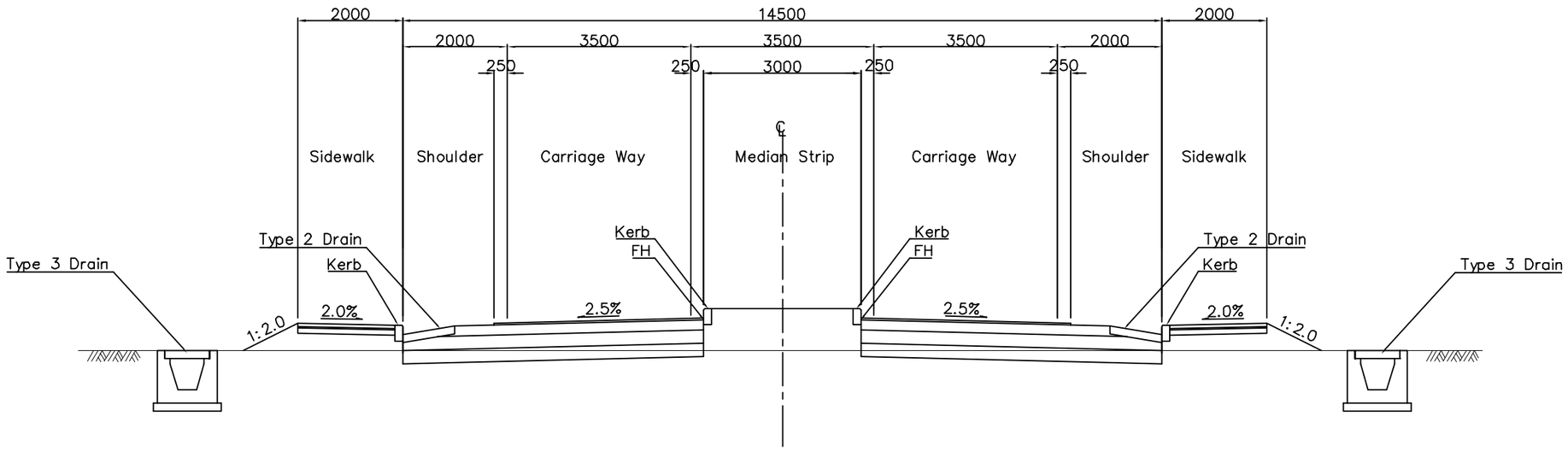
Typical Cross Section (3)

Town Section
(Mandimba)



JAPAN INTERNATIONAL COOPERATION AGENCY

NATIONAL ROAD ADMINISTRATION

REMARKS:

THE PREPARATORY SURVEY ON ROAD IMPROVEMENT PLAN IN NACALA DEVELOPMENT CORRIDOR
(N13: CUAMBA-MANDIMBA-LICHINGA)

