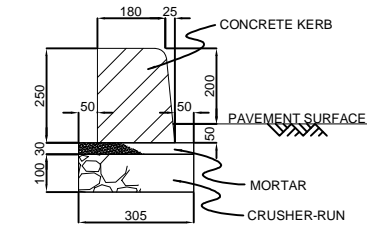
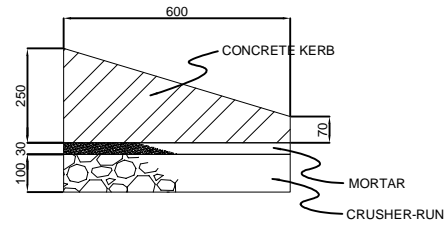


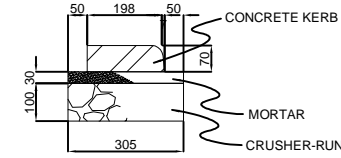
DETAILS OF KERB SCALE = 1:20



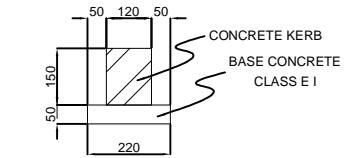
CONCRETE KERB TYPE A-1



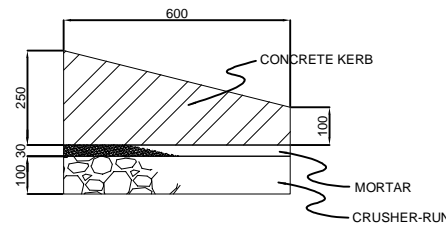
CONCRETE KERB TYPE A-2
TRANSITION BLOCK BETWEEN
TYPE A-1 AND TYPE A-3



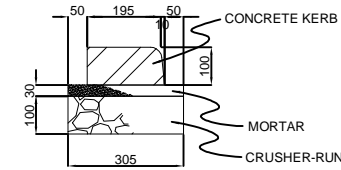
CONCRETE KERB TYPE A-3



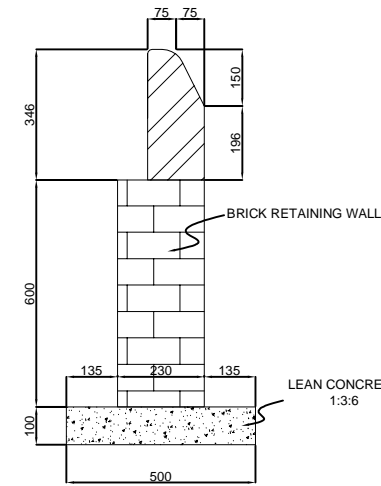
CONCRETE KERB TYPE C



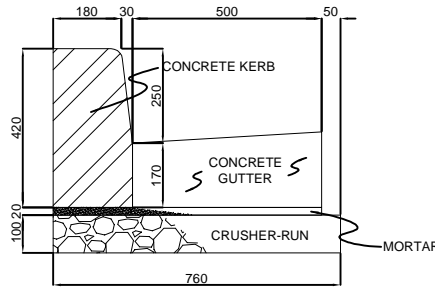
CONCRETE KERB TYPE A-4
TRANSITION BLOCK BETWEEN
TYPE A-1 AND TYPE A-5



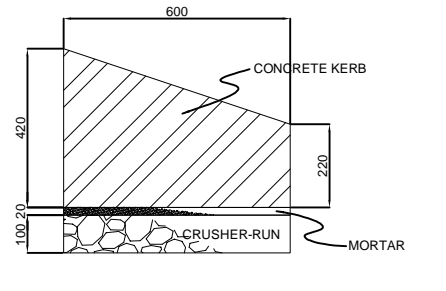
CONCRETE KERB TYPE A-5



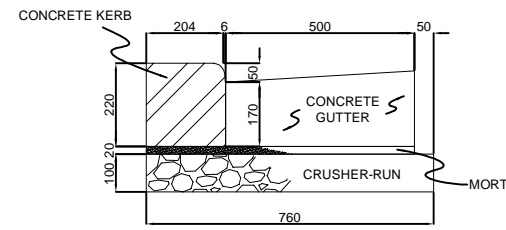
CONCRETE KERB TYPE D



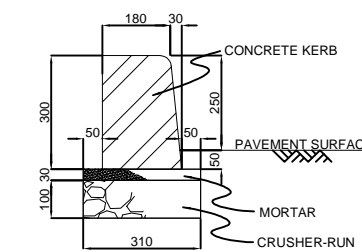
CONCRETE KERB TYPE B-1



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 ³	0.0915 m ³	0.0915 m ³	0.0915 m ³	0.0915 m ³	0.142 m ³	0.142 m ³	0.142 m ³
CRUSHER-RUN	0.305 m ³	0.305 m ³	0.305 m ³	0.305 m ³	0.305 m ³	0.760 m ³	0.760 m ³	0.760 m ³
GUTTER CONCRETE	-	-	-	-	-	0.925 m ³	0.925 m ³	0.925 m ³

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 ³
BASE CONCRETE	0.110 m ³	-	0.310 m ³
LEAN CONCRETE	-	0.500 m ³	-
BRICK	-	1.380 m ³	-

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

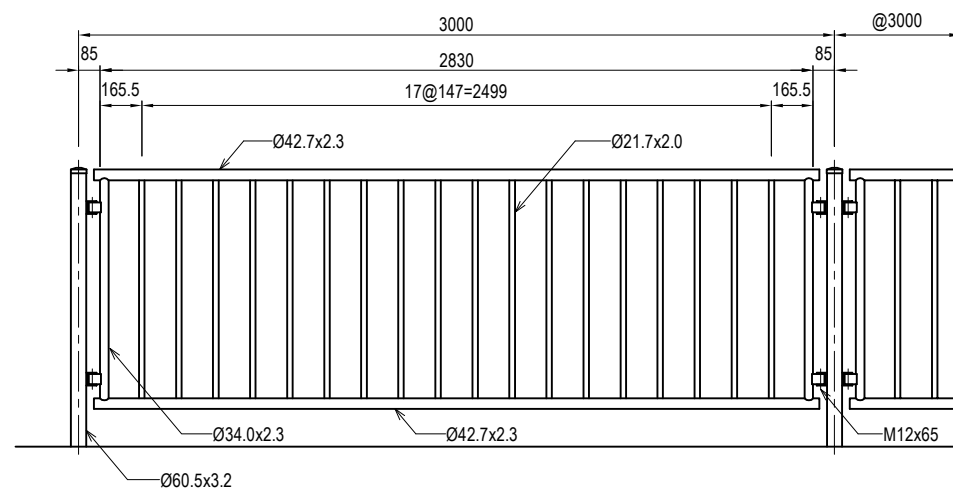
JICA STUDY TEAM
NIPPON KOEI CO., LTD.
ORIENTAL CONSULTANTS GLOBAL CO., LTD.
METROPOLITAN EXPRESSWAY COMPANY LIMITED
CHODAI CO., LTD.
NIPPON ENGINEERING CONSULTANTS CO., LTD.

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

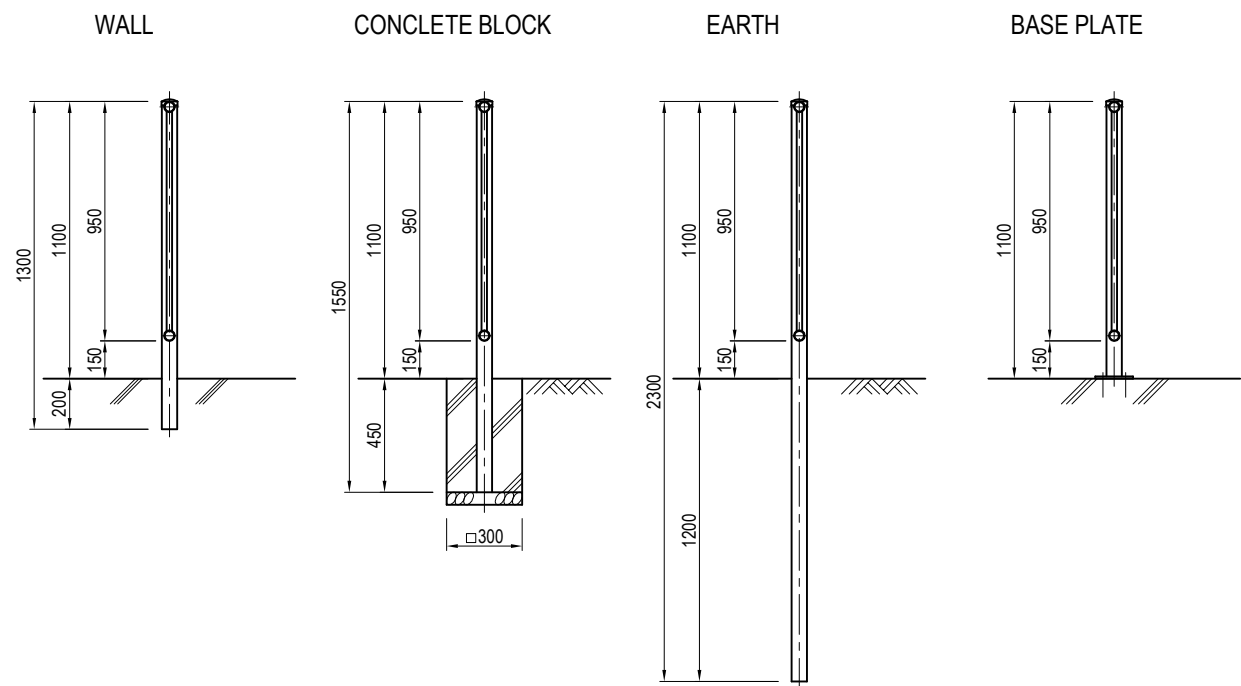
DRAWING TITLE
DETAILS OF KERB

PACKAGE
0
DWG No.
P1-RD-6000

DETAIL OF GUARD FENCE



FRONT VIEW
S=1:30



SECTION
S=1:30

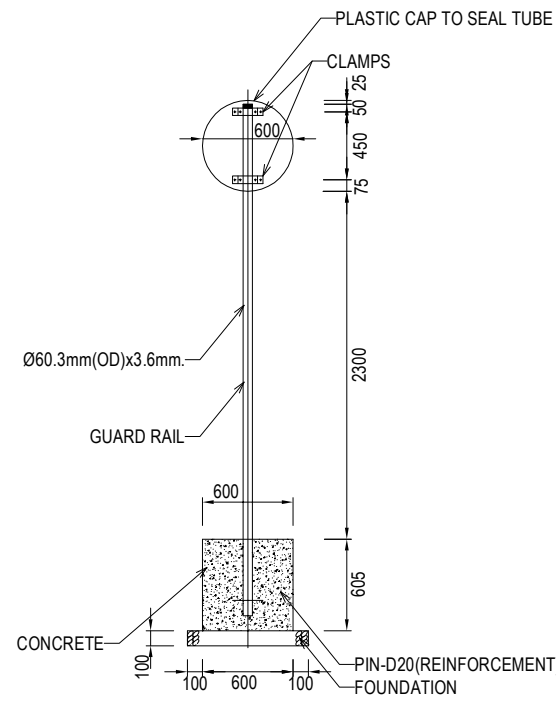
QUANTITY PER 10m

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	

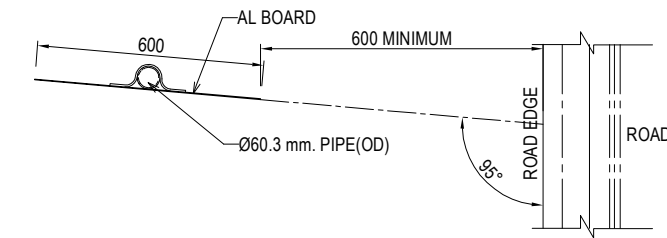
<small>PROJECT NAME</small> DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	<small>FINANCED BY</small> JAPAN INTERNATIONAL COOPERATION AGENCY	<small>COUNTERPART</small> REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	<small>JICA STUDY TEAM</small> NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO. LTD. NIPPON ENGINEERING CONSULTANTS CO.,LTD.		<small>NAME</small>	<small>SIGNATURE</small>	<small>DATE</small>	DRAWING TITLE DETAIL OF GUARD FENCE	<small>PACKAGE</small>
				<small>PREPARED BY</small>	K. TACHIBANA		29 Sep.2017		0
				<small>CHECKED BY</small>	T. HAYAKAWA		3 Oct.2017		DWG No.
				<small>APPROVED BY</small>	Y. SANO		6 Oct.2017		P0-RD-6010

DETAIL OF SIGNBOARD FOUNDATION AND POST

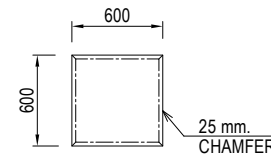
Note
1. Specification of Plain Concrete should be CLASS EI



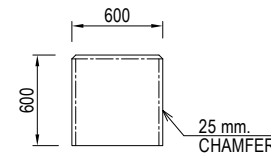
SIGN POST
S=1:50



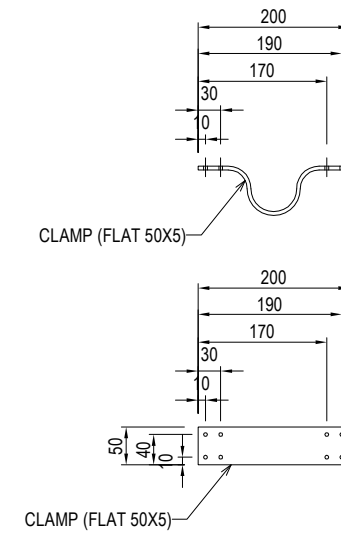
**TOP VIEW
PLAN OF SIGN BOARD**
S=1:20



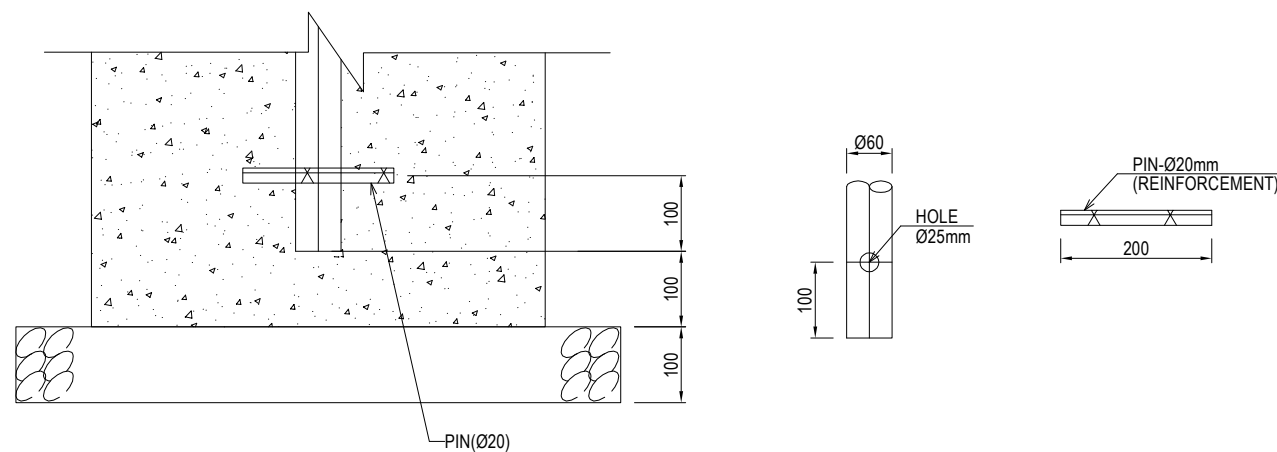
FOUNDATION PLAN
S=1:50



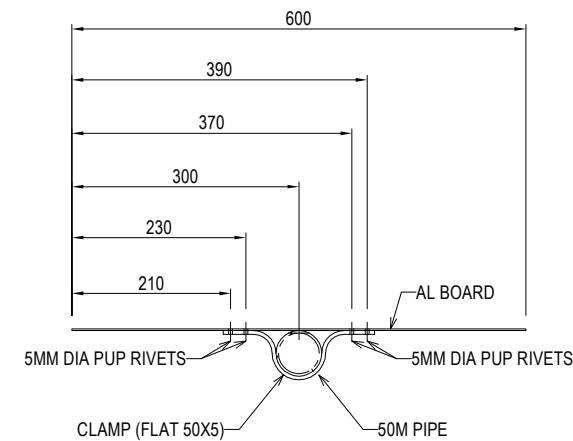
FOUNDATION ELEVATION
S=1:50



CLAMP DETAILS-2
S=1:10



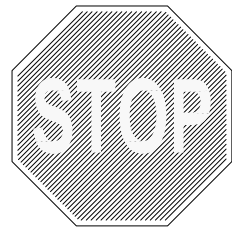
DETAIL OF "A"
S=1:10



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



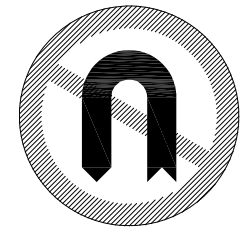
TS-2
SPEED LIMIT 60 KM/H
SIZE: 600 MM DIAMETER



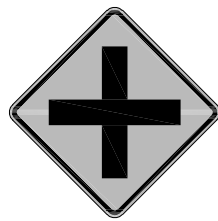
TS-3
SPEED LIMIT 40 KM/H
SIZE: 600 MM DIAMETER



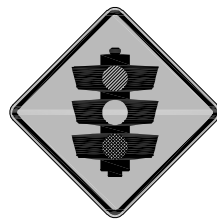
TS-4
SPEED LIMIT 30 KM/H
SIZE: 600 MM DIAMETER



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



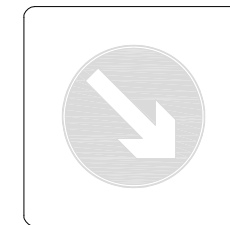
TS-6
CROSS ROAD
SIZE: 600 MM×600 MM



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

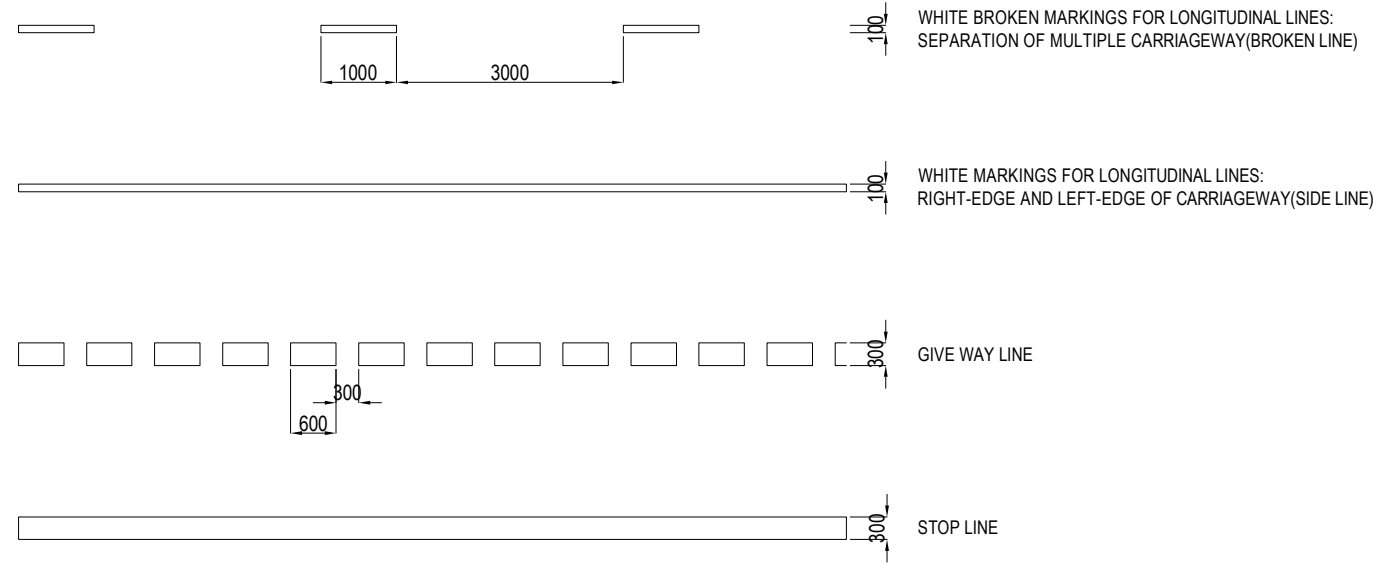
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO.,LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE DETAIL OF SIGNBOARD	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-6030

SCHEDULE OF SIGNBOARD

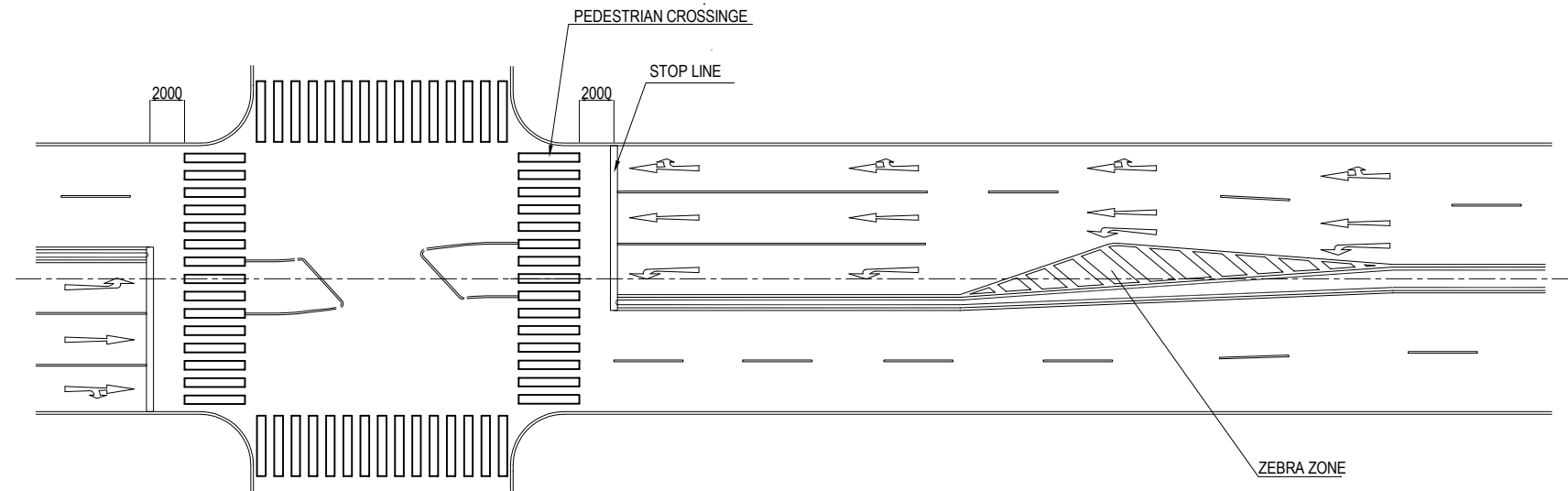
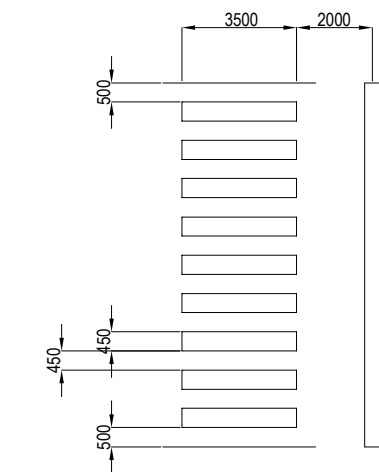
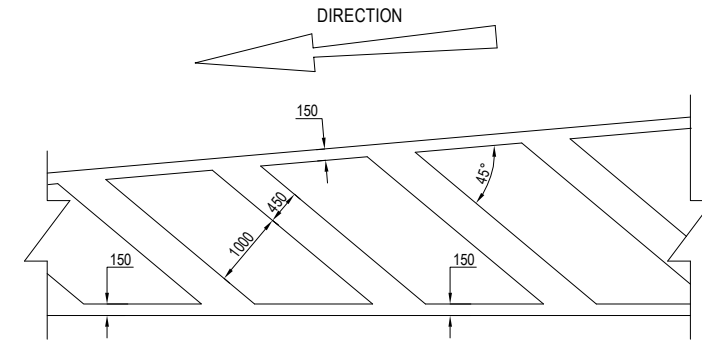
ROAD SIGN				1		2		3		4		5		TOTAL QUANTITY OF SAME ITEM
				0+000 to -0+080		0+000 to 0+060		2+860 to 3+140		-0+060 to 0+060		3+180 to 3+575		
L		R		L		R		L		R				
ROAD				SHUKHINTHAR MAYO PAT ROAD		NAWARAT St		MAIN ROAD		YADANAR ROAD		MAIN ROAD		
WARNING SIGN		TS-7	TRAFFIC SIGNAL AHEAD		1		1	1	1	1	1		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="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 SCHEDULE OF SIGNBOARD	PACKAGE 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)

