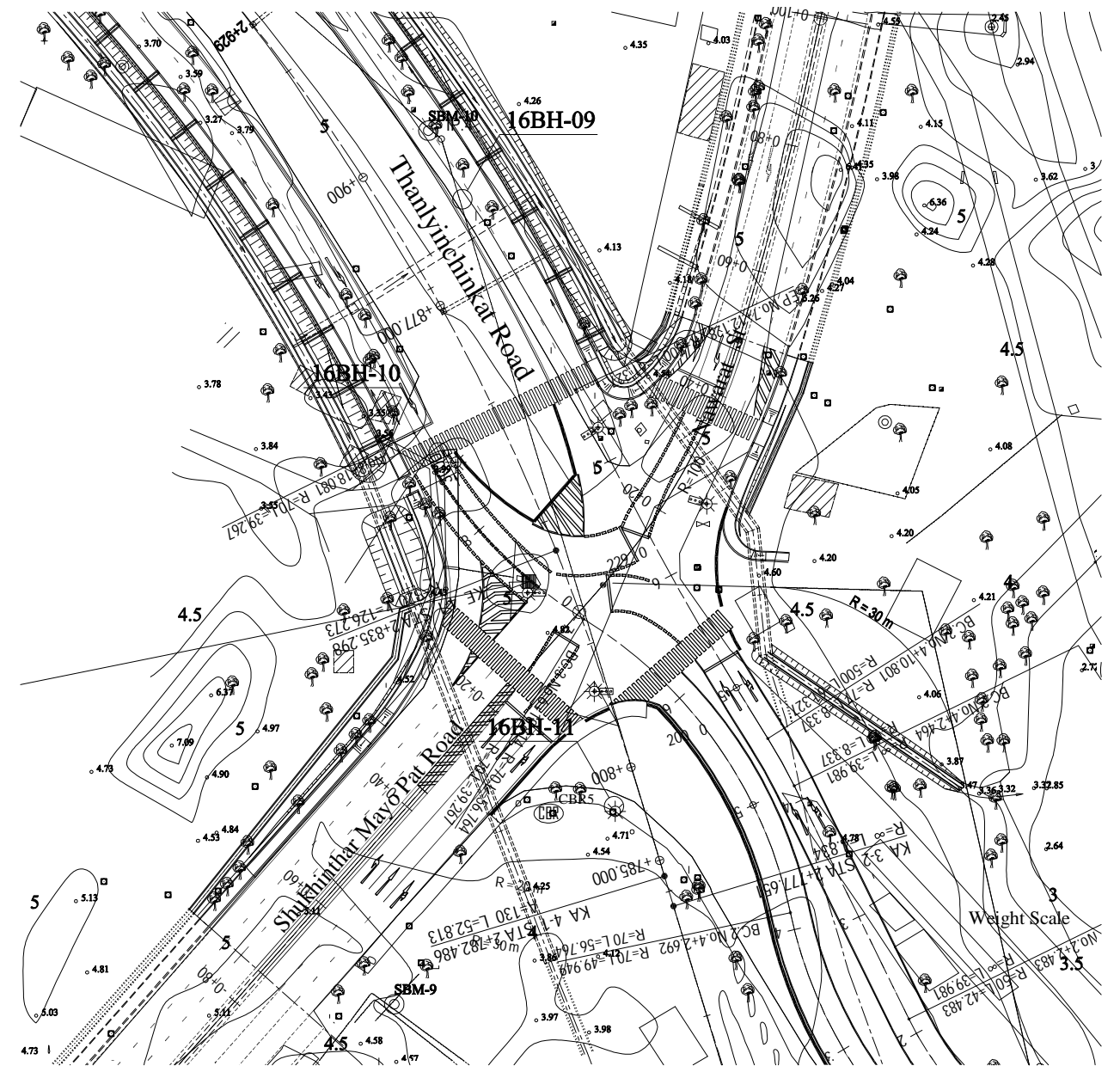
TEMPORARY ROAD SECTION  
SCALE: H-1:250



STA.0+40.000  
SHUKHINTHAR MAYO PAT ROAD

SECTION OF SUBROAD  
SCALE: H-1:250

STA.0+50.000  
AWARAT ST



INTERSECTION PLAN  
SCALE: H-1:1000

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. TACHIBANA	SIGNATURE 	DATE 29 Sep.2017	DRAWING TITLE INTERSECTION PLAN, PROFILE AND SECTION (SHUKHINTHAR INTERSECTION STA.2+830)	PACKAGE 0
				CHECKED BY T. HAYAKAWA		3 Oct.2017		DWG No.
				APPROVED BY Y. SANO		6 Oct.2017		P0-RD-2000

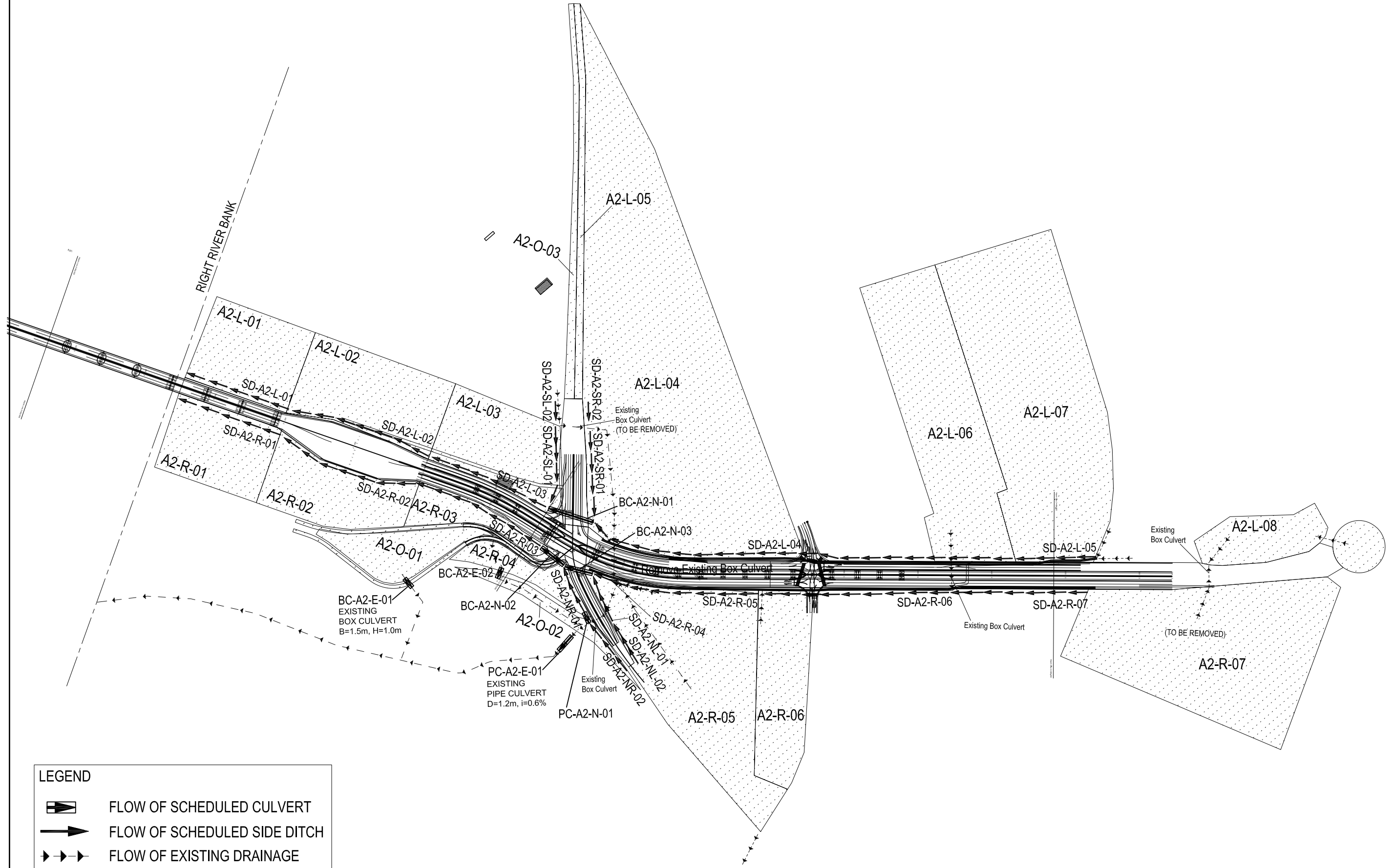






# DRAINAGE SYSTEM PLAN AND OUTLETS (RIGHT RIVER BANK)

S= 1:5000



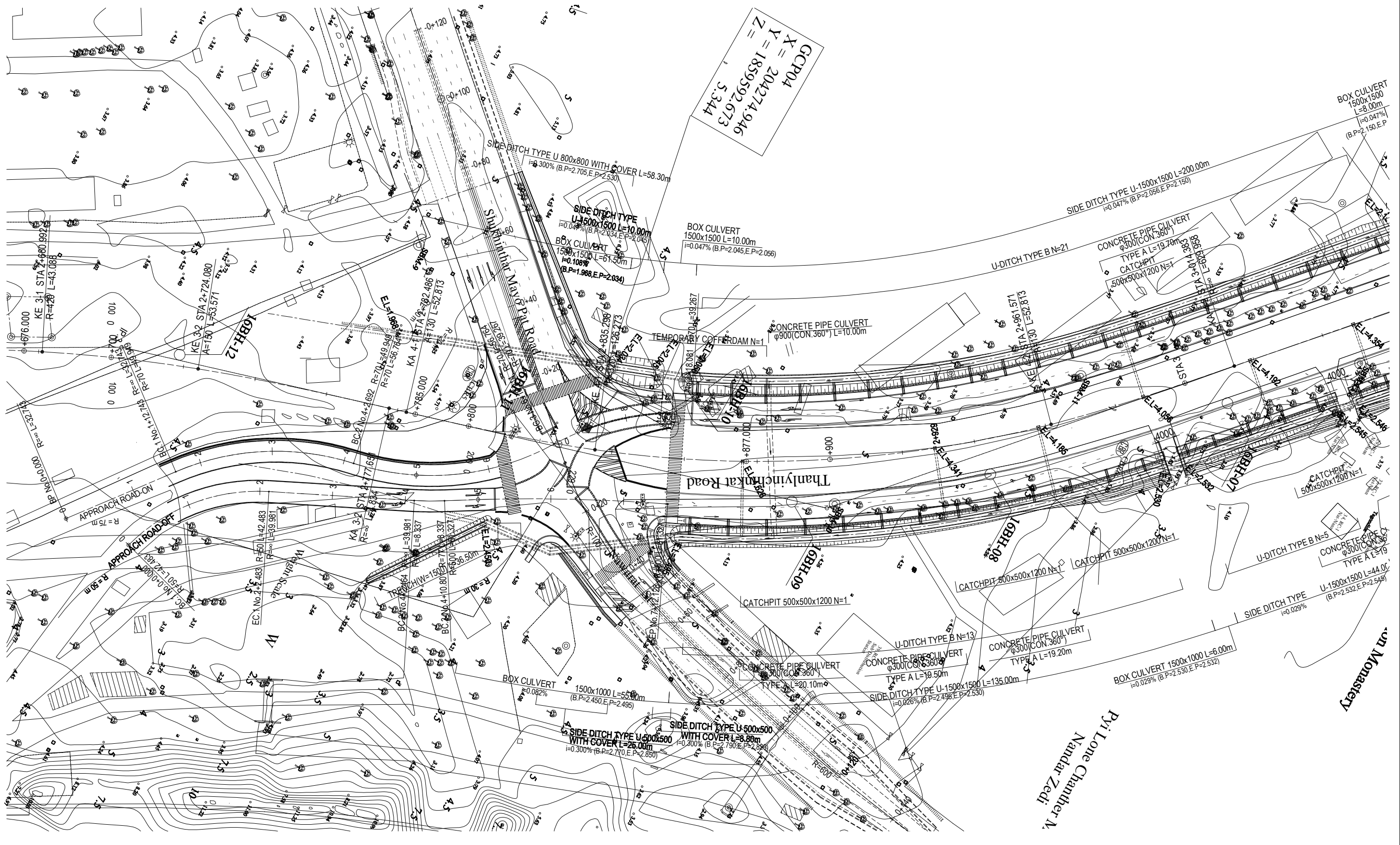
**LEGEND**

- FLOW OF SCHEDULED CULVERT
- FLOW OF SCHEDULED SIDE DITCH
- FLOW OF EXISTING DRAINAGE
- CATCHMENT AREA

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. TACHIBANA				29 Sep. 2017	DRAINAGE SYSTEM PLAN AND OUTLETS (RIGHT RIVER BANK) S= 1:5000	0
				CHECKED BY	T. HAYAKAWA				3 Oct. 2017		DWG No.
				APPROVED BY	Y. SANO				6 Oct. 2017		P0-RD-3000

# DRAINAGE SYSTEM PLAN(1) H= 1:1000

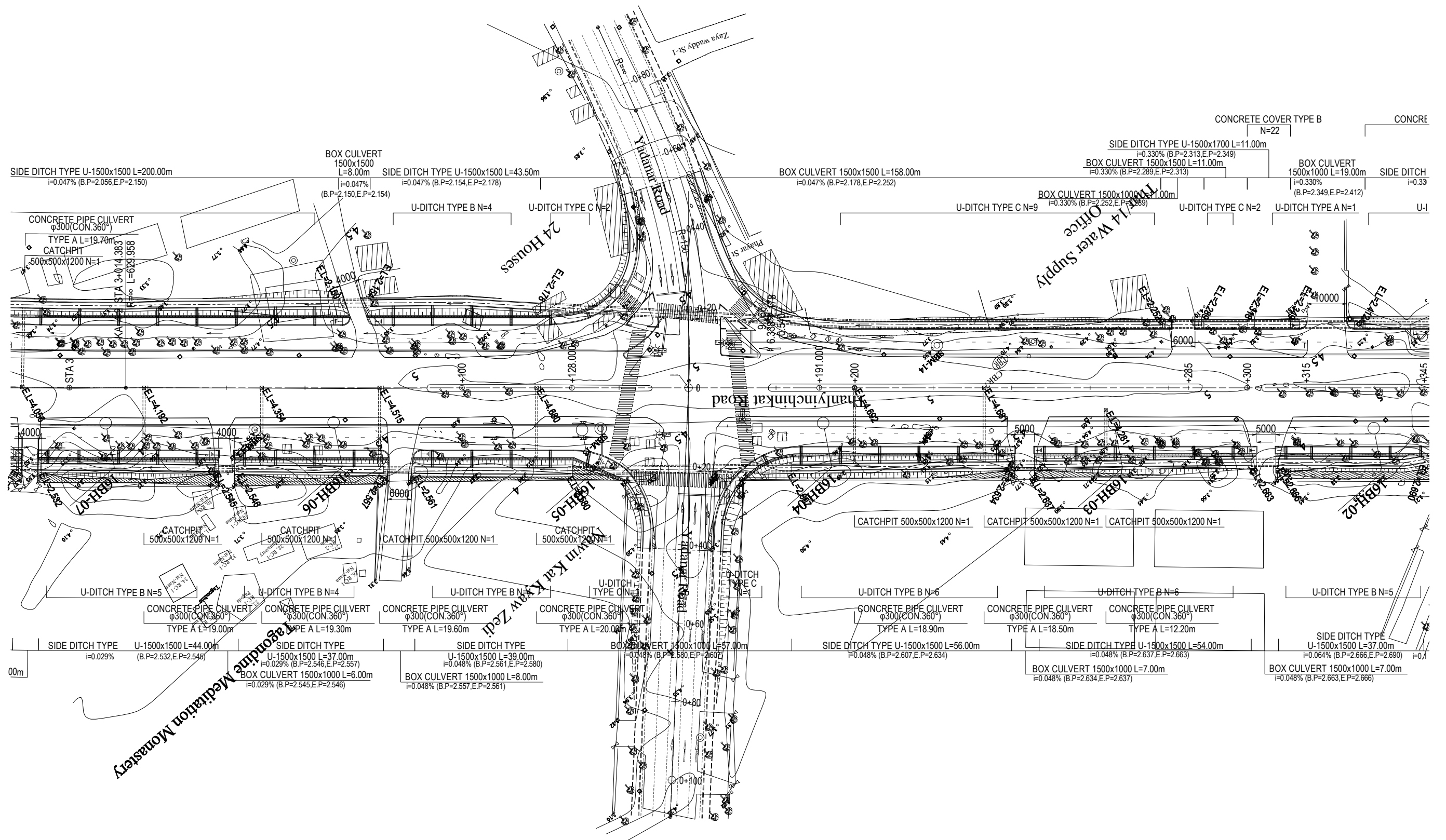
GCP04  
 X = 204274.946  
 Y = 1859592.673  
 Z = 5.344



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 K. TACHIBANA</td> <td></td> <td>29 Sep.2017</td> </tr> <tr> <td>CHECKED BY T. HAYAKAWA</td> <td></td> <td>3 Oct.2017</td> </tr> <tr> <td>APPROVED BY Y. SANO</td> <td></td> <td>6 Oct.2017</td> </tr> </tbody> </table>	NAME	SIGNATURE	DATE	PREPARED BY K. TACHIBANA		29 Sep.2017	CHECKED BY T. HAYAKAWA		3 Oct.2017	APPROVED BY Y. SANO		6 Oct.2017	DRAWING TITLE DRAINAGE SYSTEM PLAN(1) S=1:1000	PACKAGE 0 DWG No. P0-RD-3010
NAME	SIGNATURE	DATE																
PREPARED BY K. TACHIBANA		29 Sep.2017																
CHECKED BY T. HAYAKAWA		3 Oct.2017																
APPROVED BY Y. SANO		6 Oct.2017																



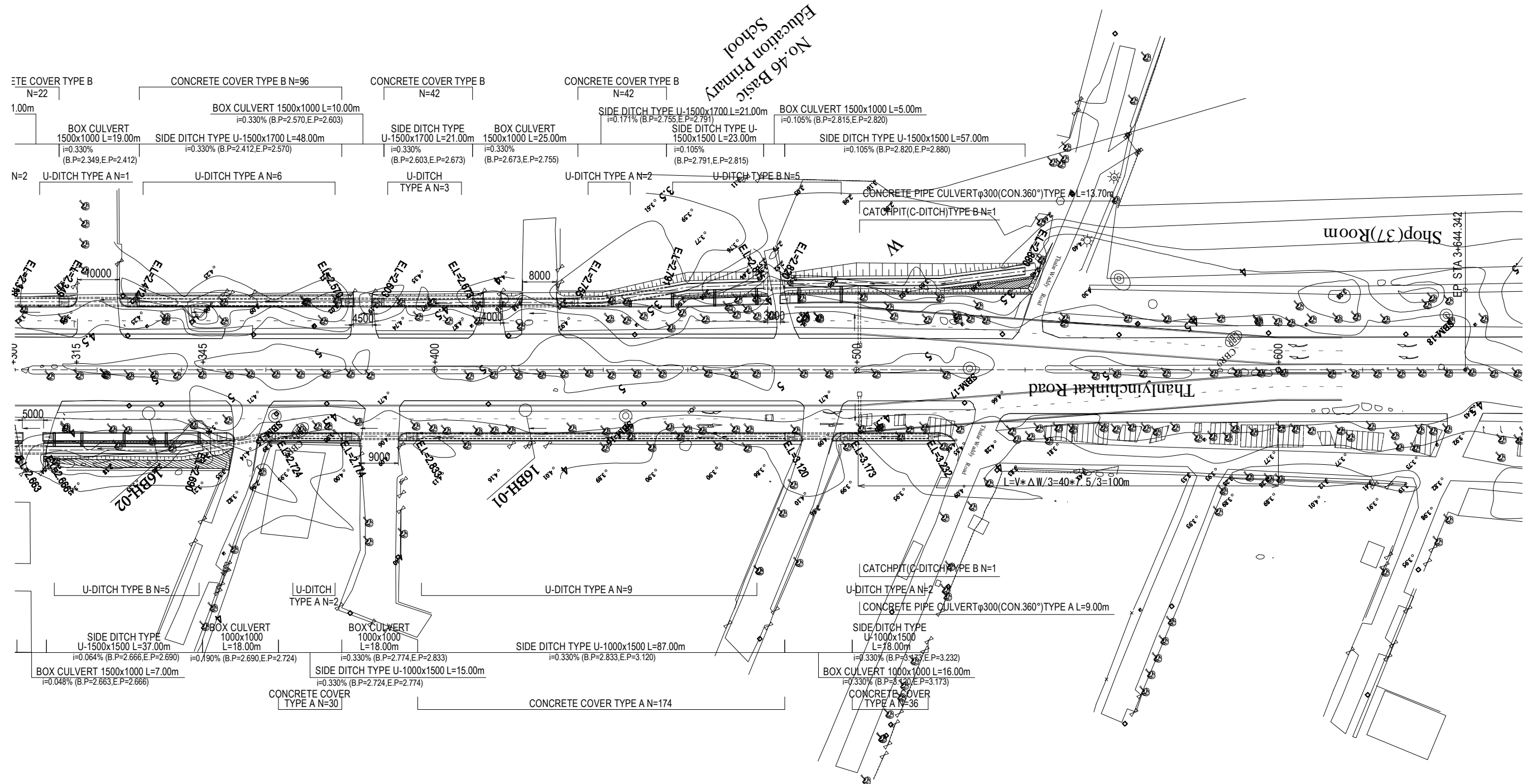
# DRAINAGE SYSTEM PLAN(2) H= 1:1000



PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	<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 K. TACHIBANA</td> <td></td> <td>29 Sep.2017</td> </tr> <tr> <td>CHECKED BY T. HAYAKAWA</td> <td></td> <td>3 Oct.2017</td> </tr> <tr> <td>APPROVED BY Y. SANO</td> <td></td> <td>6 Oct.2017</td> </tr> </tbody> </table>	NAME	SIGNATURE	DATE	PREPARED BY K. TACHIBANA		29 Sep.2017	CHECKED BY T. HAYAKAWA		3 Oct.2017	APPROVED BY Y. SANO		6 Oct.2017	DRAWING TITLE DRAINAGE SYSTEM PLAN(2) S=1:1000	PACKAGE 0 DWG No. P0-RD-3020
NAME	SIGNATURE	DATE																
PREPARED BY K. TACHIBANA		29 Sep.2017																
CHECKED BY T. HAYAKAWA		3 Oct.2017																
APPROVED BY Y. SANO		6 Oct.2017																

# DRAINAGE SYSTEM PLAN(3) H= 1:1000

Note : Bottom elevations of each drainage at beginning point side and end point side be shown in the brackets like as (B.P=1.968, E.P=2.034) .