Eight-Japan Engineering Consultants Inc.
Oriental Consultants Co., Ltd

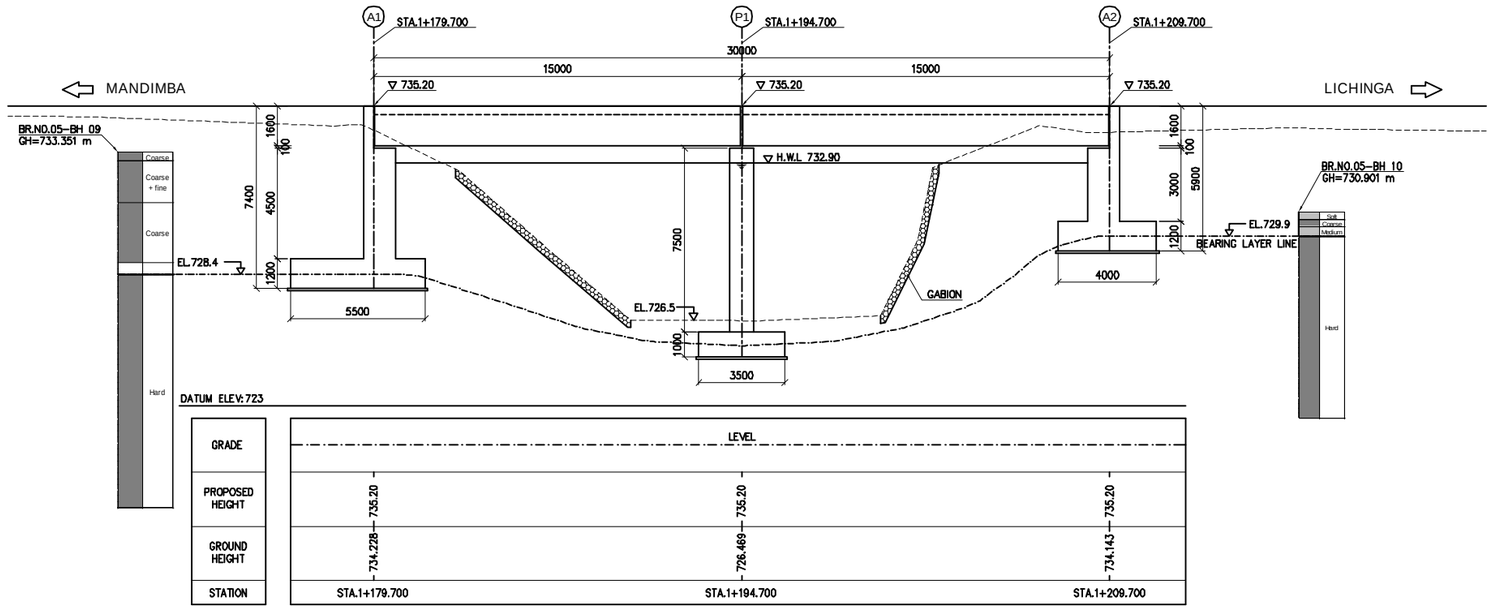
	PREPARED BY	CHECKED BY	APPROVED BY
NAME			
SIGNATURE			
DATE			

DRAWING TITLE: Typical Cross Section (3)

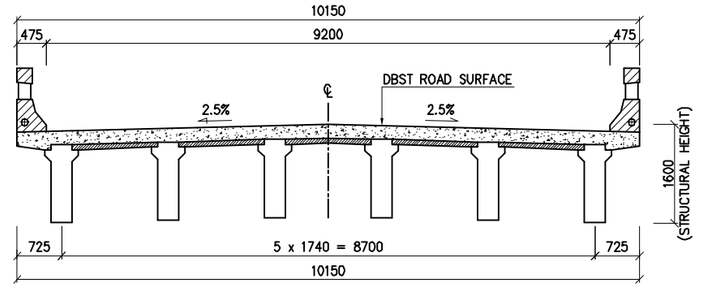
SCALE	SHEET NO.	DRAWING NO.	REV. NO.
1/50		29	-