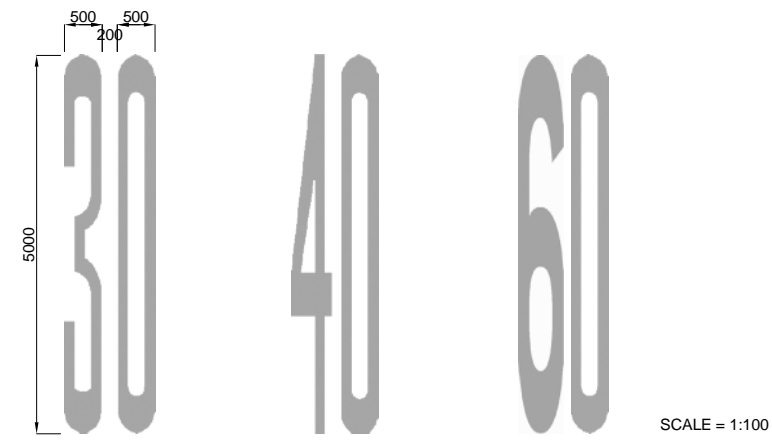


LINE MARKINGS SCALE = 1:100

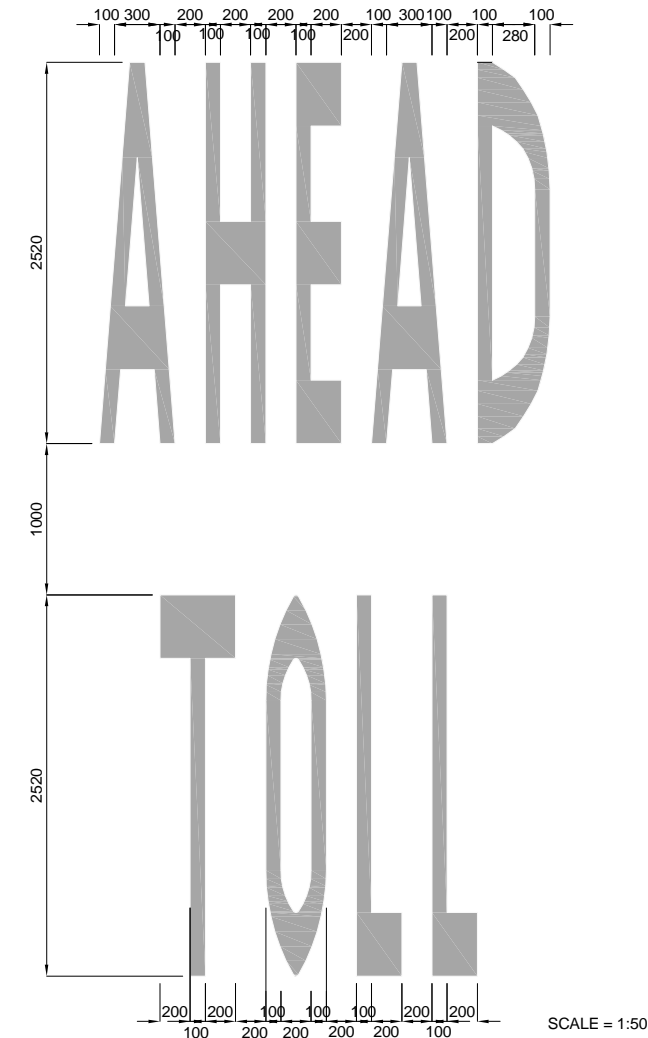


PROJECT NAME	FINANCED BY	COUNTERPART	JICA STUDY TEAM	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE
DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	JICA JAPAN INTERNATIONAL COOPERATION AGENCY	REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	NIPPON KOEI CO., LTD. ORIENTAL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

ROAD MARKINGS DETAILS(2)

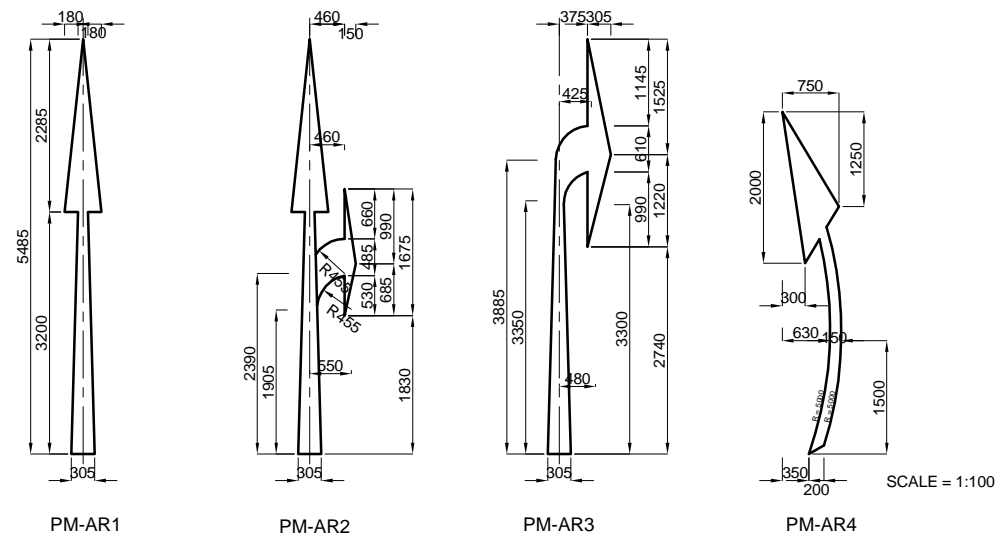


PM-1 SPEED LIMIT 30 KM/H PM-2 SPEED LIMIT 40 KM/H PM-3 SPEED LIMIT 60 KM/H



PM-4 TOLL AHEAD

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



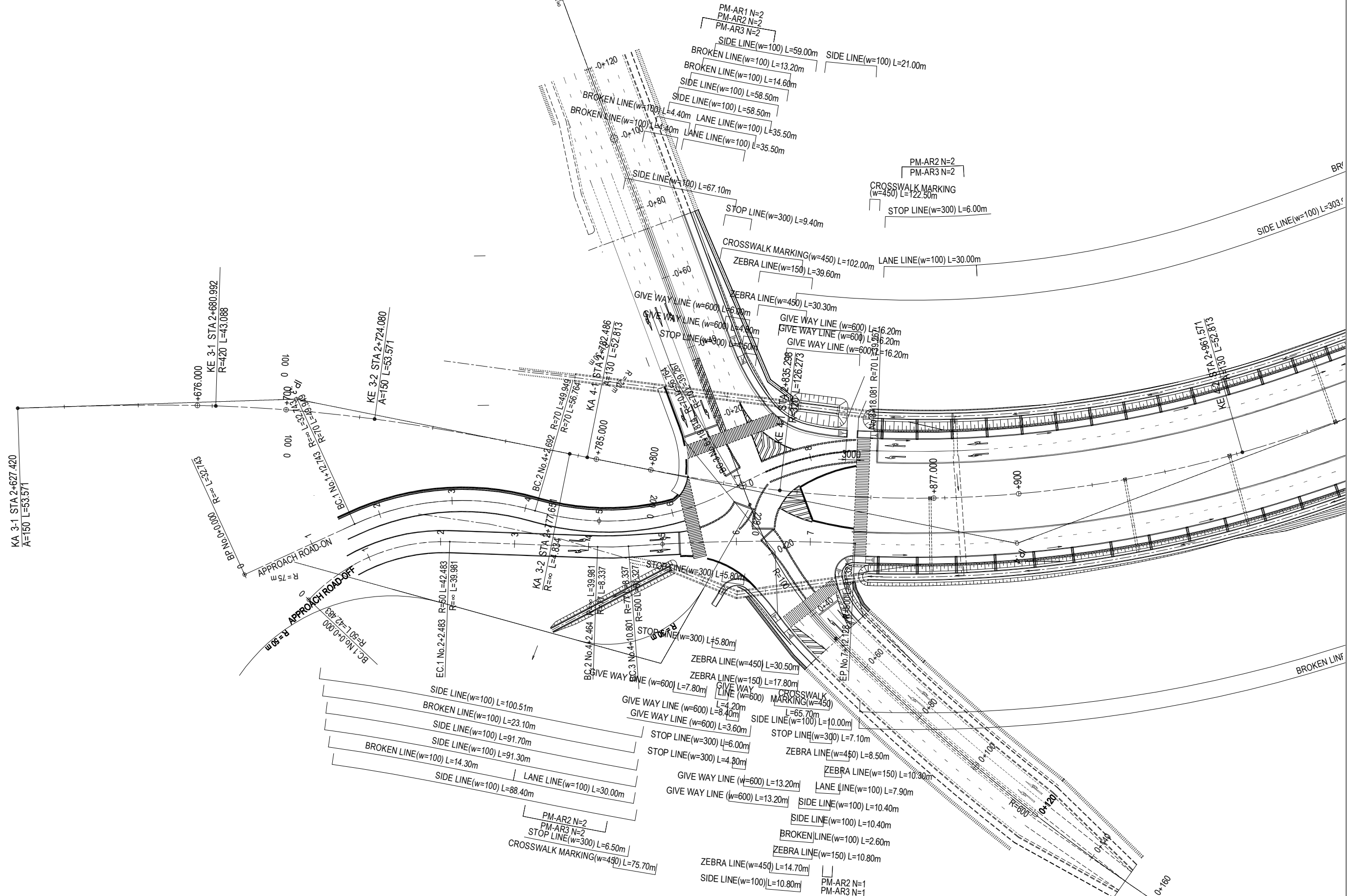
ARROW MARKS

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(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

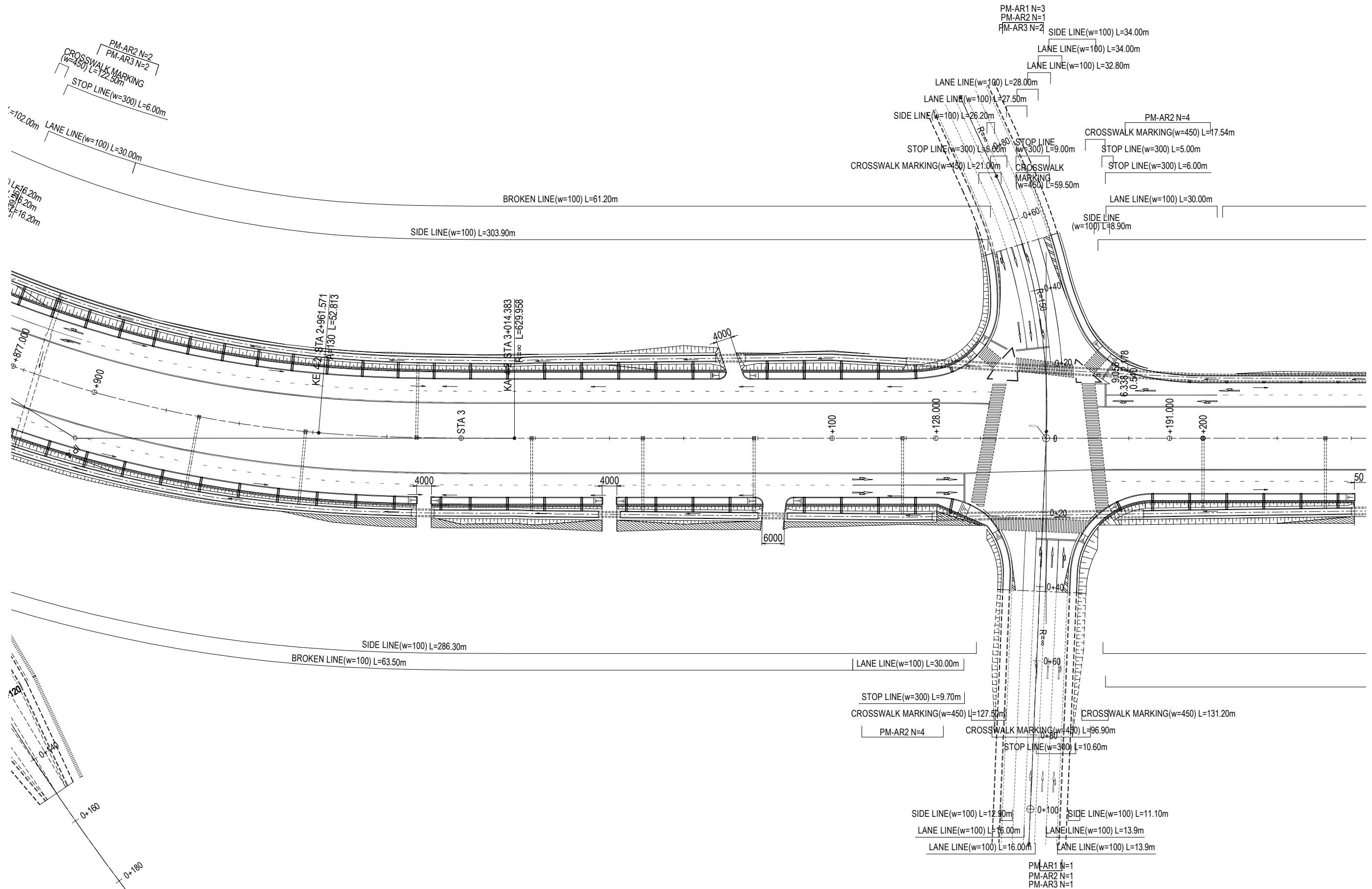
 NIPPON KOEI CO., LTD.
 ORIENTAL CONSULTANTS GLOBAL CO., LTD.
 METROPOLITAN EXPRESSWAY COMPANY LIMITED
 CHODAI CO., LTD.
 NIPPON ENGINEERING CONSULTANTS CO., LTD.

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

DRAWING TITLE
 PLAN FOR ROAD MARKINGS(1)
 S=1:1000

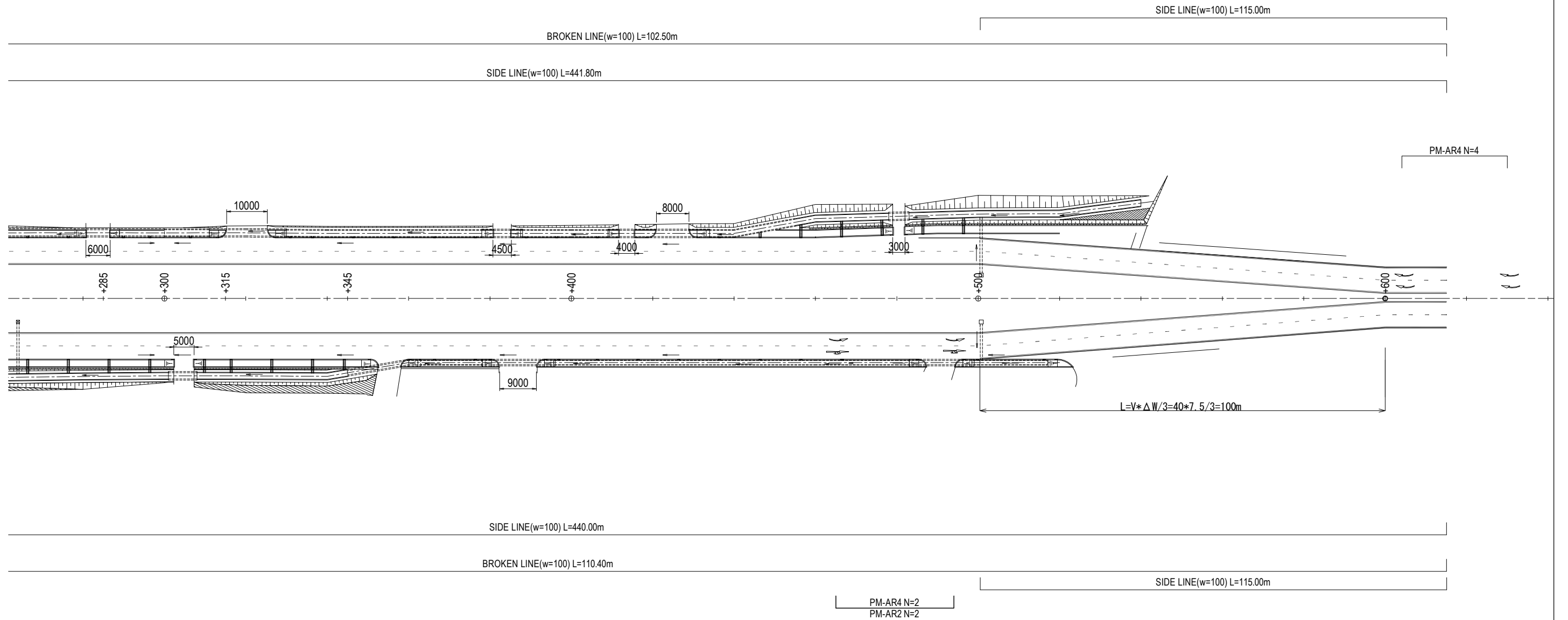
PACKAGE
 0
 DWG No.
 P0-RD-6070

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



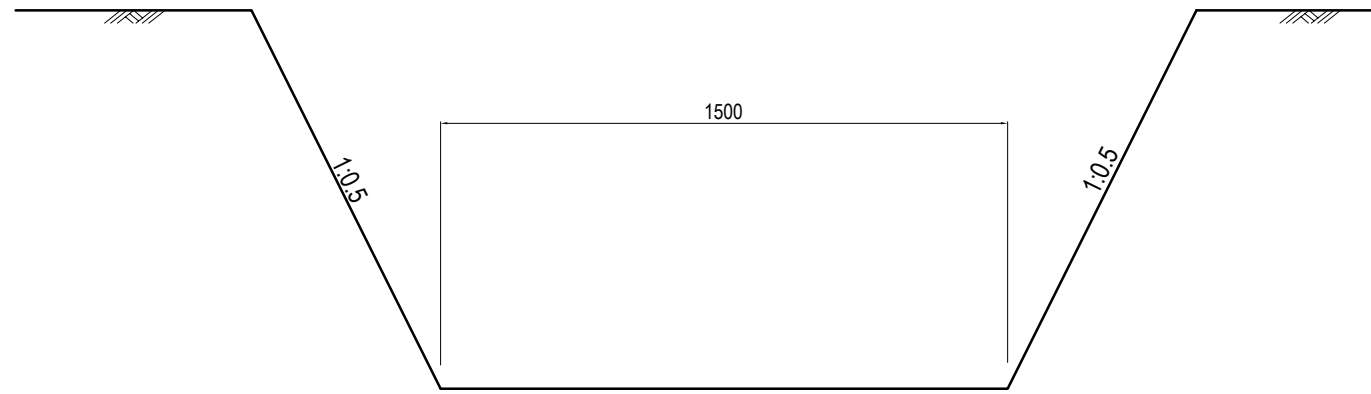
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN 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

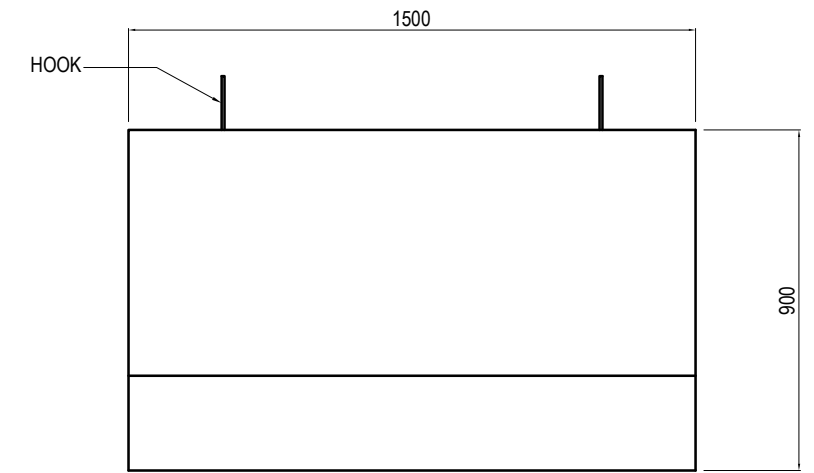
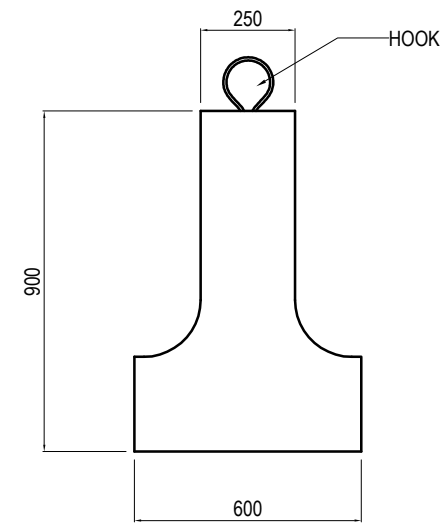


PROJECT NAME	FINANCED BY	COUNTERPART	JICA STUDY TEAM	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE
DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	JICA JAPAN INTERNATIONAL COOPERATION AGENCY	REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	NIPPON KOEI CO., LTD. ORIENTAL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

DETAIL OF TEMPORARY WORKS S=1:20



TRENCH(W=1500)



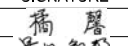
WORK QUANTITIES PER UNIT (PER 10m)

ITEM	UNIT	QUANTITY	REMARKS
CONCRETE BARRIER BLOCK	EACH	6.66	

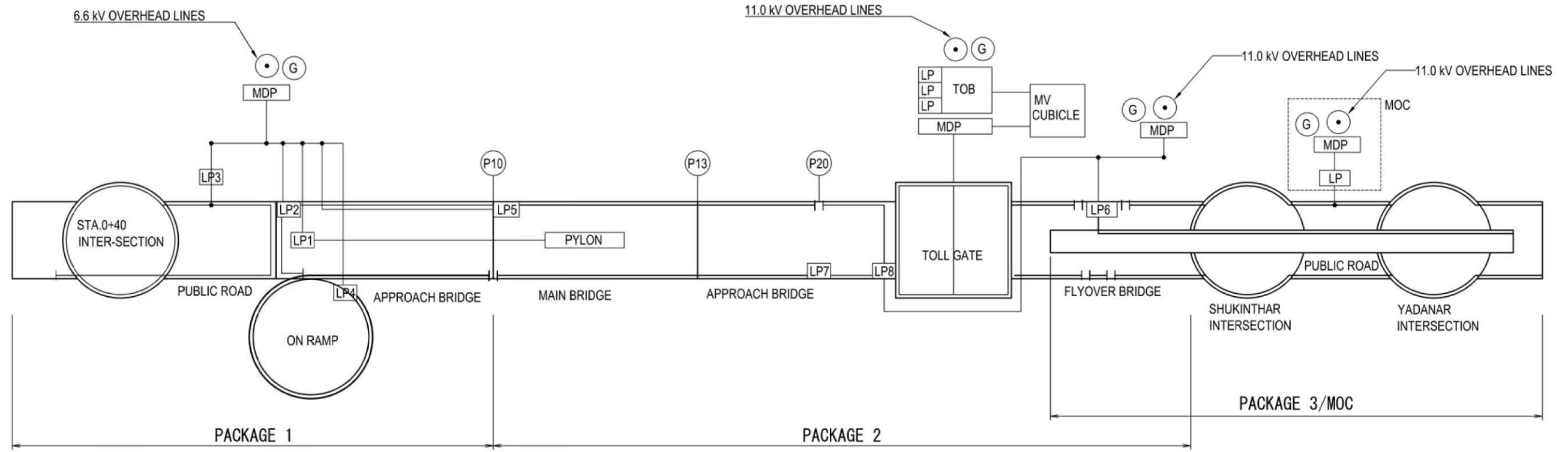
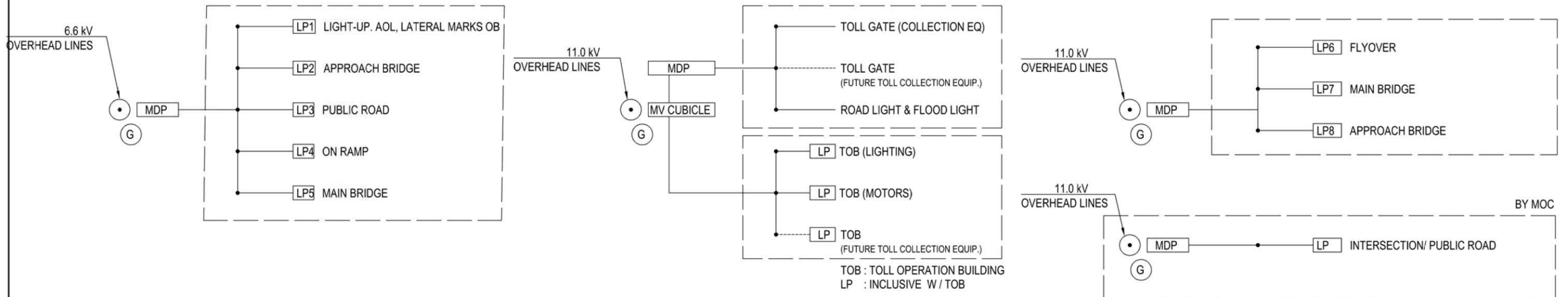
QUANTITY TABLE OF ROAD (REFERENCE DRAWING)