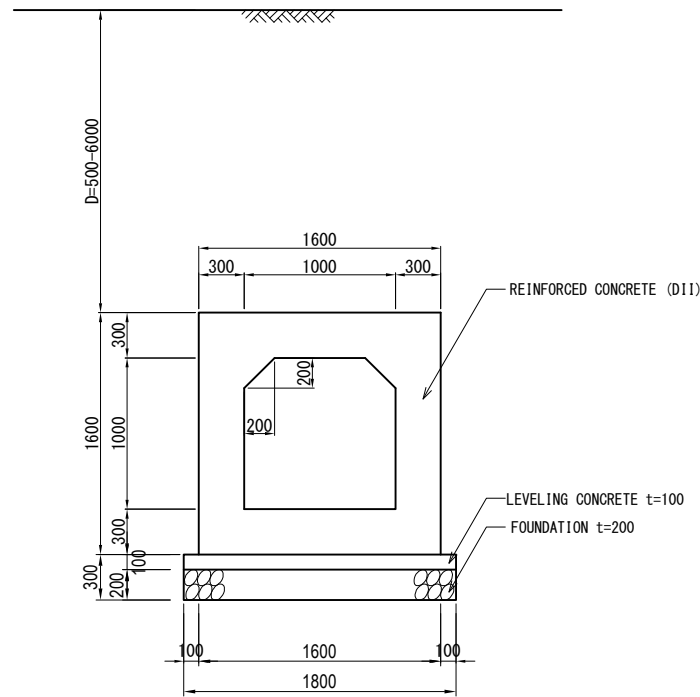
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE DRAINAGE SYSTEM PLAN(3) S=1:1000	PACKAGE	
				PREPARED BY	K. TACHIBANA			29 Sep.2017	0
				CHECKED BY	T. HAYAKAWA			3 Oct.2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct.2017	P0-RD-3030



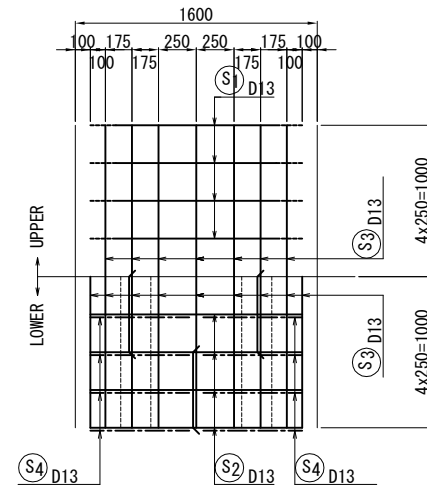
# DETAIL OF BOX CULVERT TYPE 1000 x 1000

## BAR ARRANGEMENT OF BOX CULVERT S=1/50

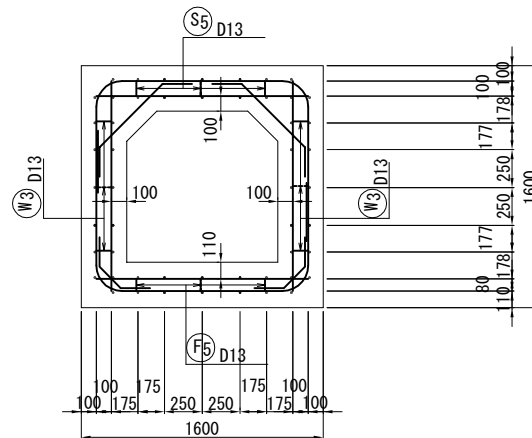
GENERAL DRAWING S=1:50



TOP SLAB



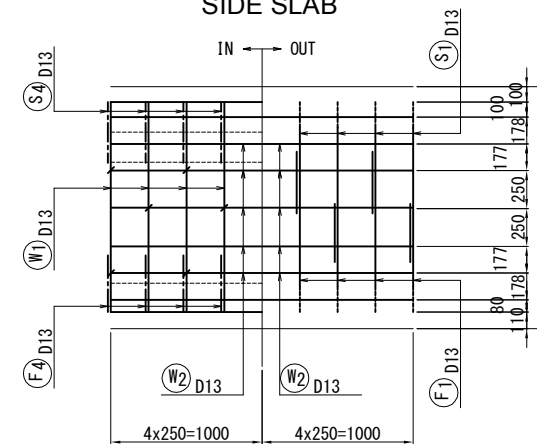
SECTION S=1:50



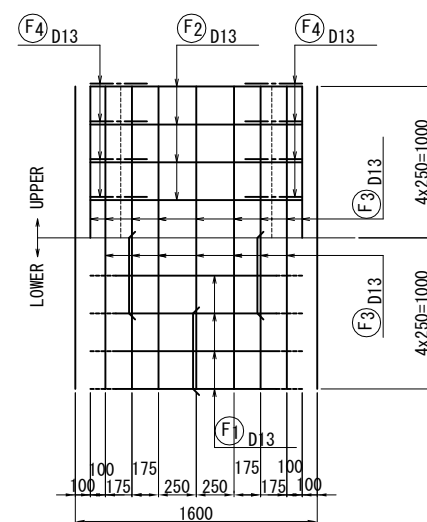
DESIGN CRITERIA

INSIDE DIMENSION		WIDTH	1.00 m
		HEIGHT	1.00 m
LIVE LOAD		T-TYPE LIVE LOAD	
UNIT WEIGHT	REINFORCED CONCRETE	24.5 kN/m <sup>3</sup>	
	SOIL	18 kN/m <sup>3</sup>	
CONCRETE DESIGN STRENGTH		24 N/mm <sup>2</sup>	
ALLOWABLE STRESS			
COMPRESSIVE STRESS DUE TO BENDING		8 N/mm <sup>2</sup>	
SHEARING STRESS		0.39 N/mm <sup>2</sup>	
TENSILE STRESS (SD345)		160 N/mm <sup>2</sup>	
COEFFICIENT OF EARTH PRESSURE		0.5	
IMPACT COEFFICIENT		-	
SEISMIC COEFFICIENT		-	
ANGLE OF SKEW		90°00'00"	
RADIUS OF CURVATURE		R=∞	
GRADIENT OF BOX CULVERT		i=0.500%	

SIDE SLAB



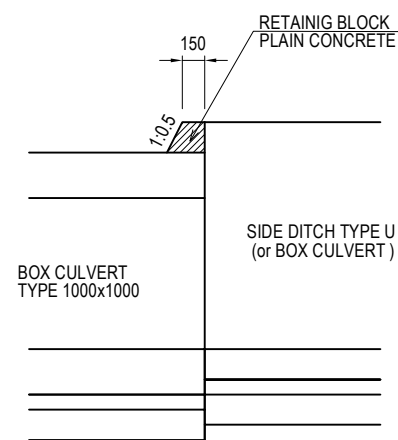
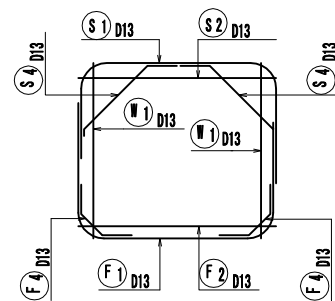
BOTTOM SLAB



MATERIALS

KIND		UNIT	QUANTITY
CONCRETE (DII)	TOP	m <sup>3</sup>	0.480
	SIDE	m <sup>3</sup>	0.640
	BOTTOM	m <sup>3</sup>	0.480
	TOTAL	m <sup>3</sup>	1.600
FORM		m <sup>2</sup>	5.966
REINFORCING BAR	D19	kg	0
	D16	kg	0
	D13	kg	121.950
	TOTAL	kg	121.950
FOUNDATION		m <sup>2</sup>	0.180
LEVELING CONCRETE t=100		m <sup>2</sup>	0.180
CRUSHED STONE t=200		m <sup>2</sup>	0.360

ERECTION DIAGRAM OF MAIN REINFORCEMENT



(PER 1m)

MARK	No.	SEC.	EACH	LENGTH (mm)	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	H (mm)	R (mm)
S 1	4	D13	4	3080	600	220	1120	920		140
S 2	1	D13	4	1400	1400					
S 3	1	D13	16	1000	1000					
S 4	5	D13	8	1040	195	649			459	
S 5	3	D13	3	980		126				
W 1	1	D13	8	1390	1390					
W 2	1	D13	20	1000	1000					
W 3	2	D13	12	360		152				
F 1	4	D13	4	3080	600	220	1120	920		140
F 2	1	D13	4	1400	1400					
F 3	1	D13	16	1000	1000					
F 4	5	D13	8	650	195	255			180	
F 5	3	D13	3	940		106				

LIST OF REINFORCEMENT

MARK	SEC.	LENGTH (mm)	EACH	WEIGHT (kg/m)	WEIGHT/one (kg)	WEIGHT (kg)	REMARKS
S 1	D13	3080	4	0.995	3.065	12.260	□
S 2	D13	1400	4	0.995	1.393	5.572	—
S 3	D13	1000	16	0.995	0.995	15.920	—
S 4	D13	1040	8	0.995	1.035	8.280	□
S 5	D13	980	3	0.995	0.975	2.925	□
W 1	D13	1390	8	0.995	1.383	11.064	—
W 2	D13	1000	20	0.995	0.995	19.900	—
W 3	D13	360	12	0.995	0.358	4.296	—
F 1	D13	3080	4	0.995	3.065	12.260	□
F 2	D13	1400	4	0.995	1.393	5.572	—
F 3	D13	1000	16	0.995	0.995	15.920	—
F 4	D13	650	8	0.995	0.647	5.176	□
F 5	D13	940	3	0.995	0.935	2.805	□

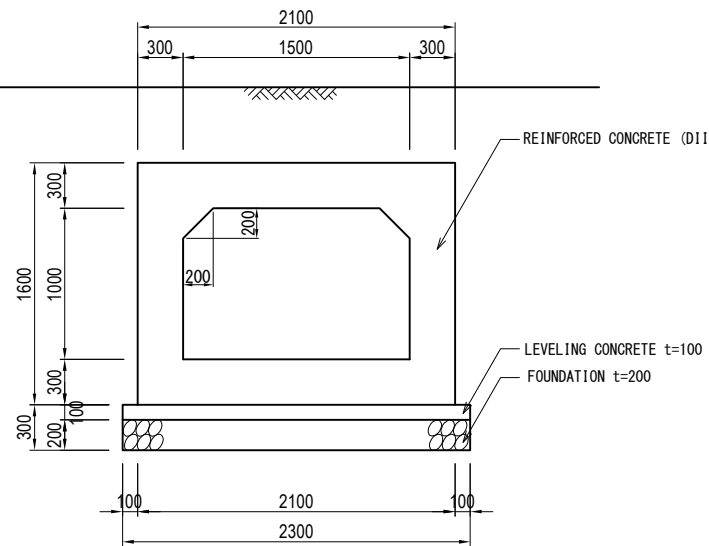
D	a (mm)	b (mm)	c (mm)	R (mm)	L (mm)
D13	66	164	230	42	410
D16	75	195	270	48	500
D19	94	236	330	60	600
D22	104	266	370	66	690
D25	122	308	430	78	790
D29	141	349	490	90	910
D32	151	389	540	96	1000

Note1: Size of Box Culvert and Bar Arrangement are based on Standard Drawing of Ministry of Land, Infrastructure, Transport and Tourism of Japan  
 Note2: Specification of Steel Reinforcement Bar shall comply with SD345 (JIS G3112) or equivalent

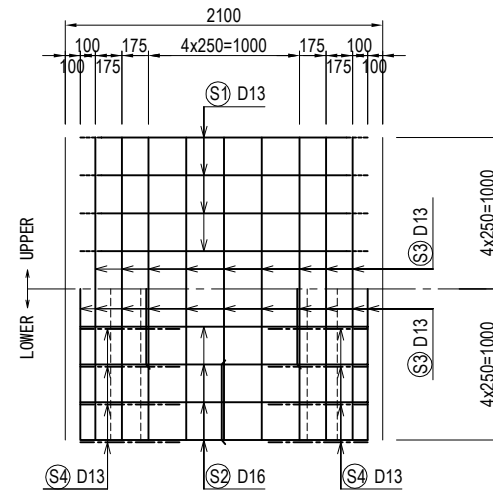
# DETAIL OF BOX CULVERT TYPE 1500 x 1000

## BAR ARRANGEMENT OF BOX CULVERT S=1/50

GENERAL DRAWING S=1:50



TOP SLAB



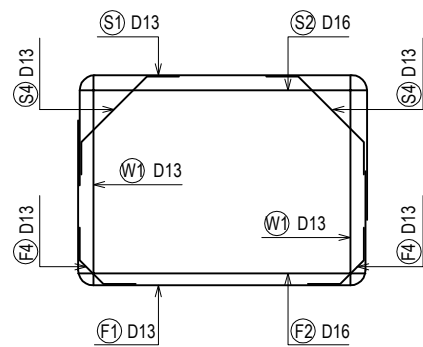
### DESIGN CRITERIA

INSIDE DIMENSION		WIDTH	1.50 m
		HEIGHT	1.00 m
LIVE LOAD		T-TYPE LIVE LOAD	
UNIT WEIGHT	REINFORCED CONCRETE	24.5 kN/m <sup>3</sup>	
	SOIL	18 kN/m <sup>3</sup>	
CONCRETE DESIGN STRENGTH		24 N/mm <sup>2</sup>	
ALLOWABLE STRESS			
COMPRESSIVE STRESS DUE TO BENDING		8 N/mm <sup>2</sup>	
SHEARING STRESS		0.39 N/mm <sup>2</sup>	
TENSILE STRESS (SD345)		160 N/mm <sup>2</sup>	
COEFFICIENT OF EARTH PRESSURE		0.5	
IMPACT COEFFICIENT		-	
SEISMIC COEFFICIENT		-	
ANGLE OF SKEW		90°00'00"	
RADIUS OF CURVATURE		R=∞	
GRADIENT OF BOX CULVERT		i=0.500%	

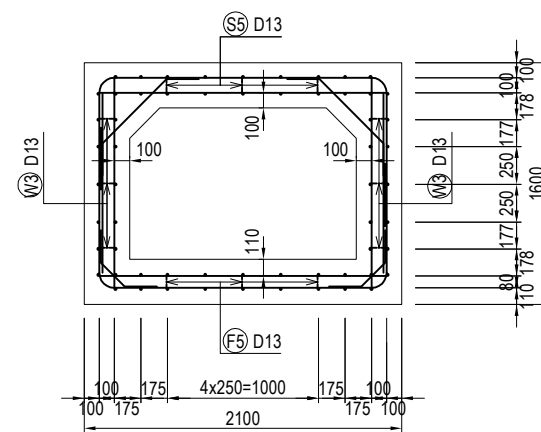
(PER 1m)

MARK	No.	SEC.	EACH	LENGTH (mm)	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	H (mm)	R (mm)
S 1	4	D13	4	3500	600	220	1620	840		140
S 2	1	D16	4	1900	1900					
S 3	1	D13	20	1000	1000					
S 4	5	D13	8	1040	195	649			459	
S 5	3	D13	3	990		128				
W 1	1	D13	8	1390	1390					
W 2	1	D13	20	1000	1000					
W 3	2	D13	12	360		152				
F 1	4	D13	4	3660	680	220	1620	920		140
F 2	1	D16	4	1900	1900					
F 3	1	D13	20	1000	1000					
F 4	5	D13	8	650	195	255			180	
F 5	3	D13	3	950		108				

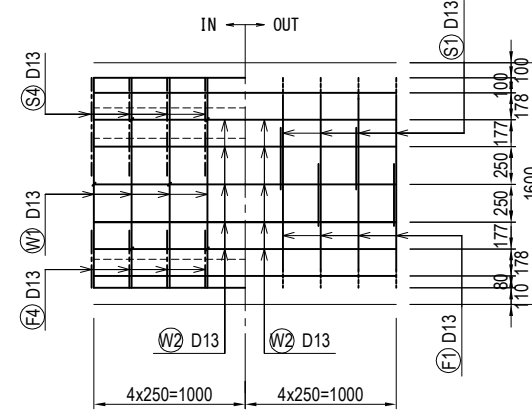
ERECTION DIAGRAM OF MAIN REINFORCEMENT



SECTION S=1:50



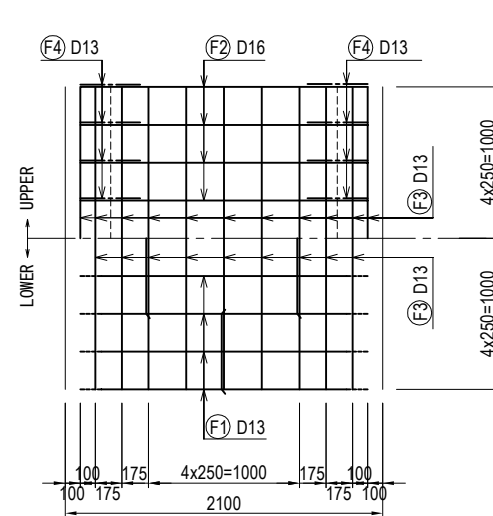
SIDE SLAB



LIST OF REINFORCEMENT (PER 1m)

MARK	SEC.	LENGTH (mm)	EACH	WEIGHT (kg/m)	WEIGHT/one (kg)	WEIGHT (kg)	REMARKS
S 1	D13	3500	4	0.995	3.483	13.932	□
S 2	D16	1900	4	1.56	2.964	11.856	—
S 3	D13	1000	20	0.995	0.995	19.900	—
S 4	D13	1040	8	0.995	1.035	8.280	□
S 5	D13	990	3	0.995	0.985	2.955	□
W 1	D13	1390	8	0.995	1.383	11.064	—
W 2	D13	1000	20	0.995	0.995	19.900	—
W 3	D13	360	12	0.995	0.358	4.296	—
F 1	D13	3660	4	0.995	3.642	14.568	□
F 2	D16	1900	4	1.56	2.964	11.856	—
F 3	D13	1000	20	0.995	0.995	19.900	—
F 4	D13	650	8	0.995	0.647	5.176	□
F 5	D13	950	3	0.995	0.945	2.835	□

BOTTOM SLAB



### MATERIALS (PER 1m)

KIND	UNIT	QUANTITY
CONCRETE (DII)	TOP	m <sup>3</sup> 0.630
	SIDE	m <sup>3</sup> 0.640
	BOTTOM	m <sup>3</sup> 0.630
	TOTAL	m <sup>3</sup> 1.900
FORM	m <sup>2</sup>	6.466
REINFORCING BAR	D19	kg 0
	D16	kg 23.712
	D13	kg 122.806
	TOTAL	kg 146.518
FOUNDATION	LEVELING CONCRETE t=100	m <sup>2</sup> 0.230
	CRUSHED STONE t=200	m <sup>2</sup> 0.460

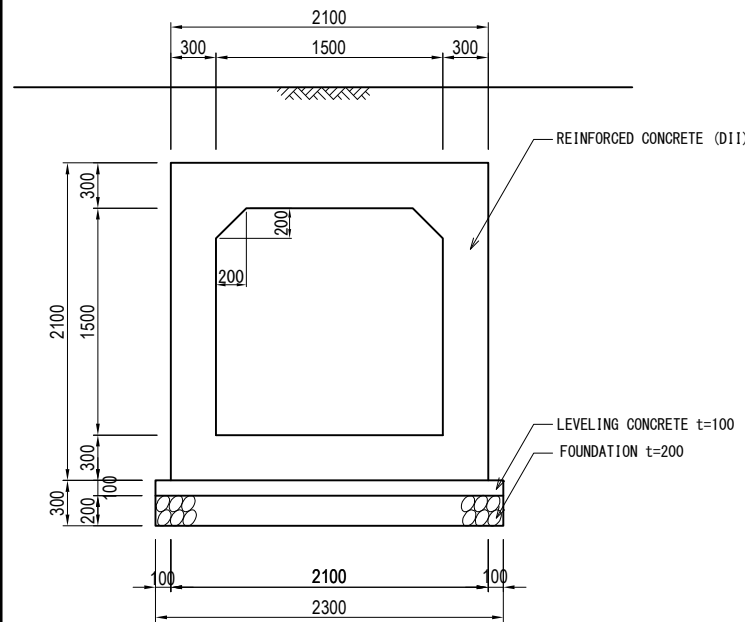
D	a (mm)	b (mm)	c (mm)	R (mm)	L (mm)
D13	66	164	230	42	410
D16	75	195	270	48	500
D19	94	236	330	60	600
D22	104	266	370	66	690
D25	122	308	430	78	790
D29	141	349	490	90	910
D32	151	389	540	96	1000

Note1: Size of Box Culvert and Bar Arrangement are based on Standard Drawing of Ministry of Land, Infrastructure, Transport and Tourism of Japan  
 Note2: Specification of Steel Reinforcement Bar shall comply with SD345 (JIS G3112) or equivalent

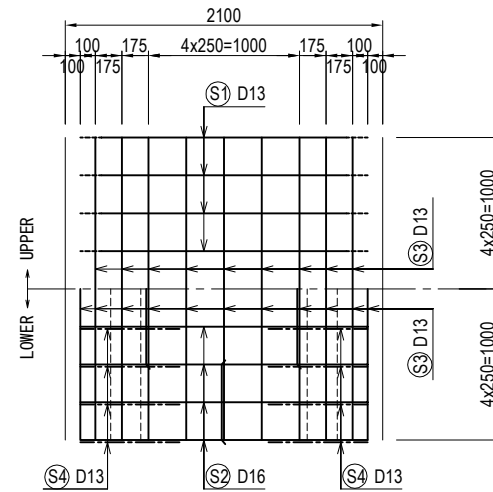
# DETAIL OF BOX CULVERT TYPE 1500 x 1500

## BAR ARRANGEMENT OF BOX CULVERT S=1/50

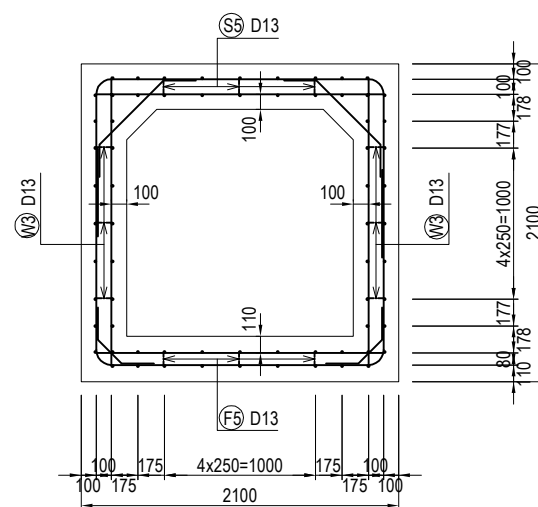
GENERAL DRAWING S=1:50



TOP SLAB



SECTION S=1:50



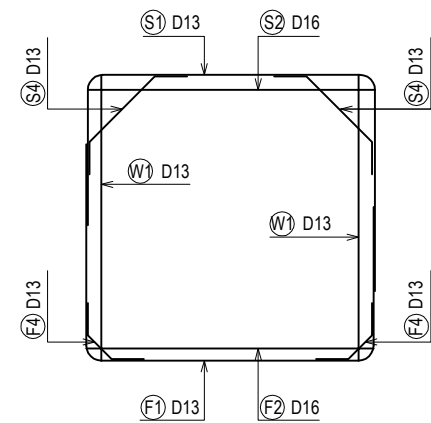
### DESIGN CRITERIA

INSIDE DIMENSION		WIDTH	1.50 m
		HEIGHT	1.50 m
LIVE LOAD		T-TYPE LIVE LOAD	
UNIT WEIGHT	REINFORCED CONCRETE	24.5 kN/m <sup>3</sup>	
	SOIL	18 kN/m <sup>3</sup>	
CONCRETE DESIGN STRENGTH		24 N/mm <sup>2</sup>	
ALLOWABLE STRESS			
COMPRESSIVE STRESS DUE TO BENDING		8 N/mm <sup>2</sup>	
SHEARING STRESS		0.39 N/mm <sup>2</sup>	
TENSILE STRESS (SD345)		160 N/mm <sup>2</sup>	
COEFFICIENT OF EARTH PRESSURE		0.5	
IMPACT COEFFICIENT		-	
SEISMIC COEFFICIENT		-	
ANGLE OF SKEW		90°00'00"	
RADIUS OF CURVATURE		R=∞	
GRADIENT OF BOX CULVERT		i=0.500%	

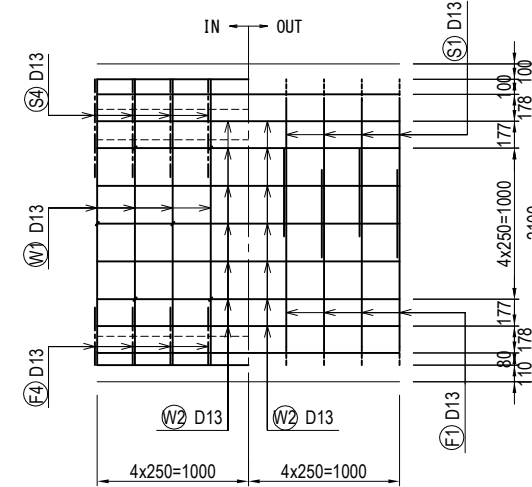
(PER 1m)

MARK	No.	SEC.	EACH	LENGTH (mm)	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	H (mm)	R (mm)
S 1	4	D13	4	4000	900					140
S 2	1	D16	4	1900	1900					
S 3	1	D13	20	1000	1000					
S 4	5	D13	8	1040	195	649			459	
S 5	3	D13	3	990		128				
W 1	1	D13	8	1890	1890					
W 2	1	D13	28	1000	1000					
W 3	2	D13	12	360		152				
F 1	4	D13	4	4500	1150	220	1620	1290		140
F 2	1	D16	4	1900	1900					
F 3	1	D13	20	1000	1000					
F 4	5	D13	8	650	195	255			180	
F 5	3	D13	3	950		108				

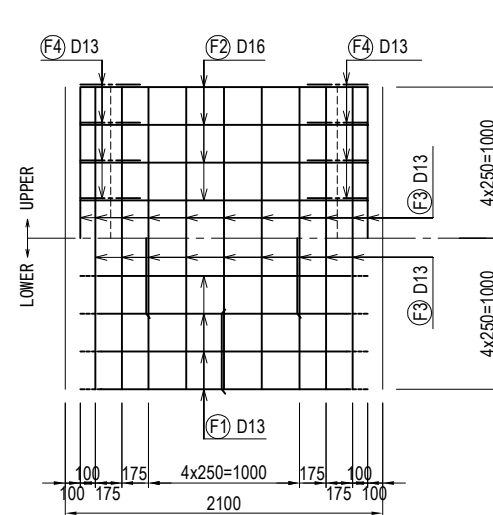
ERECTION DIAGRAM OF MAIN REINFORCEMENT



SIDE SLAB



BOTTOM SLAB



### MATERIALS

KIND	UNIT	QUANTITY (PER 1m)
CONCRETE (D11)	TOP	m <sup>3</sup> 0.630
	SIDE	m <sup>3</sup> 0.940
	BOTTOM	m <sup>3</sup> 0.630
	TOTAL	m <sup>3</sup> 2.200
FORM	m <sup>2</sup>	8.466
REINFORCING BAR	D19	kg 0
	D16	kg 23.712
	D13	kg 140.082
TOTAL	kg	163.794
FOUNDATION	LEVELING CONCRETE t=100	m <sup>2</sup> 0.230
	CRUSHED STONE t=200	m <sup>2</sup> 0.460