BR N0.5 NGAME I BRIDGE
GENERAL VIEW OF THE BRIDGE

PROFILE
SCALE 1:125

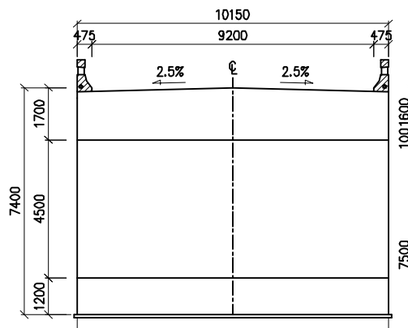


CROSS SECTION
SCALE 1:50

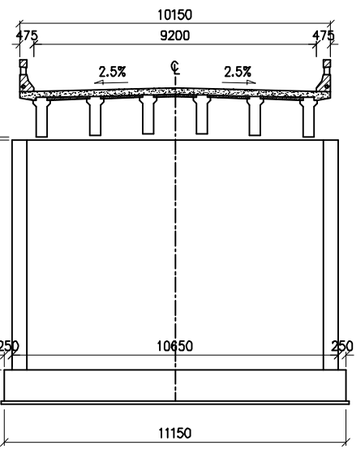


FRONT VIEW
SCALE 1:100

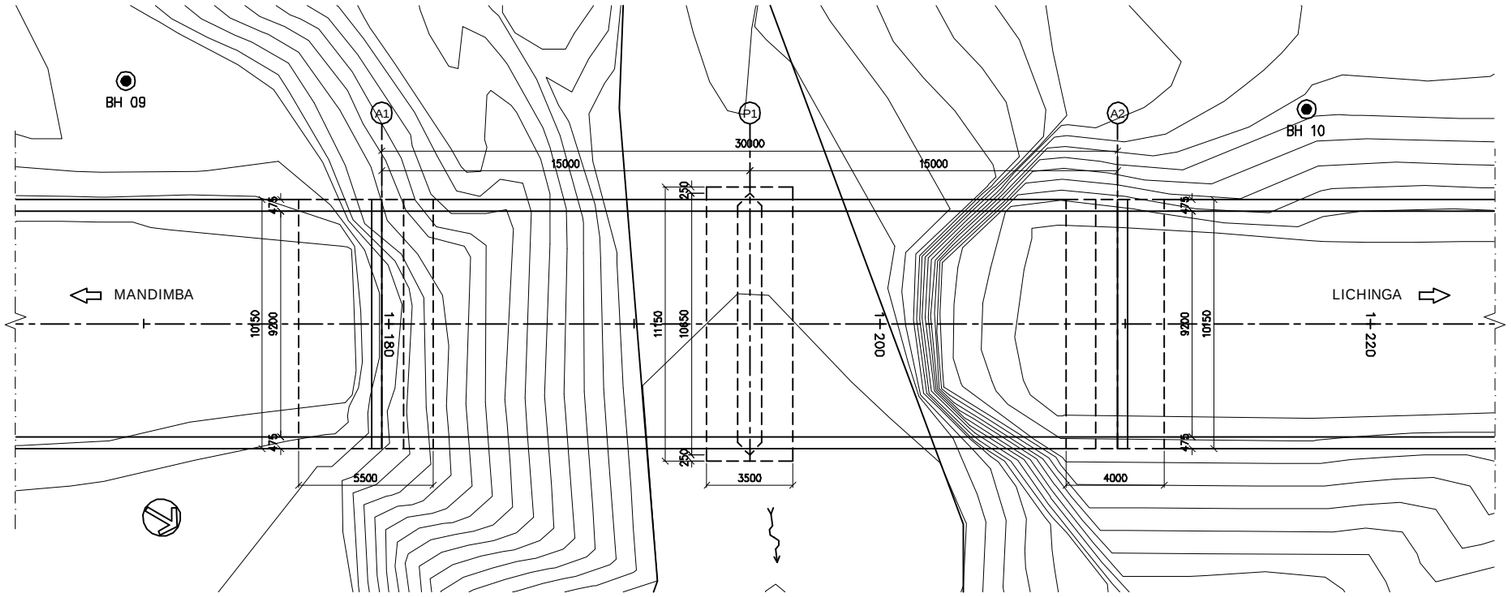
ABUTMENT (A1)



PIER (P1)



PLAN
SCALE 1:125



DESIGN CRITERIA

GENERAL CONDITION		
DESIGN LIVE LOAD	NA, NB, NC, LOADING	
DESIGN SPEED	80 km/h	
BRIDGE LENGTH (SPAN LENGTH)	30.0 m (15.0 m + 15.0 m)	
FREEBOARD	0.7 m	
DESIGN DISCHARGE	278.9 m^3/sec	
LONGITUDINAL GRADIENT	LEVEL	
CROSS-FALL OF CARRIAGE WAY	2.5 %	
SUPER STRUCTURE TYPE	RC GIRDER	
SUB STRUCTURE TYPE	ABUTMENT	RC REVERED-T
	PIER	RC WALL
FOUNDATION TYPE	ABUTMENT	A1, SPREAD FOUNDATION
		A2, SPREAD FOUNDATION
	PIER	P1, SPREAD FOUNDATION

JAPAN INTERNATIONAL COOPERATION AGENCY

NATIONAL ROAD ADMINISTRATION

REMARKS:

THE PREPARATORY SURVEY ON ROAD IMPROVEMENT PLAN IN NACALA DEVELOPMENT CORRIDOR
(N13: CUAMBA-MANDIMBA-LICHINGA)