Construction type	Classification	UNIT	Quantity	Remark
DIVISION 02 SITE WORKS				
	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	
DIVISION 03 EARTH WORKS				
	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	
DIVISION 04 WATERWAY WORKS				
	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
DIVISION 05 PAVEMENTS				
	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	
DIVISION 08 MISCELLANEOUS				
	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	

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 QUANTITY TABLE OF ROAD(REFERENCE DRAWING)	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-7000

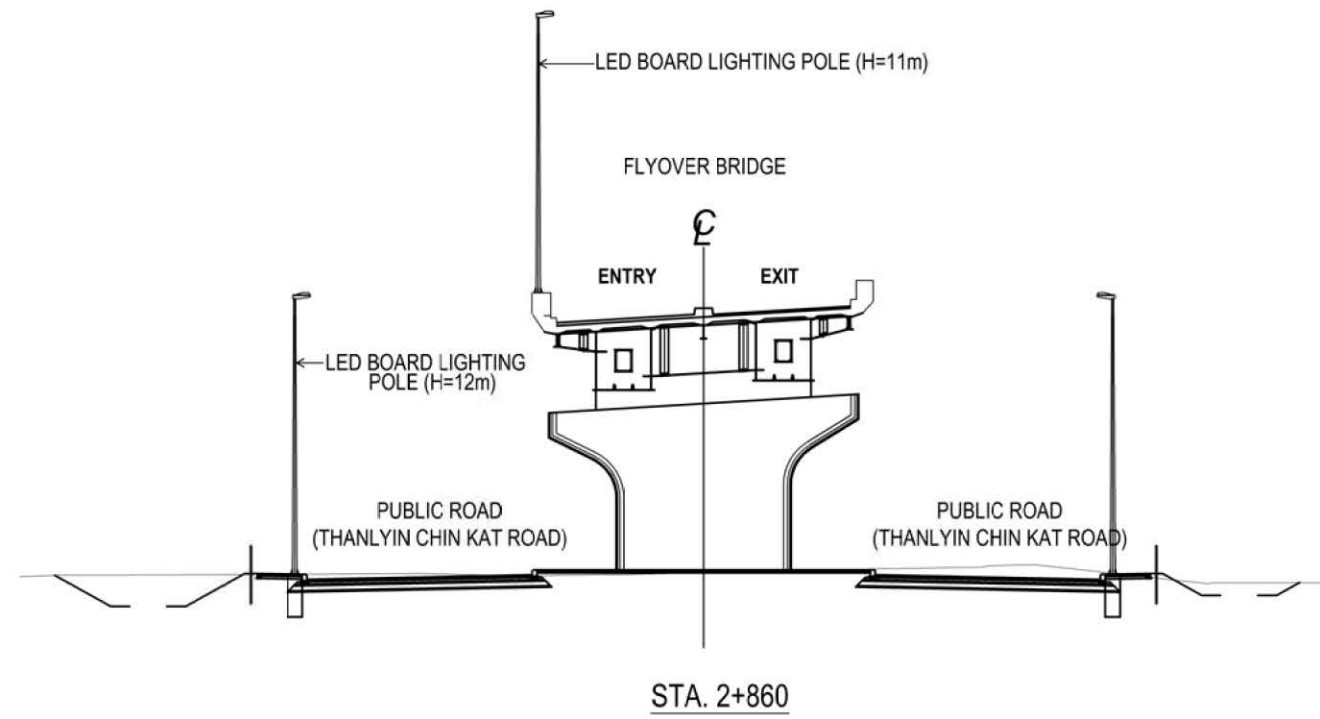
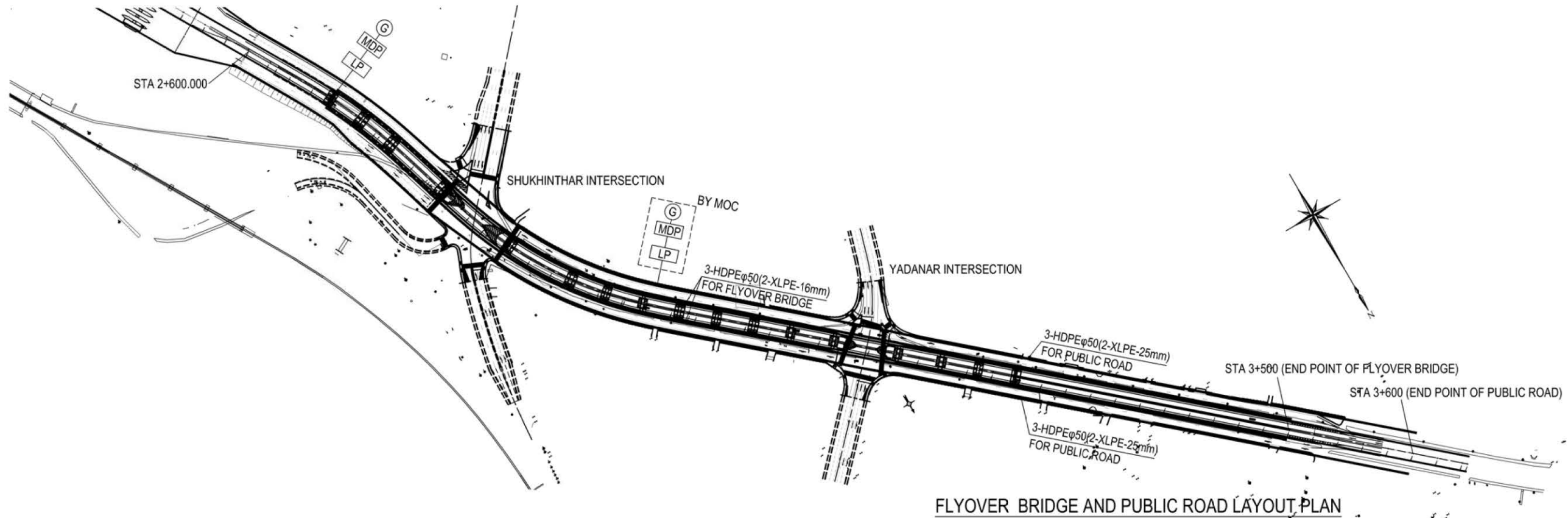
TYPICAL POWER DISTRIBUTION PLAN



POWER DISTRIBUTION DIAGRAM

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE	
				PREPARED BY	K. MORIMATA				29 Sep. 2017
				CHECKED BY	T. HAYAKAWA				3 Oct. 2017
				APPROVED BY	Y. SANO				6 Oct. 2017
							TYPICAL POWER DISTRIBUTION PLAN	0	
								DWG No.	
								PO-EL-0001	

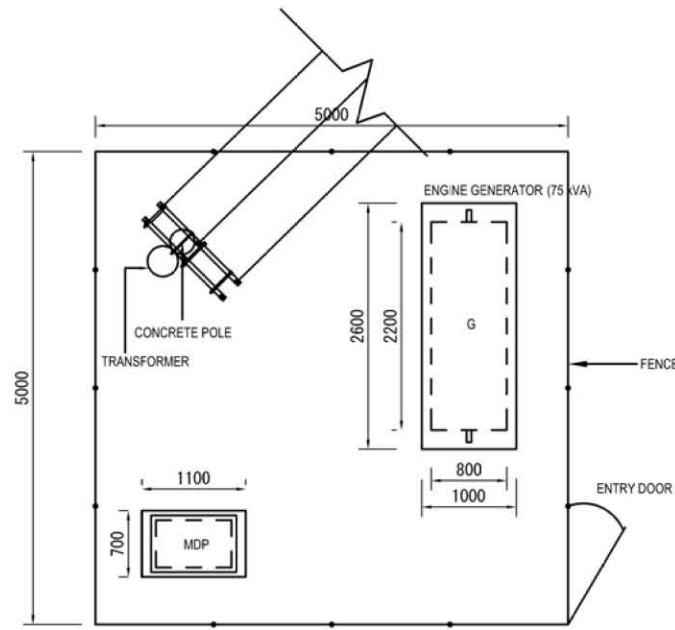
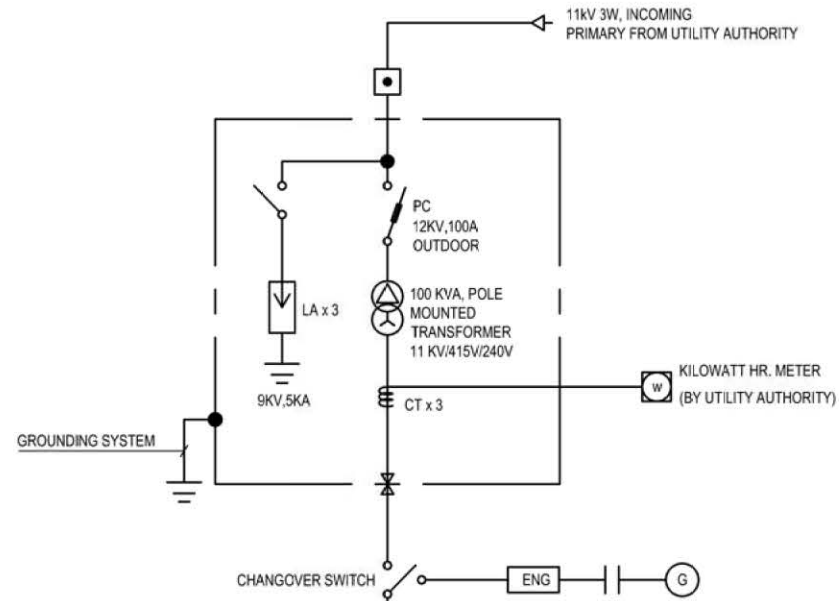
TYPICAL WIRING PLAN FOR FLYOVER BRIDGE AND PUBLIC ROAD



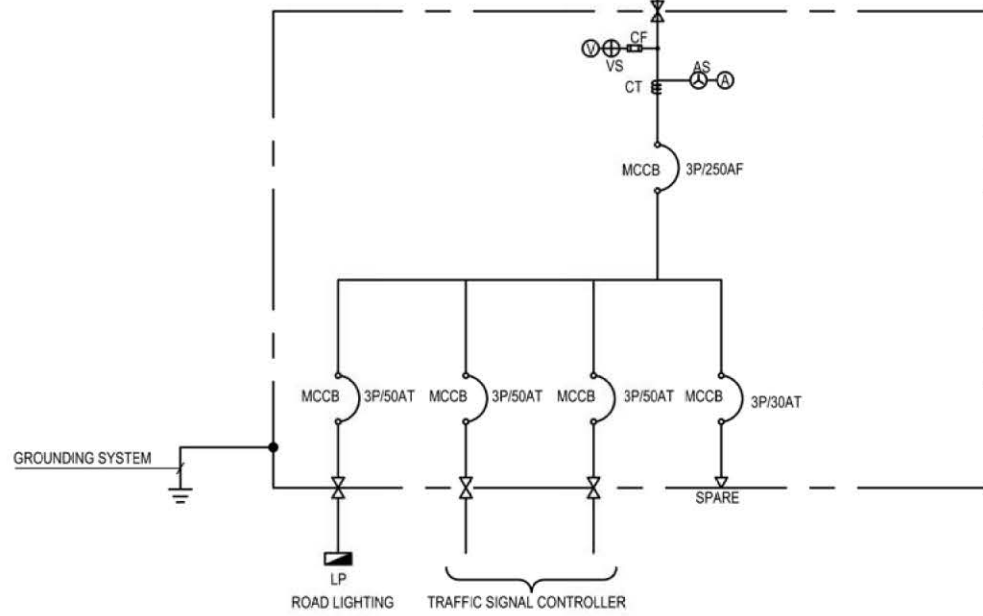
FLYOVER BRIDGE AND PUBLIC ROAD LAYOUT PLAN

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE TYPICAL WIRING PLAN FOR FLYOVER BRIDGE AND PUBLIC ROAD	PACKAGE	
				PREPARED BY	K. MORIMATA			29 Sep. 2017	0
				CHECKED BY	T. HAYAKAWA			3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct. 2017	P0-EL-0002

TYPICAL MV SITE SUBSTATION

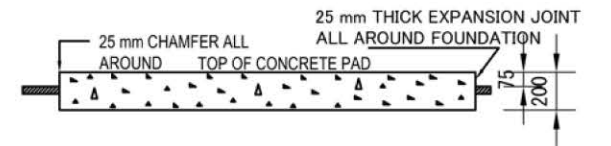
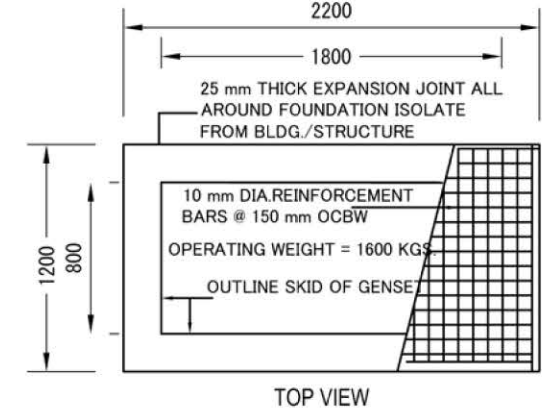
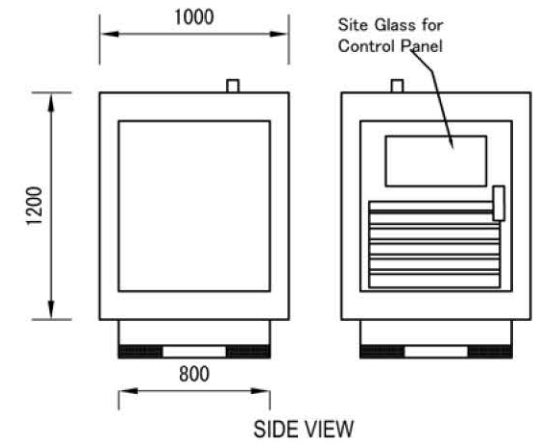
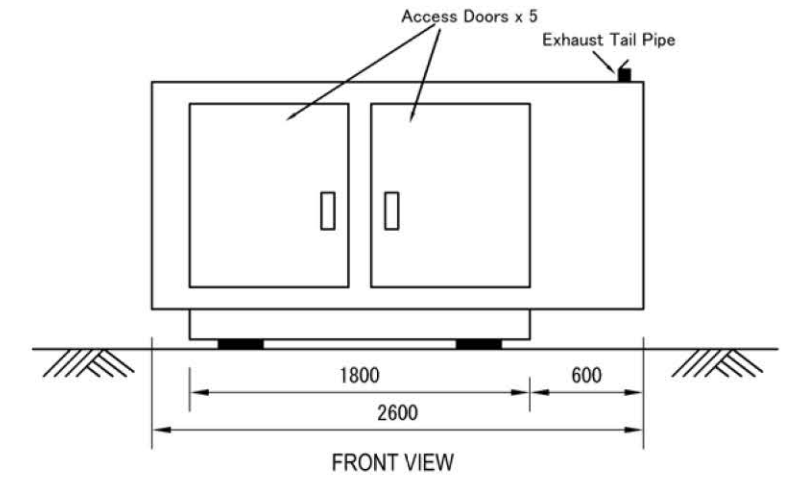


SITE LAYOUT OF INCOMING POWER STATION S=1:80



SINGLE LINE DIAGRAM

- LEGEND**
- ☐ - LIGHTING PANEL
 - - MOLDED CASE CIRCUIT BREAKER (MCCB)
 - ⬇ - GROUNDING
 - Ⓜ - KILOWATT HR.METER
 - ⊕ - POWER TRANSFORMER
 - ⚡ - PRIMARY CUTOUT (PC) WITH POWER FUSE (PF)
 - ⚡ - LIGHTING ARRESTER (LA)
 - Ⓜ - GENERATOR
 - ENG - ENGINE
 - AS - AMMETER CHANGE OVER SWITCH
 - CF - CURRENT FUSE
 - VS - VOLTAGE CHANGE OVER SWITCH
 - CT - CURRENT TRANSFORMER
 - MDP - MAIN DISTRIBUTION PANEL
 - PF - POWER FUSE

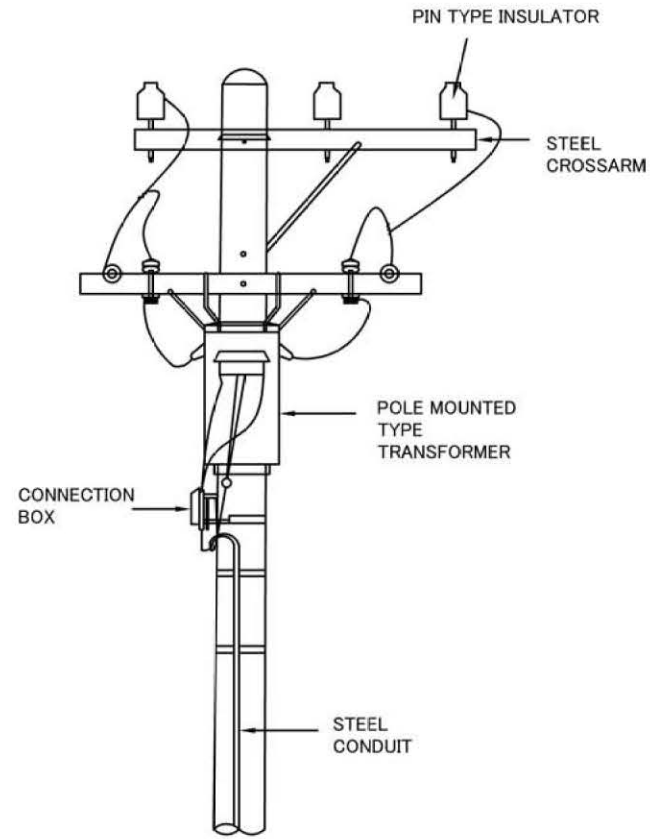


CONCRETE FOUNDATION

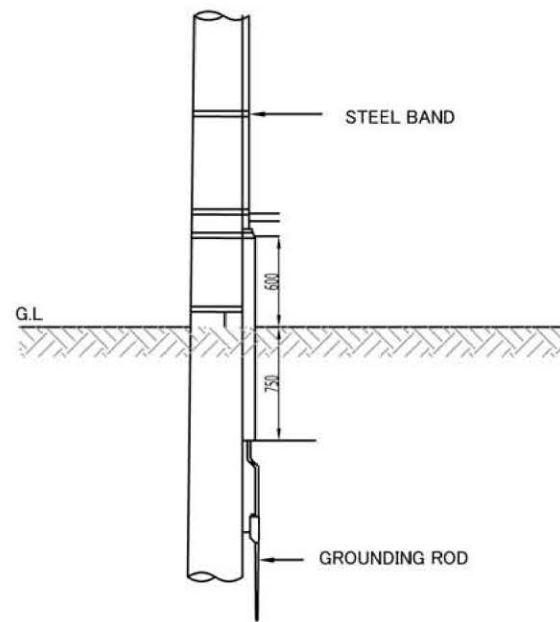
REFERENCE LAYOUT OF ENGINE GENERATOR S=1:40

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE TYPICAL MV SITE SUBSTATION	PACKAGE 0 DWG No. P0-EL-0003	
				PREPARED BY	K. MORIMATA				29 Sep. 2017
				CHECKED BY	T. HAYAKAWA				3 Oct. 2017
				APPROVED BY	Y. SANO				6 Oct. 2017

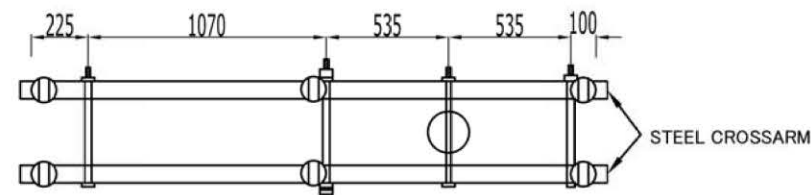
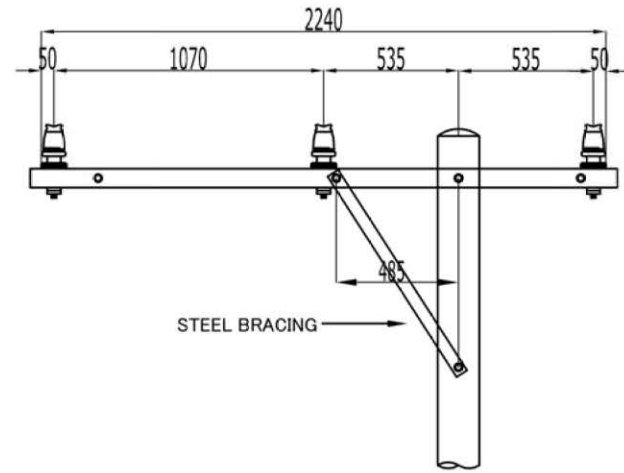
TYPICAL ELECTRIC POLE ASSEMBLING (11kv USE)



TYPICAL POLE ASSEMBLING FOR POLE MOUNTED TRANSFORMER

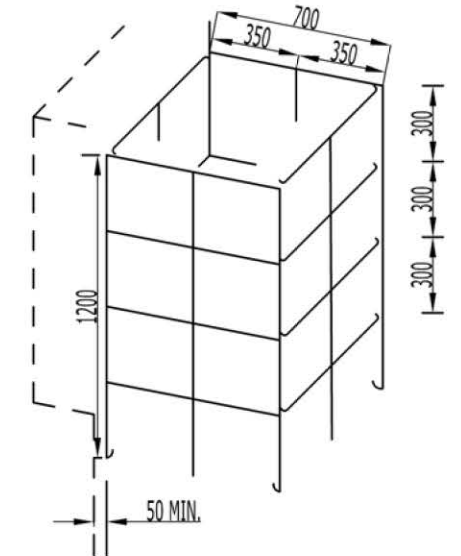
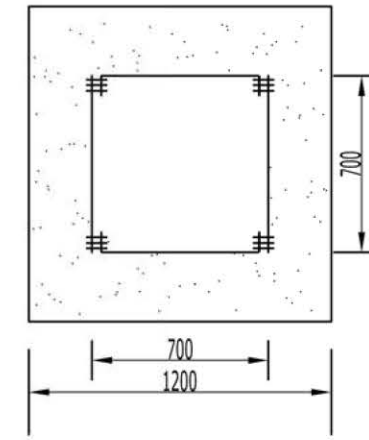


TYPICAL GROUNDING SYSTEM



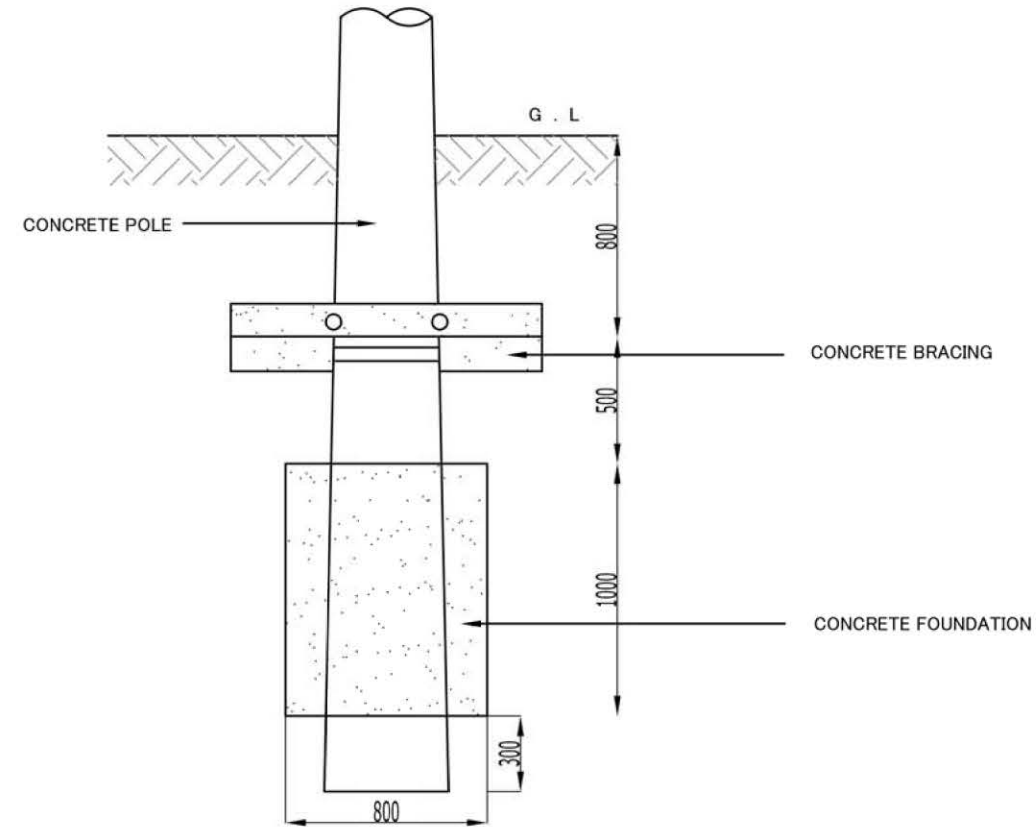
TYPICAL POLE ASSEMBLING FOR EXTENDED OVERHEAD LINES