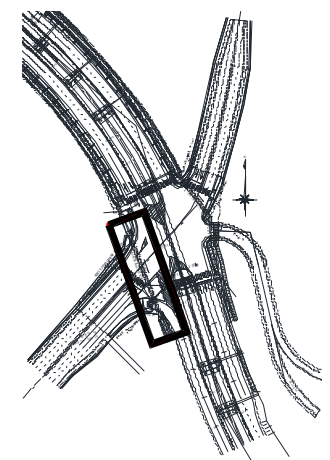
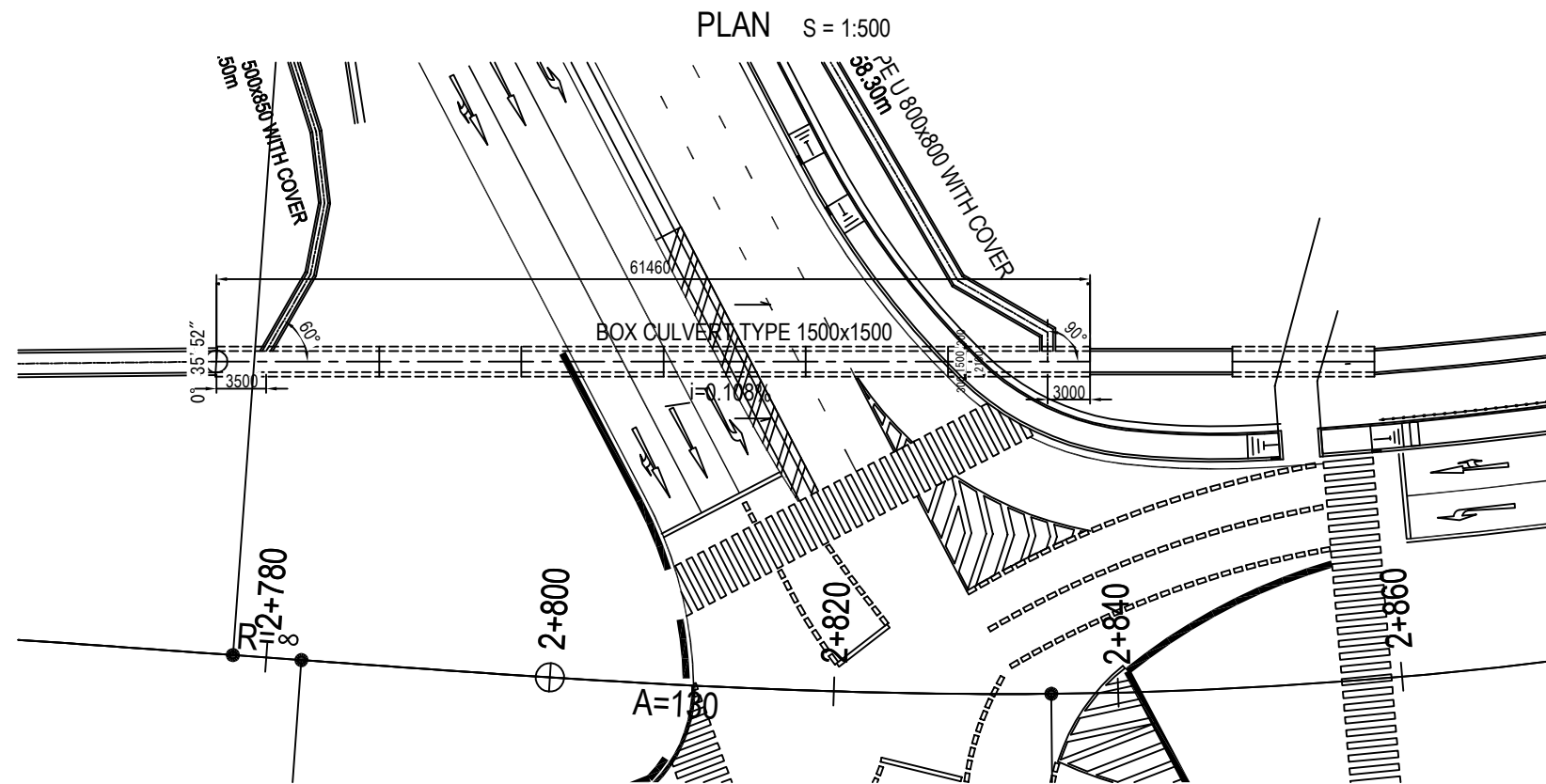
LIST OF REINFORCEMENT (PER 1m)

MARK	SEC.	LENGTH (mm)	EACH	WEIGHT (kg/m)	WEIGHT/one (kg)	WEIGHT (kg)	REMARKS
S 1	D13	4000	4	0.995	3.980	15.920	□
S 2	D16	1900	4	1.56	2.964	11.856	—
S 3	D13	1000	20	0.995	0.995	19.900	—
S 4	D13	1040	8	0.995	1.035	8.280	□
S 5	D13	990	3	0.995	0.985	2.955	□
W 1	D13	1890	8	0.995	1.881	15.048	—
W 2	D13	1000	28	0.995	0.995	27.860	—
W 3	D13	360	12	0.995	0.358	4.296	□
F 1	D13	4500	4	0.995	4.478	17.912	□
F 2	D16	1900	4	1.56	2.964	11.856	—
F 3	D13	1000	20	0.995	0.995	19.900	—
F 4	D13	650	8	0.995	0.647	5.176	□
F 5	D13	950	3	0.995	0.945	2.835	□

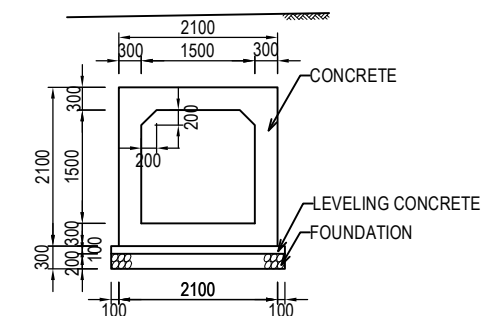
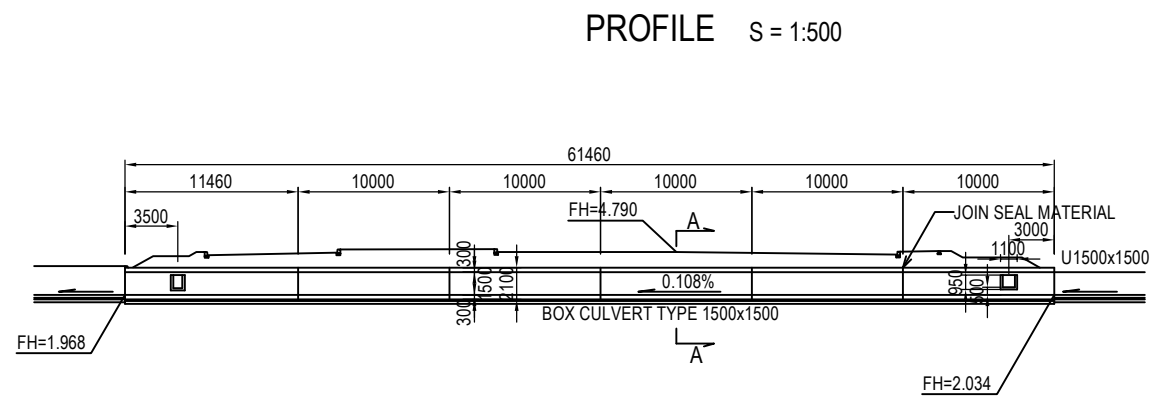
D	a (mm)	b (mm)	c (mm)	R (mm)	L (mm)
D13	66	164	230	42	410
D16	75	195	270	48	500
D19	94	236	330	60	600
D22	104	266	370	66	690
D25	122	308	430	78	790
D29	141	349	490	90	910
D32	151	389	540	96	1000

Note1: Size of Box Culvert and Bar Arrangement are based on Standard Drawing of Ministry of Land, Infrastructure, Transport and Tourism of Japan  
 Note2: Specification of Steel Reinforcement Bar shall comply with SD345 (JIS G3112) or equivalent

# GENERAL VIEW OF BOX CULVERT (1) SHUKHINTHAR (LEFT SIDE)



KEY PLAN S=1:5000



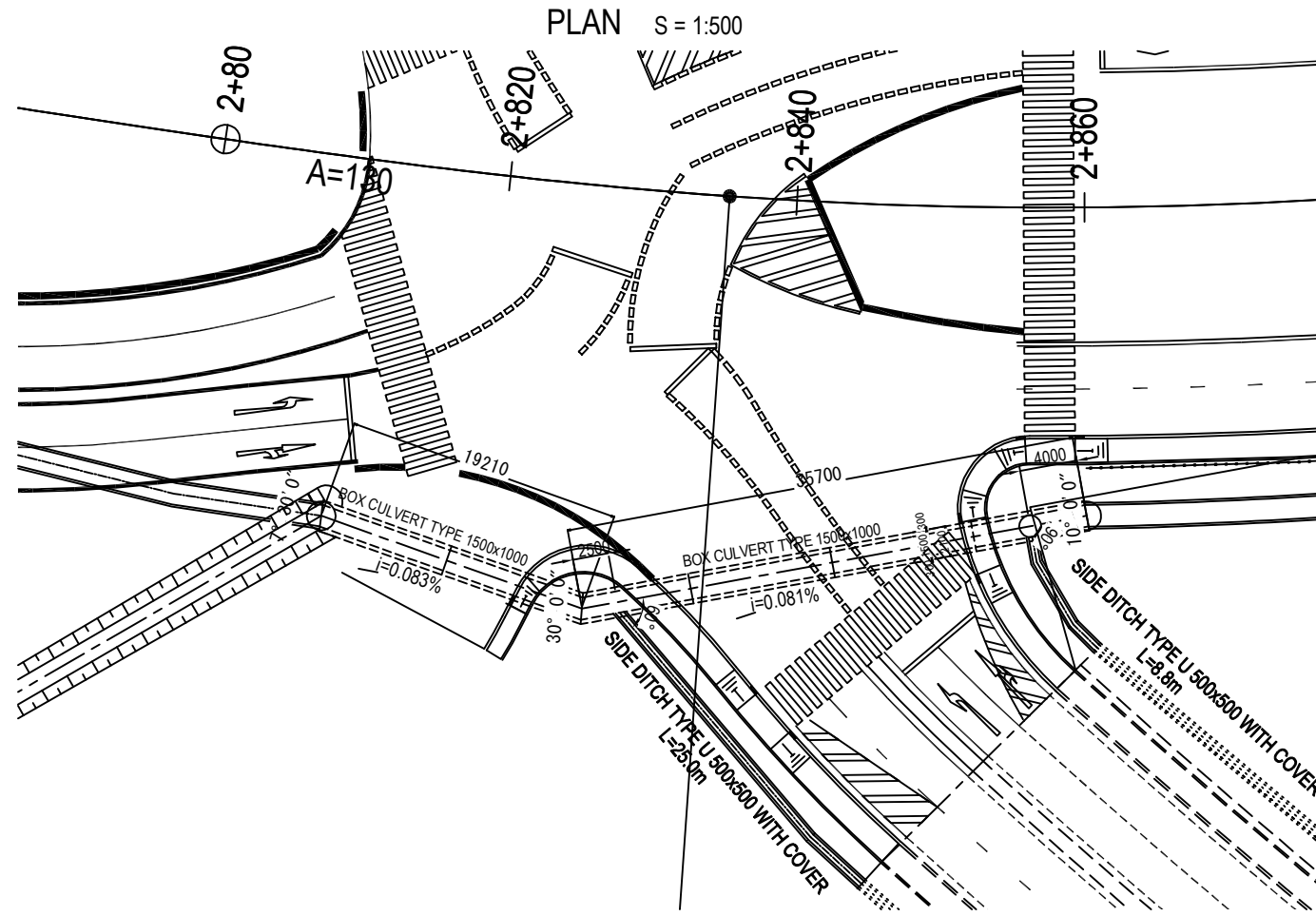
SECTION A - A S = 1:100

- Note
1. Specification of Reinforced Concrete should be CLASS DII
  2. Specification of Steel reinforcement bar should be SD345

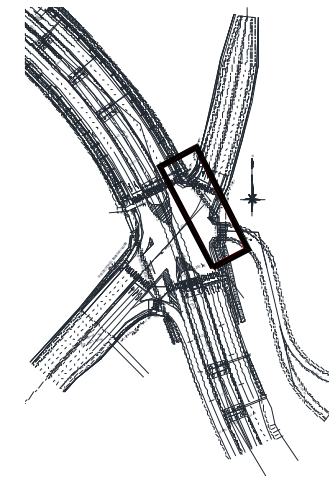
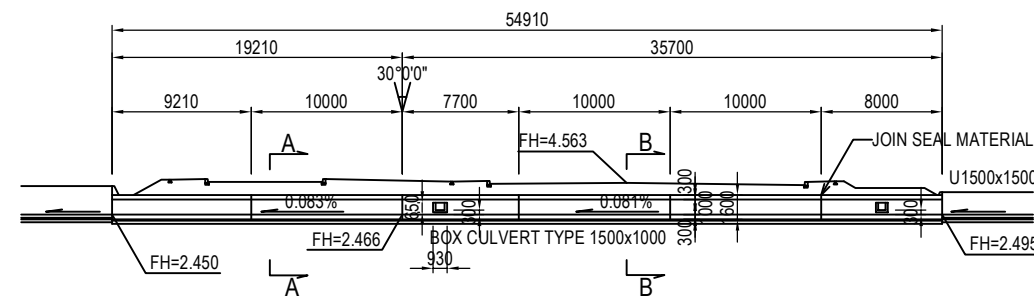
<small>PROJECT NAME</small> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	<small>FINANCED BY</small> JAPAN INTERNATIONAL COOPERATION AGENCY	<small>COUNTERPART</small> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	<small>JICA STUDY TEAM</small> NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO. LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">NAME</th> <th style="text-align: left;">SIGNATURE</th> <th style="text-align: left;">DATE</th> </tr> <tr> <td>PREPARED BY K. TACHIBANA</td> <td></td> <td>29 Sep.2017</td> </tr> <tr> <td>CHECKED BY T. HAYAKAWA</td> <td></td> <td>3 Oct.2017</td> </tr> <tr> <td>APPROVED BY Y. SANO</td> <td></td> <td>6 Oct.2017</td> </tr> </table>	NAME	SIGNATURE	DATE	PREPARED BY K. TACHIBANA		29 Sep.2017	CHECKED BY T. HAYAKAWA		3 Oct.2017	APPROVED BY Y. SANO		6 Oct.2017	<small>DRAWING TITLE</small> GENERAL VIEW OF BOX CULVERT (1) SHUKHINTHAR (LEFT SIDE)	<small>PACKAGE</small> 0 <small>DWG No.</small> P0-RD-3070
NAME	SIGNATURE	DATE																
PREPARED BY K. TACHIBANA		29 Sep.2017																
CHECKED BY T. HAYAKAWA		3 Oct.2017																
APPROVED BY Y. SANO		6 Oct.2017																



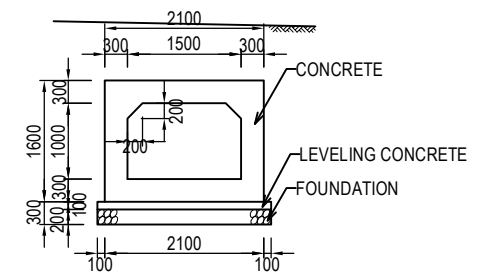
# GENERAL VIEW OF BOX CULVERT (2) SHUKHINTHAR (RIGHT SIDE)



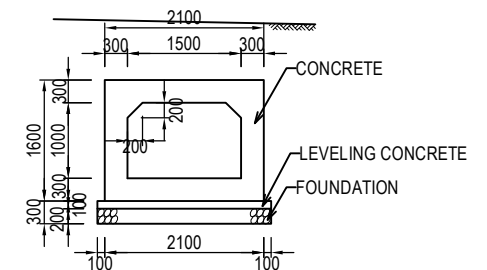
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KEY PLAN S=1:5000



SECTION B - B S = 1:100



SECTION A - A S = 1:100

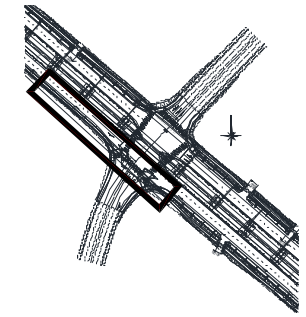
- Note
1. Specification of Reinforced Concrete should be CLASS DII
  2. Specification of Steel reinforcement bar should be SD345

<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: 15%;">NAME</th> <th style="width: 15%;">SIGNATURE</th> <th style="width: 15%;">DATE</th> </tr> <tr> <td>PREPARED BY K. TACHIBANA</td> <td></td> <td>29 Sep.2017</td> </tr> <tr> <td>CHECKED BY T. HAYAKAWA</td> <td></td> <td>3 Oct.2017</td> </tr> <tr> <td>APPROVED BY Y. SANO</td> <td></td> <td>6 Oct.2017</td> </tr> </table>	NAME	SIGNATURE	DATE	PREPARED BY K. TACHIBANA		29 Sep.2017	CHECKED BY T. HAYAKAWA		3 Oct.2017	APPROVED BY Y. SANO		6 Oct.2017	DRAWING TITLE <b>GENERAL VIEW OF BOX CULVERT (2)                  SHUKHINTHAR (RIGHT SIDE)</b>	PACKAGE 0 DWG No. P0-RD-3080
NAME	SIGNATURE	DATE																
PREPARED BY K. TACHIBANA		29 Sep.2017																
CHECKED BY T. HAYAKAWA		3 Oct.2017																
APPROVED BY Y. SANO		6 Oct.2017																

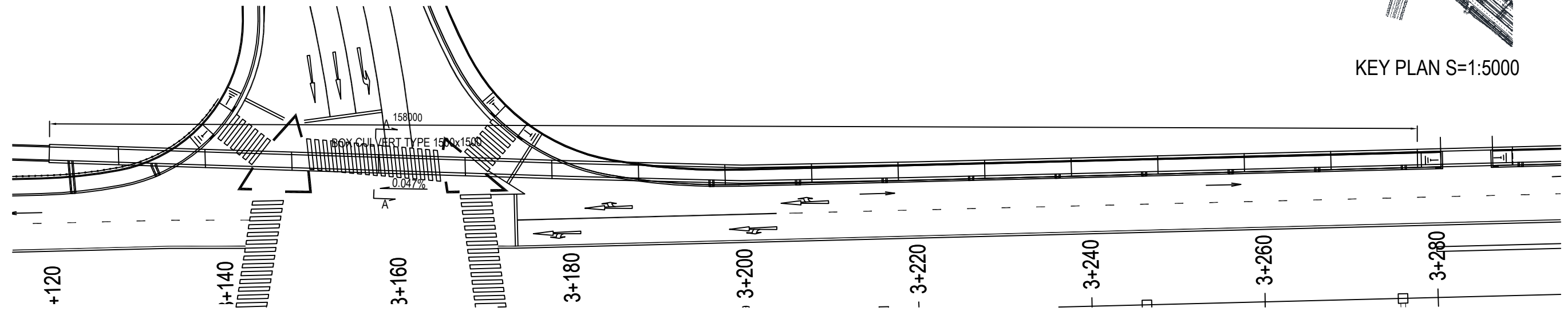


# GENERAL VIEW OF BOX CULVERT (3) YADANAR (LEFT SIDE)

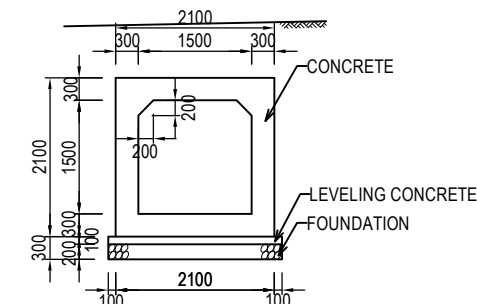
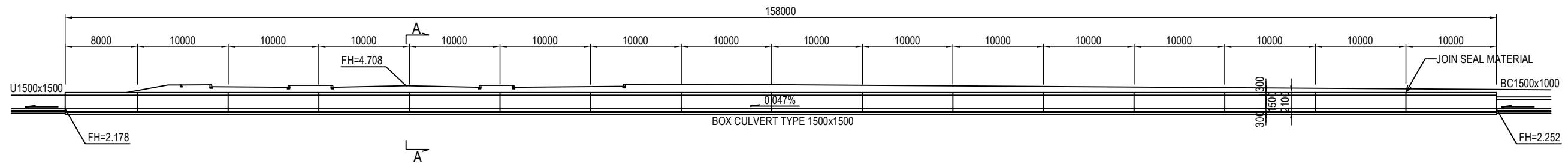
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KEY PLAN S=1:5000



PROFILE S = 1:500

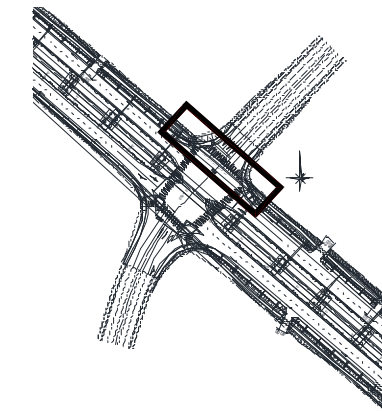
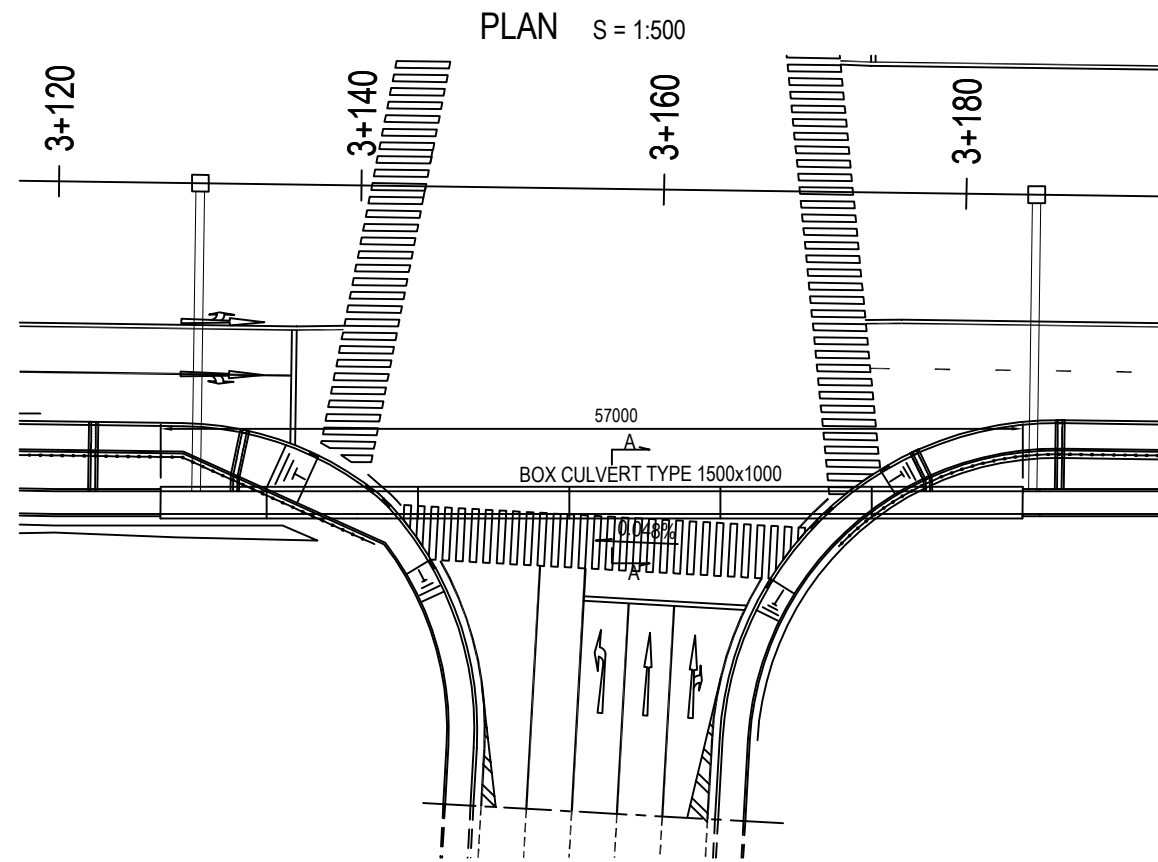


SECTION A - A S = 1:100

Note  
 1. Specification of Reinforced Concrete should be CLASS DII  
 2. Specification of Steel reinforcement bar should be SD345

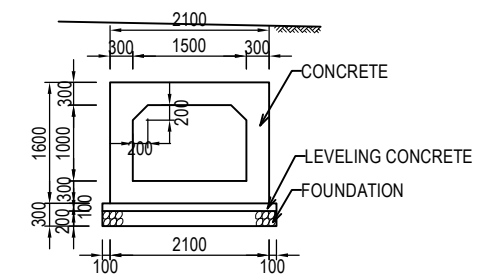
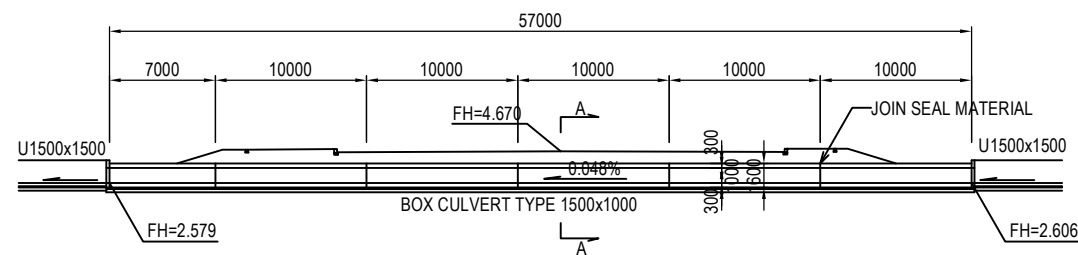
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO. LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME PREPARED BY CHECKED BY APPROVED BY	K. TACHIBANA T. HAYAKAWA Y. SANO	SIGNATURE   	DATE 29 Sep.2017 3 Oct.2017 6 Oct.2017	DRAWING TITLE GENERAL VIEW OF BOX CULVERT (3) YADANAR (LEFT SIDE)	PACKAGE 0 DWG No. P3-RD-3090
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# GENERAL VIEW OF BOX CULVERT (4) YADANAR (RIGHT SIDE)