Eight-Japan Engineering Consultants Inc.
Oriental Consultants Co., Ltd

	PREPARED BY	CHECKED BY	APPROVED BY
NAME			
SIGNATURE			
DATE			

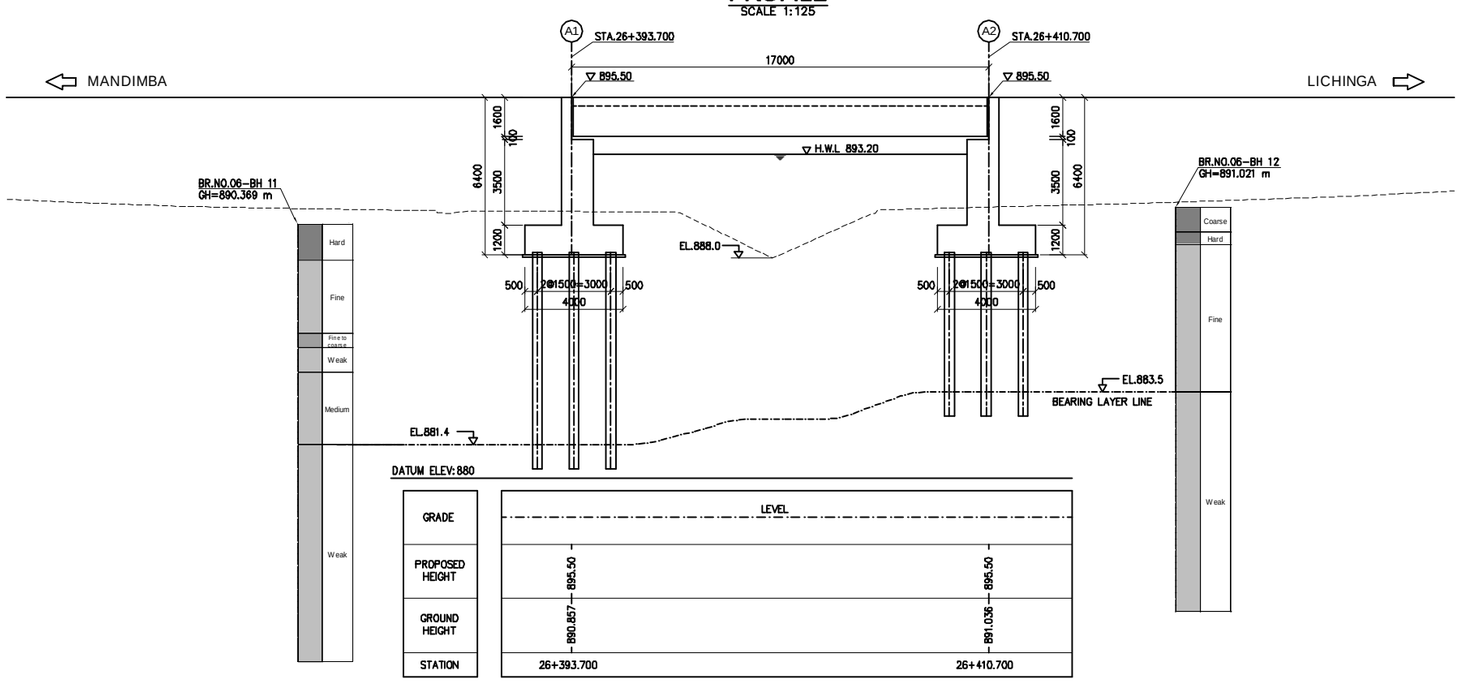
DRAWING TITLE

BR N0.5 NGAME I BRIDGE
GENERAL VIEW OF THE BRIDGE

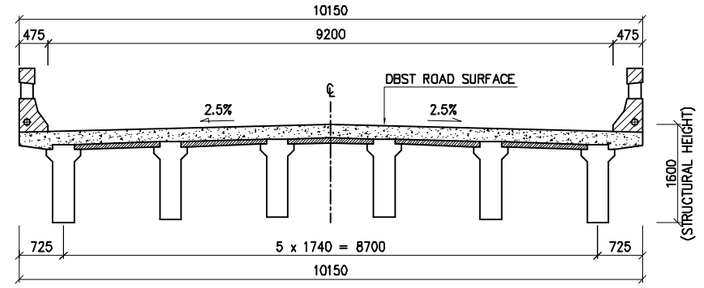
SCALE	SHEET NO.	DRAWING NO.	REV. NO.
As Shown		30	-