UNIT: mm



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

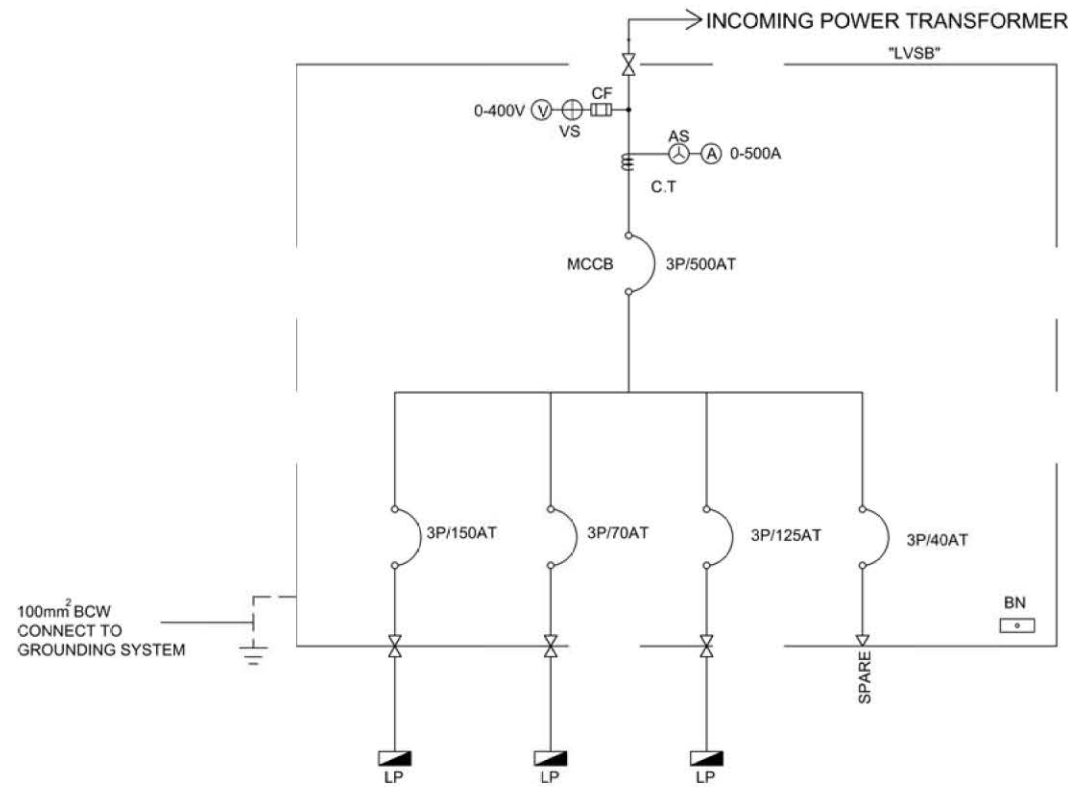
TYPICAL CONCRETE FOUNDATION AND RE-BAR ARRANGEMENT



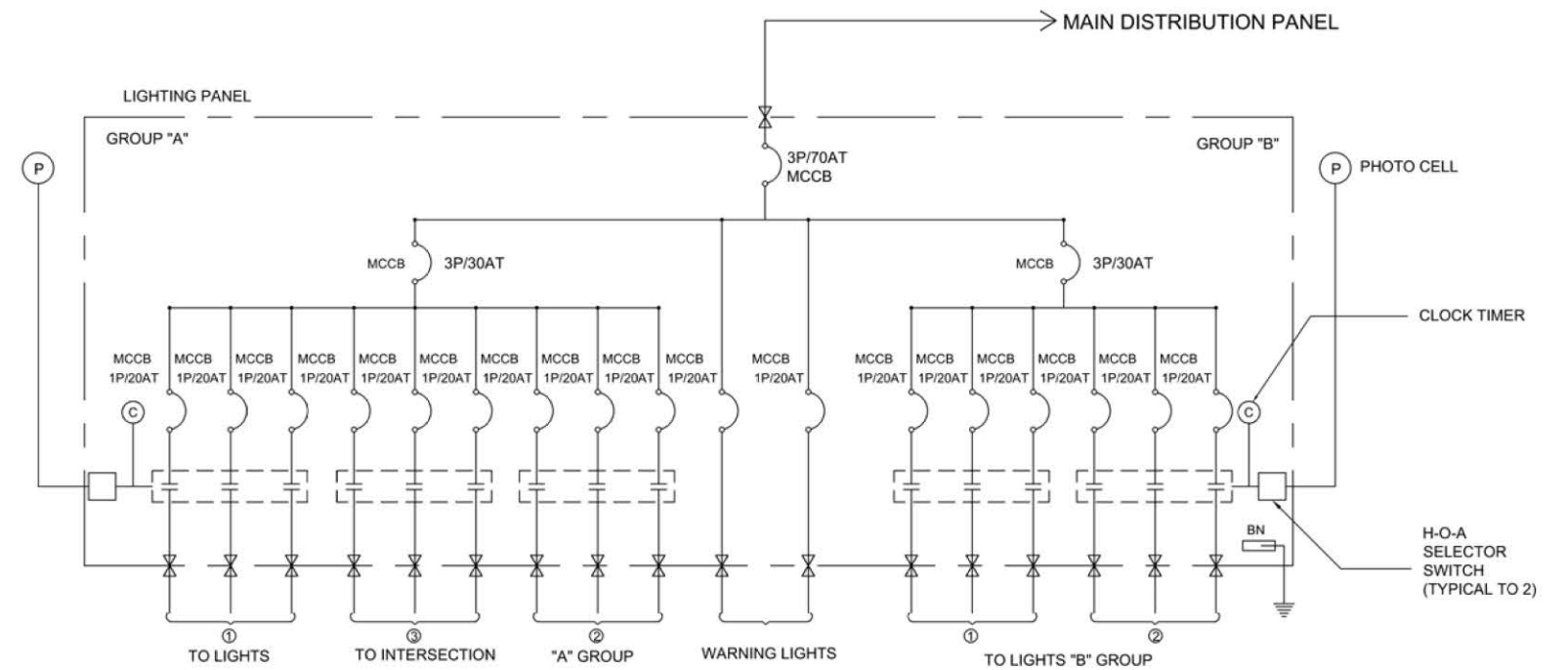
TYPICAL POLE CONCRETE BRACING

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JICA JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME K. MORIMATA T. HAYAKAWA Y. SANO	SIGNATURE <i>[Signature]</i> <i>[Signature]</i> <i>[Signature]</i>	DATE 29 Sep. 2017 3 Oct. 2017 6 Oct. 2017	DRAWING TITLE TYPICAL ELECTRIC POLE ASSEMBLING (11kv USE)	PACKAGE 0 DWG No. PO-EL-0004
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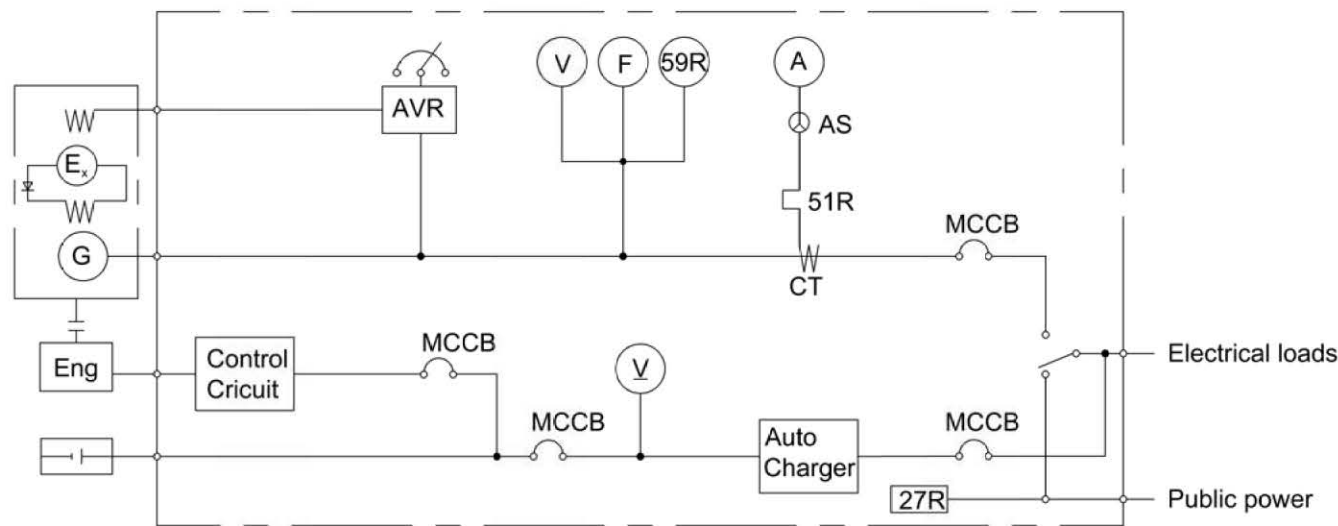
(REFERENCE) SINGLE LINE DIAGRAM FOR PANELS



SINGLE LINE DIAGRAM FOR MAIN DISTRIBUTION PANEL



SINGLE LINE DIAGRAM FOR LIGHTING PANEL



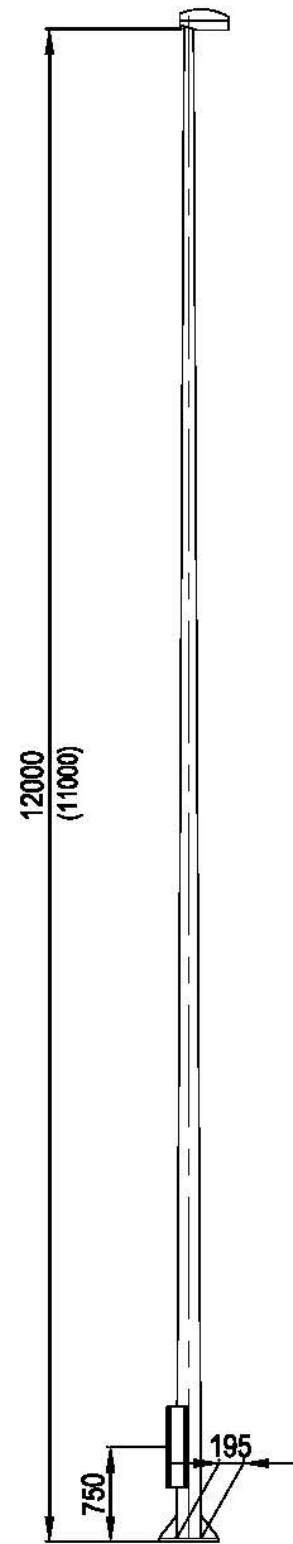
SINGLE LINE DIAGRAM FOR ENGINE GENERATOR CONTROL PANEL

LEGEND

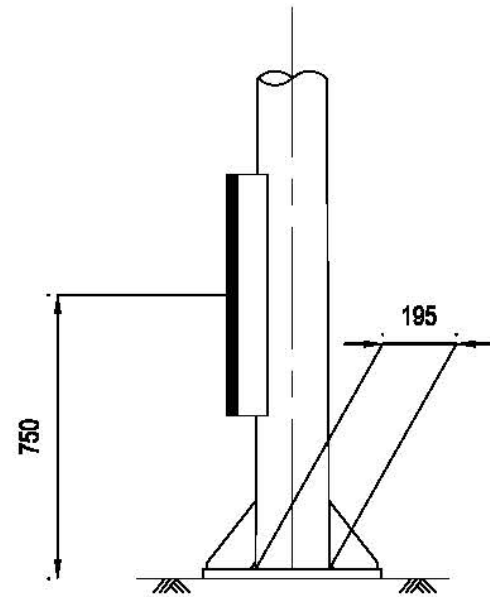
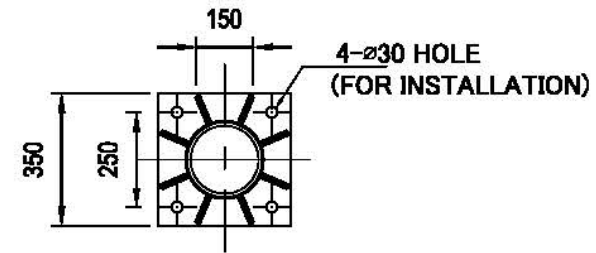
	: MOLDED CASE CIRCUIT BREAKER		: DIESEL ENGINE
AT	: AMPERE TRIPPING		: GENERATOR
	: GROUNDING		: EXITER
	: CONTACTOR		: AMPERE METER
VS	: VOLTMETER CHANGE OVER SWITCH		: VOLTAGE METER
AS	: AMMETER CHANGOVER SWITCH		: FREQUENCY METER
CT	: CURRENT TRANSFORMER		: BATTERY
			: AUTOMATIC VOLTAGE LEGULATOR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

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE	
				PREPARED BY	K. MORIMATA		29 Sep. 2017	(REFERENCE) SINGLE LINE DIAGRAM FOR PANELS	0
				CHECKED BY	T. HAYAKAWA		3 Oct. 2017		DWG No.
				APPROVED BY	Y. SANO		6 Oct. 2017		P0-EL-0006

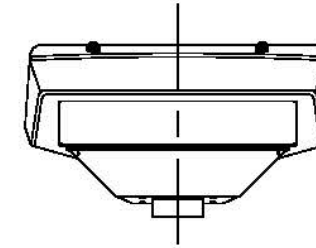
TYPICAL LED LUMINAIR AND POLE



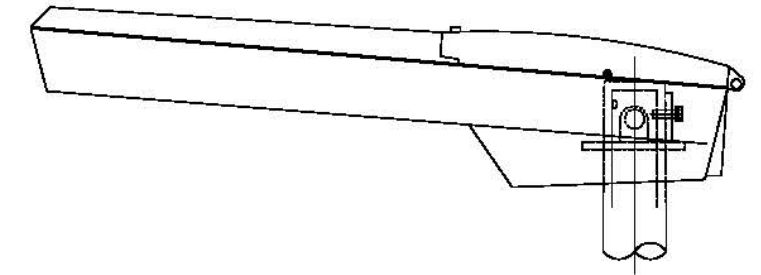
NOTE: () : FOR FLYOVER
OUTLINE OF LIGHTING POLE



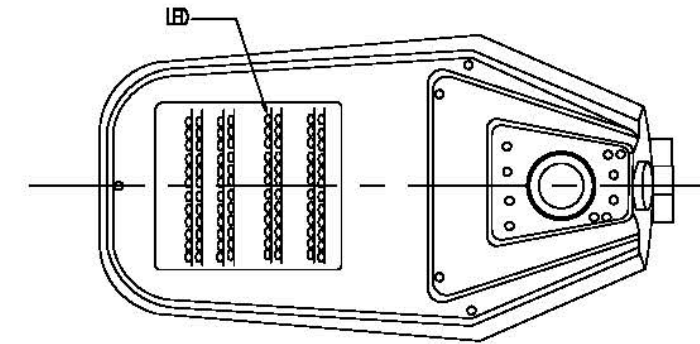
MAINTENANCE OPENING
REFERENCE FOR LIGHTING POLE
 NTS



FRONT VIEW



SIDE VIEW

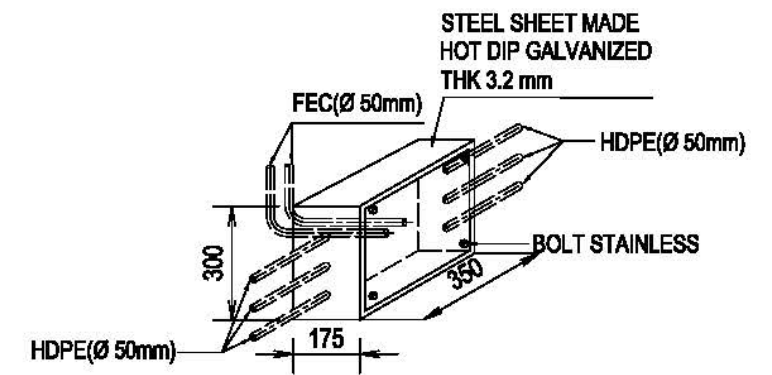
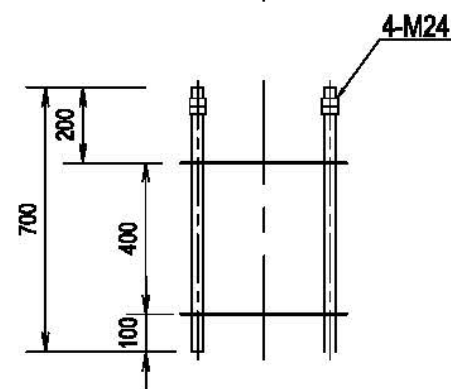
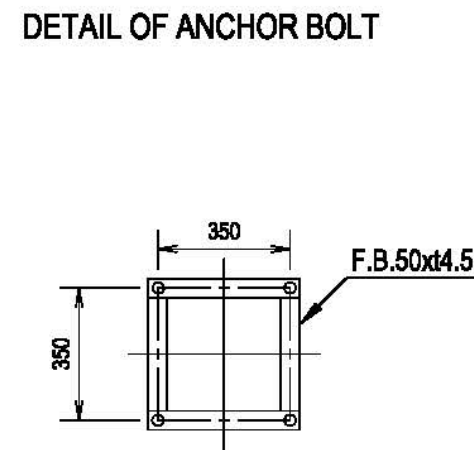
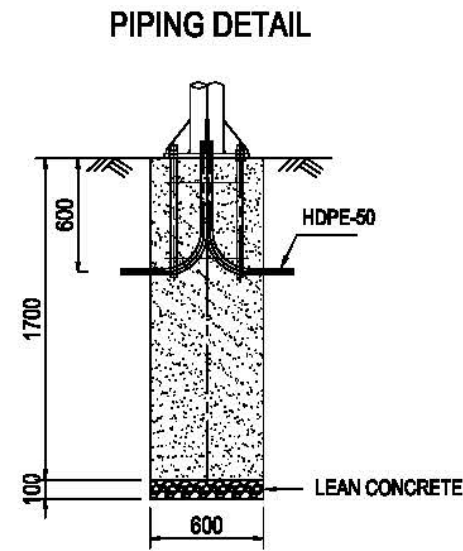
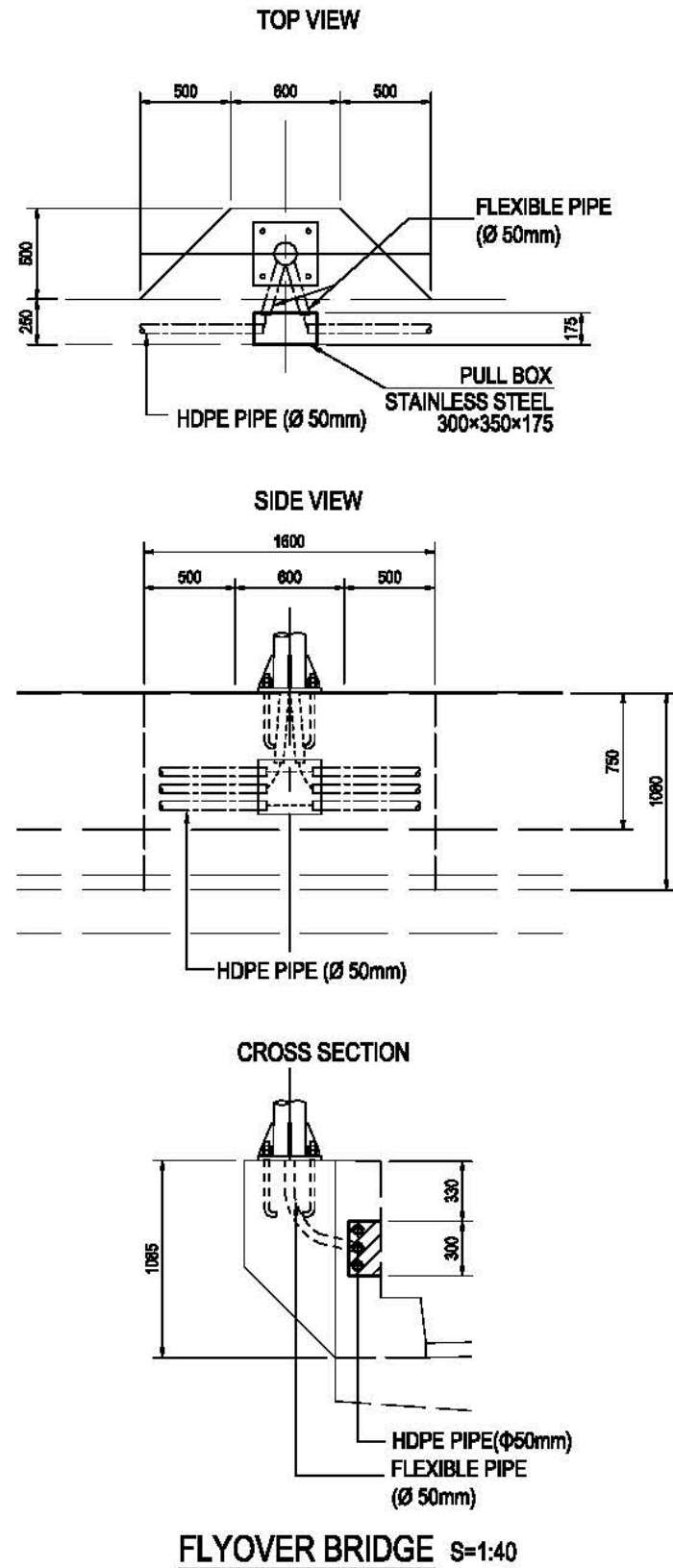


FACE VIEW

REFERENCE FOR LED LUMINAIR
 NTS

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTRY/STATE 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 LED LUMINAIR AND POLE	PACKAGE	
				PREPARED BY	K. MORIMATA			29 Sep. 2017	0
				CHECKED BY	T. HAYAKAWA			3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct. 2017	PD-EL-0007

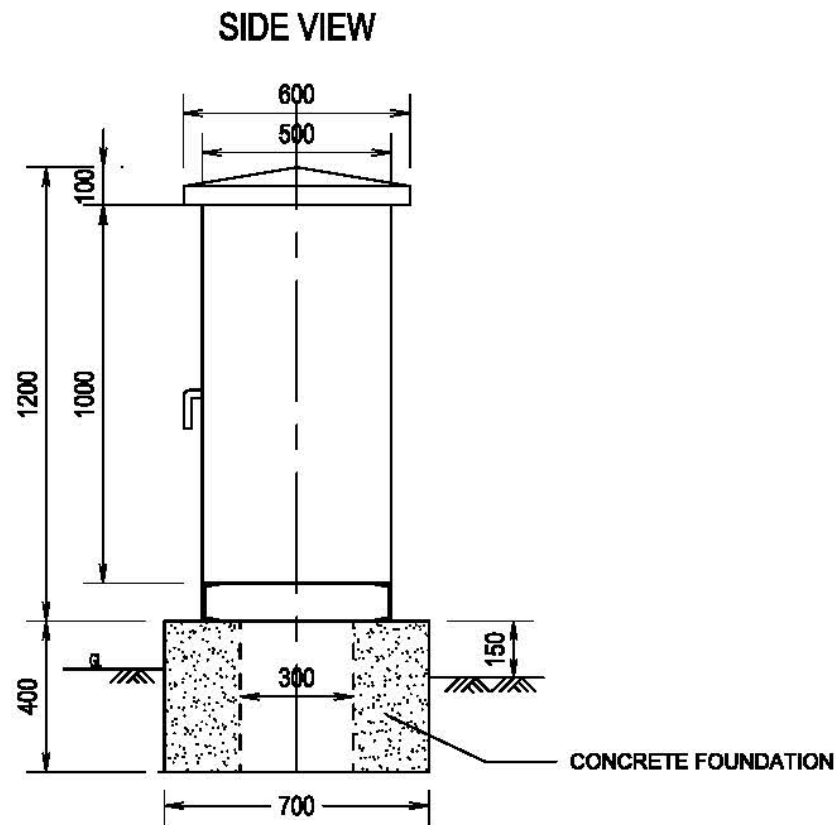
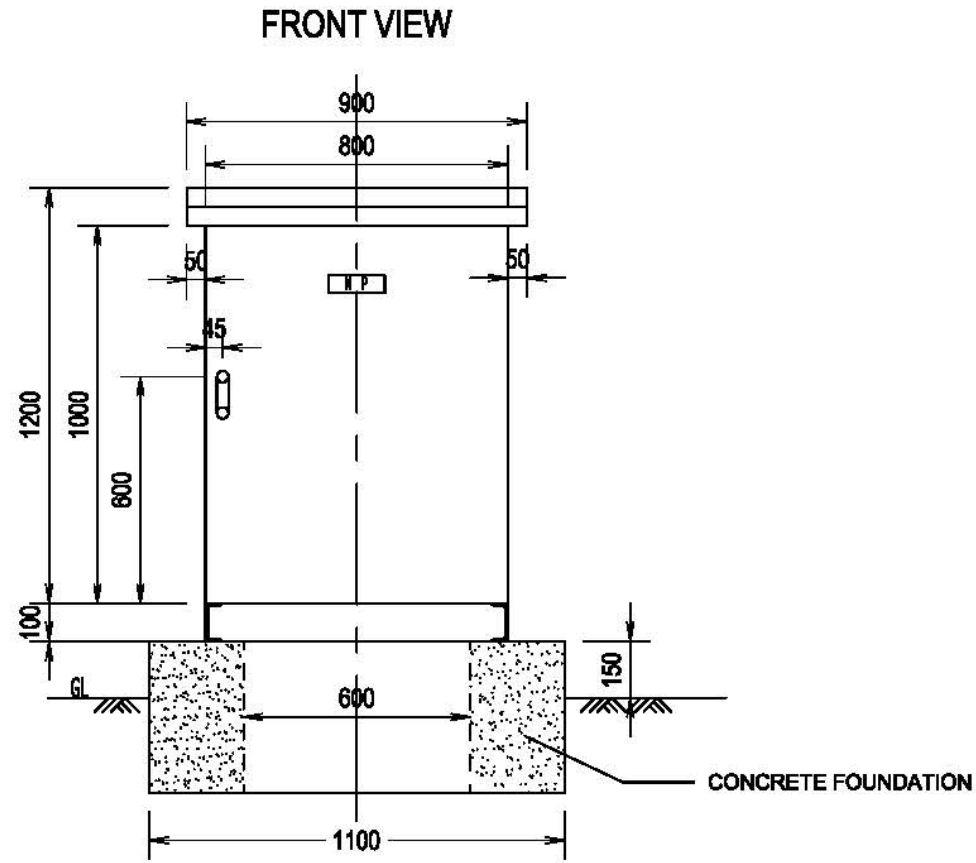
TYPICAL FOUNDATION DETAILS FOR LIGHTING POLE