KEY PLAN S=1:5000

PROFILE S = 1:500



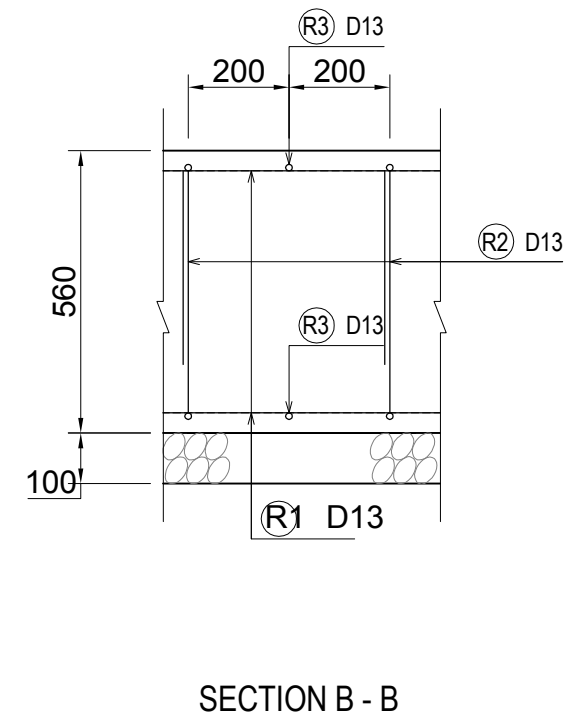
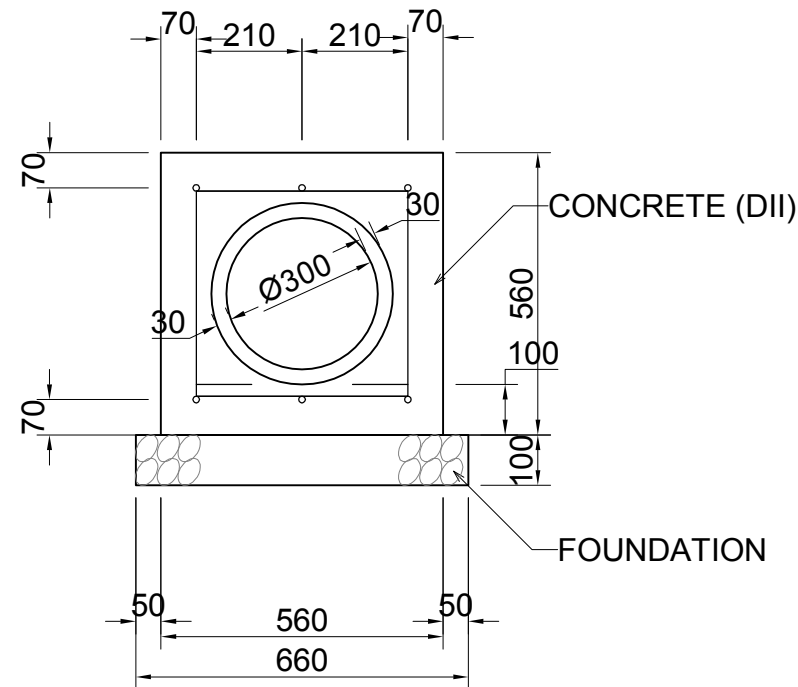
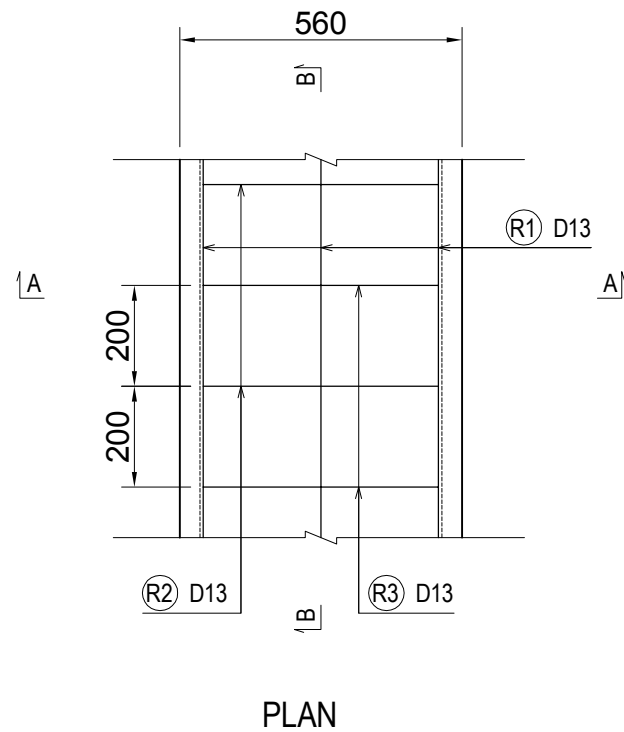
SECTION A - A S = 1:100

- Note
1. Specification of Reinforced Concrete should be CLASS DII
  2. Specification of Steel reinforcement bar should be SD345

<small>PROJECT NAME</small> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	<small>FINANCED BY</small> JAPAN INTERNATIONAL COOPERATION AGENCY	<small>COUNTERPART</small> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	<small>JICA STUDY TEAM</small> NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO. LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">NAME</th> <th style="text-align: left;">SIGNATURE</th> <th style="text-align: left;">DATE</th> </tr> <tr> <td>PREPARED BY</td> <td>K. TACHIBANA</td> <td>29 Sep.2017</td> </tr> <tr> <td>CHECKED BY</td> <td>T. HAYAKAWA</td> <td>3 Oct.2017</td> </tr> <tr> <td>APPROVED BY</td> <td>Y. SANO</td> <td>6 Oct.2017</td> </tr> </table>	NAME	SIGNATURE	DATE	PREPARED BY	K. TACHIBANA	29 Sep.2017	CHECKED BY	T. HAYAKAWA	3 Oct.2017	APPROVED BY	Y. SANO	6 Oct.2017	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">DRAWING TITLE</th> <th style="text-align: left;">PACKAGE</th> </tr> <tr> <td rowspan="3" style="text-align: center;">                     GENERAL VIEW OF BOX CULVERT (4)                      YADANAR (RIGHT SIDE)                 </td> <td style="text-align: center;">0</td> </tr> <tr> <td style="text-align: center;">DWG No.</td> </tr> <tr> <td style="text-align: center;">P3-RD-3100</td> </tr> </table>	DRAWING TITLE	PACKAGE	GENERAL VIEW OF BOX CULVERT (4) YADANAR (RIGHT SIDE)	0	DWG No.	P3-RD-3100
NAME	SIGNATURE	DATE																					
PREPARED BY	K. TACHIBANA	29 Sep.2017																					
CHECKED BY	T. HAYAKAWA	3 Oct.2017																					
APPROVED BY	Y. SANO	6 Oct.2017																					
DRAWING TITLE	PACKAGE																						
GENERAL VIEW OF BOX CULVERT (4) YADANAR (RIGHT SIDE)	0																						
	DWG No.																						
	P3-RD-3100																						

# DETAIL OF CONCRETE PIPE CULVERT $\Phi 300$ (CON.360°) TYPE A S= 1:15

## CONCRETE PIPE CULVERT $\Phi 300$ (CON.360°)TYPE A A - A



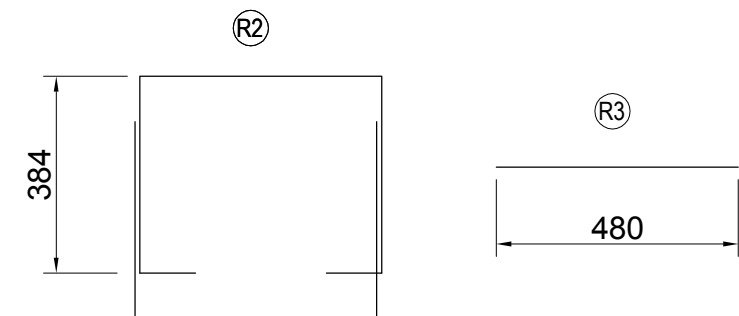
WORK QUANTITIES PER UNIT (PER 10m)

ITEM	UNIT	QUANTITY	REMARKS
R.C.PIPE $\Phi 300$	m	10.000	JIS A 5303 CLASS 1
CONCRETE (DII)	m <sup>3</sup>	2.118	28 days = 240 kg/cm <sup>2</sup>
FOUNDATION	m <sup>2</sup>	6.600	GRAVEL / t=100mm
FORM	m <sup>2</sup>	11.200	

WORK QUANTITIES PER UNIT FOR REINFORCEMENT BAR (PER 1.0m)

Dia	Nos	Length (mm/nos)	Unit Weight (kg/m)	Weight (kg)	Remarks
D13	6	1,000	0.995	5.970	Ⓡ1 / SD345
D13	5	420	0.995	2.090	Ⓡ2 / SD345
D13	5	1,310	0.995	6.517	Ⓡ3 / SD345
TOTAL				14.557	

## DETAIL OF STEEL REINFORCEMENT



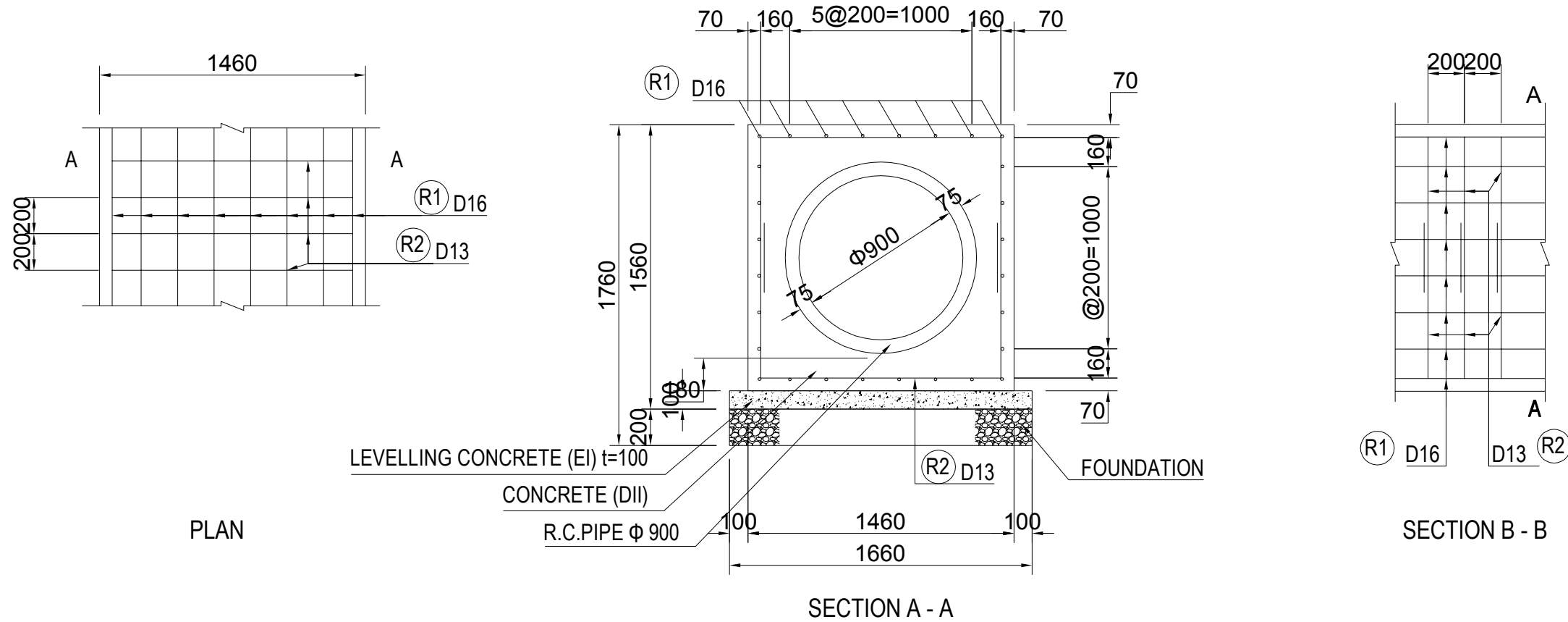
Note: Precast R.C. Pipe  $\Phi 300$ , Reinforced Spun and Centrifugal Reinforced Concrete Pipes shall be Selected.

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 PREPARED BY K. TACHIBANA CHECKED BY T. HAYAKAWA APPROVED BY Y. SANO	SIGNATURE   	DATE 29 Sep.2017 3 Oct.2017 6 Oct.2017	DRAWING TITLE DETAIL OF CONCRETE PIPE CULVERT $\Phi 300$ (CON.360°) TYPE A S=1:15	PACKAGE 0 DWG No. P0-RD-3110
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DETAIL OF CONCRETE PIPE CULVERT  $\Phi 900$  (CON.360°) S= 1:30

CONCRETE PIPE CULVERT  
 $\Phi 900$  (CON.360°)

A - A



WORK QUANTITIES PER UNIT (PER 10m)

ITEM	UNIT	QUANTITY	REMARKS
R.C.PIPE $\Phi 900$	m	10.000	JIS A 5303 CLASS 1
CONCRETE (DII)	m <sup>3</sup>	12.657	28 days = 240 kg/cm <sup>2</sup>
FOUNDATION	m <sup>2</sup>	16.600	GRAVEL / t=200mm
FORM	m <sup>2</sup>	29.200	
LEVELLING CONCRETE (EI)	m <sup>3</sup>	1.660	t=100

WORK QUANTITIES PER UNIT FOR REINFORCEMENT BAR (PER 1.0m)

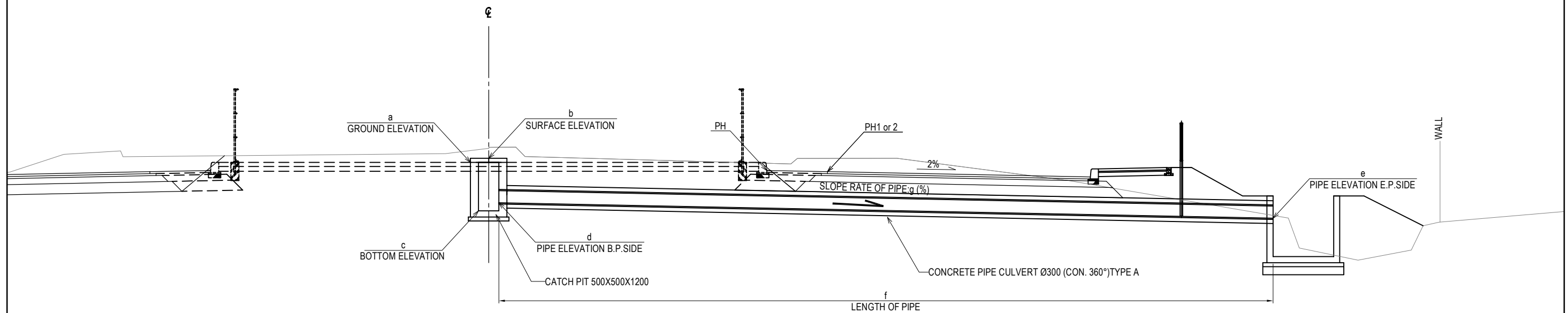
Dia	Nos	Length (mm/nos)	Unit Weight (kg/m)	Weight (kg)	Remarks
D13	10	3,110	0.995	30.945	(R2) / SD345
D16	28	1,000	1.560	43.680	(R1) / SD345
TOTAL				74.625	

Note: Precast R.C. Pipe  $\Phi 900$ , Reinforced Spun and Centrifugal Reinforced Concrete Pipes shall be Selected.

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE DETAIL OF CONCRETE PIPE CULVERT $\Phi 900$ (CON.360°) S=1:30	PACKAGE 0 DWG No. PO-RD-3120	
				PREPARED BY	K. TACHIBANA				29 Sep.2017
				CHECKED BY	T. HAYAKAWA				3 Oct.2017
				APPROVED BY	Y. SANO				6 Oct.2017

# GENERAL VIEW OF CONCRETE PIPE CULVERT Ø300 (CON. 360°)TYPE A S=1:100

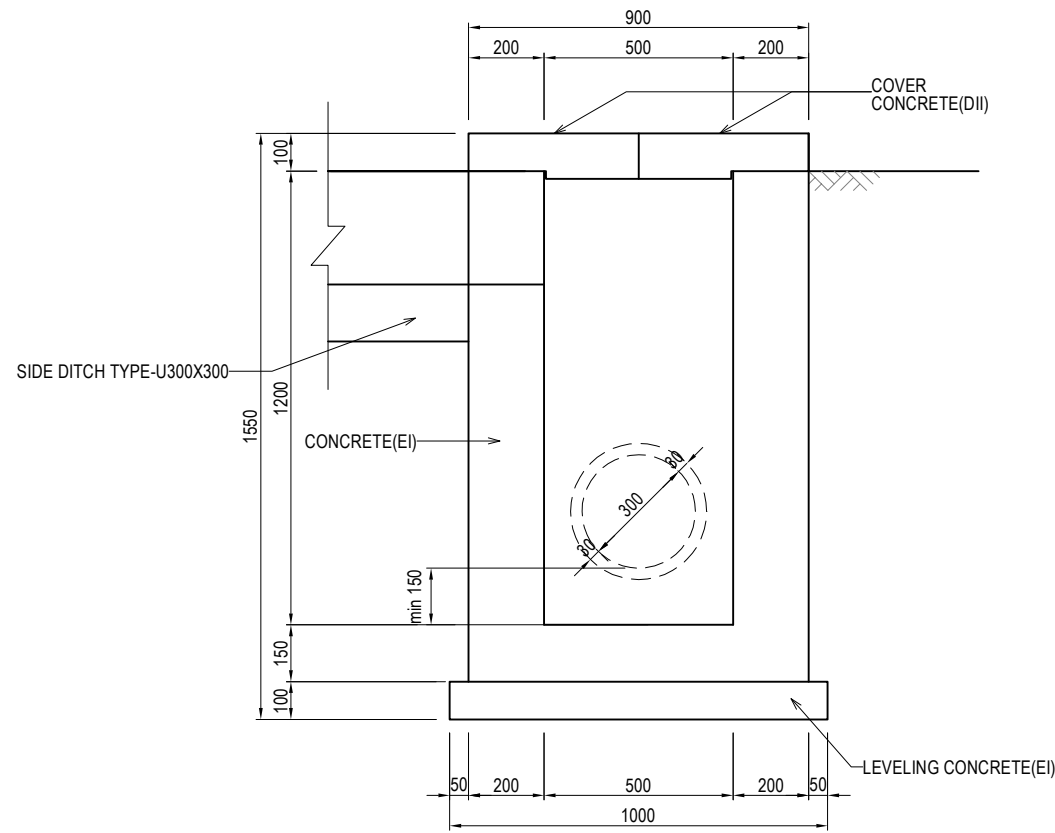
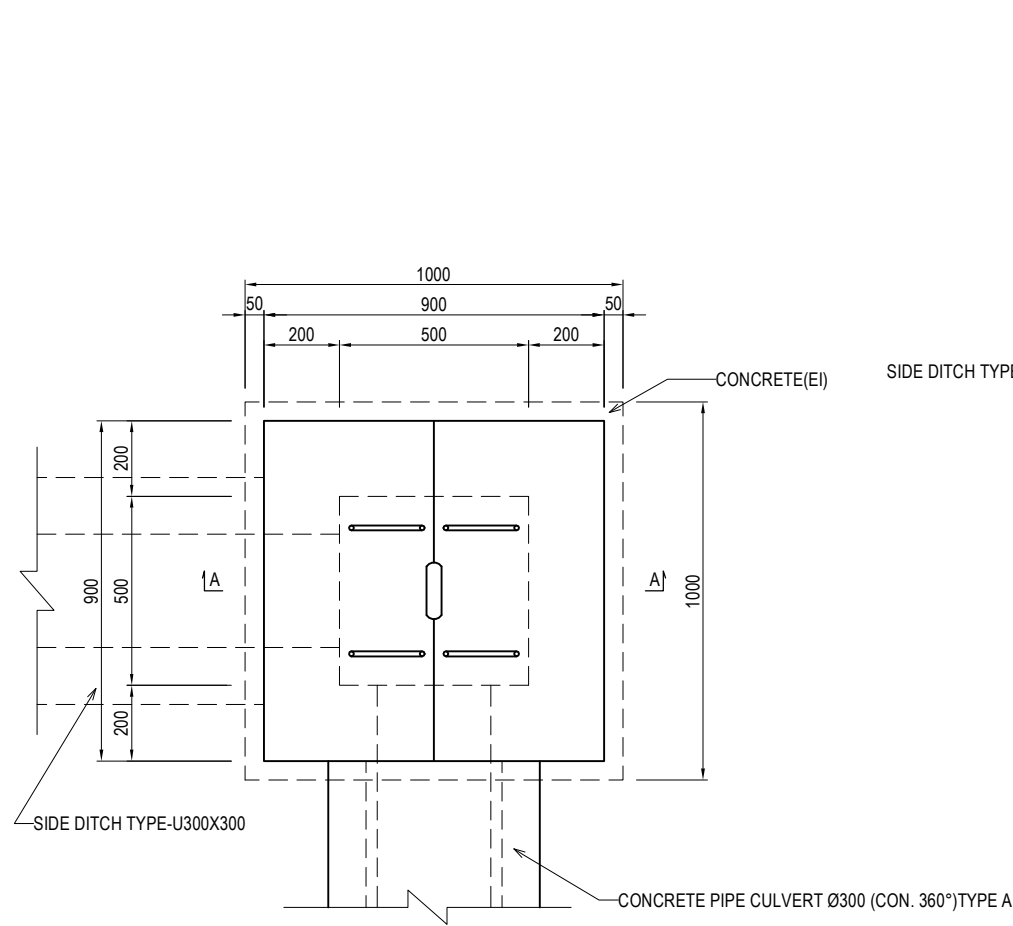
No.	STA.	PH	PH1or2	a GROUND ELEVATION (EL.m)	b SURFACE ELEVATION (EL.m)	c BOTTOM ELEVATION (EL.m)	d PIPE ELEVATION B.P.SIDE (EL.m)	e PIPE ELEVATION E.P.SIDE (EL.m)	f LENGTH OF PIPE (m)	g SLOPE RATE OF PIPE (%)
PF.4	2+876	4.726	4.676	4.926	5.026	3.726	3.929	3.523	20.28	2.00%
PF.5	2+929	4.441	4.391	4.641	4.741	3.441	3.644	3.249	19.75	2.00%
PF.6	2+958	4.285	4.235	4.485	4.585	3.285	3.488	3.099	19.45	2.00%
PF.7	2+988	4.156	4.106	4.356	4.456	3.156	3.359	2.959	19.97	2.00%
PF.8	3+019	4.242	4.192	4.442	4.542	3.242	3.445	3.058	19.32	2.00%
PF.9	3+049	4.404	4.354	4.604	4.704	3.404	3.607	3.217	19.46	2.00%
PF.10	3+079	4.565	4.515	4.765	4.865	3.565	3.768	3.370	19.89	2.00%
PF.11										
PF.12	3+119	4.780	4.730	4.980	5.080	3.780	3.983	3.578	20.24	2.00%
PF.13	3+200	4.743	4.713	4.943	5.043	3.743	3.946	3.563	19.12	2.00%
PF.14										
PF.15	3+233	4.531	4.501	4.731	4.831	3.531	3.734	3.361	18.73	2.00%
AF.2	3+264	4.331	4.301	4.531	4.631	3.331	3.534	3.281	12.61	2.00%



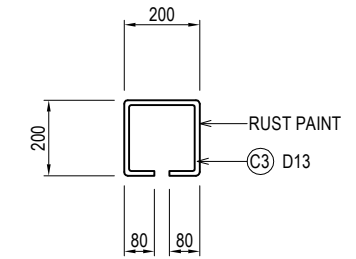
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO. LTD. NIPPON ENGINEERING CONSULTANTS CO.,LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE <b>GENERAL VIEW OF CONCRETE PIPE CULVERT Ø300 (CON. 360°)          TYPE A S=1:100</b>	PACKAGE	
				PREPARED BY	K. TACHIBANA			29 Sep.2017	0
				CHECKED BY	T. HAYAKAWA			3 Oct.2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct.2017	P0-RD-3130



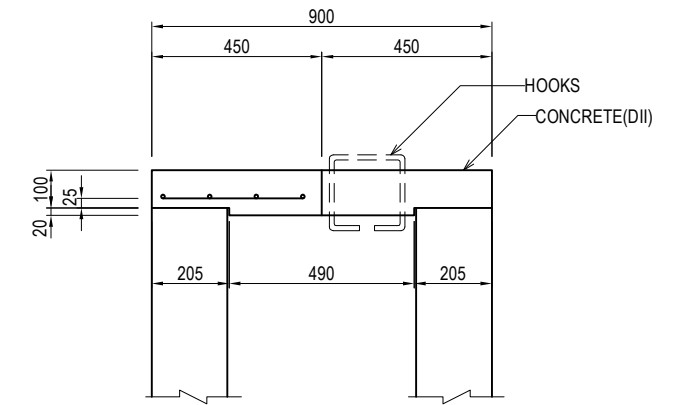
# DETAIL OF CATCH PIT 500x500x1200 S=1:20



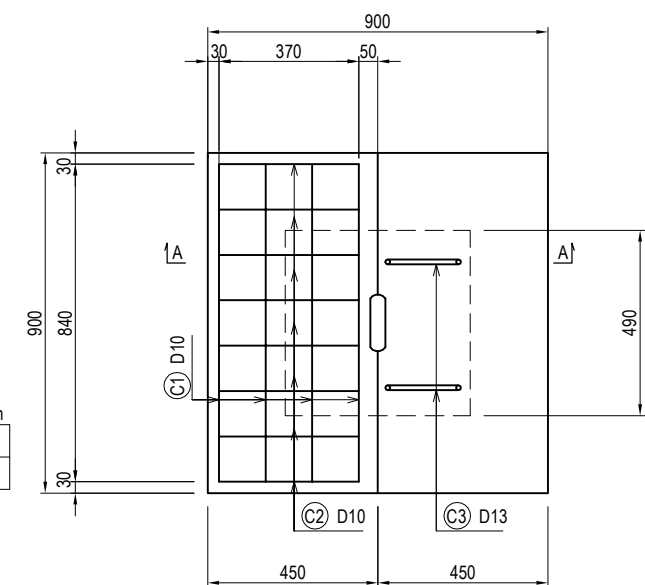
## DETAIL OF HOOKS



## DETAIL OF COVER SECTION A - A



## PLAN



### QUANTITY Per 10 each

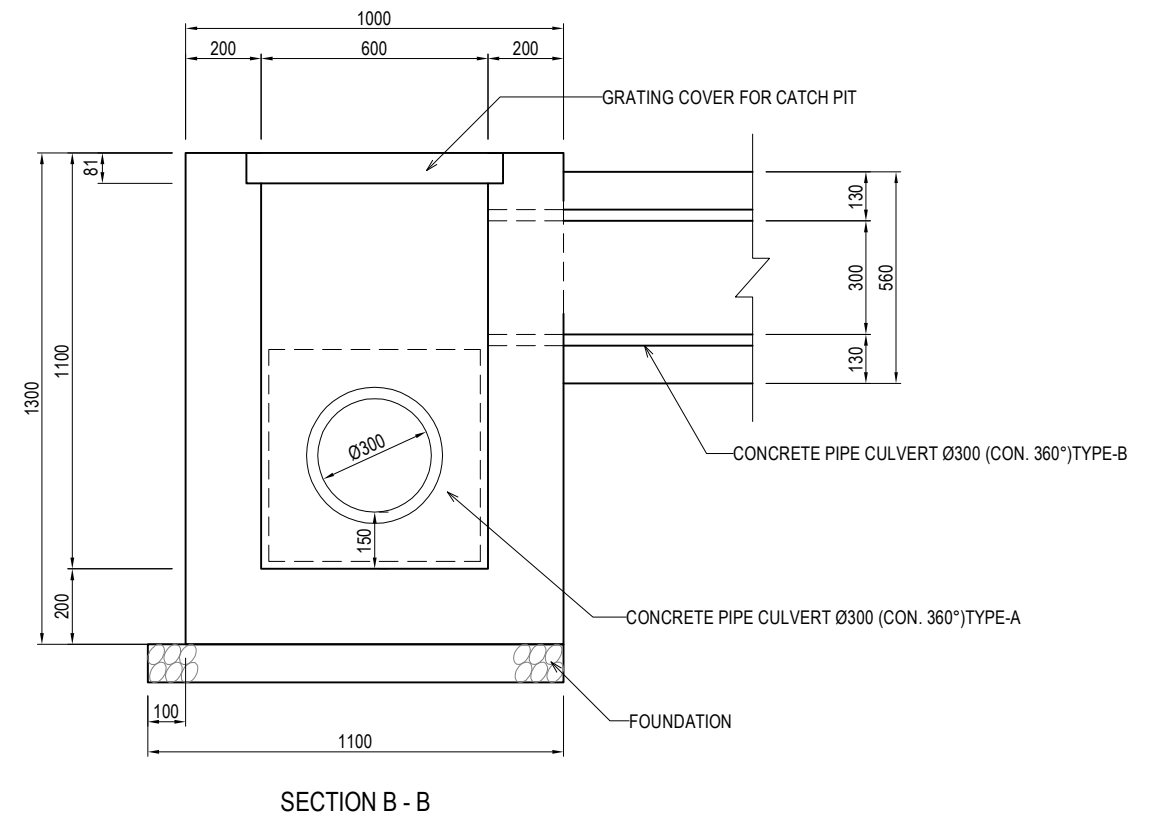
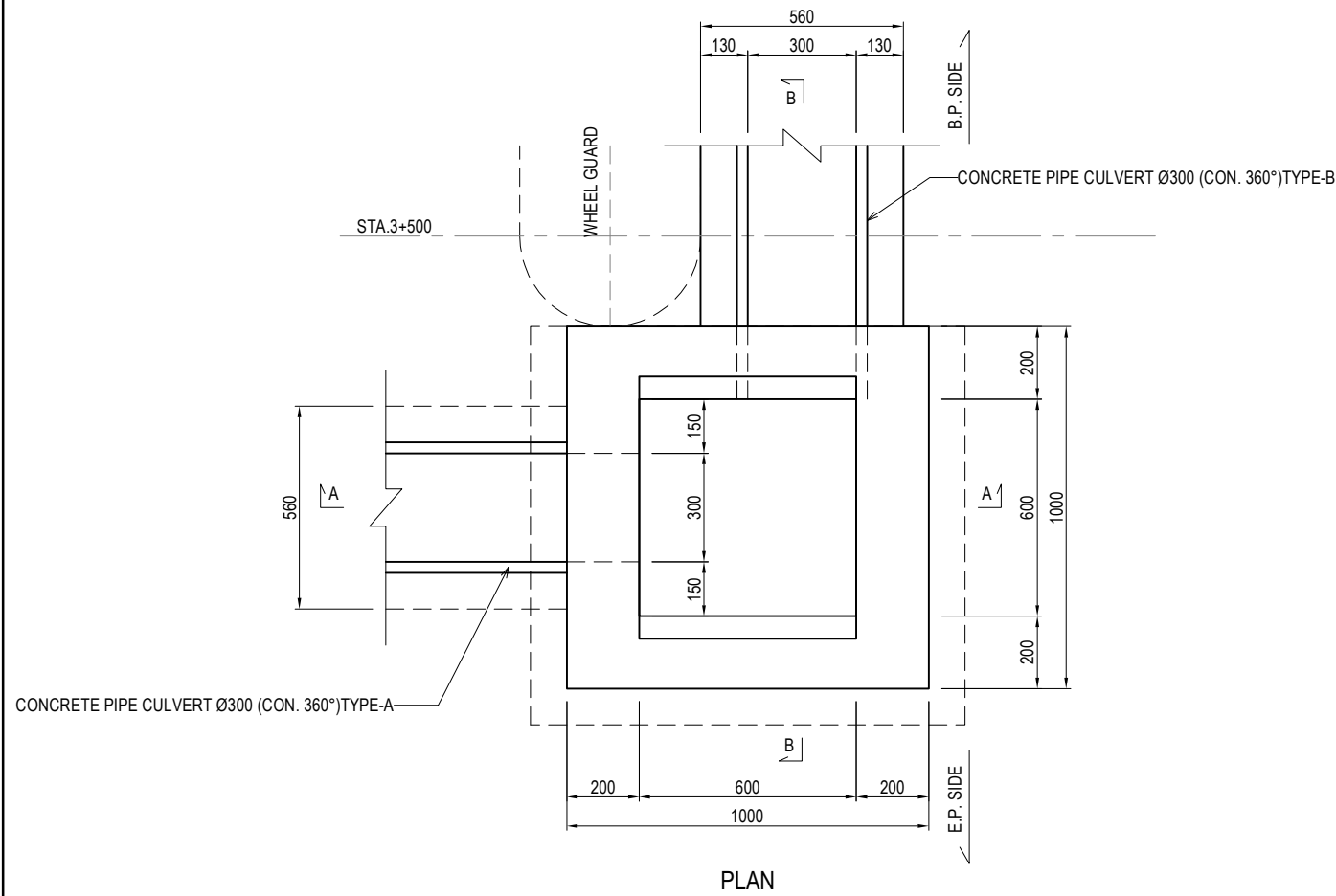
Title	Specification	Quantity
<b>Body</b>		
Concrete	EI	7.94 m3
Form		75.60 m2
Leveling Concrete	t=100	1.00 m2
<b>Cover</b>		
Concrete	DII	0.81 m3
Reinforcing bar	D10	88.88 kg
	D13	15.12 kg
Form		8.10 m2

BAR LIST <span style="float: right;">Per 10 each</span>		
C1	C2	C3
4-D10-740	8-D10-320	2-φ13-760

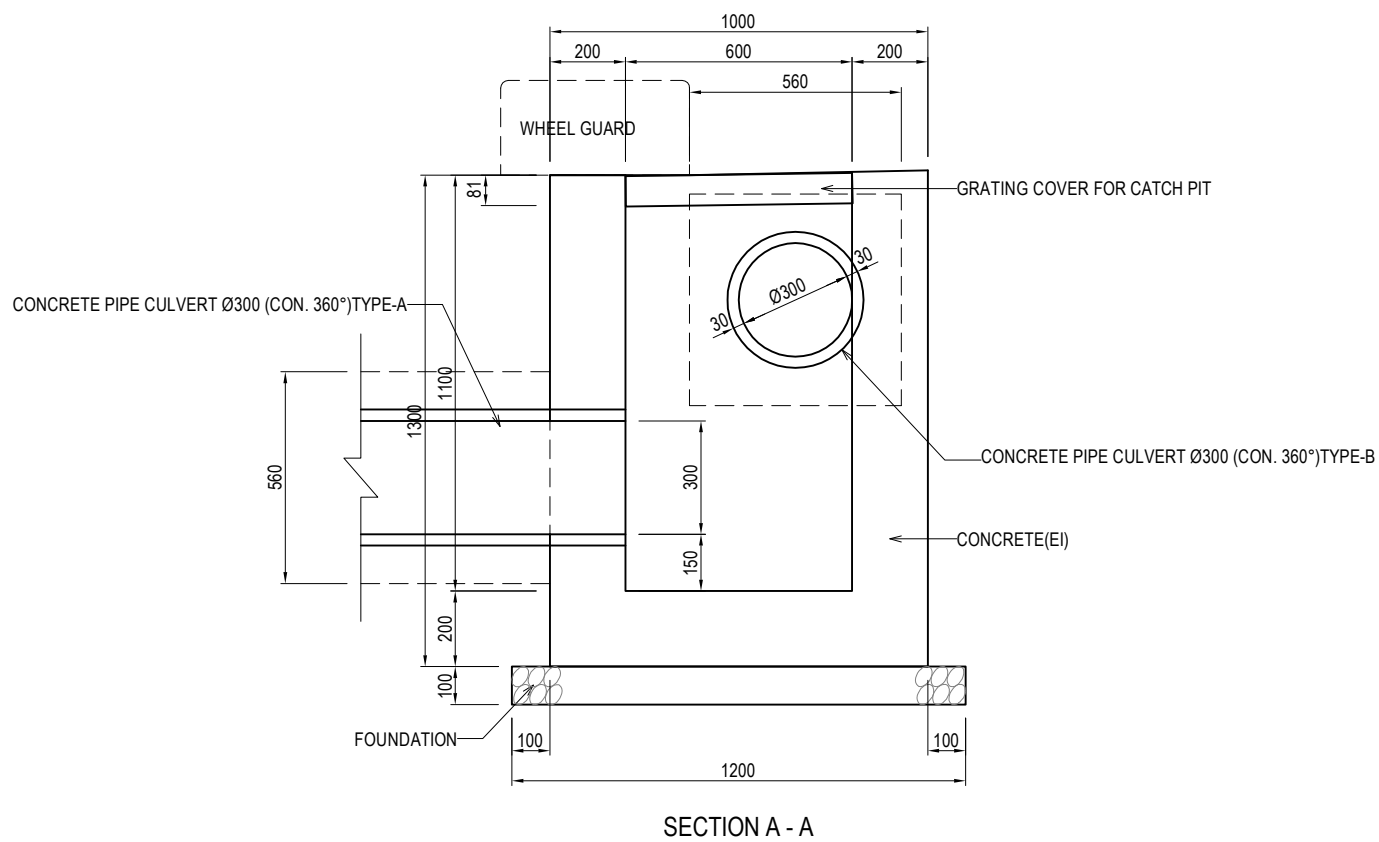
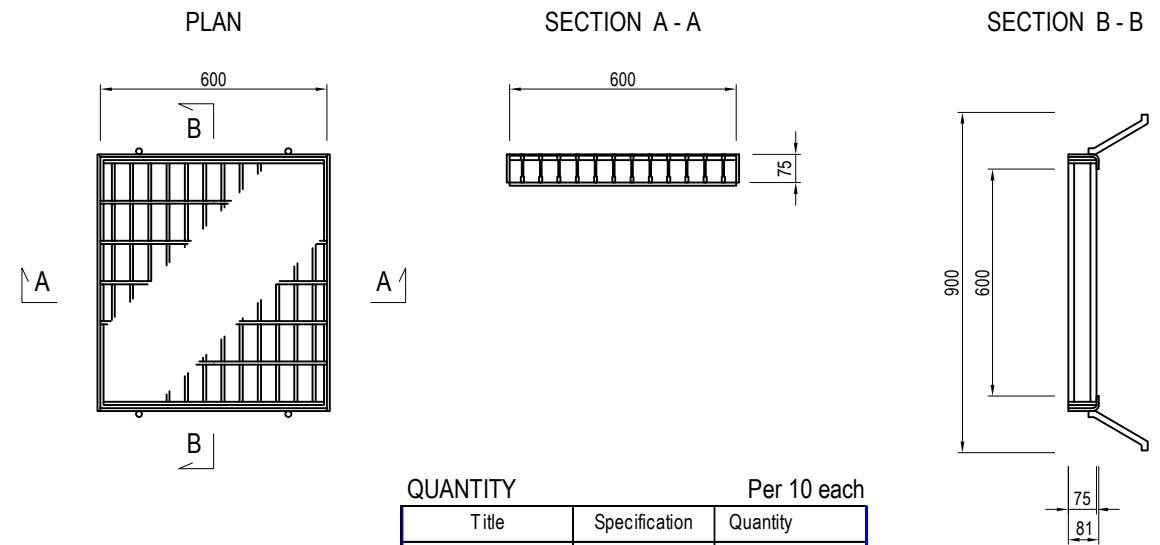
- Note**
1. Specification of Plain Concrete should be CLASS EI
  2. Specification of Reinforced Concrete should be CLASS DII
  3. Specification of Steel reinforcement bar should be SD345

# DETAIL OF CATCH PIT (C-DITCH) TYPE B S=1:20

Note  
1. Specification of Plain Concrete should be CLASS EI

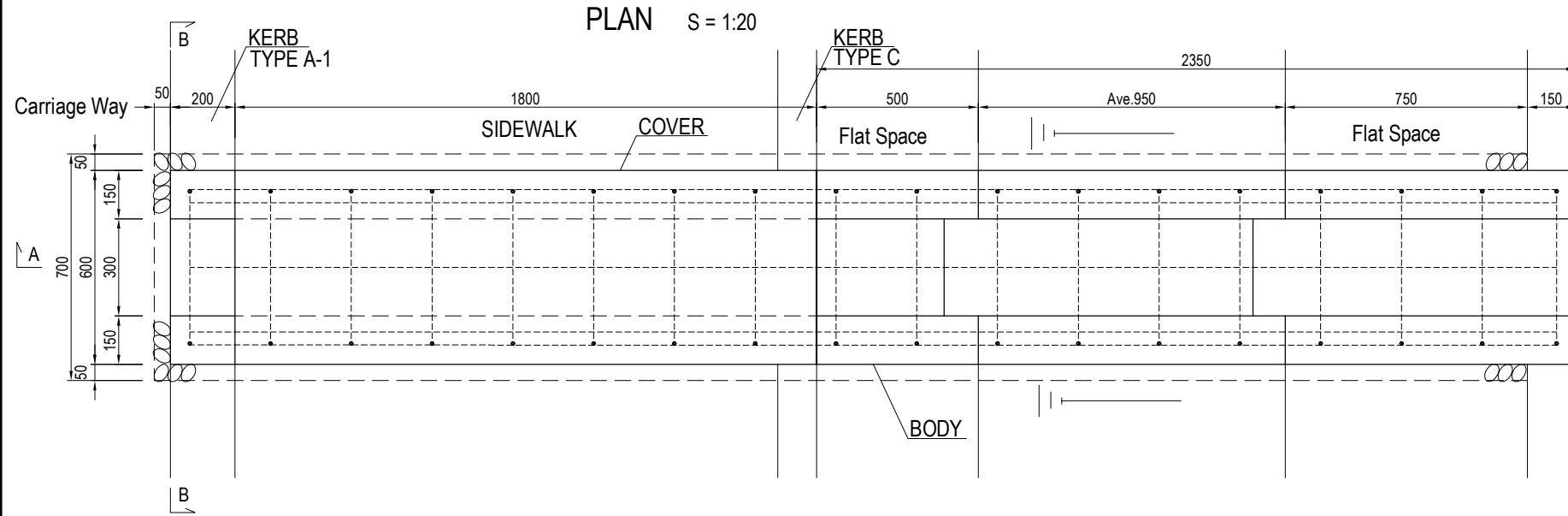


## DETAIL OF GRATING COVER FOR CATCH PIT



QUANTITY		Per 10 each	
Title	Specification	Quantity	
Body			
Concrete	EI	8.57	m3
Form		78.40	m2
Foundation	t=100	13.20	m2
Cover			
Grating Cover	600x720	10	each

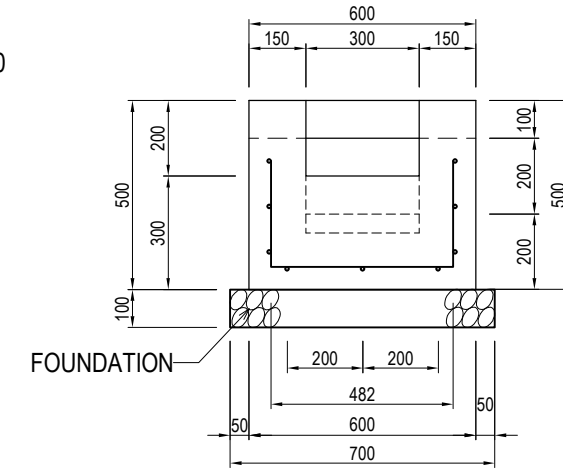
# DETAIL OF U-DITCH TYPE A



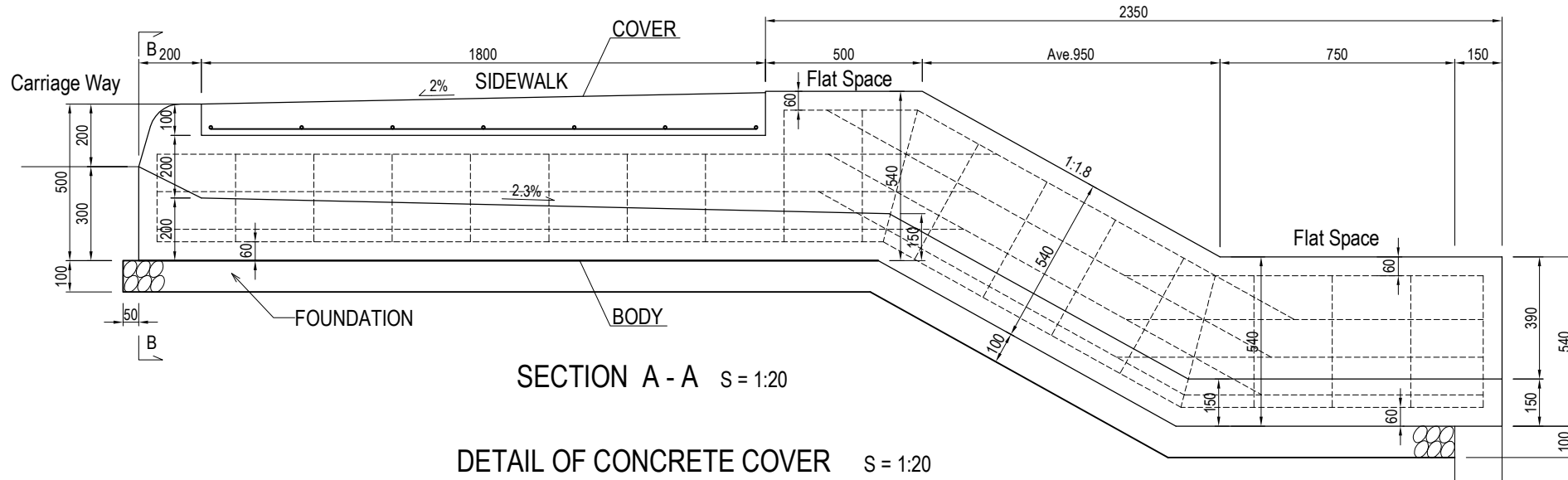
SIDE DITCH TYPE U-1500x1500

A

- Note
1. Specification of Reinforced Concrete should be CLASS DII
  2. Specification of Steel reinforcement bar should be SD345



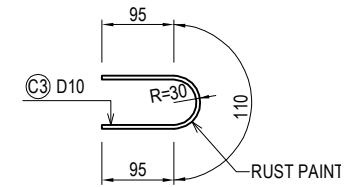
SECTION B - B S = 1:20



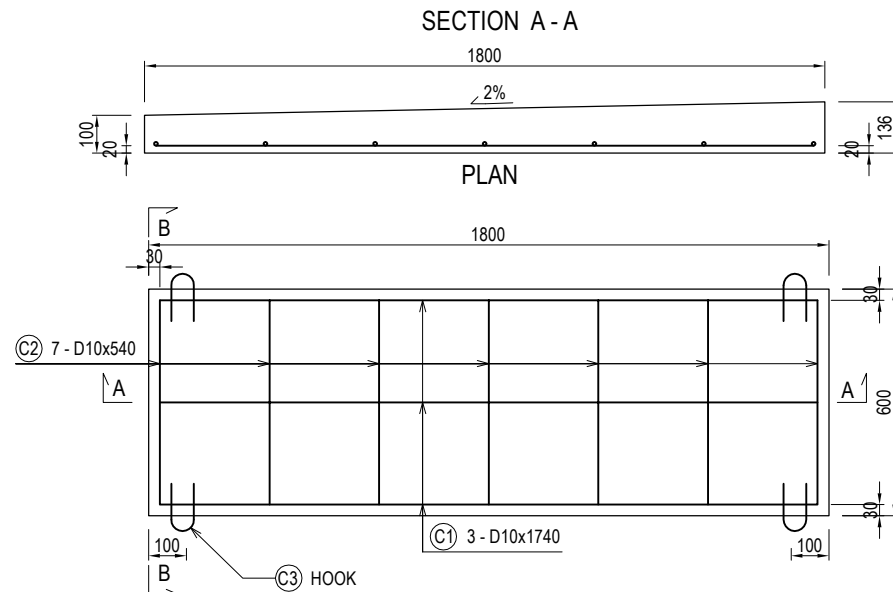
SIDE DITCH TYPE U-1500x1500

SECTION A - A S = 1:20

DETAIL OF HOOKS S = 1:10



DETAIL OF CONCRETE COVER S = 1:20



QUANTITY Per 10 each

Title	Specification	Quantity
Body		
Concrete	DII	8.15 m <sup>3</sup>
Reinforcing bar	D10	346.15 kg
Form		64.98 m <sup>2</sup>
Foundation	t=100	30.71 m <sup>2</sup>
Cover		
Concrete	DII	1.27 m <sup>3</sup>
Reinforcing bar	D10	57.12 kg
Form		5.68 m <sup>2</sup>

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	K. TACHIBANA		29 Sep. 2017
CHECKED BY	T. HAYAKAWA		3 Oct. 2017
APPROVED BY	Y. SANO		6 Oct. 2017

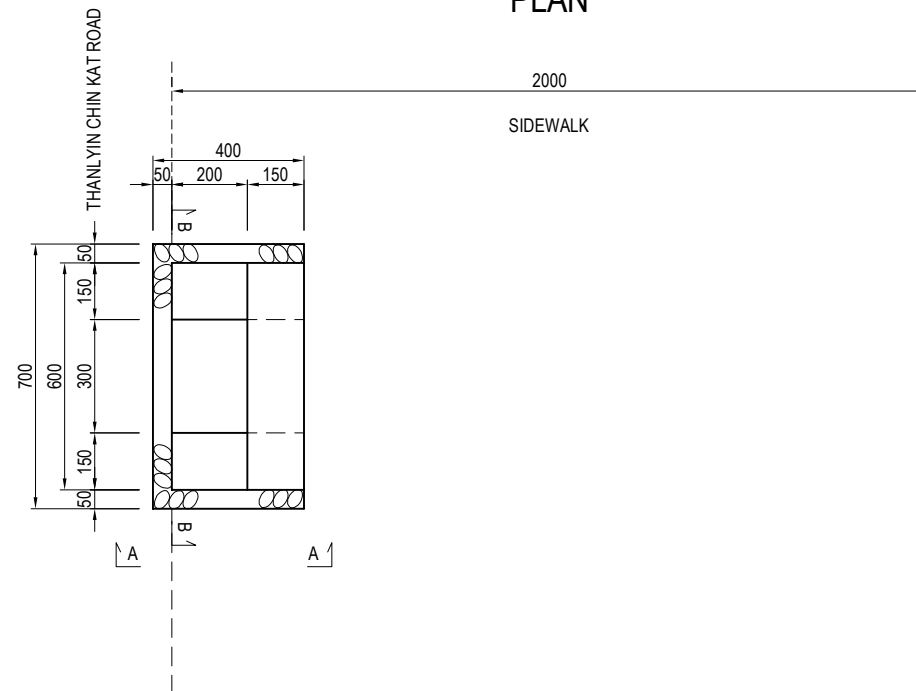
DRAWING TITLE  
**DETAIL OF U-DITCH TYPE A**

PACKAGE  
0  
DWG No.  
P0-RD-3160

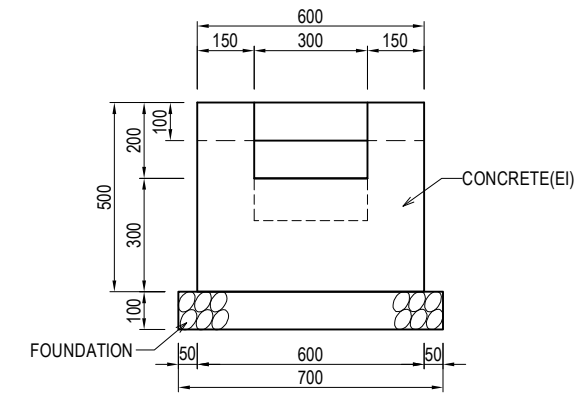
# DETAIL OF U-DITCH TYPE B S=1:20

Note  
1. Specification of Plain Concrete should be CLASS EI

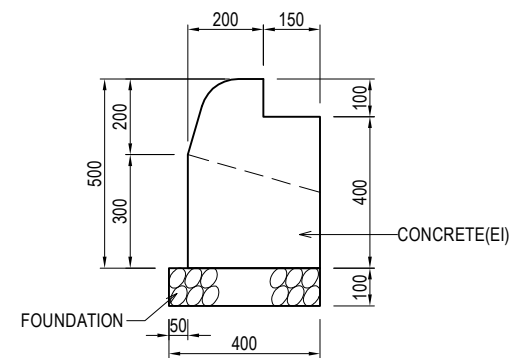
PLAN



SECTION B - B



SECTION A - A



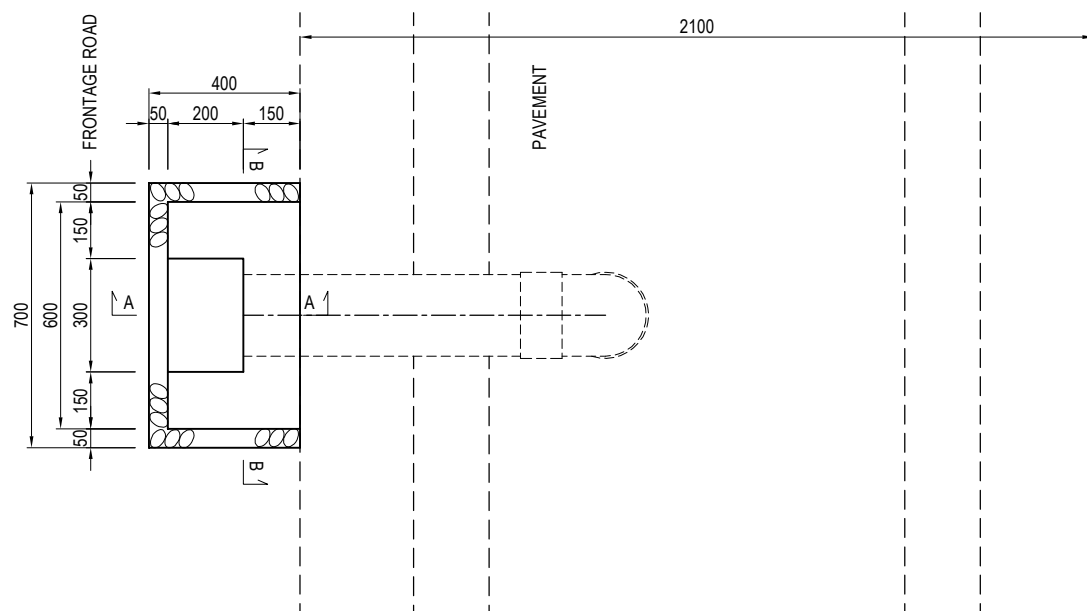
QUANTITY Per 10 each

Title	Specification	Quantity
Concrete	EI	0.74 m <sup>3</sup>
Form		4.35 m <sup>2</sup>
Foundation	≒100	2.80 m <sup>2</sup>