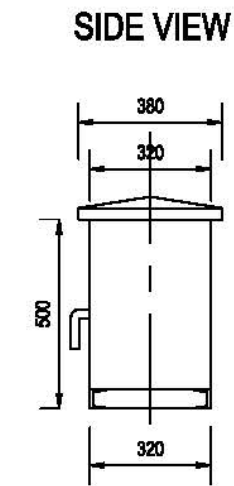
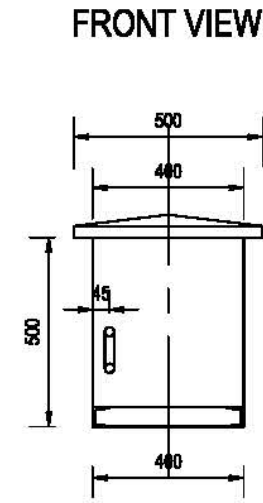
FOR THANLYIN CHIN KAT ROAD LIGHTING POLE S=1:20

PROJECT NAME	FINANCED BY	COUNTRY/STATE	DESIGN/STUDY TEAM	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE
DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	JICA JAPAN INTERNATIONAL COOPERATION AGENCY	REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	PREPARED BY K. MORIMATA	<i>[Signature]</i>	29 Sep. 2017	TYPICAL FOUNDATION DETAILS FOR LIGHTING POLE	0
				CHECKED BY T. HAYAKAWA	<i>[Signature]</i>	3 Oct. 2017		DWG No.
				APPROVED BY Y. SANO	<i>[Signature]</i>	6 Oct. 2017		PD-EL-0008

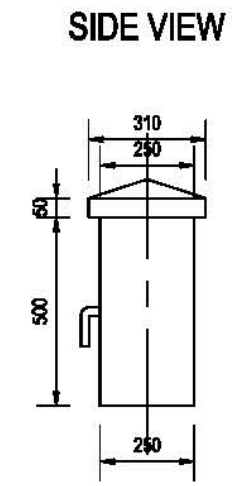
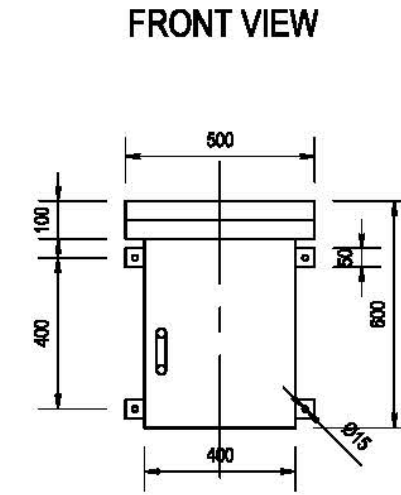
(REFERENCE) OUTLINE OF ELECTRIC PANELS



MAIN DISTRIBUTION PANEL S=1:20



LIGHTING PANEL S=1:20



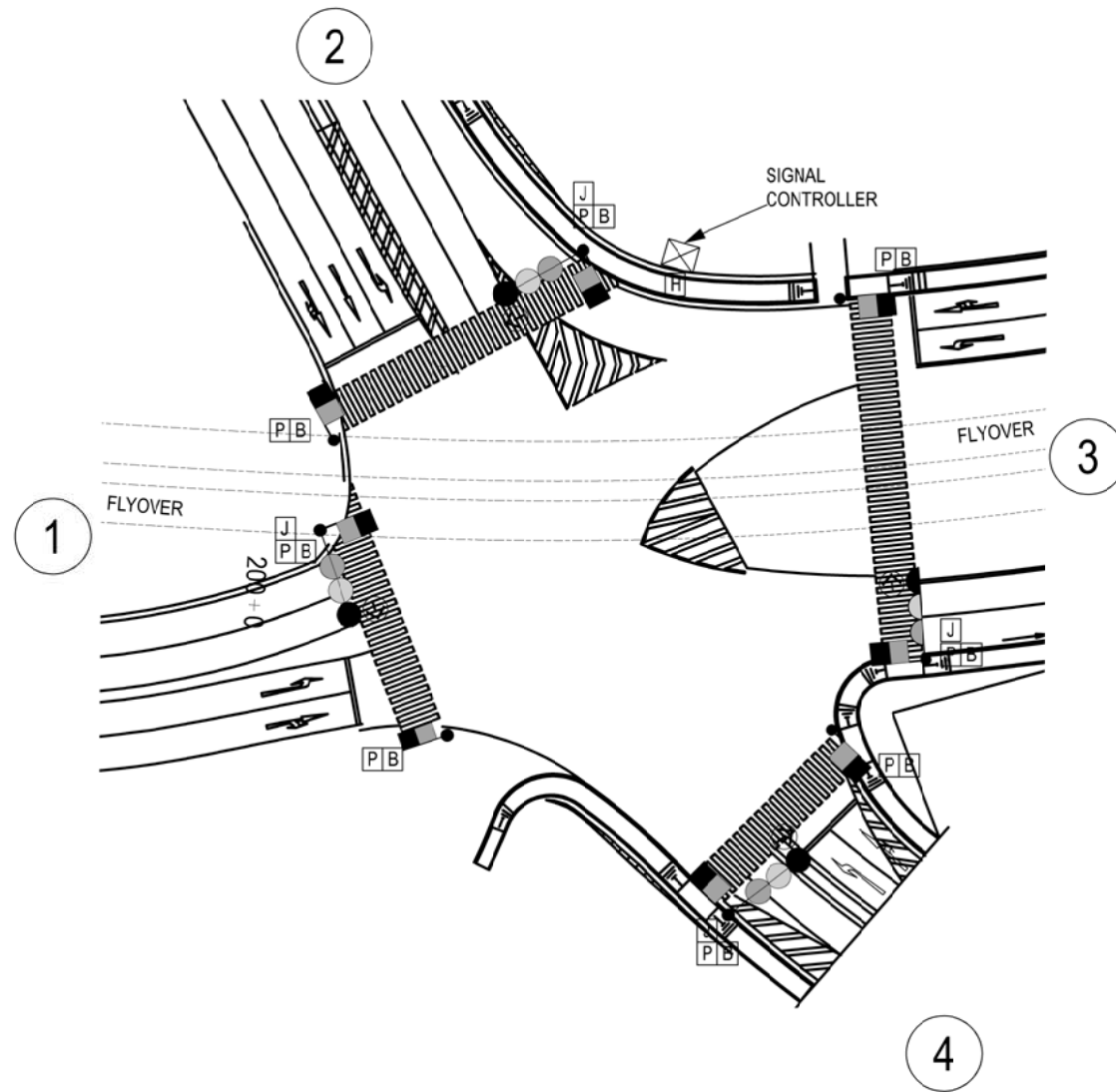
POLE MOUNTED TYPE BOX S=1:20

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTRY/STATE REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE (REFERENCE) OUTLINE OF ELECTRIC PANELS	PACKAGE	
				PREPARED BY	K. MORIMATA			29 Sep. 2017	0
				CHECKED BY	T. HAYAKAWA			3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct. 2017	PD-EL-0009

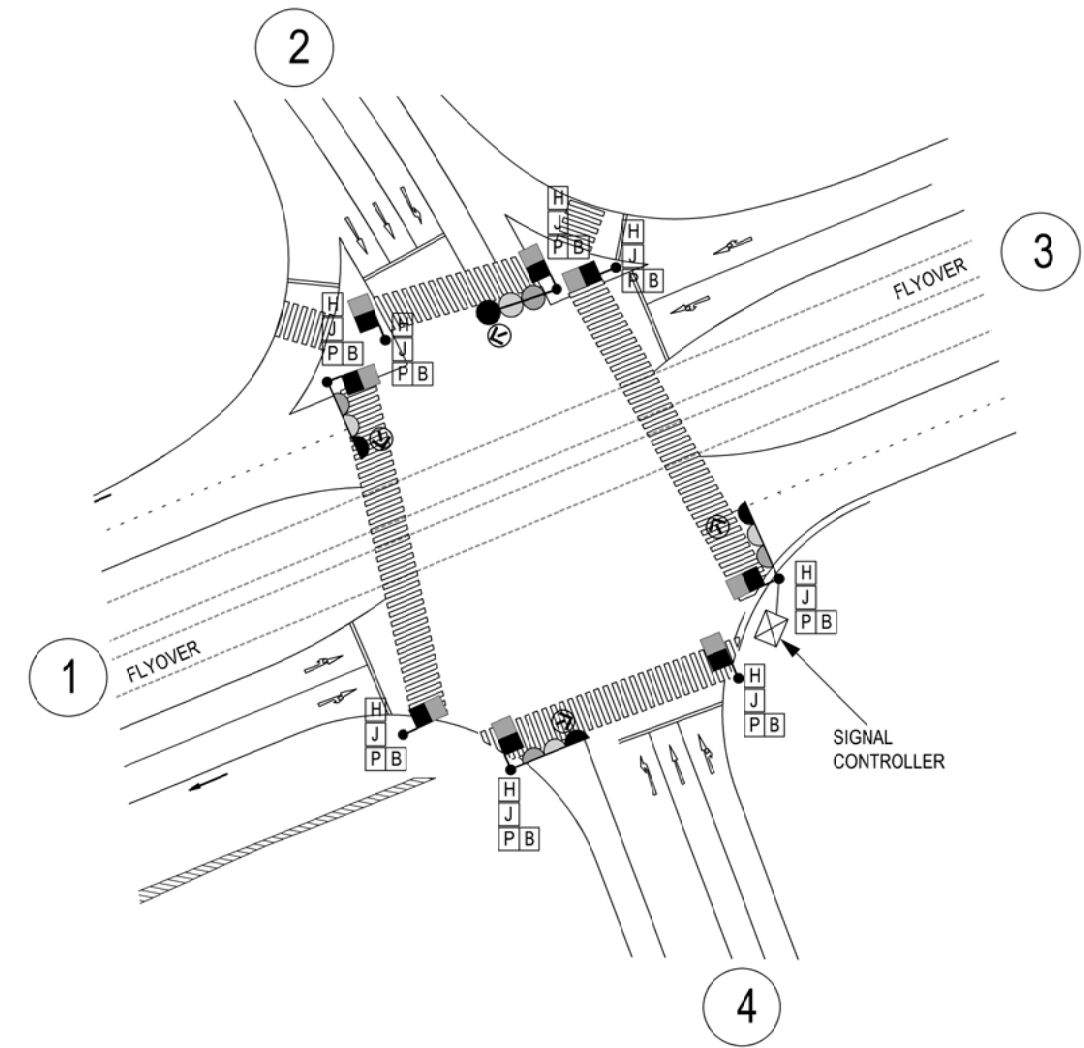
TYPICAL TRAFFIC SIGNAL CONTROL SYSTEM PLAN FOR INTERSECTIONS(MOC'S CONSTRUCTION)

LEGEND

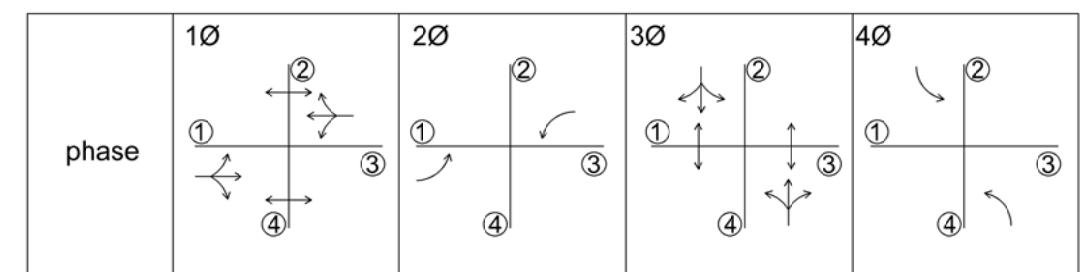
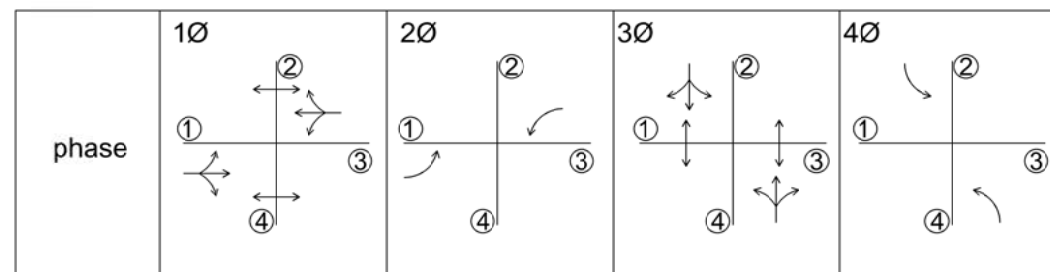
- : Concrete pole
- : Steel pole
- ⊠ : Traffic signal controller
- : Vehicle traffic signal with steel pole
- ➔ : Arrow sign traffic signal
- : Pedestrian signal with steel pipe
- ⊠ (P B) : Push-button switch
- ⊠ (J) : Junction box
- ⊠ (S) : Power supply box
- ⊠ (P) : Pull box
- ⊠ (H) : Hand hole
- ⬆ : Raising underground pipe
- ⚡ : Cable
- : Underground piping
- SVV : Control -use vinyl insulated vinyl sheathed cable
- IV : Indoor PVC
- E : Grounding



PLAN OF TEMPORARY TRAFFIC SIGNAL SYSTEM FOR SHUKHINTHAR I/S



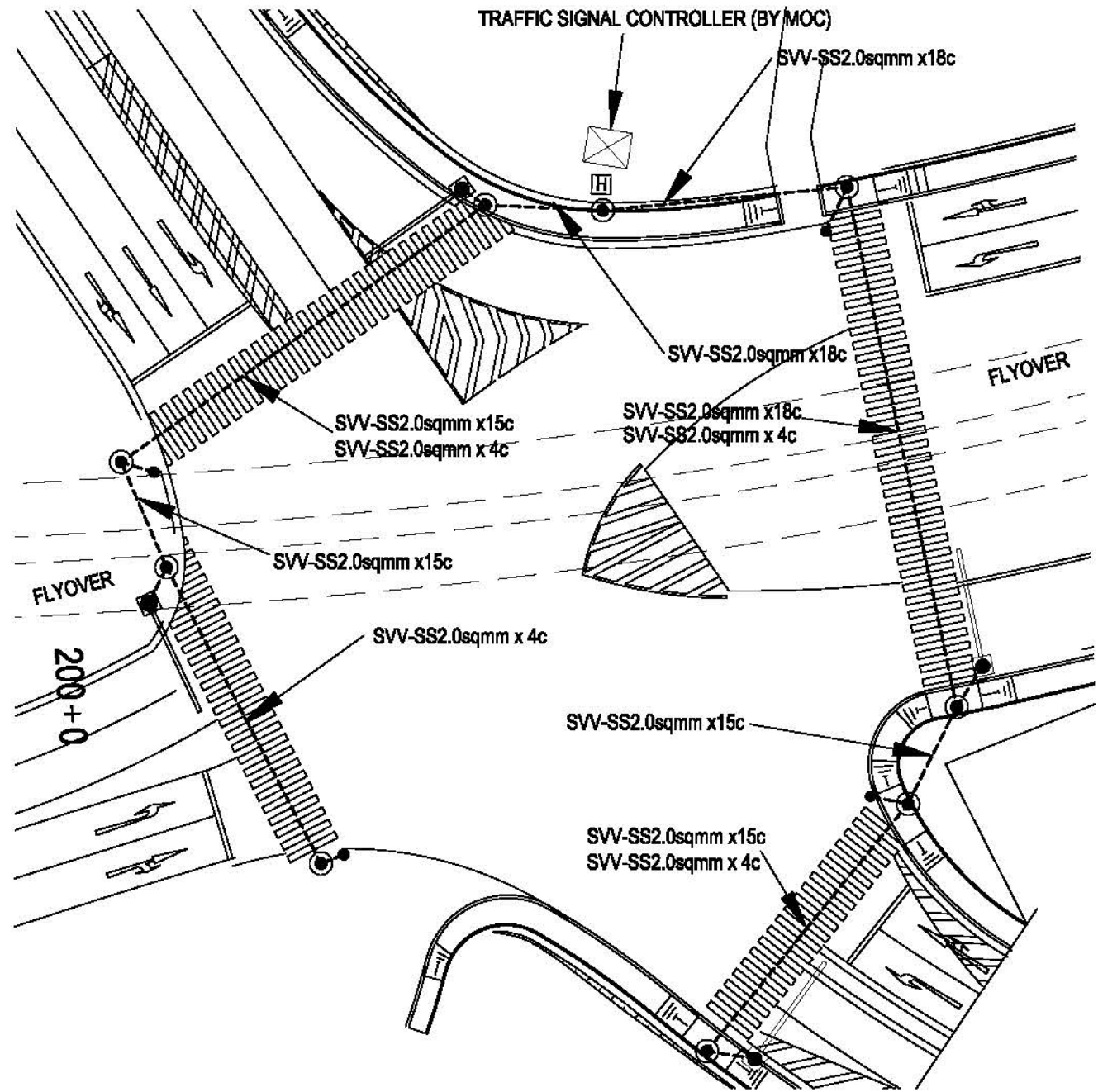
PLAN OF TRAFFIC SIGNAL SYSTEM FOR YADANAR I/S



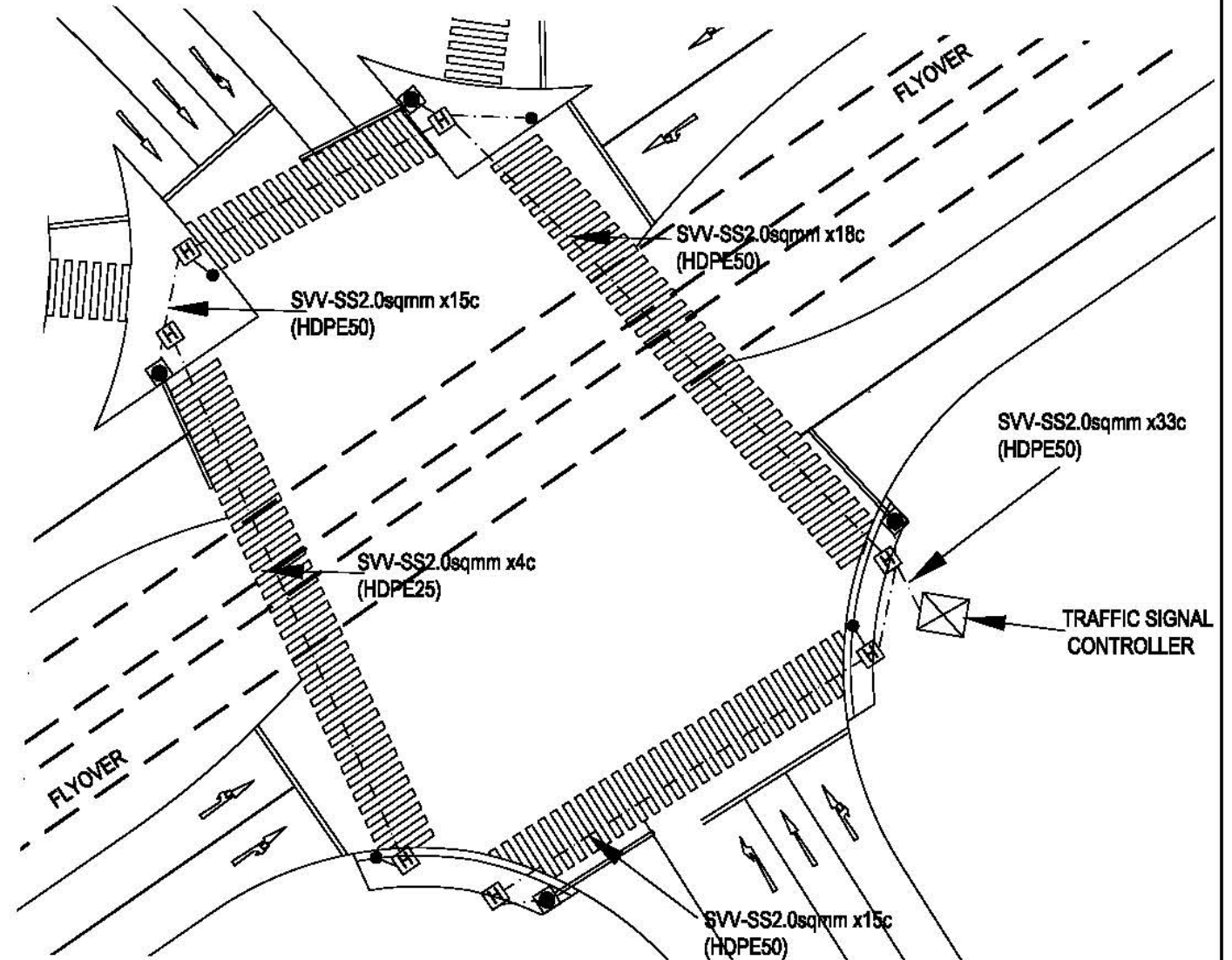
VEHICLE AND PEDESTRIAN PHASING PLAN

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO. LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE	PACKAGE		
				PREPARED BY	K. MORIMATA	29 Sep. 2017			TYPICAL TRAFFIC SIGNAL CONTROL SYSTEM PLAN FOR INTERSECTIONS(MOC'S CONSTRUCTION)	0
				CHECKED BY	T. HAYAKAWA	3 Oct. 2017				DWG No.
				APPROVED BY	Y. SANO	6 Oct. 2017				PO-EL-0010

TYPICAL WIRING PLAN FOR INTERSECTION (MOC'S CONSTRUCTION)



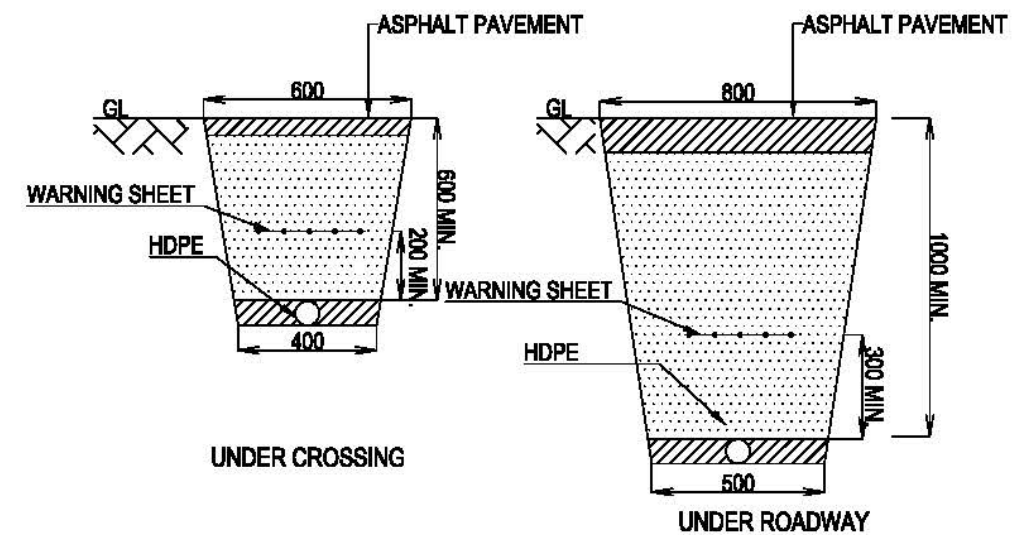
OVERHEAD WIRING PLAN FOR SHUKHINTHAR I/S
1:400



UNDERGROUND WIRING PLAN FOR YADANAR I/S
1:400

LEGEND

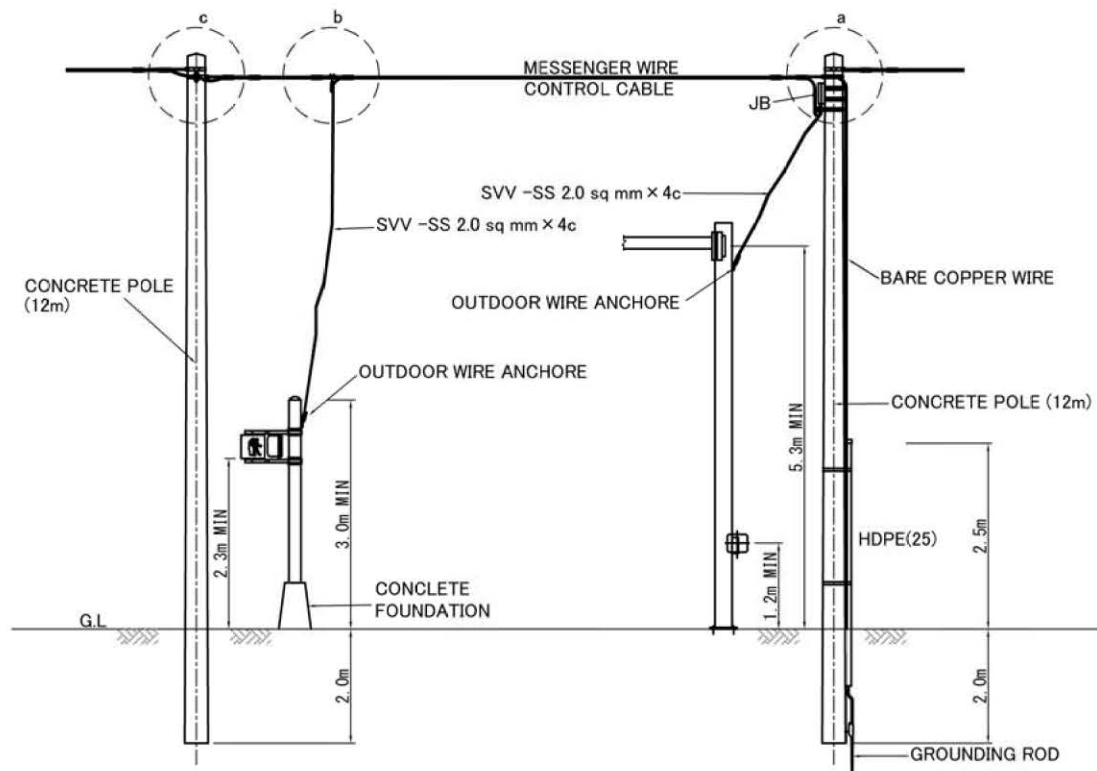
- : Base mounted pole signal head pole (with arm)
- : Pedestrian signal head pole (with push-button)
- : Concrete Pole
- : Underground wiring
- : Messenger Wire



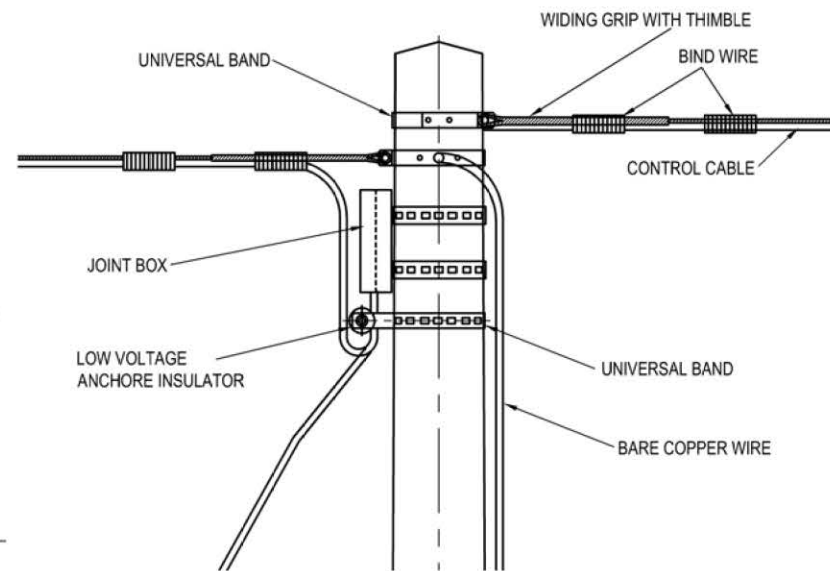
UNDERGROUND WIRING DEPTH 1:20

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTRY REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JOA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE TYPICAL WIRING PLAN FOR INTERSECTION (MOC'S CONSTRUCTION)	PACKAGE	
				PREPARED BY	K. MORIMATA			29 Sep. 2017	0
				CHECKED BY	T. HAYAKAWA			3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct. 2017	P0-EL-0011

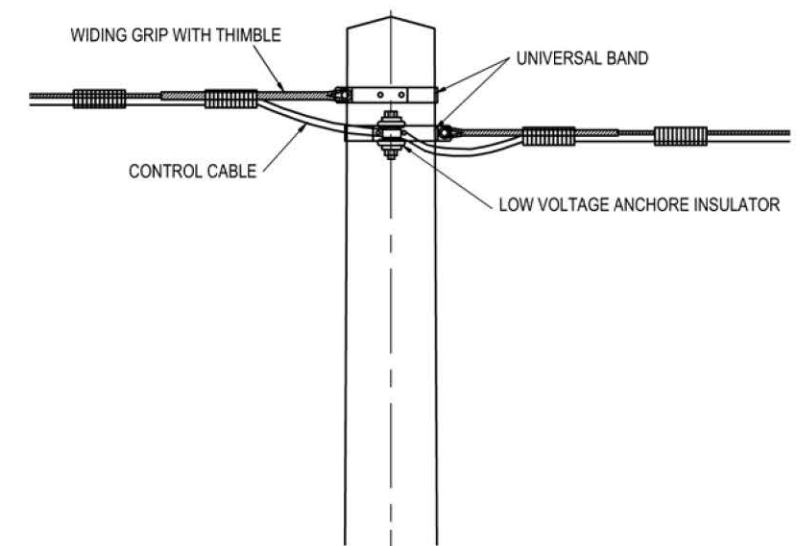
(REFERENCE) TYPICAL OVERHEAD WIRING PLAN



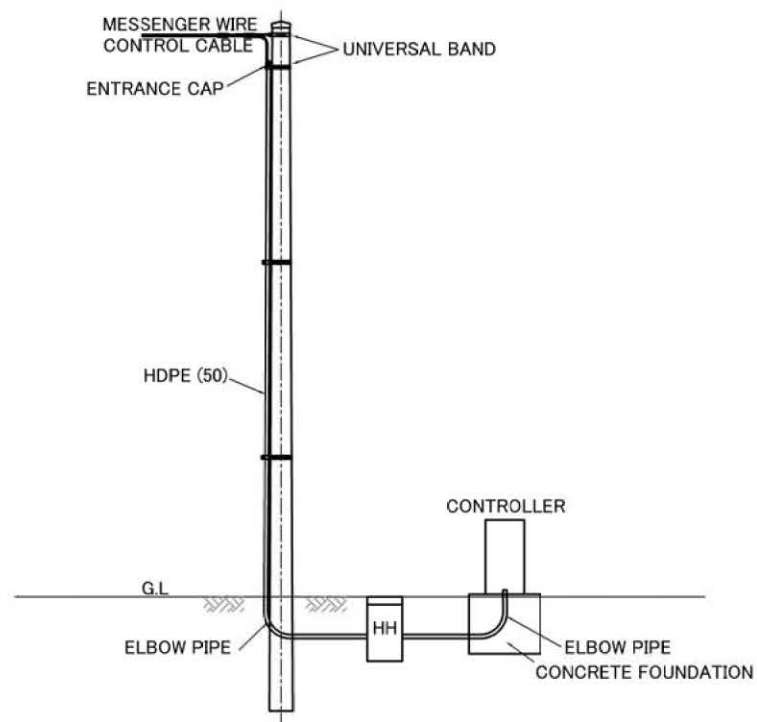
TYPICAL WIRING LAYOUT



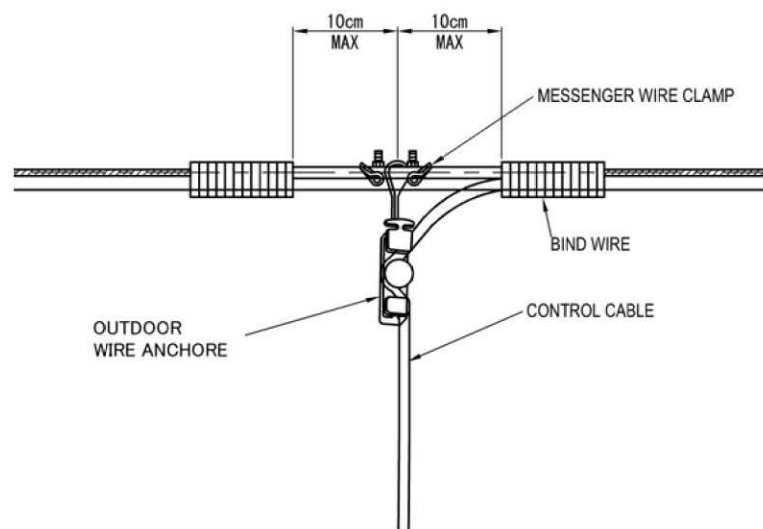
DETAIL VIEW ("a" PORTION)



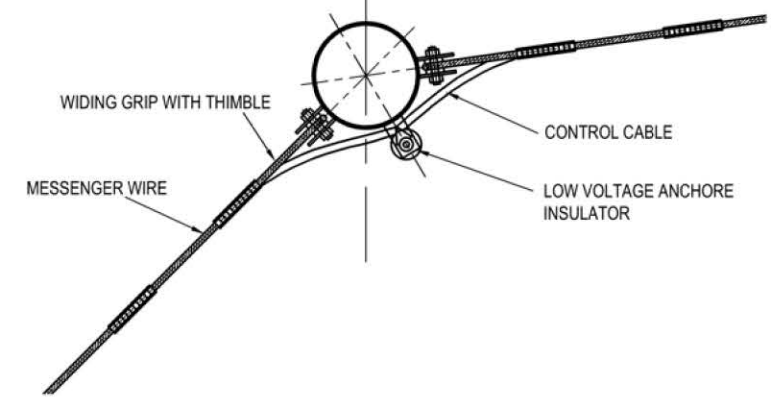
DETAIL VIEW ("b" PORTION)



TYPICAL WIRING PLAN TO CONCRETE POLE



DETAIL VIEW ("c" PORTION)

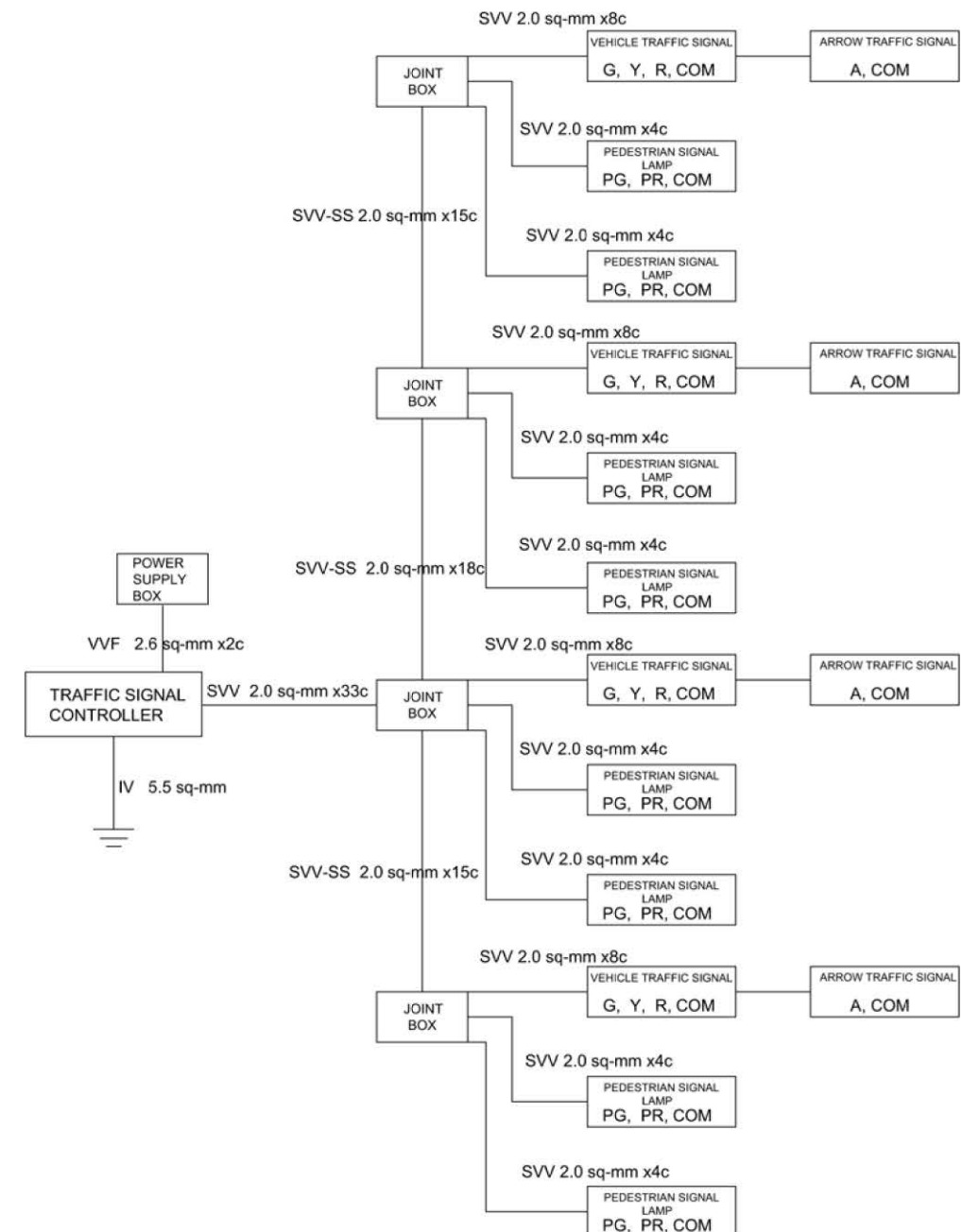
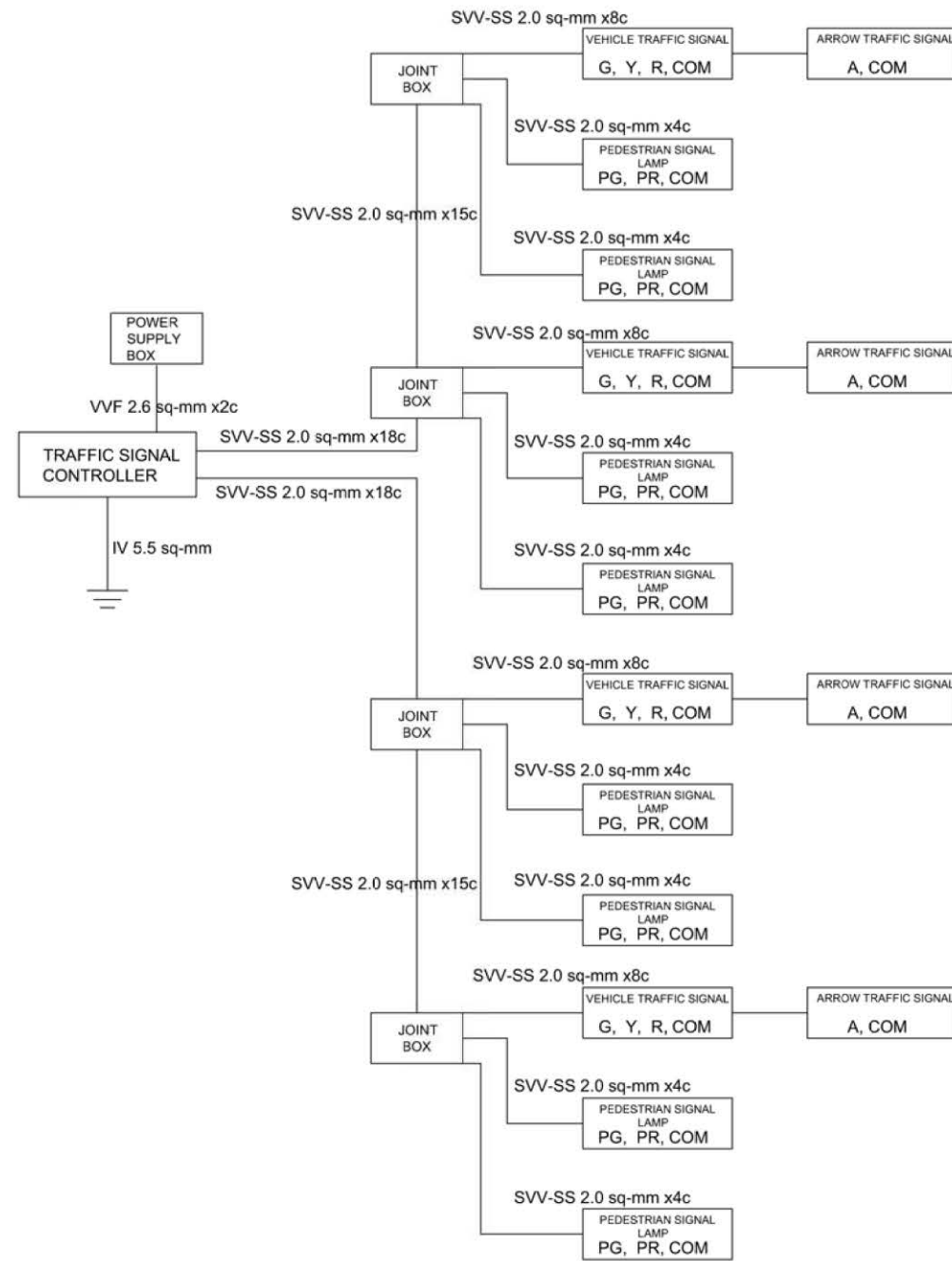


PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE (REFERENCE) TYPICAL OVERHEAD WIRING PLAN	PACKAGE	
				PREPARED BY	K. MORIMATA			29 Sep. 2017	0
				CHECKED BY	T. HAYAKAWA			3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct. 2017	P0-EL-0012

TYPICAL TRAFFIC SIGNAL CONTROL SYSTEM DIAGRAM

LEGND

- G : Vehicle traffic signal : Green light
- Y : Vehicle traffic signal : Yellow light
- R : Vehicle traffic signal : Red light
- A : Arrow traffic signal : Green light
- PG : Pedestrian signal lamp : Green light
- PR : Pedestrian signal lamp : Red light
- COM : Common for all indication
- : Concrete Pole (H=12m)
- : Overhead Cable

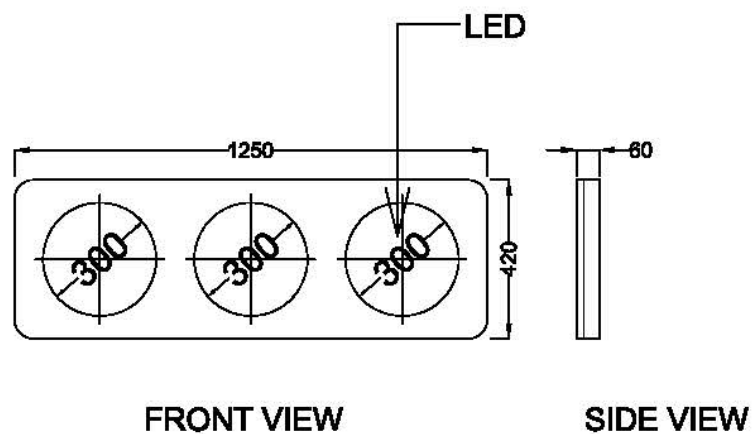


TYPICAL TRAFFIC SIGNAL CONTROL SYSTEM DIAGRAM
FOR YADANAR INTERSECTION

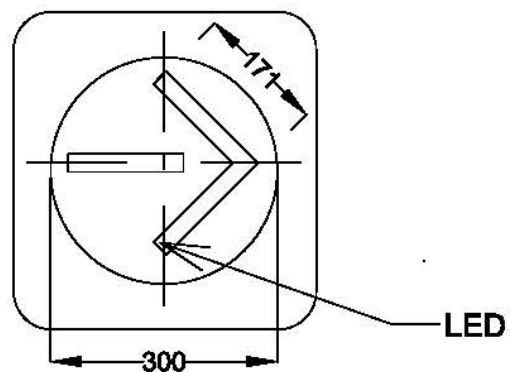
TYPICAL TRAFFIC SIGNAL CONTROL SYSTEM DIAGRAM
FOR SHUKHINTHAR INTERSECTION

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. MORIMATA	<i>[Signature]</i>	29 Sep. 2017	TYPICAL TRAFFIC SIGNAL CONTROL SYSTEM DIAGRAM	0
				T. HAYAKAWA	<i>[Signature]</i>	3 Oct. 2017		DWG No.
				Y. SANO	<i>[Signature]</i>	6 Oct. 2017		PO-EL-0013

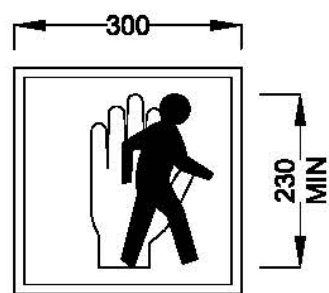
(REFERENCE) TRAFFIC SIGNAL HEAD AND POLES



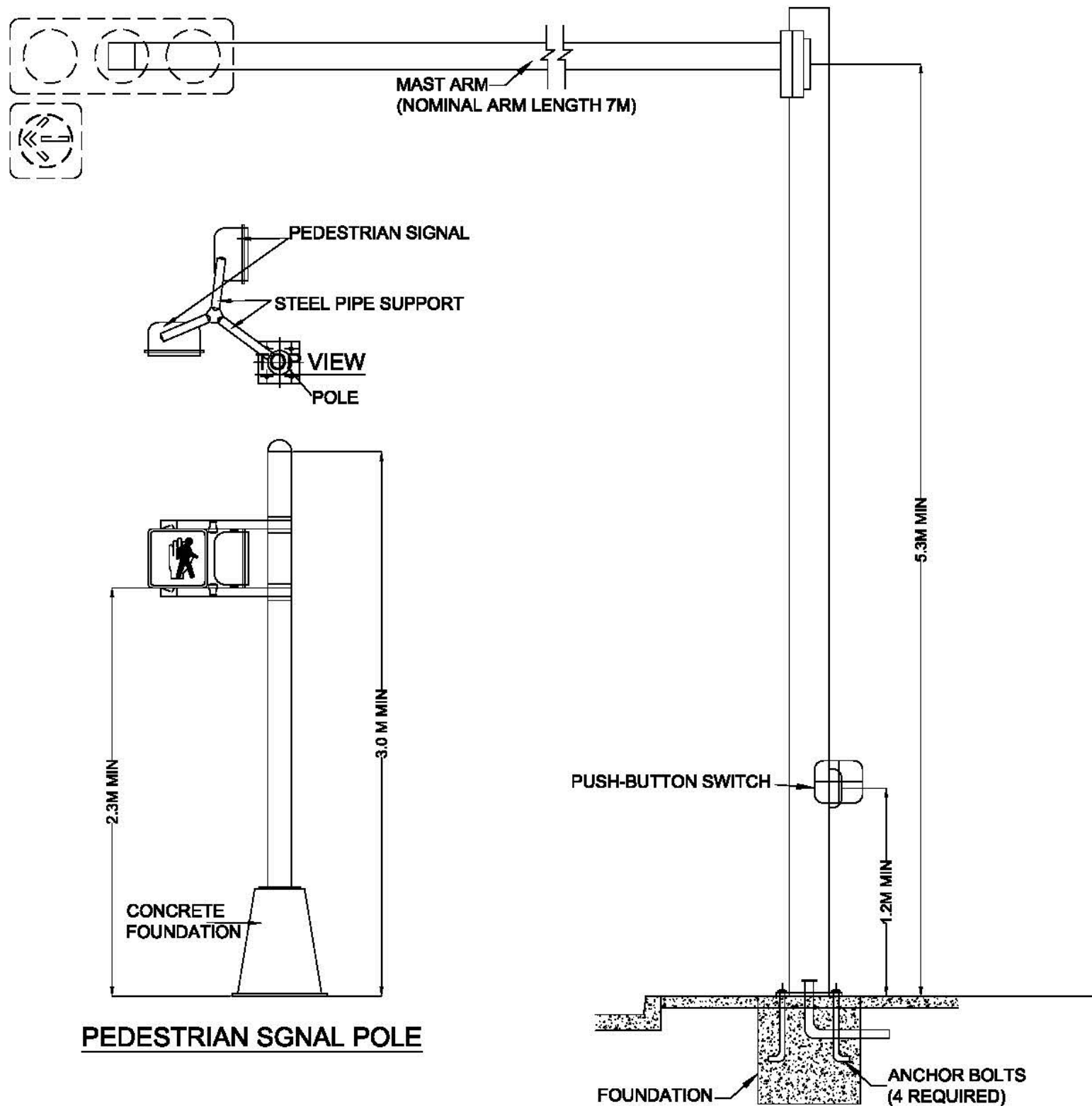
FRONT VIEW SIDE VIEW
TYPICAL SIGNAL HEAD S=1:20