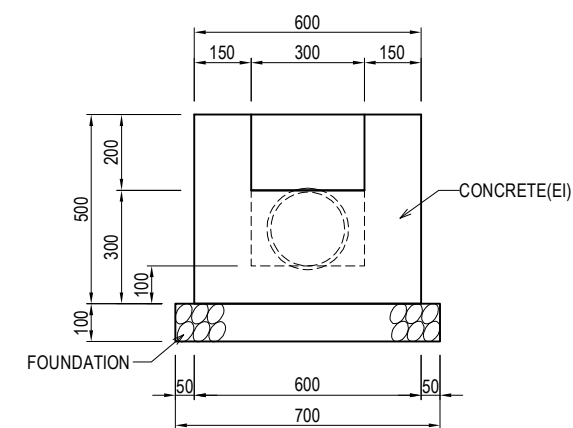
# DETAIL OF U-DITCH TYPE C S=1:20

Note  
1. Specification of Plain Concrete should be CLASS EI

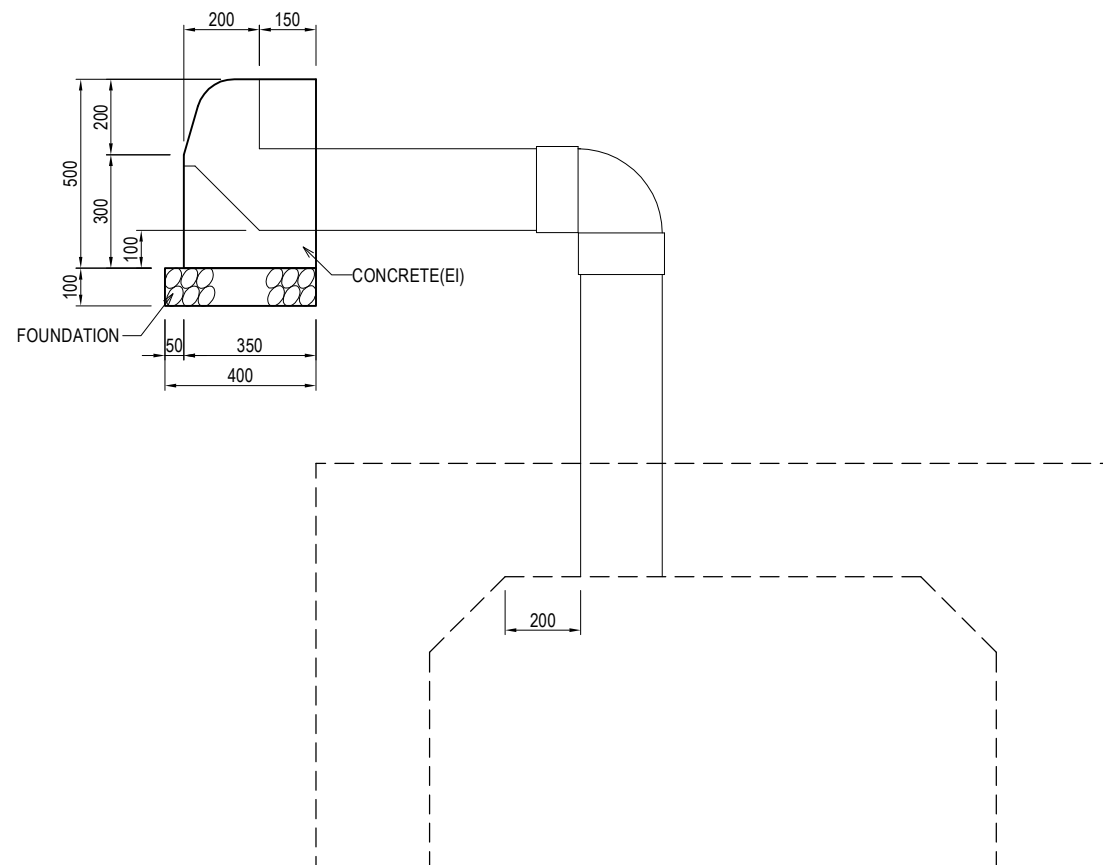
### PLAN



### SECTION B - B



### SECTION A - A



### QUANTITY Per 10 each

Title	Specification	Quantity	
Concrete	EI	0.82	m3
Form		11.30	m2
Foundation	t=100	2.80	m2
Pipe	VPφ200	20.00	m
Pipe Elbow	90°	10	each



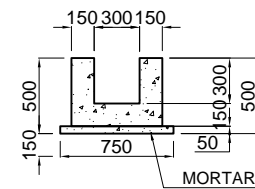
# DETAIL OF SIDE DITCH (1)

S=1:50

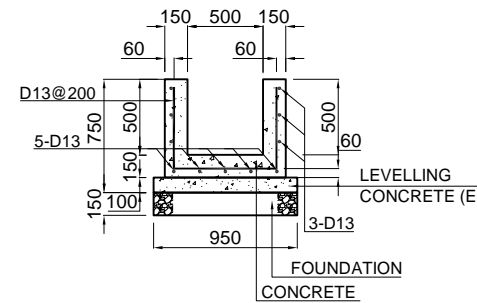
## NOTES:

1. Concrete Class DII (240 kg/cm<sup>2</sup>)
2. Steel Reinforcement SD345
3. Pit of Steel Reinforcement is 200mm

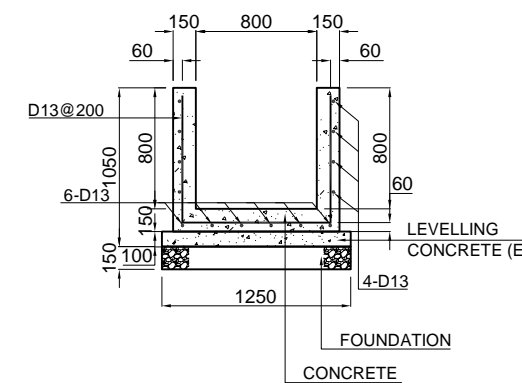
SIDE DITCH TYPE U-300x300



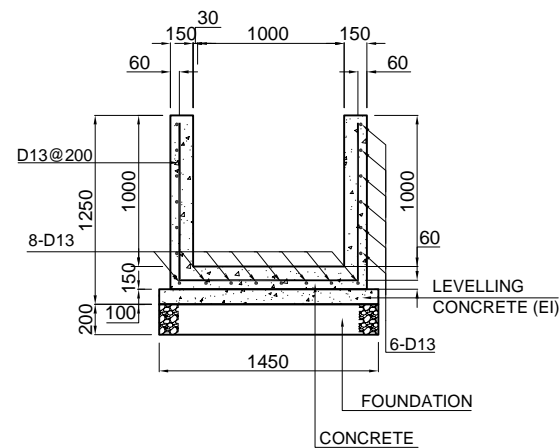
SIDE DITCH TYPE U-500x500



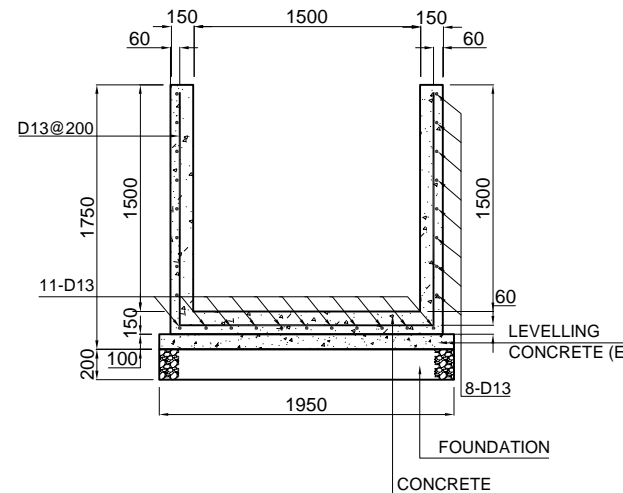
SIDE DITCH TYPE U-800x800



SIDE DITCH TYPE U-1000x1000

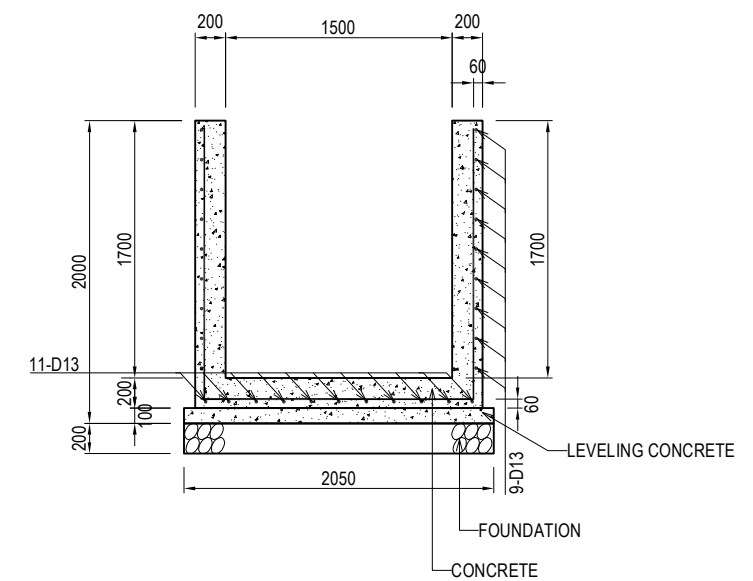


SIDE DITCH TYPE U-1500x1500



SIDE DITCH TYPE U-1500x1700

S=1:50



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. TACHIBANA		29 Sep.2017	DETAIL OF SIDE DITCH (1) S=1:50	0
				CHECKED BY T. HAYAKAWA		3 Oct.2017		DWG No.
				APPROVED BY Y. SANO		6 Oct.2017		P0-RD-3190

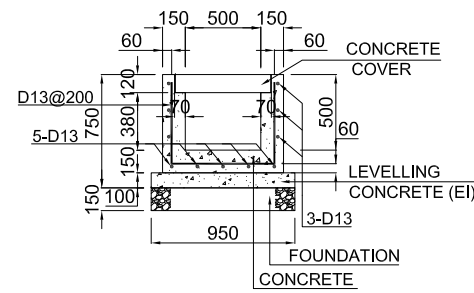
# DETAIL OF SIDE DITCH (2)

S=1:50

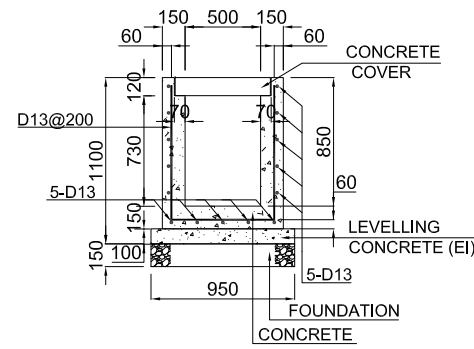
### NOTES:

1. Concrete Class DII (240 kg/cm<sup>2</sup>)
2. Steel Reinforcement SD345
3. Pit of Steel Reinforcement is 200mm

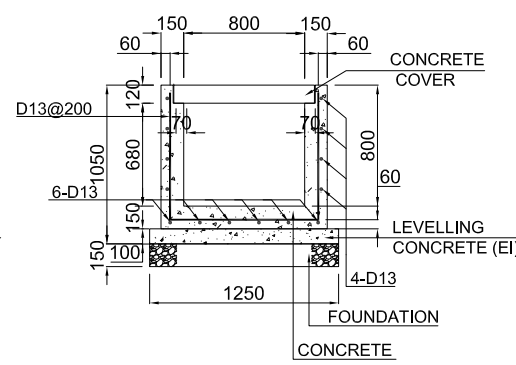
SIDE DITCH TYPE U-500×500 WITH COVER



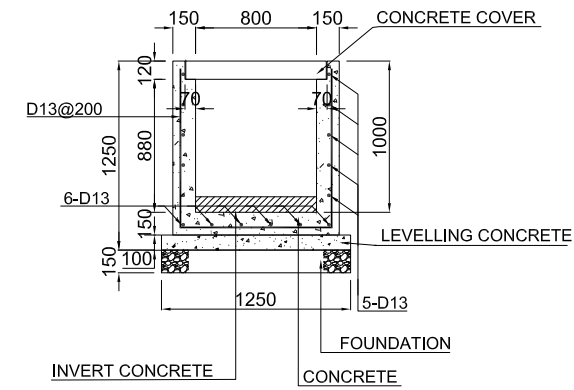
SIDE DITCH TYPE U-500×850 WITH COVER



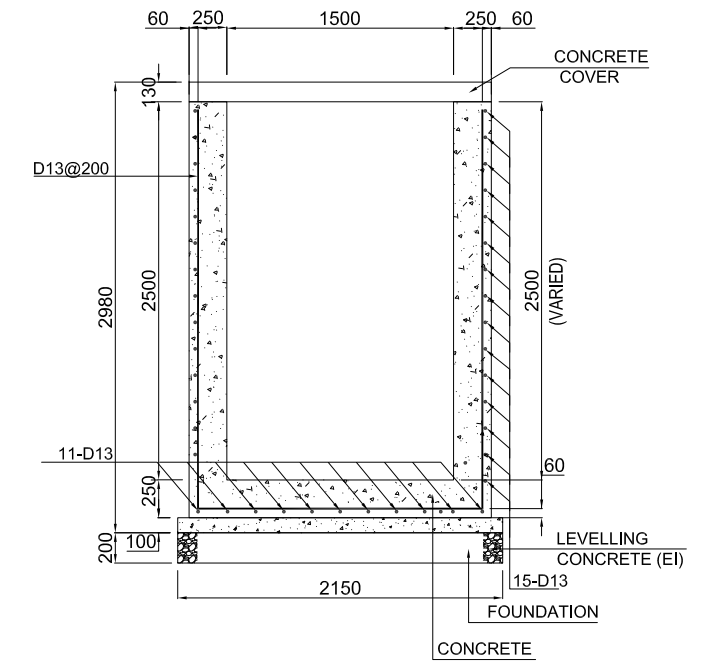
SIDE DITCH TYPE U-800×800 WITH COVER



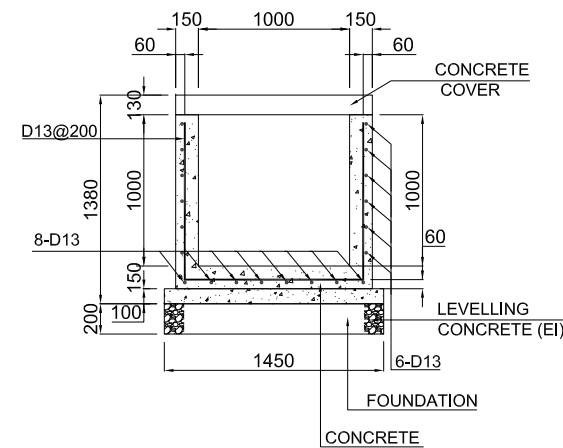
SIDE DITCH TYPE U-800×1000 WITH COVER



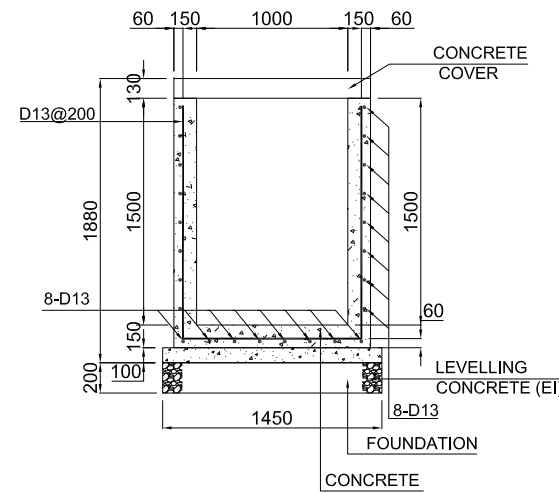
SIDE DITCH TYPE U-1500×2500 WITH COVER



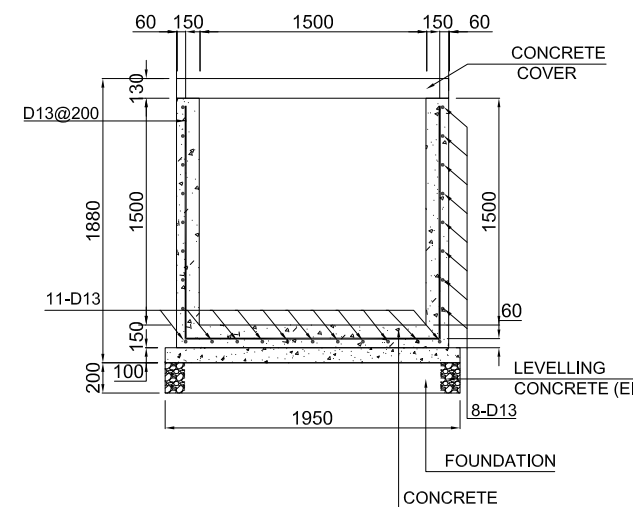
SIDE DITCH TYPE U-1000×1000 WITH COVER



SIDE DITCH TYPE U-1000×1500 WITH COVER



SIDE DITCH TYPE U-1500×1500 WITH COVER

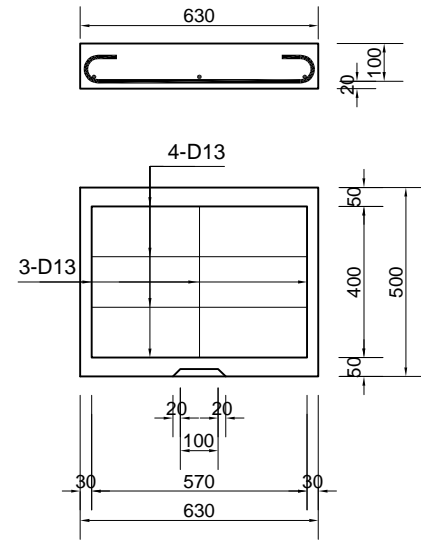


PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE DETAIL OF SIDE DITCH (2) S=1:50	PACKAGE 0 DWG No. PO-RD-3200	
				PREPARED BY	K. TACHIBANA				29 Sep. 2017
				CHECKED BY	T. HAYAKAWA				3 Oct. 2017
				APPROVED BY	Y. SANO				6 Oct. 2017

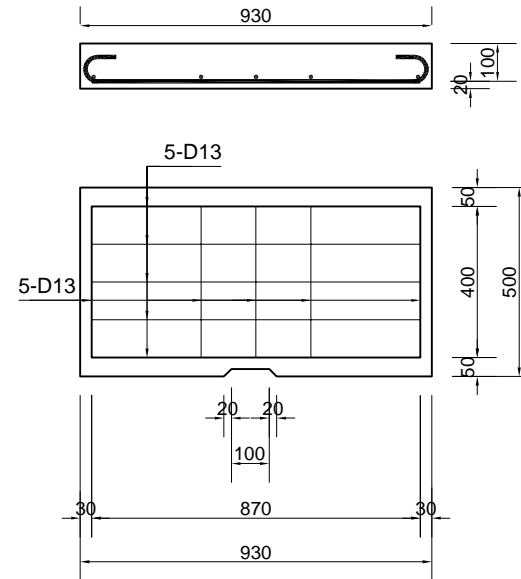
# DETAIL OF SIDE DITCH (3)

S=1:20

CONCRETE COVER  
SIDE DITCH TYPE U-500×500 WITH COVER



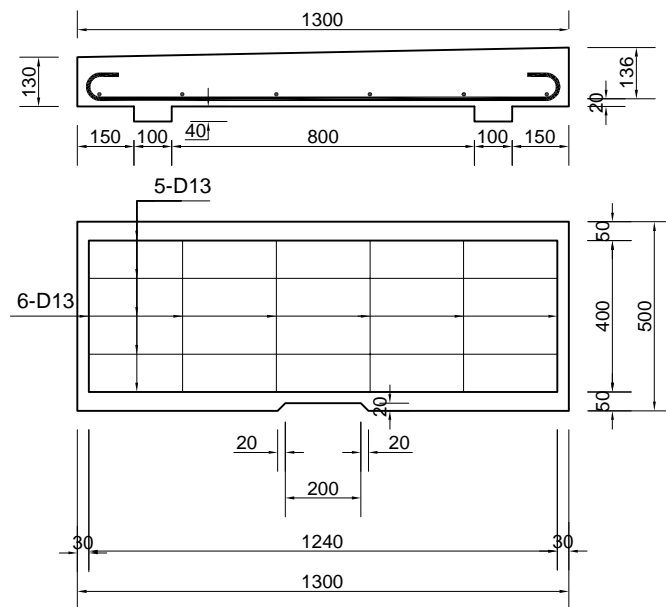
CONCRETE COVER  
SIDE DITCH TYPE U-800×800 WITH COVER  
SIDE DITCH TYPE U-800×1000 WITH COVER



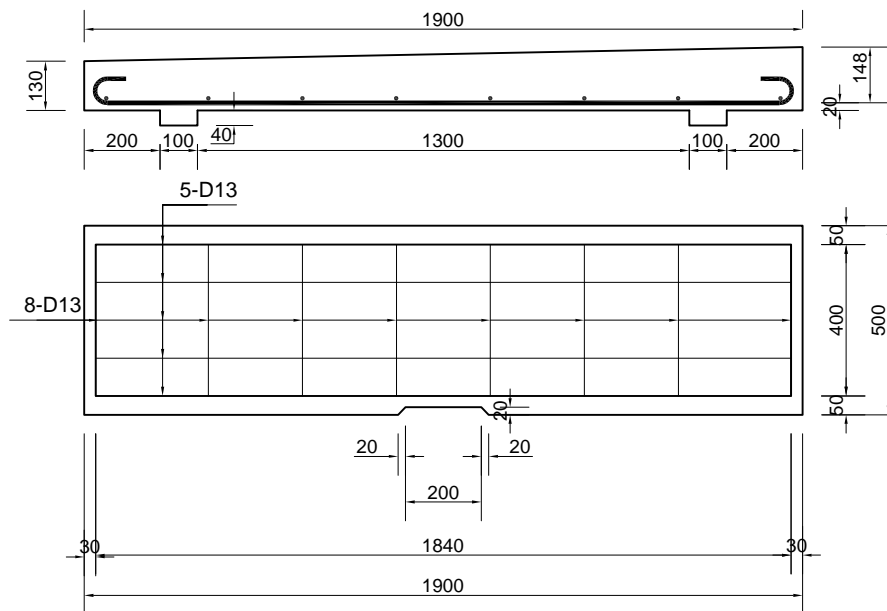
NOTES:

1. Concrete Class DII (240 kg/cm<sup>2</sup>)
2. Steel Reinforcement SD345
3. Pit of Steel Reinforcement is 200mm

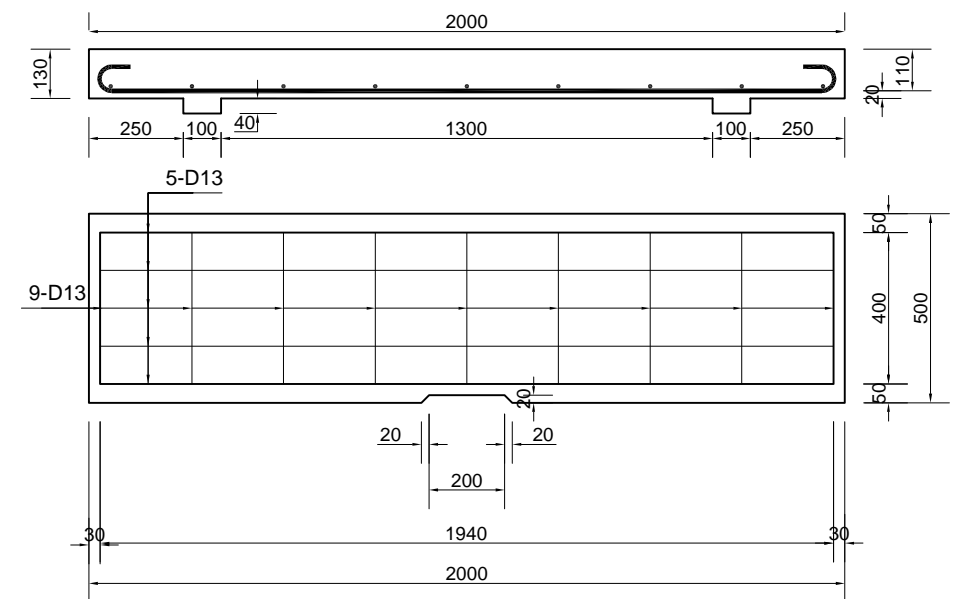
CONCRETE COVER TYPE A  
SIDE DITCH TYPE U-1000×1000 WITH COVER  
SIDE DITCH TYPE U-1000×1500 WITH COVER