TYPICAL ARROW SIGNAL DETAIL S=1:10



TYPICAL PEDESTRIAN SIGNAL S=1:10

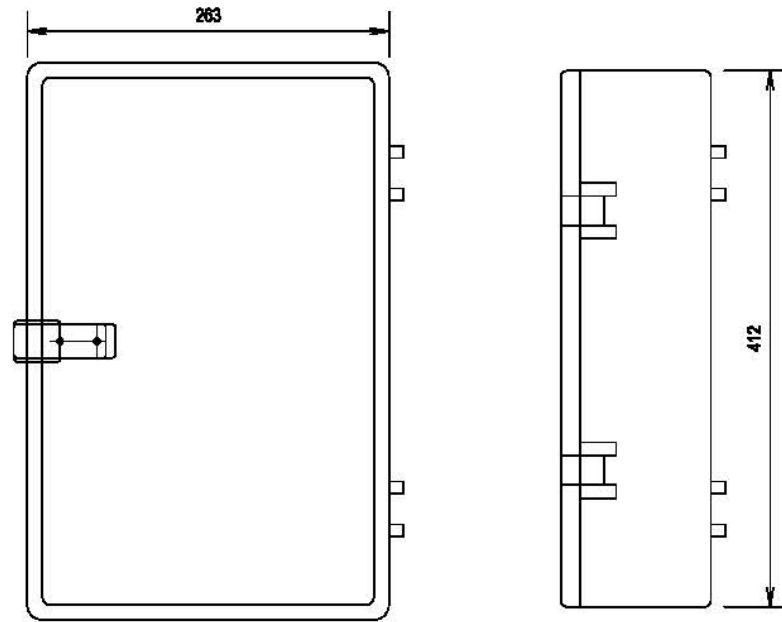


PEDESTRIAN SIGNAL POLE

TRAFFIC SIGNAL HEAD POLE

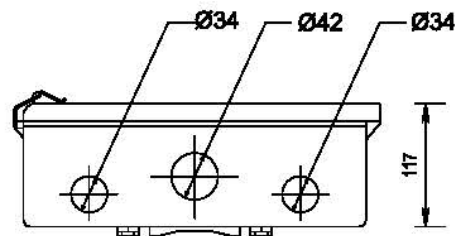
PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTRY REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE (REFERENCE) TRAFFIC SIGNAL HEAD AND POLES	PACKAGE	
				PREPARED BY	K. MORIMATA			29 Sep. 2017	0
				CHECKED BY	T. HAYAKAWA			3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct. 2017	PD-EL-0014

(REFERENCE) OUTLINE OF TRAFFIC SIGNAL CONTROLLER AND JUNCTION BOX



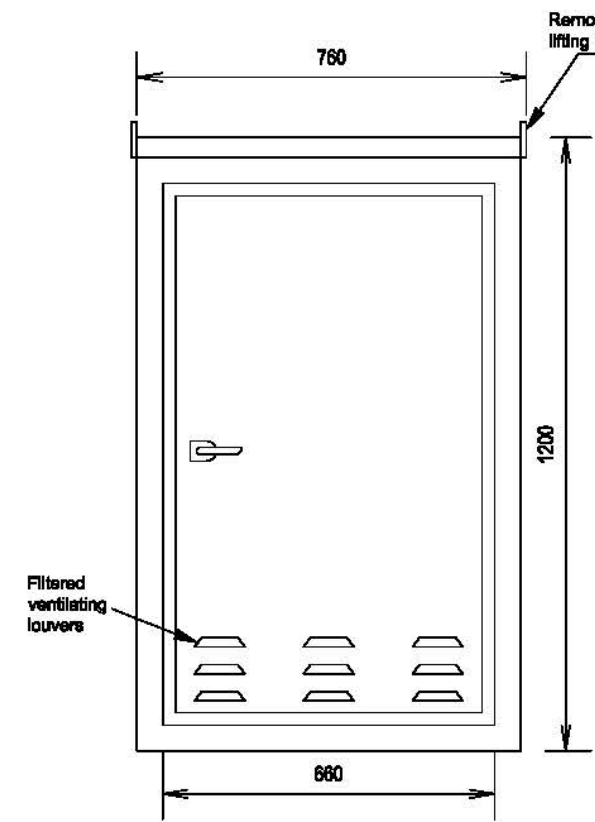
FRONT VIEW
UNIT : mm

SIDE VIEW
UNIT : mm

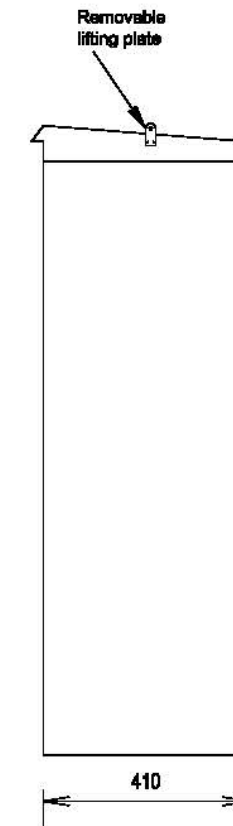


BOTTOM VIEW
UNIT : mm

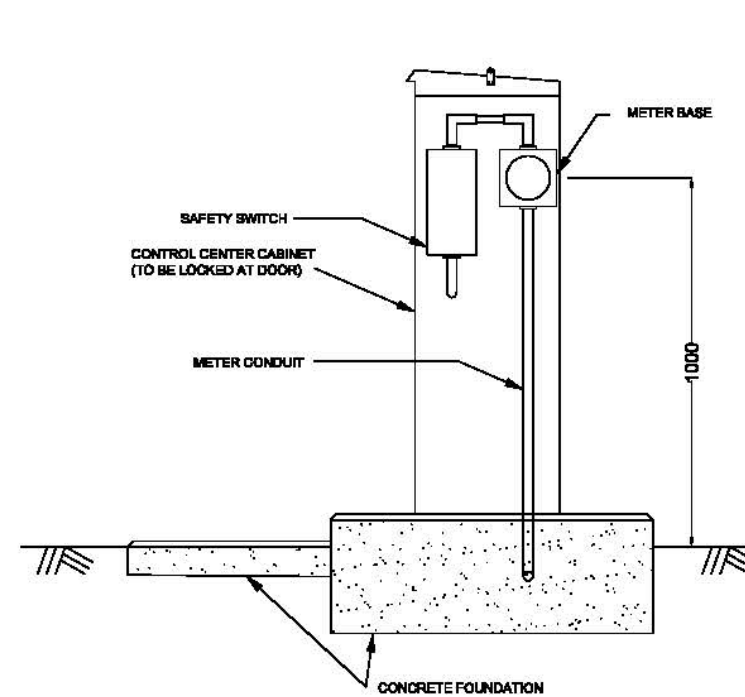
TYPICAL OUTLINE OF JUNCTION BOX
NTS



FRONT VIEW

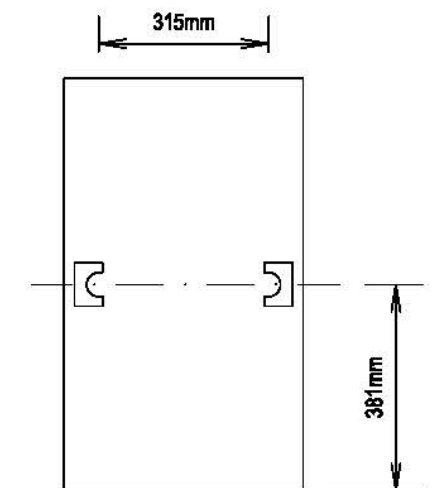


SIDE VIEW



SIDE VIEW

UNIT : mm



TYPICAL TRAFFIC SIGNAL CONTROLLER

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTRY REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE (REFERENCE) OUTLINE OF TRAFFIC SIGNAL CONTROLLER AND JUNCTION BOX	PACKAGE	
				PREPARED BY	K. MORIMATA			29 Sep. 2017	0
				CHECKED BY	T. HAYAKAWA			3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct. 2017	PD-EL-0015

QUANTITY TABLE OF LIGHTING AND ELECTRICAL WORKS FOR MOC'S CONSTRUCTION (REFERENCE DRAWING)

QUANTITY OF ROAD LIGHTING SYSTEM

Item Description	Unit	Total
Lighting Pole Type B (H=12m)	No.	51.0
LED Lamp (140W)	No.	42.0
LED Lamp (150W)	No.	4.0
HID Lamp (360W)	No.	5.0
Lighting Panel Type A (17 branches)	No.	1.0
Grounding Plates	No.	9.0
4 Core/XLPE 35 sq. mm Electric Wire Cable	m	20.0
4 Core/XLPE 25 sq. mm Electric Wire Cable	m	4,420.0
4 Core/XLPE 8 sq. mm Electric Wire Cable	m	500.0
NFB 240V, 2P	No.	51.0
HDPE Pipe (50mm dia.)	m	4,555.0
Steel Conduit (100mm dia.)	m	26.0
Handhole (600 x 600 x 1200)	No.	10.0
Handhole (600 x 600 x 800)	No.	7.0
Incoming Power Receiving Pole (H=15m)	No.	1.0
Power Receiving Panel (100kVA)	No.	1.0
Emergency Engine Generator (50kVA)	No.	1.0
Main Power Distribution Panel (300AF / 50AF)	No.	1.0
Boundary Fence (H=1.2m)	m	20.0

QUANTITY OF TRAFFIC SIGNAL CONTROL SYSTEM

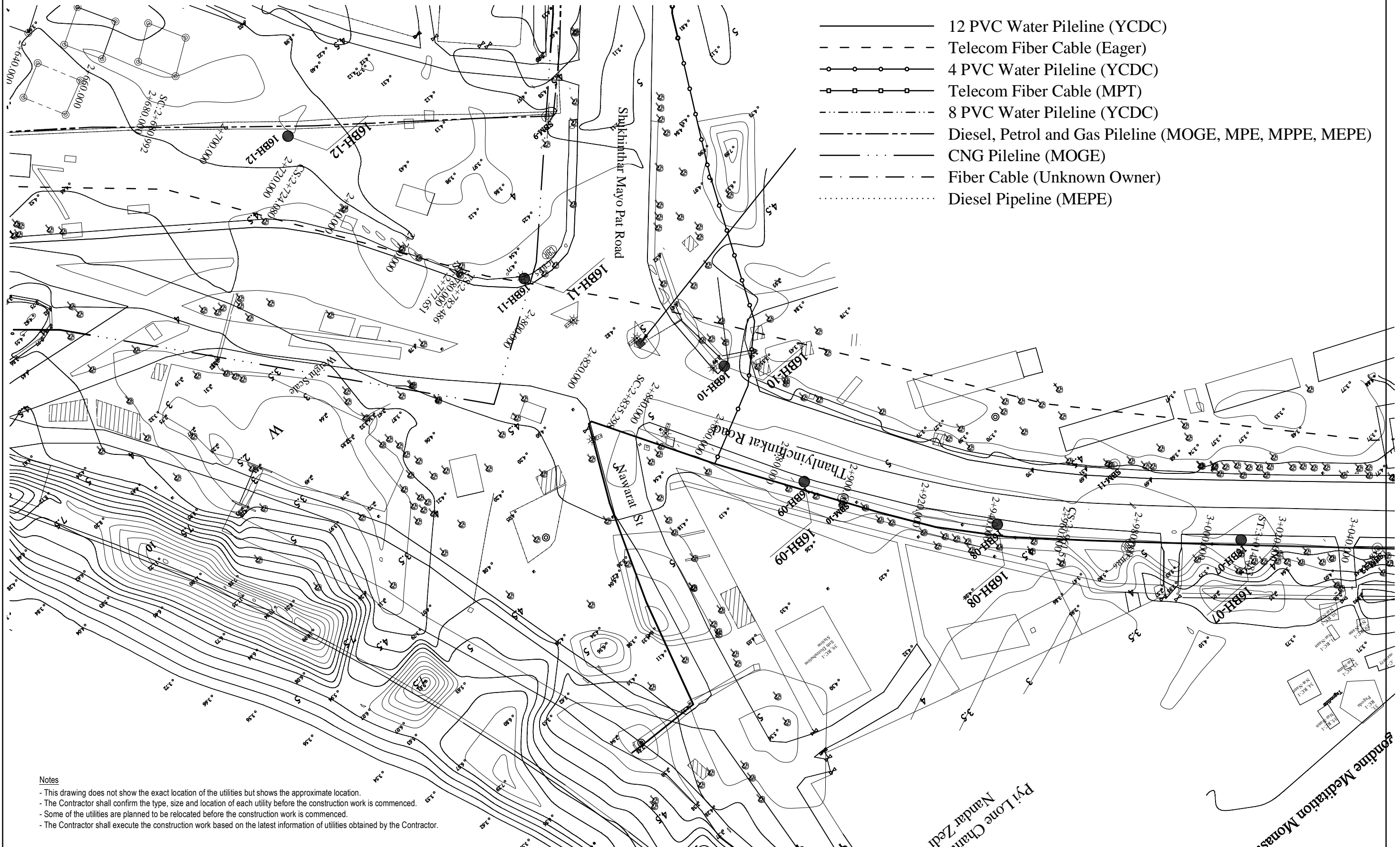
Item Description	Unit	Total
Traffic Signal Pole	No.	8.0
Pedestrian Signal Pole	No.	8.0
Traffic Signal Head (LED)	No.	8.0
Arrow Signal Head (LED)	No.	8.0
Pedestrian Signal Head and Push Botton	No.	16.0
Distribution Panel (3branches)	No.	2.0
Handhole (600 x 600 x 800)	No.	8.0
Traffic Signal Controller	No.	2.0
HDPE Pipe (50mm dia.)	m	30.0
HDPE Pipe (25mm dia.)	m	12.0
SVV-SS 2.0 sq.mm x 4c	m	40.0
SVV-SS 2.0 sq.mm x 15c	m	160.0
SVV-SS 2.0 sq.mm x 18c	m	163.0
SVV-SS 2.0 sq.mm x 33c	m	14.0
SVV 2.0 sq.mm x 4c	m	341.0
SVV 2.0 sq.mm x 8c	m	68.0
Joint Box (36terminal)	No.	12.0
Grounding Rod (L=1.5m, D=14mm)	No.	4.0
Concrete Pole (H=12m, Φ=190mm)	No.	9.0
Messenger Wire(55sq.mm)	m	192.0
Winding Grip with Thimble	No.	18.0
Messenger Wire Clap	No.	8.0
Universal Band	No.	20.0
Entrance Cap	No.	2.0
Outdoor Wire Anchor	No.	8.0
Low Voltage Anchor Insulator with Mounting Hardware	No.	9.0
Copper Bind Wire (0.9 sq.mm)	m	77.0

NOTE) THE QUANTITY SHOWN IN THE LIST IS A BIT DATA ONLY

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 QUANTITY TABLE OF LIGHTING AND ELECTRICAL WORKS FOR MOC'S CONSTRUCTION (REFERENCE DRAWING)	PACKAGE	
				PREPARED BY	K. MORIMATA			29 Sep. 2017	0
				CHECKED BY	T. HAYAKAWA			3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct. 2017	P0-EL- 0016

(REFERENCE) EXISTING UNDERGROUND UTILITIES LAYOUT (1)

S=1:1000



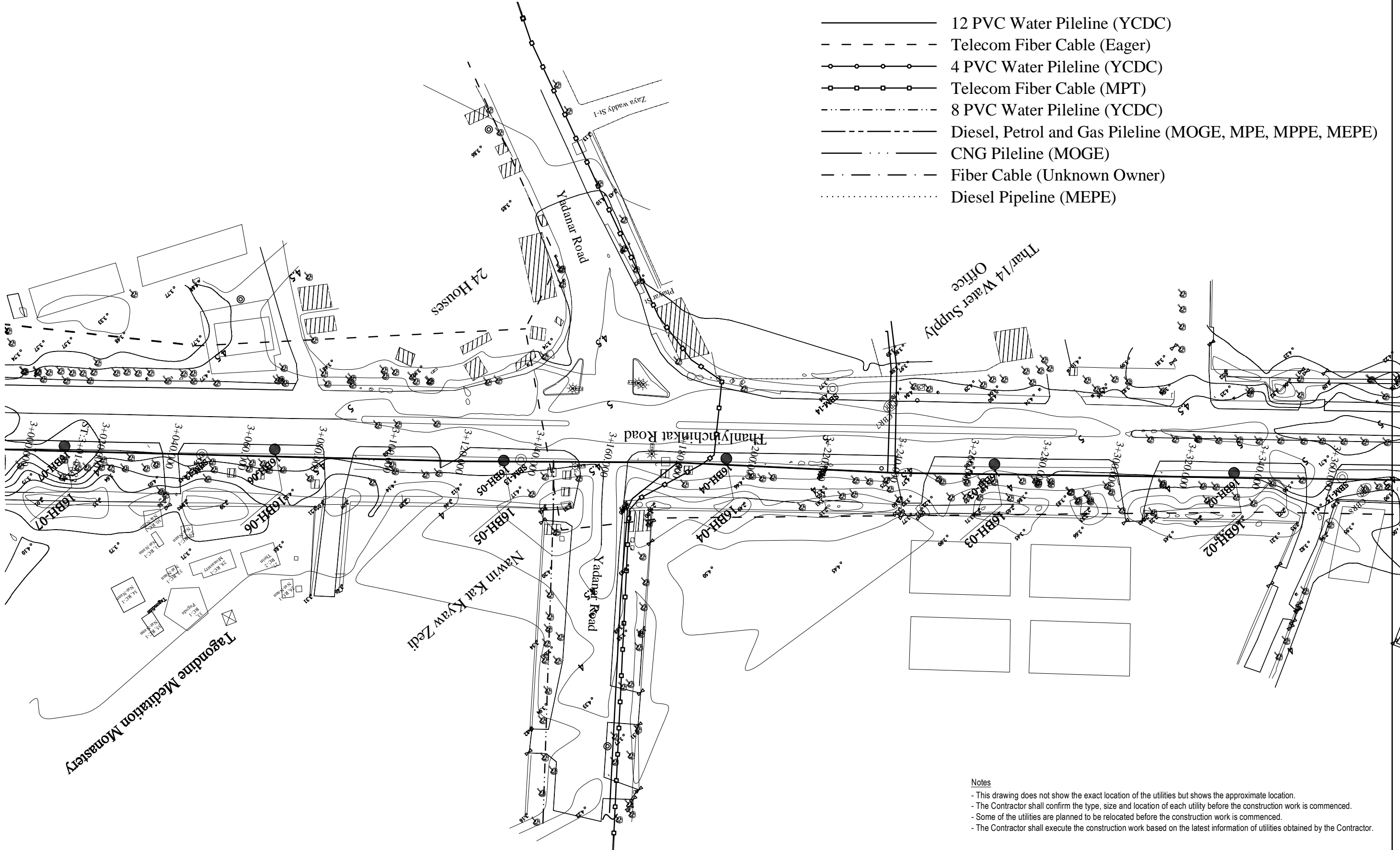
Notes
 - This drawing does not show the exact location of the utilities but shows the approximate location.
 - The Contractor shall confirm the type, size and location of each utility before the construction work is commenced.
 - Some of the utilities are planned to be relocated before the construction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

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE (REFERENCE) EXISTING UNDERGROUND UTILITIES LAYOUT (1)	PACKAGE	
				PREPARED BY	T. OGUNI			29 Sep. 2017	0
				CHECKED BY	T. HAYAKAWA			3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct. 2017	P0-REF-0001

(REFERENCE) EXISTING UNDERGROUND UTILITIES LAYOUT (2)

S=1:1000

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



Notes

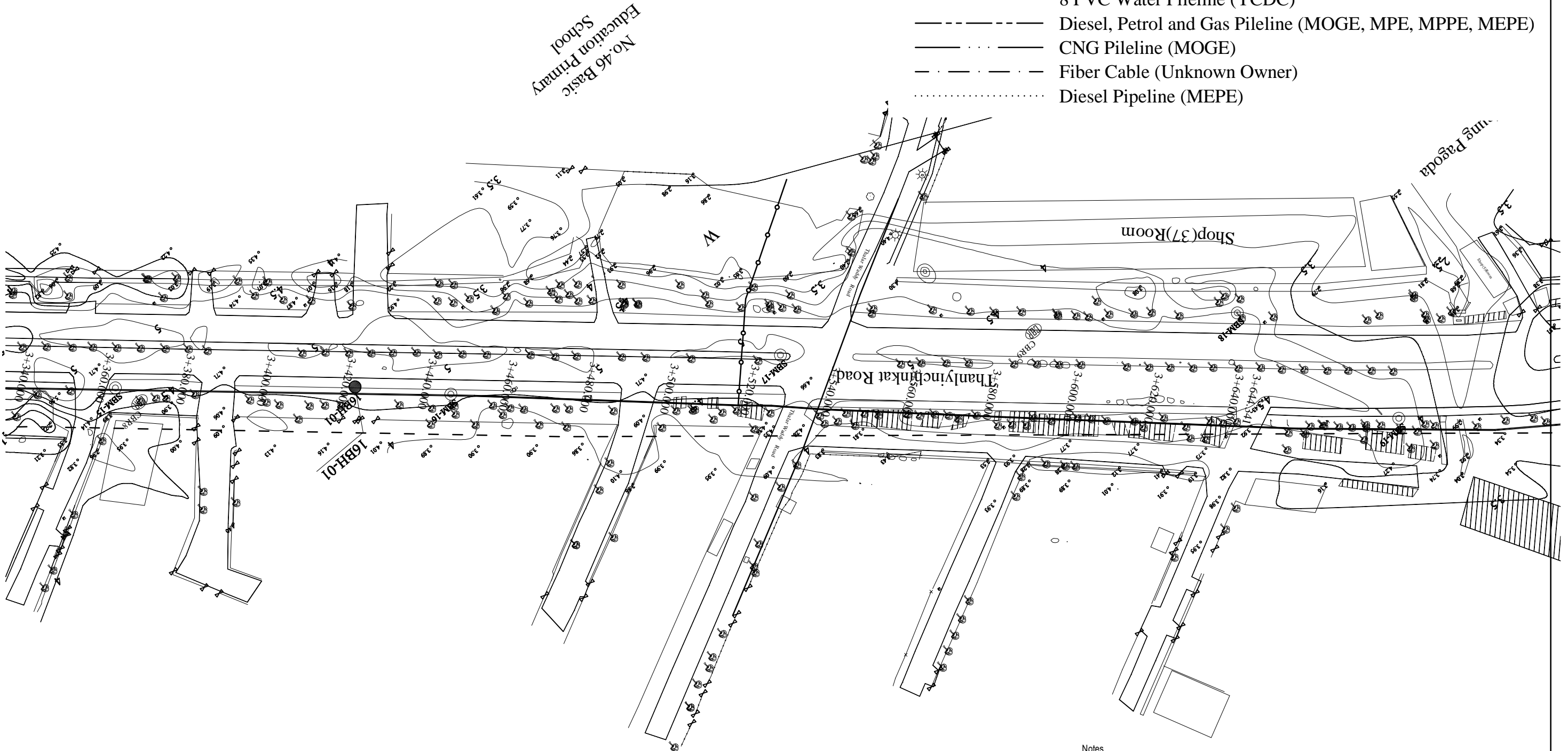
- This drawing does not show the exact location of the utilities but shows the approximate location.
- The Contractor shall confirm the type, size and location of each utility before the construction work is commenced.
- Some of the utilities are planned to be relocated before the construction work is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

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE (REFERENCE) EXISTING UNDERGROUND UTILITIES LAYOUT (2)	PACKAGE	
				PREPARED BY	T. OGUNI			29 Sep. 2017	0
				CHECKED BY	T. HAYAKAWA			3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct. 2017	P0-REF-0002

(REFERENCE) EXISTING UNDERGROUND UTILITIES LAYOUT (3)