CONCRETE COVER TYPE B  
SIDE DITCH TYPE U-1500×1700 WITH COVER

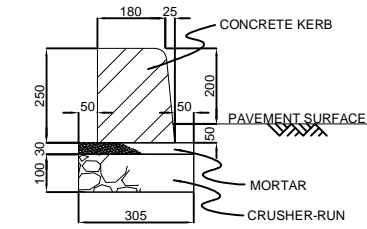


CONCRETE COVER  
SIDE DITCH TYPE U-1500×2500 WITH COVER

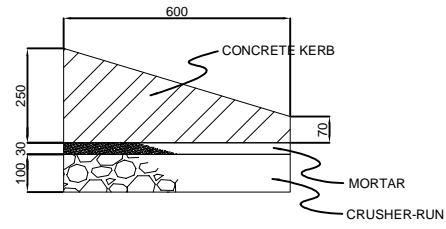


PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JICA JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO. LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE DETAIL OF SIDE DITCH (3) S=1:20	PACKAGE
				PREPARED BY	K. TACHIBANA	29 Sep. 2017		0
				CHECKED BY	T. HAYAKAWA	3 Oct. 2017		DWG No.
				APPROVED BY	Y. SANO	6 Oct. 2017		P0-RD-3210

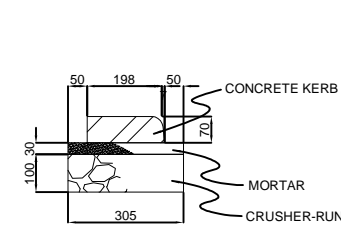
DETAILS OF KERB SCALE = 1:20



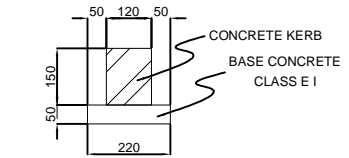
CONCRETE KERB TYPE A-1



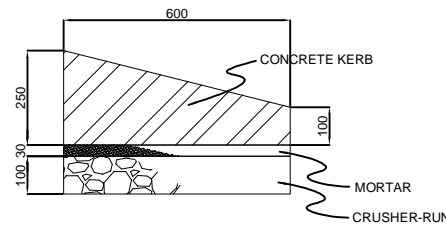
CONCRETE KERB TYPE A-2  
TRANSITION BLOCK BETWEEN  
TYPE A-1 AND TYPE A-3



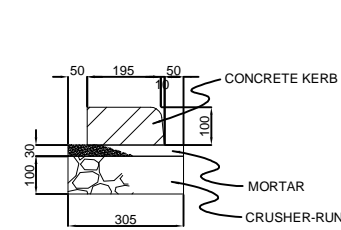
CONCRETE KERB TYPE A-3



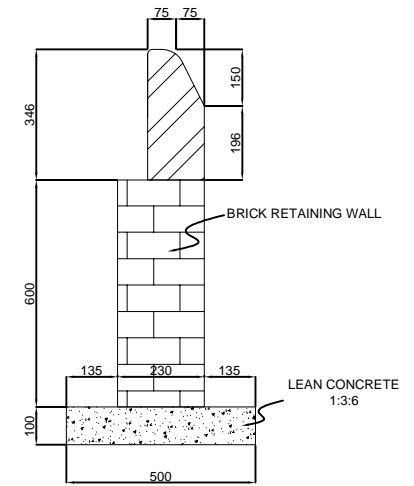
CONCRETE KERB TYPE C



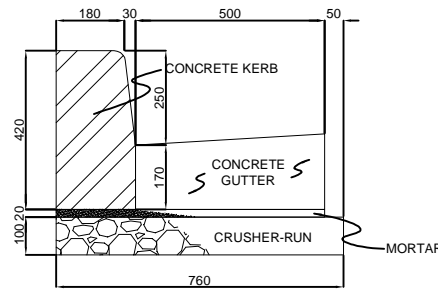
CONCRETE KERB TYPE A-4  
TRANSITION BLOCK BETWEEN  
TYPE A-1 AND TYPE A-5



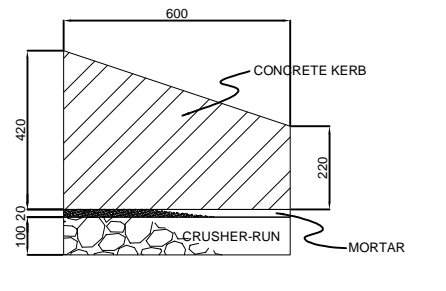
CONCRETE KERB TYPE A-5



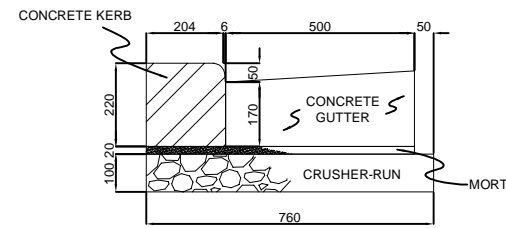
CONCRETE KERB TYPE D



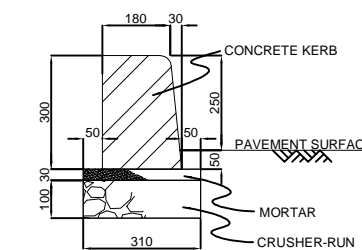
CONCRETE KERB TYPE B-1



CONCRETE KERB TYPE B-2  
TRANSITION BLOCK BETWEEN  
TYPE B-1 AND TYPE B-3



CONCRETE KERB TYPE B-3



CONCRETE KERB TYPE E

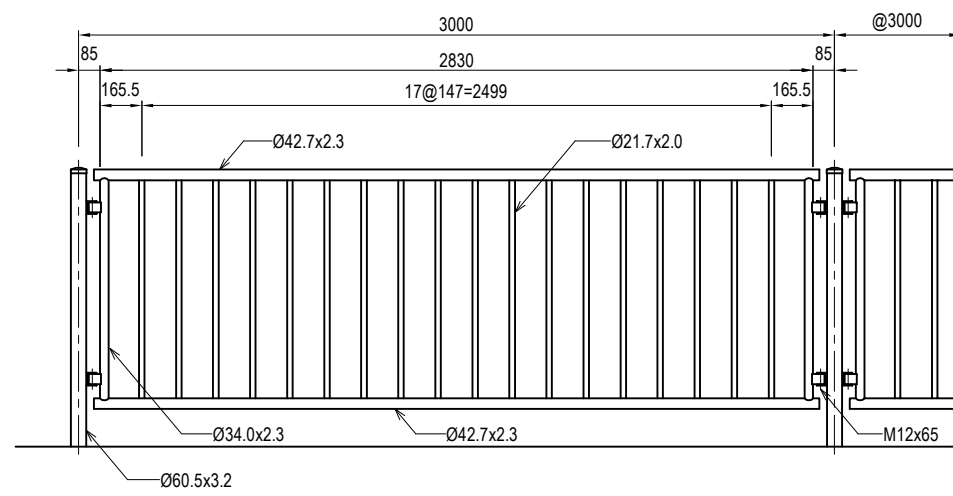
MATERIAL LIST (QUANTITIES PER 10 M)

TYPE	A-1	A-2	A-3	A-4	A-5	B-1	B-2	B-3
DIMENSION	180/205×H250×L600	180/205×H250 198/205×H70 ×L600	198/205×H70×L600	180/205×H250 195/205×H100 ×L600	195/205×H100×L600	180/210×H420×L600	180/210×H420 204/210×H220 ×L600	204/210×H220×L600
CONCRETE	CLASS E I	CLASS E I	CLASS E I	CLASS E I	CLASS E I	CLASS E I	CLASS E I	CLASS E I
MORTAR (1:3)	0.0915 m <sup>3</sup>	0.0915 m <sup>3</sup>	0.0915 m <sup>3</sup>	0.0915 m <sup>3</sup>	0.0915 m <sup>3</sup>	0.142 m <sup>3</sup>	0.142 m <sup>3</sup>	0.142 m <sup>3</sup>
CRUSHER-RUN	0.305 m <sup>3</sup>	0.305 m <sup>3</sup>	0.305 m <sup>3</sup>	0.305 m <sup>3</sup>	0.305 m <sup>3</sup>	0.760 m <sup>3</sup>	0.760 m <sup>3</sup>	0.760 m <sup>3</sup>
GUTTER CONCRETE	-	-	-	-	-	0.925 m <sup>3</sup>	0.925 m <sup>3</sup>	0.925 m <sup>3</sup>

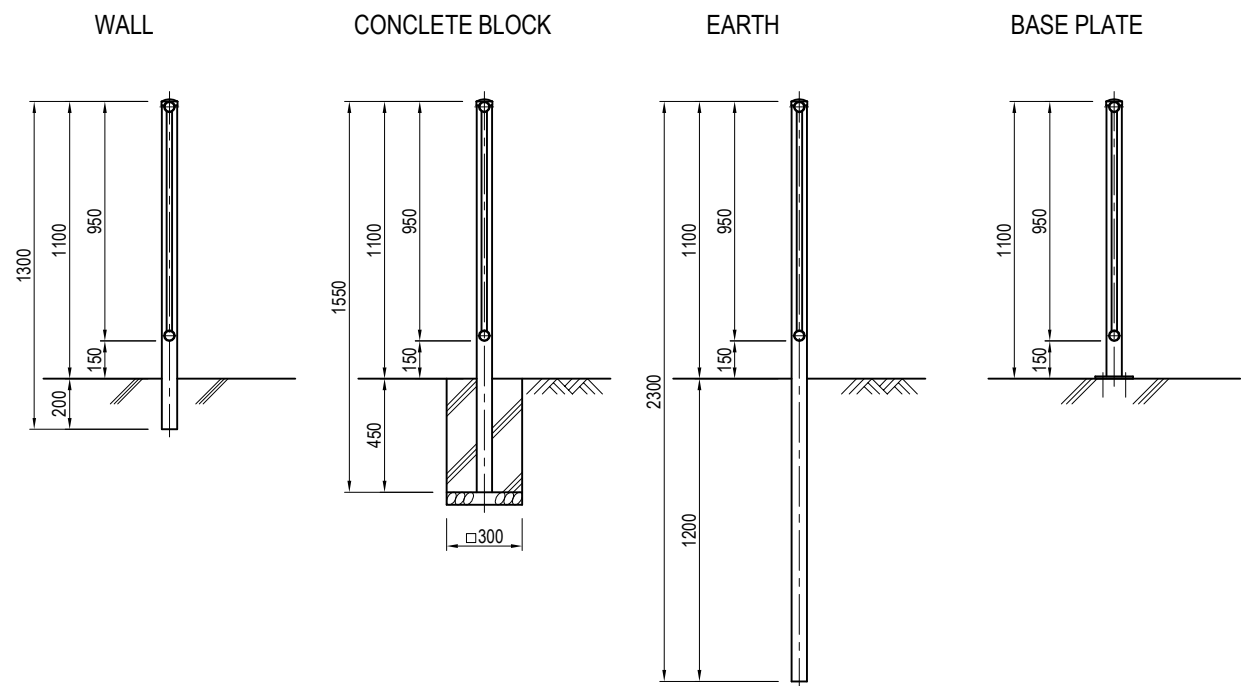
MATERIAL LIST (QUANTITIES PER 10 M)

TYPE	C	D	E
DIMENSION	120×H150×L600	75/150×H346×L600	180/210×H300×L600
CONCRETE	CLASS E I	CLASS E I	CLASS E I
MORTAR (1:3)	-	-	-
CRUSHER-RUN	-	-	0.093 m <sup>3</sup>
BASE CONCRETE	0.110 m <sup>3</sup>	-	0.310 m <sup>3</sup>
LEAN CONCRETE	-	0.500 m <sup>3</sup>	-
BRICK	-	1.380 m <sup>3</sup>	-

# DETAIL OF GUARD FENCE



**FRONT VIEW**  
S=1:30



**SECTION**  
S=1:30

**QUANTITY** PER 10m

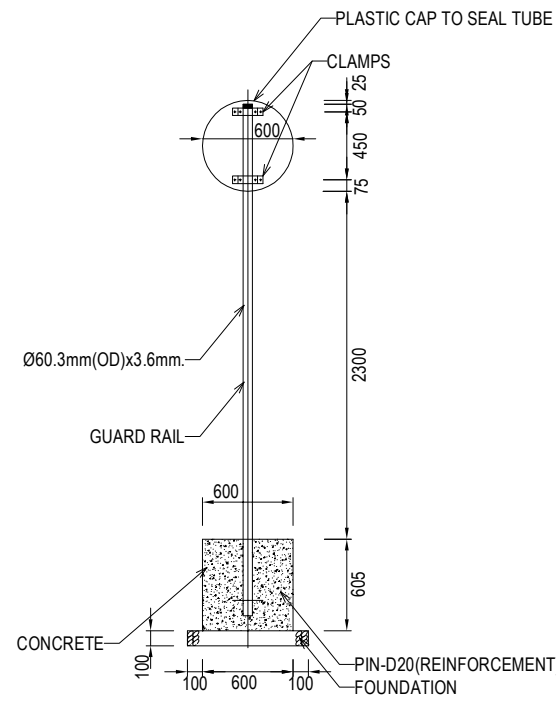
Title	Specification	Quantity	Description
Post	φ60.5 x 3.2	4.2 each	Coating specification
Panel	φ42.7 x 950 x 2880	3.3 each	Coating specification
(Concrete)	E 1	0.17 m3	
(Form)		2.3 m2	

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. TACHIBANA			29 Sep.2017	DETAIL OF GUARD FENCE	0
				CHECKED BY	T. HAYAKAWA			3 Oct.2017		DWG No.
				APPROVED BY	Y. SANO			6 Oct.2017		P0-RD-6010

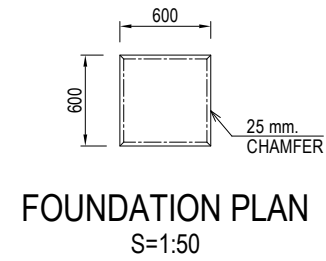


# DETAIL OF SIGNBOARD FOUNDATION AND POST

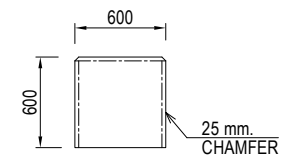
Note  
1. Specification of Plain Concrete should be CLASS EI



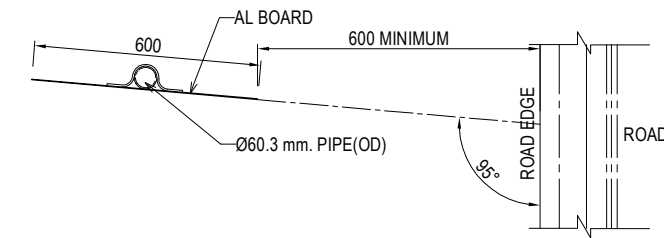
**SIGN POST**  
S=1:50



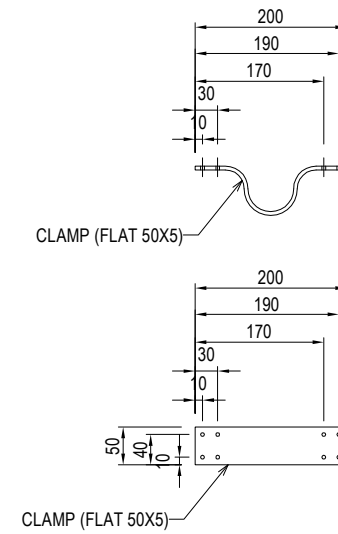
**FOUNDATION PLAN**  
S=1:50



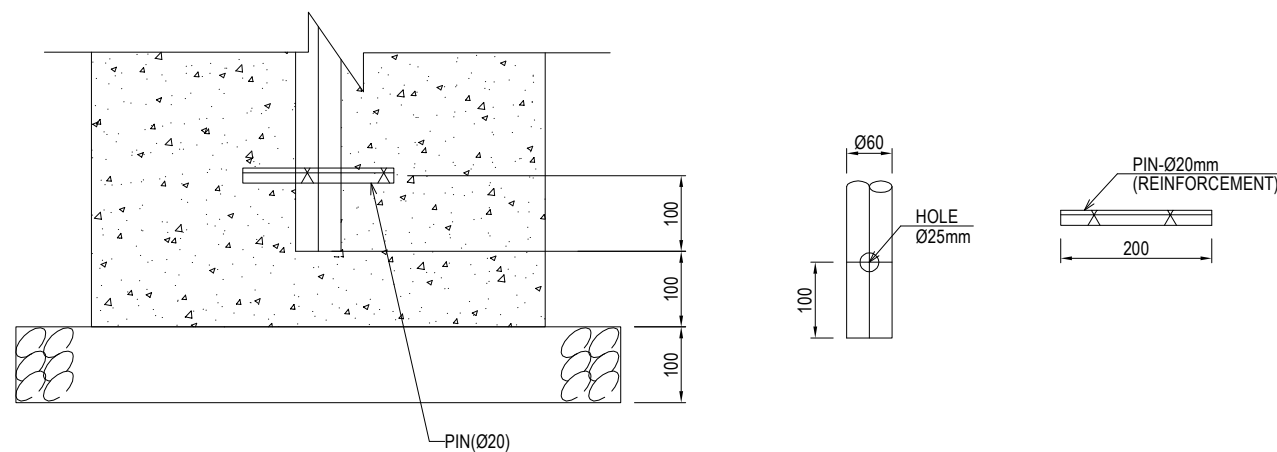
**FOUNDATION ELEVATION**  
S=1:50



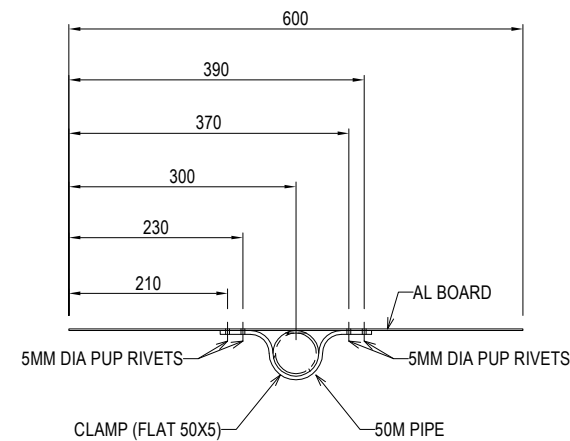
**TOP VIEW  
PLAN OF SIGN BOARD**  
S=1:20



**CLAMP DETAILS-2**  
S=1:10



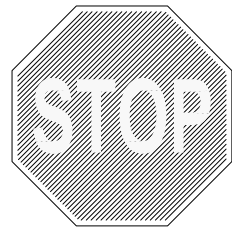
**DETAIL OF "A"**  
S=1:10



**CLAMP DETAILS-1**  
S=1:10

QUANTITY			PER 10each
Title	Specification	Quantity	Description
Signboard	aluminium:t=2.0	10 each	Wide-angle prism type
Post	φ60.3 x 3380 x 3.6	10 each	Coating specification
Concrete	E I	2.18 m3	
Foundation	t=100	6.40 m2	
Form		14.52 m2	

DETAIL OF SIGNBOARD



**TS-1**  
STOP  
SIZE: 600 MM×600 MM



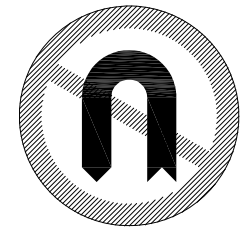
**TS-2**  
SPEED LIMIT 60 KM/H  
SIZE: 600 MM DIAMETER



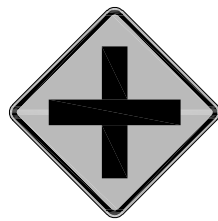
**TS-3**  
SPEED LIMIT 40 KM/H  
SIZE: 600 MM DIAMETER



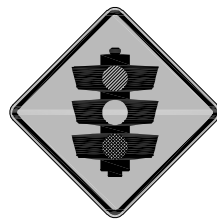
**TS-4**  
SPEED LIMIT 30 KM/H  
SIZE: 600 MM DIAMETER



**TS-5**  
NO U-TURN  
SIZE: 600 MM DIAMETER



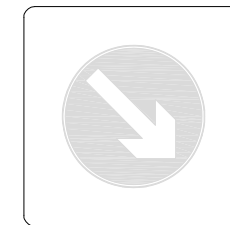
**TS-6**  
CROSS ROAD  
SIZE: 600 MM×600 MM



**TS-7**  
TRAFFIC SIGNAL  
SIZE: 600 MM×600 MM



**TS-8**  
PEDESTRIAN CROSSING  
SIZE: 600 MM×600 MM



**TS-9**  
KEEP RIGHT (THIS WAY)  
SIZE: 600 MM×600 MM



**TS-10**  
SLOW DOWN  
SIZE: 600 MM×600 MM



**TS-11**  
SCHOOL ZONE  
SIZE: 600 MM×600 MM



**TS-12**  
REVERSE TURN (RIGHT)  
SIZE: 600 MM×600 MM








**TS-13**  
REVERSE TURN (LEFT)  
SIZE: 600 MM×600 MM

COLORS: ■ BLACK ▨ RED ■ YELLOW ▩ GREEN □ WHITE ■ LIGHT BLUE

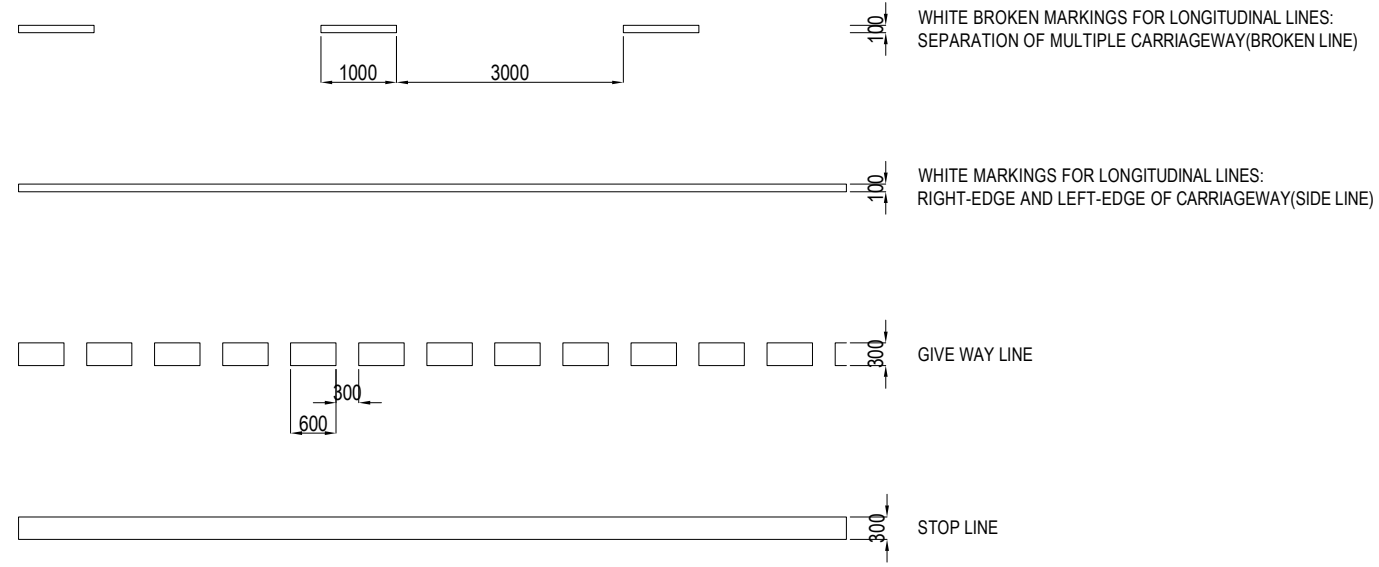
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO.,LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE		
				PREPARED BY	K. TACHIBANA			29 Sep.2017	DETAIL OF SIGNBOARD	0
				CHECKED BY	T. HAYAKAWA			3 Oct.2017		DWG No.
				APPROVED BY	Y. SANO			6 Oct.2017		PO-RD-6030

## SCHEDULE OF SIGNBOARD

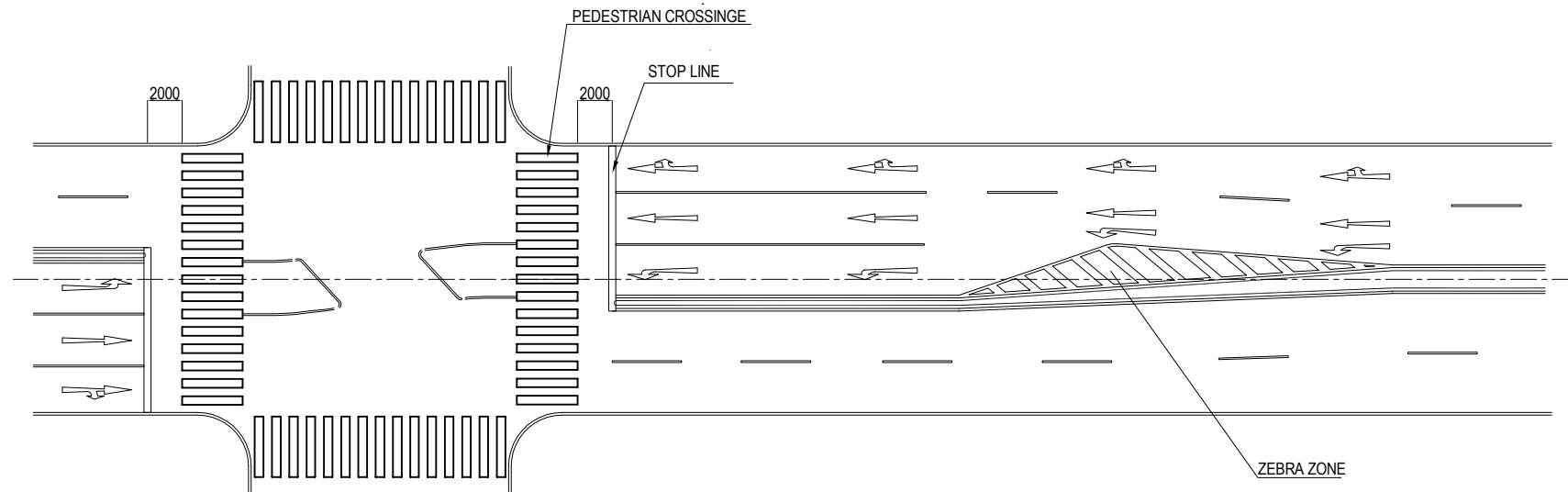
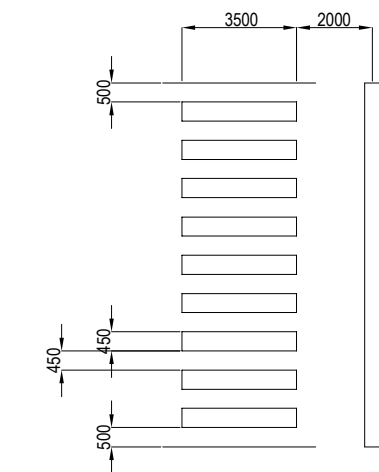
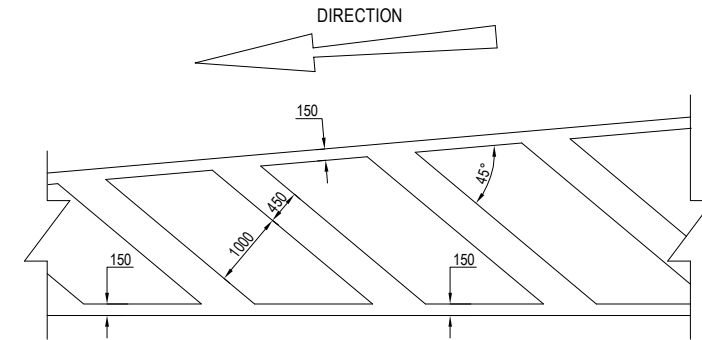
ROAD SIGN				1		2		3		4		5		TOTAL QUANTITY OF SAME ITEM
				0+000 to -0+080		0+000 to 0+060		2+860 to 3+140		-0+060 to 0+060		3+180 to 3+575		
L		R		L		R		L		R				
ROAD				SHUKHINTHAR MAYO PAT ROAD		NAWARAT St		MAIN ROAD		YADANAR ROAD		MAIN ROAD		
WARNING SIGN		TS-7	TRAFFIC SIGNAL AHEAD		1		1	1	1	1	1		7	
		TS-10	SLOW DOWN		1		1	1	2	1	1	2	9	
		TS-11	SCHOOL						1			1		2
REGULATION SIGN		TS-1	STOP		1					1	1		3	
		TS-3	SPEED LIMIT 40 KM/H					1	1			1	1	4

<small>PROJECT NAME</small> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	<small>FINANCED BY</small>  JAPAN INTERNATIONAL COOPERATION AGENCY	<small>COUNTERPART</small>  REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	<small>JICA STUDY TEAM</small>  NIPPON KOEI CO., LTD.  ORIENTAL CONSULTANTS GLOBAL CO., LTD.  METROPOLITAN EXPRESSWAY COMPANY LIMITED  CHODAI CO. LTD. NIPPON ENGINEERING CONSULTANTS CO.,LTD.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">NAME</th> <th style="text-align: left;">SIGNATURE</th> <th style="text-align: left;">DATE</th> </tr> <tr> <td>PREPARED BY K. TACHIBANA</td> <td></td> <td>29 Sep.2017</td> </tr> <tr> <td>CHECKED BY T. HAYAKAWA</td> <td></td> <td>3 Oct.2017</td> </tr> <tr> <td>APPROVED BY Y. SANO</td> <td></td> <td>6 Oct.2017</td> </tr> </table>	NAME	SIGNATURE	DATE	PREPARED BY K. TACHIBANA		29 Sep.2017	CHECKED BY T. HAYAKAWA		3 Oct.2017	APPROVED BY Y. SANO		6 Oct.2017	<small>DRAWING TITLE</small> SCHEDULE OF SIGNBOARD	<small>PACKAGE</small> 0 DWG No. P0-RD-6040
NAME	SIGNATURE	DATE																
PREPARED BY K. TACHIBANA		29 Sep.2017																
CHECKED BY T. HAYAKAWA		3 Oct.2017																
APPROVED BY Y. SANO		6 Oct.2017																

# ROAD MARKINGS DETAILS(1)



LINE MARKINGS SCALE = 1:100

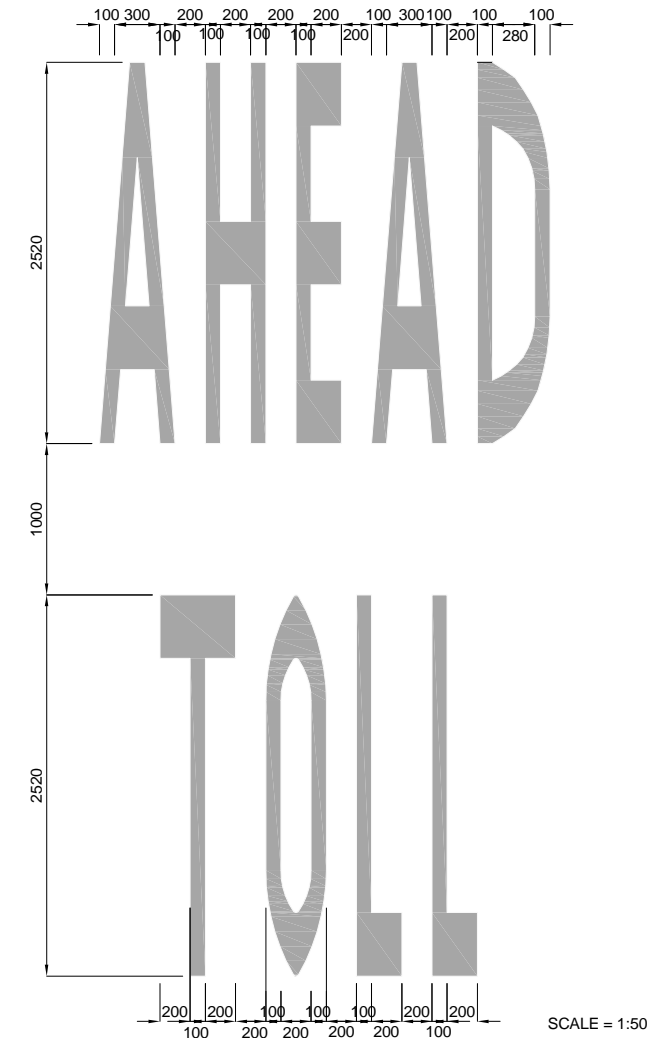


PROJECT NAME	FINANCED BY	COUNTERPART	JICA STUDY TEAM	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE
DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	JICA JAPAN INTERNATIONAL COOPERATION AGENCY	REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	PREPARED BY CHECKED BY APPROVED BY	K. TACHIBANA T. HAYAKAWA Y. SANO	29 Sep.2017 3 Oct.2017 6 Oct.2017	ROAD MARKINGS DETAILS(1)	0 DWG No. P0-RD-6050

# ROAD MARKINGS DETAILS(2)

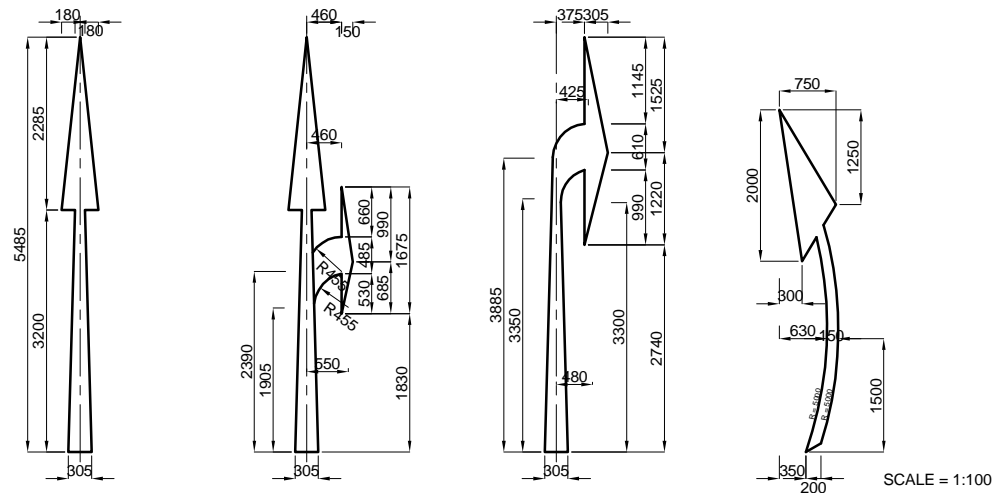


PM-1 SPEED LIMIT 30 KM/H      PM-2 SPEED LIMIT 40 KM/H      PM-3 SPEED LIMIT 60 KM/H



PM-4  
TOLL AHEAD

REFERENCE SHALL BE MADE TO  
DRAWING NO. PWD(RD)/SD91/20-1,  
ROAD AND TRANSPORTATION DIVISION,  
PUBLIC WORKS DEPARTMENT



PM-AR1      PM-AR2      PM-AR3      PM-AR4

### ARROW MARKS

REFERENCE SHALL BE MADE TO  
DRAWING NO. PWD(RD)/SD91/8-2  
ROAD AND TRANSPORTATION DIVISION,  
PUBLIC WORKS DEPARTMENT

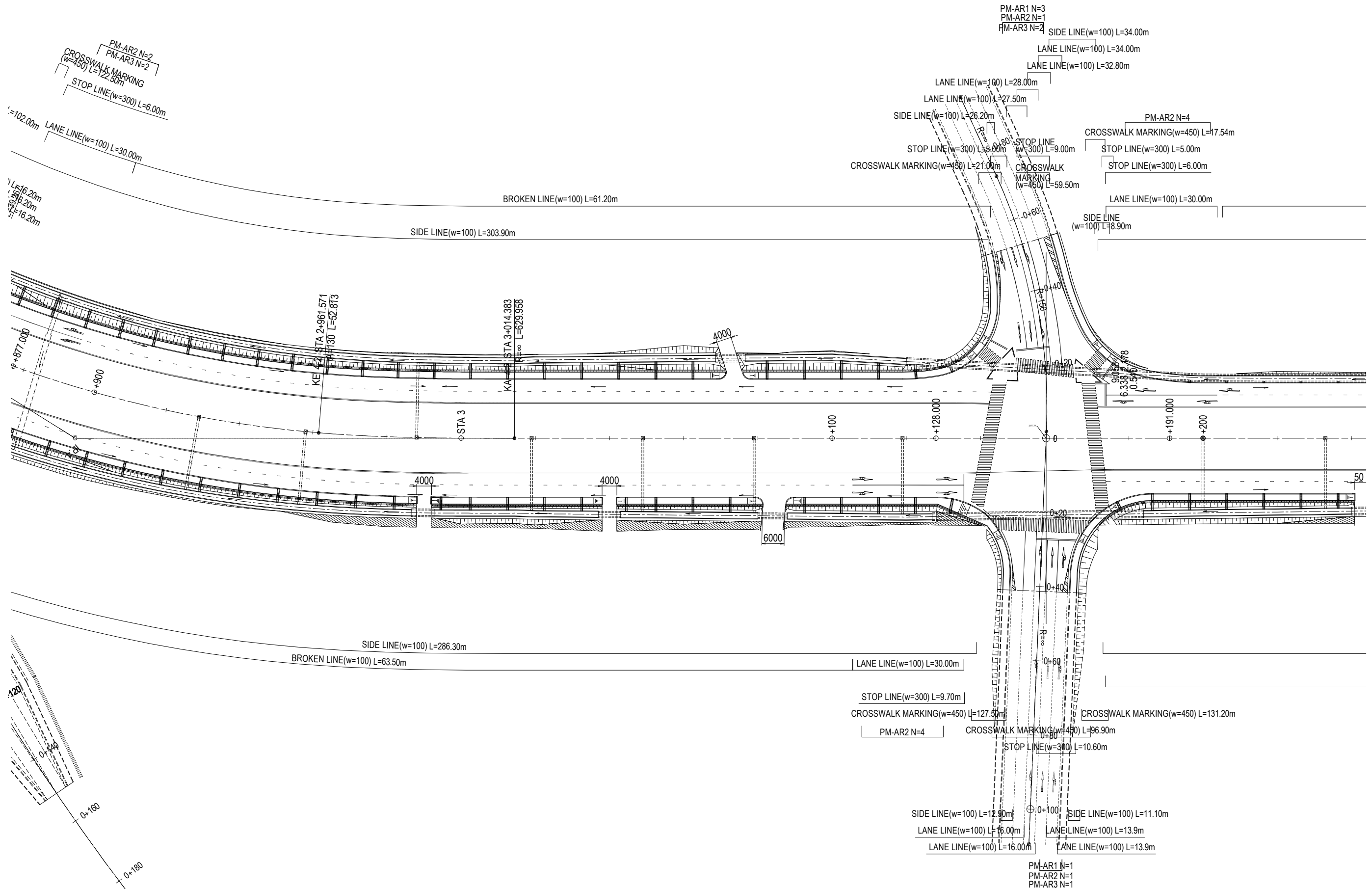
COLORS:  WHITE  ORANGE

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE ROAD MARKING DETAILS (2)	PACKAGE	
				PREPARED BY	K. TACHIBANA			29 Sep.2017	0
				CHECKED BY	T. HAYAKAWA			3 Oct.2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct.2017	P0-RD-6060



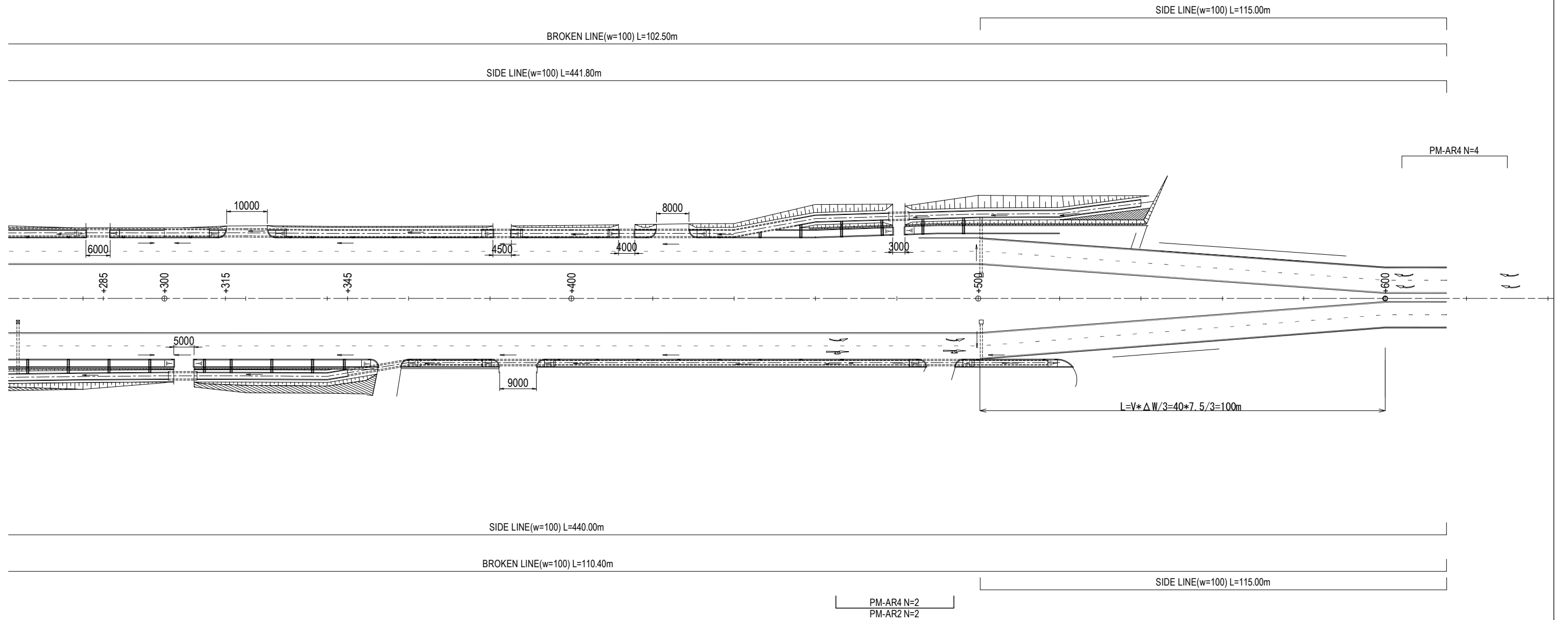


# PLAN FOR ROAD MARKINGS(2) S= 1:1000



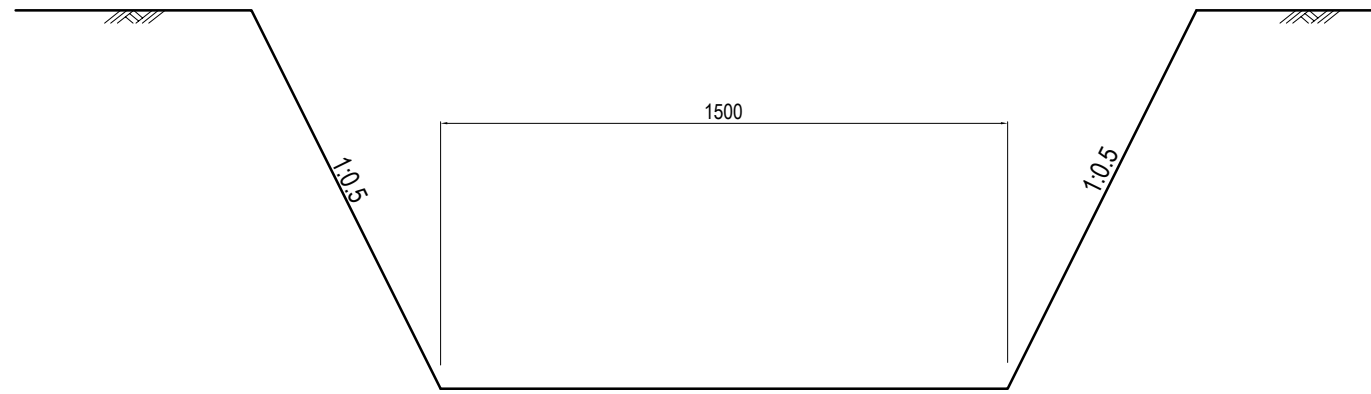
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE PLAN FOR ROAD MARKINGS(2) S=1:1000	PACKAGE	
				PREPARED BY	K. TACHIBANA			29 Sep.2017	0
				CHECKED BY	T. HAYAKAWA			3 Oct.2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct.2017	P0-RD-6080

# PLAN FOR ROAD MARKINGS(3) S= 1:1000

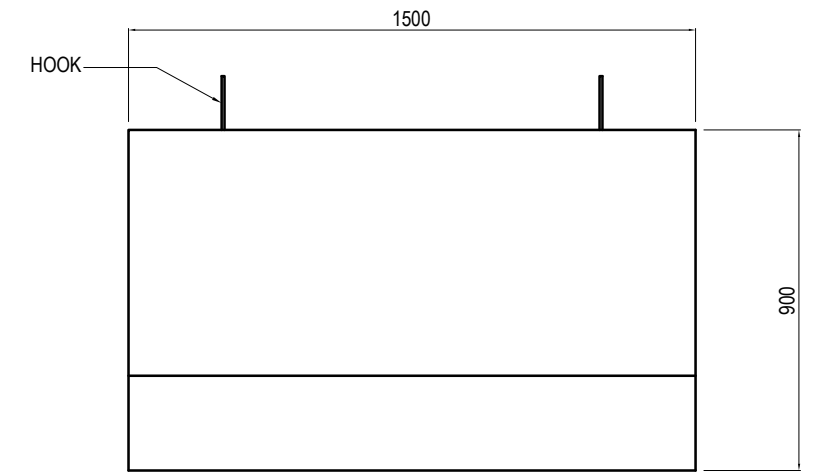
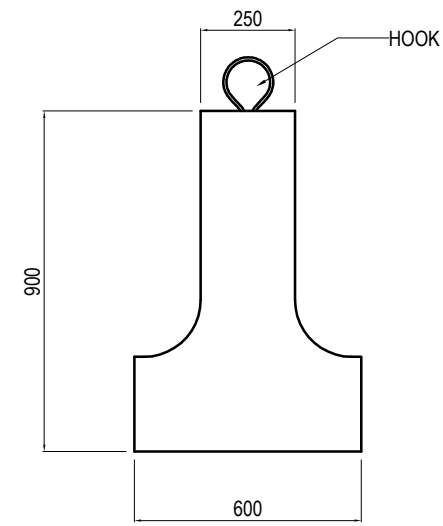


PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE PLAN FOR ROAD MARKINGS(3) S=1:1000	PACKAGE	
				PREPARED BY	K. TACHIBANA			29 Sep.2017	0
				CHECKED BY	T. HAYAKAWA			3 Oct.2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct.2017	P0-RD-6090

DETAIL OF TEMPORARY WORKS S=1:20



TRENCH(W=1500)



WORK QUANTITIES PER UNIT (PER 10m)

ITEM	UNIT	QUANTITY	REMARKS
CONCRETE BARRIER BLOCK	EACH	6.66	

## QUANTITY TABLE OF ROAD (REFERENCE DRAWING)

Construction type	Classification	UNIT	Quantity	Remark
<b>DIVISION 02 SITE WORKS</b>				
	Demolition of Existing Concrete Structure (Unreinforced concrete)	m3	710	
	Demolition of Existing Concrete Structure (Reinforced concrete)	m3	306	
	Demolition of Existing Concrete Structure Asphalt Pavement	m3	933	
	Clearing and Grubbing	m2	14,204	
<b>DIVISION 03 EARTH WORKS</b>				
	ROAD EARTH WORK			
	Excavation - Type 1 (Open Cut for Road)	m3	11,019	
	Backfill for Filled-up ground	m3	1,177	
	Backfill for Sub-grade	m3	732	
	Gravel	m3	396	
	Trimming of Slope	m2	2,202	
	STRUCTURE EARTH WORK			
	Excavation - Type 1 (Open Cut for Road Structure)	m3	14,850	
	Backfill	m3	8,780	
	Removal of surplus soil	m3	5,093	
<b>DIVISION 04 WATERWAY WORKS</b>				
	U-DITCH TYPE A	each	25	
	U-DITCH TYPE B	each	73	
	U-DITCH TYPE C	each	15	
	SIDE DITCH TYPE U-500x500 with Cover	m	34	
	SIDE DITCH TYPE U-800x800 with Cover	m	58	
	SIDE DITCH TYPE U-1000x1500	m	120	
	SIDE DITCH TYPE U-1500x1500	m	736	
	SIDE DITCH TYPE U-1500x1700	m	101	
	CONCRETE COVER TYPE A	each	240	
	CONCRETE COVER TYPE B	each	202	
	BOX CULVERT TYPE 1000x1000	m	52	
	BOX CULVERT TYPE 1500x1000	m	216	
	BOX CULVERT TYPE 1500x1500	m	249	
	CATCH PIT 500x500x1200	each	11	
	CATCH PIT (C-DITCH) TYPE B	each	2	
	CONCRETE PIPE CULVERT φ300 (CON. 360°) TYPE A	m	229	
	CONCRETE PIPE CULVERT φ900 (CON. 360°)	m	10	
	TRENCH(W=1500)	m	37	

Construction type	Classification	UNIT	Quantity	Remark
<b>DIVISION 05 PAVEMENTS</b>				
	Prime Coat	m2	16,565	
	Tack Coat	m2	16,565	
	Normal A/C Surface Course, thickness 5cm	m2	16,565	
	Normal A/C Subbase Course, thickness 5cm	m2	16,565	
	Aggregate Base thickness 15cm	m2	15,033	
	Aggregate Base thickness 25cm	m2	1,532	
	Aggregate Subbase thickness 15cm	m2	1,531	
	Aggregate Subbase thickness 25cm	m2	13,502	
	Aggregate Subbase thickness 30cm	m2	1,532	
	Concrete Plate for Sidewalk	m2	2,100	
	Sand(Side walk)	m2	2,100	
	Aggregate Base thickness 10cm(Sidewalk)	m2	2,100	
<b>DIVISION 08 MISCELLANEOUS</b>				
	CONCRETE KERB TYPE A-1	m	1,256	
	CONCRETE KERB TYPE A-2	each	54	
	CONCRETE KERB TYPE A-3	m	122	
	CONCRETE KERB TYPE C	m	1,299	
	SIGN BOARD - TS-1 (Regulation Sign)	each	3	
	SIGN BOARD - TS-3 (Regulation Sign)	each	4	
	SIGN BOARD - TS-7 (Warning Sign)	each	7	
	SIGN BOARD - TS-10 (Warning Sign)	each	9	
	SIGN BOARD - TS-11 (Warning Sign)	each	2	
	Guard Fence	m	795	
	CONCRETE BARRIER	m	198	
	LANE LINE(w=100)	m	381	
	SIDE LINE(w=100)	m	2,473	
	BROKEN LINE(w=100)	m	414	
	STOP LINE(w=300)	m	101	
	CROSSWALK ARKING(w=450)	m	820	
	GIVE WAY LINE (w=600)	m	110	
	ZEBRA LINE(w=150)	m	79	
	ZEBRA LINE(w=450)	m	84	
	ARROW	each	41	

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				PREPARED BY	K. TACHIBANA			29 Sep. 2017	0
				CHECKED BY	T. HAYAKAWA			3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct. 2017	PO-RD-7000