S=1:1000

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

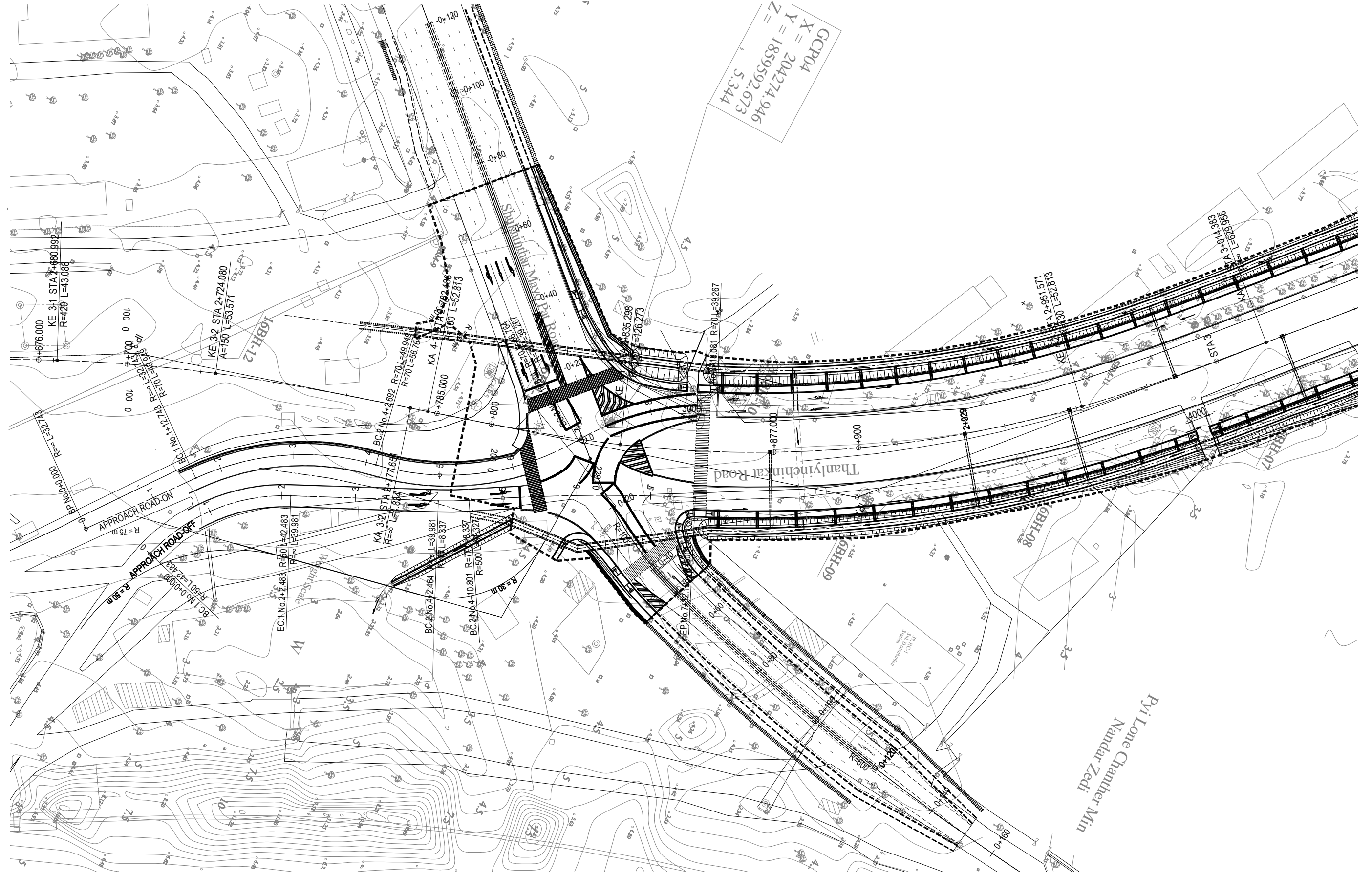


Notes

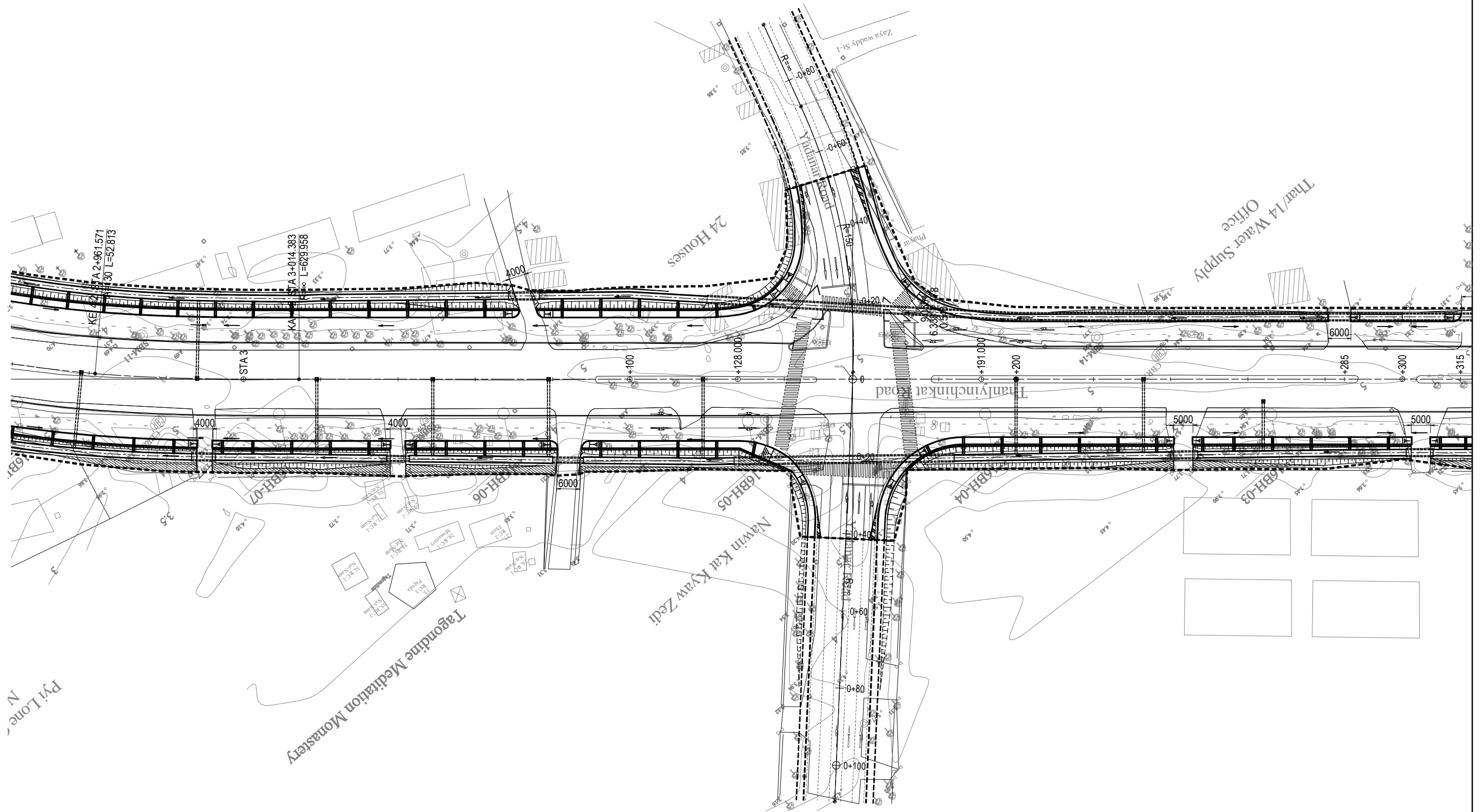
- This drawing does not show the exact location of the utilities but shows the approximate location.
- The Contractor shall confirm the type, size and location of each utility before the construction work is commenced.
- Some of the utilities are planned to be relocated before the construction work is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

PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE (REFERENCE) EXISTING UNDERGROUND UTILITIES LAYOUT (3)	PACKAGE	
				PREPARED BY	T. OGUNI			29 Sep. 2017	0
				CHECKED BY	T. HAYAKAWA			3 Oct. 2017	DWG No.
				APPROVED BY	Y. SANO			6 Oct. 2017	P0-REF-0003

(REFERENCE) RIGHT OF WAY PLAN(1) S= 1:1000

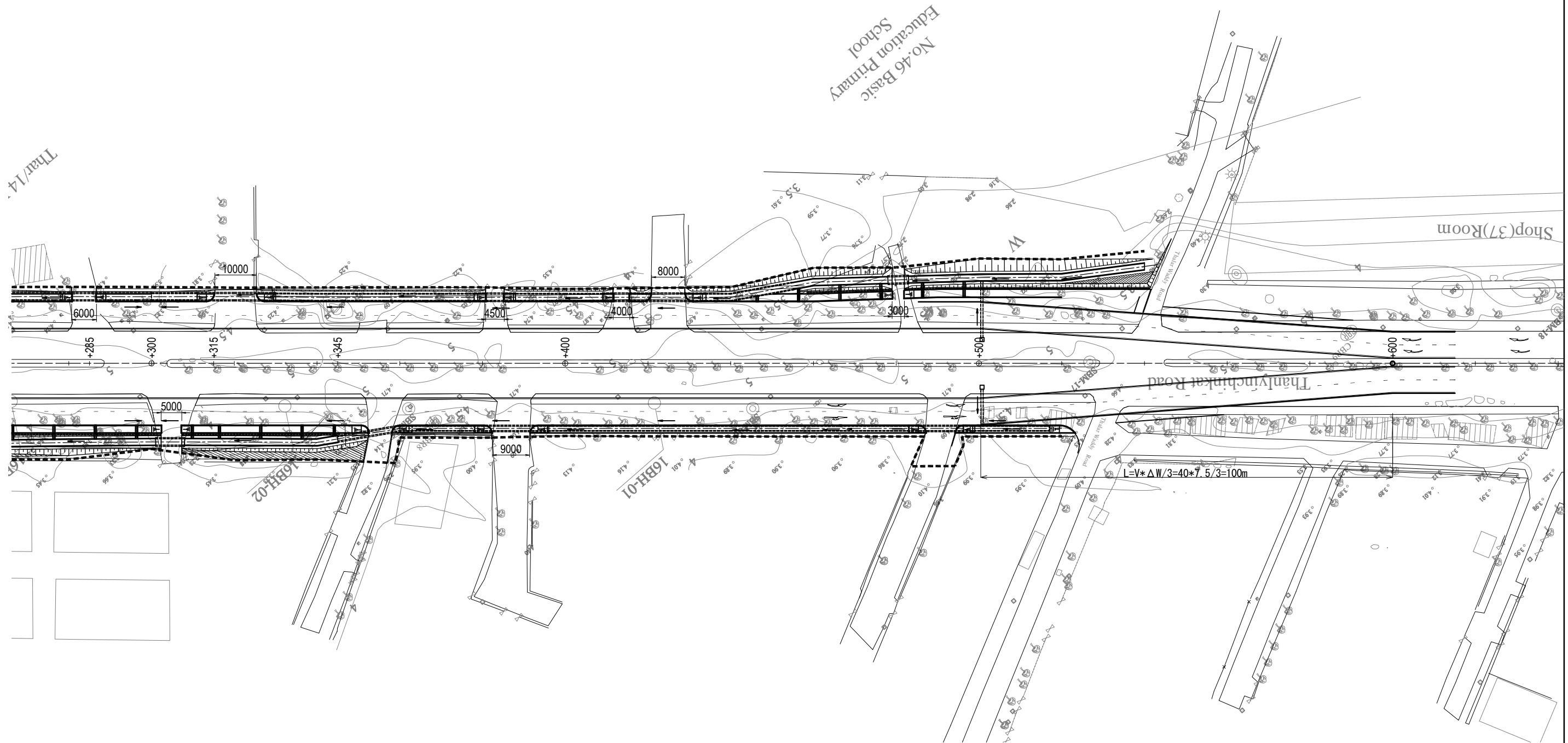


(REFERENCE) RIGHT OF WAY PLAN(2) S= 1:1000



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 (REFERENCE) RIGHT OF WAY PLAN(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	PO-REF-0005

(REFERENCE) RIGHT OF WAY PLAN(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 (REFERENCE) RIGHT OF WAY 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	PO-REF-0006

(REFERENCE) NETWORK PLAN

Primary Control Point By GPS

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

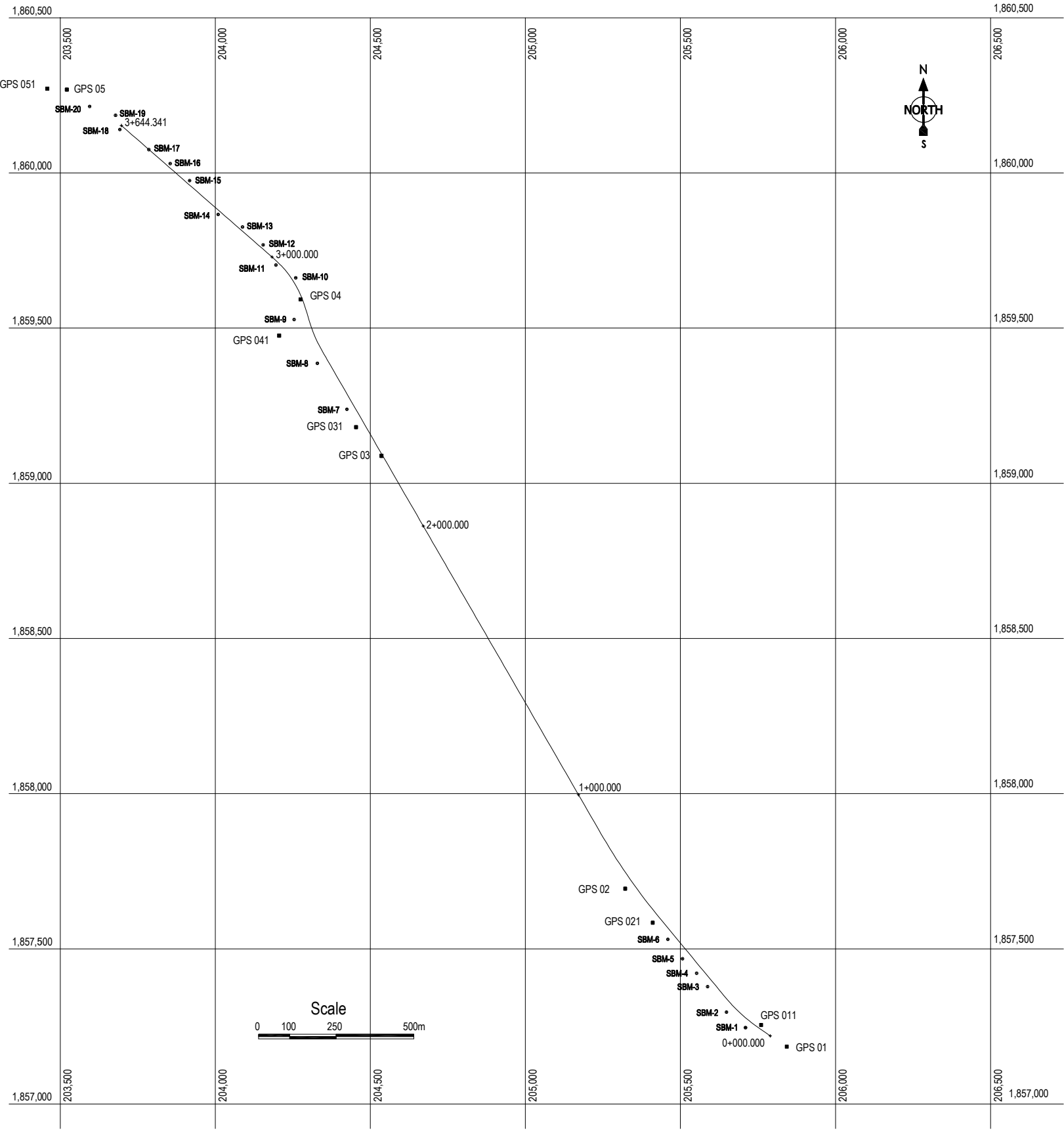
Secondary Control Point By TS

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

Elevation : Direct Leveling above Mean Sea Level

Existing Control Points from SD

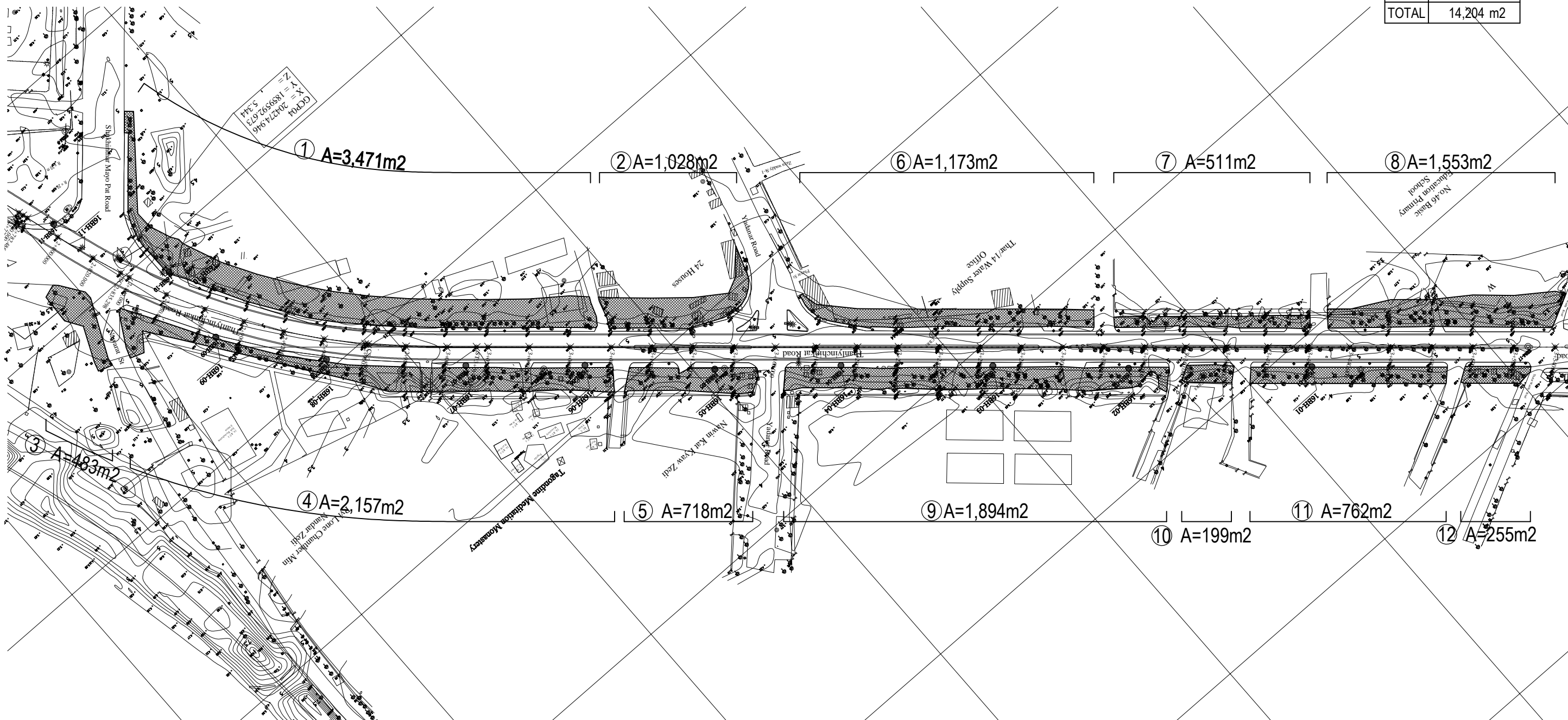
Point No	Easting	Northing	Elevation
GCP 08	204,426.731	1,867,438.719	————
SD 2	197,289.025	1,863,904.781	————
BM76097	214,396.8	1,851,646.3	23.895



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. TAMARI	玉利 啓文			29 Sep. 2017	(REFERENCE) NETWORK PLAN	0
				CHECKED BY	T. HAYAKAWA	平川 知那			3 Oct. 2017		DWG No.
				APPROVED BY	Y. SANO	佐野 祐一			6 Oct. 2017		PO-REF-0007

(REFERENCE) SITE CLEARING S= 1:1000

①	3,471 m ²
②	1,028 m ²
③	483 m ²
④	2,157 m ²
⑤	718 m ²
⑥	1,173 m ²
⑦	511 m ²
⑧	1,553 m ²
⑨	1,894 m ²
⑩	199 m ²
⑪	762 m ²
⑫	255 m ²
TOTAL	14,204 m ²



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

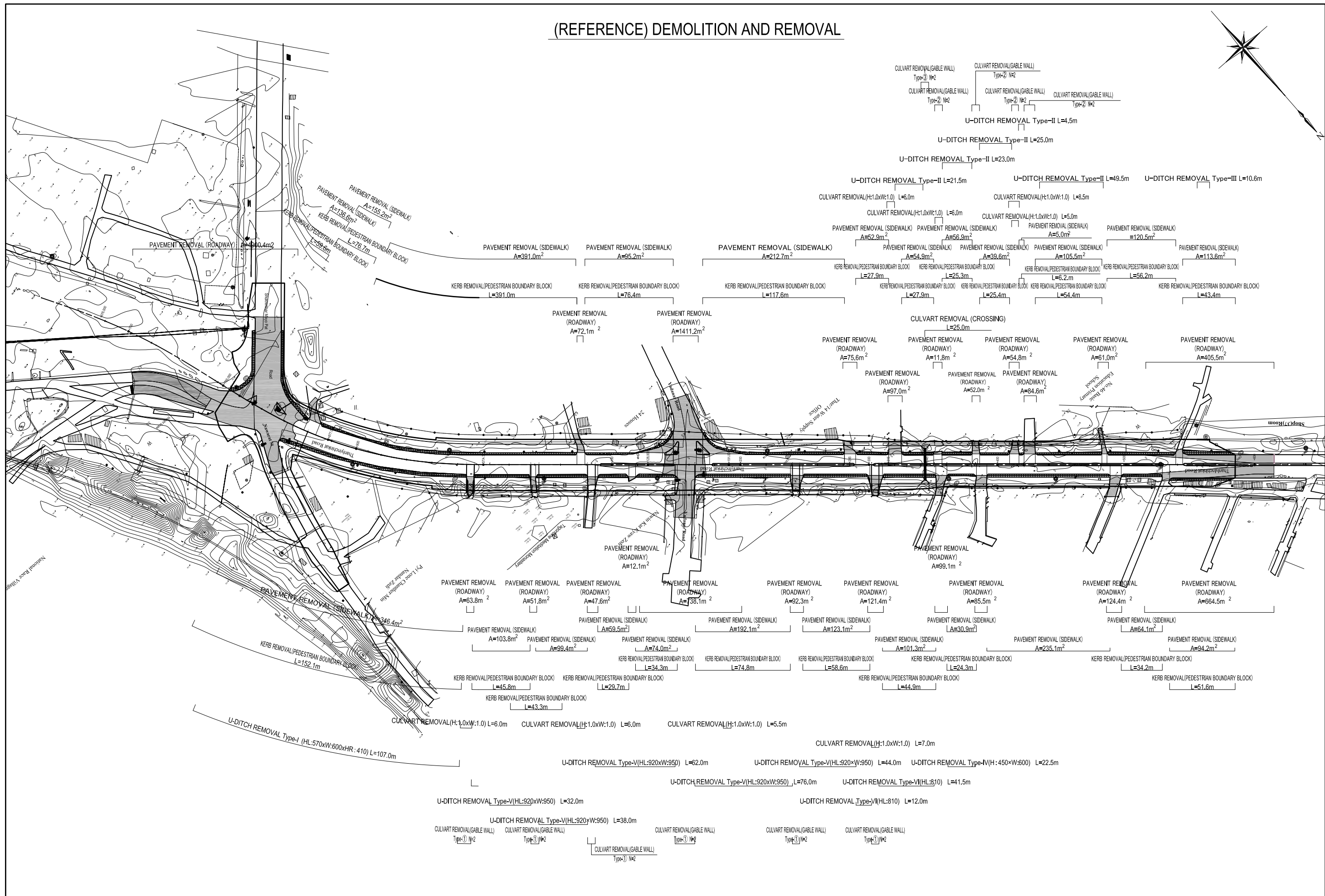
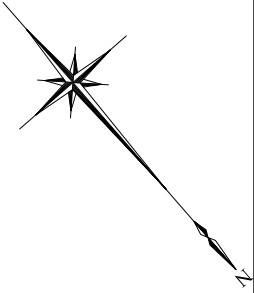
JICA STUDY TEAM
 NIPPON KOEI CO., LTD.
 ORIENTAL CONSULTANTS GLOBAL CO., LTD.
 METROPOLITAN EXPRESSWAY COMPANY LIMITED
 CHODAI CO., LTD.
 NIPPON ENGINEERING CONSULTANTS CO., LTD.

	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
 (REFERENCE) SITE CLEARING
 S= 1:1000

PACKAGE
 0
 DWG No.
 PO-REF-0008

(REFERENCE) DEMOLITION AND REMOVAL



PROJECT NAME DETAILED DESIGN ON BAGO RIVER BRIDGE CONSTRUCTION PROJECT	FINANCED BY JAPAN INTERNATIONAL COOPERATION AGENCY	COUNTERPART REPUBLIC OF THE UNION OF MYANMAR MINISTRY OF CONSTRUCTION DEPARTMENT OF BRIDGE	JICA STUDY TEAM NIPPON KOEI CO., LTD. ORIENTAL CONSULTANTS GLOBAL CO., LTD. METROPOLITAN EXPRESSWAY COMPANY LIMITED CHODAI CO., LTD. NIPPON ENGINEERING CONSULTANTS CO., LTD.	NAME	SIGNATURE	DATE	DRAWING TITLE (REFERENCE) DEMOLITION AND REMOVAL	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		RD-REF-0009