BR N0.6 LILASSE BRIDGE
GENERAL VIEW OF THE BRIDGE

PROFILE
SCALE 1:125

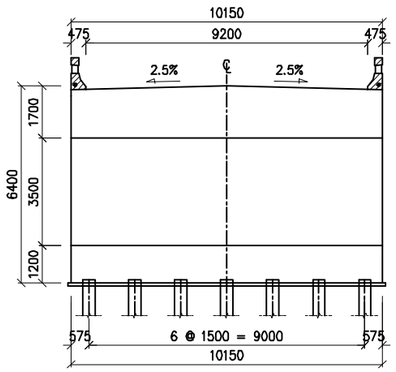


CROSS SECTION
SCALE 1:50

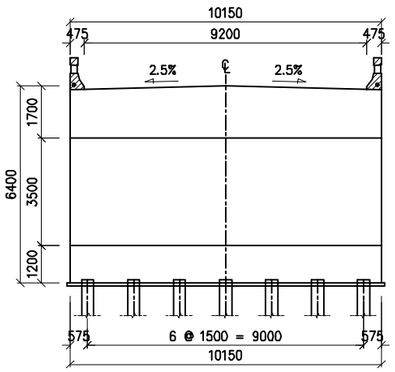


FRONT VIEW
SCALE 1:100

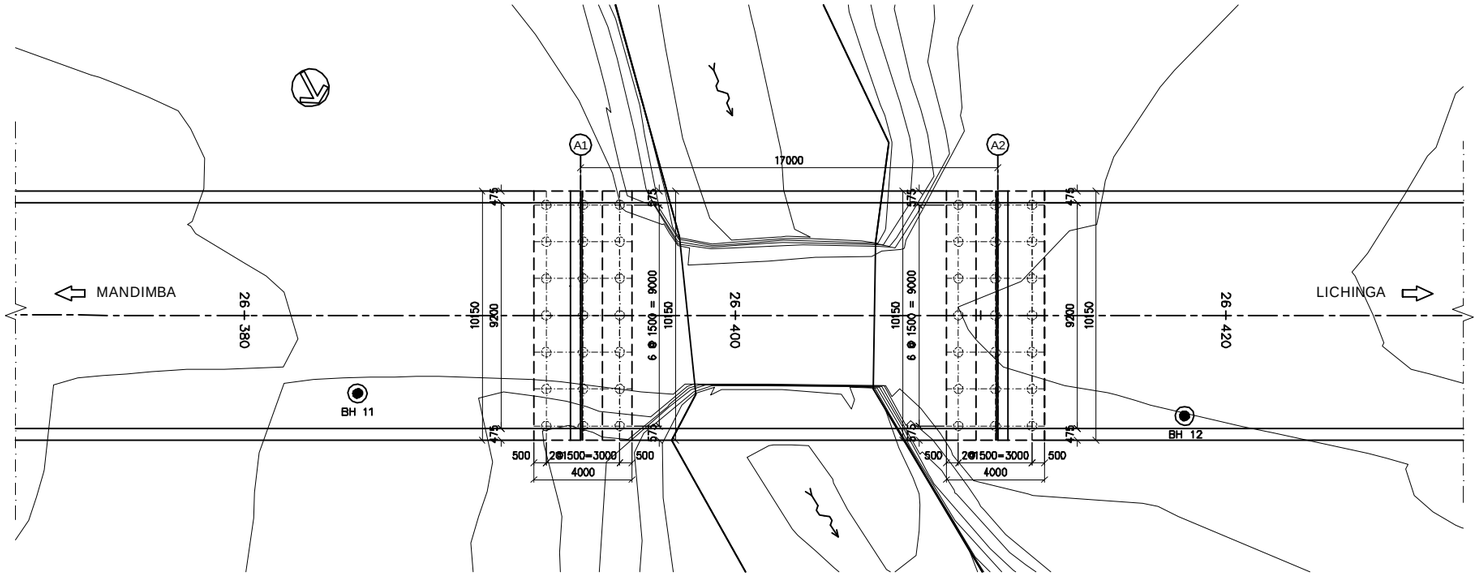
ABUTMENT (A1)



ABUTMENT (A2)



PLAN
SCALE 1:125



DESIGN CRITERIA

GENERAL CONDITION		
DESIGN LIVE LOAD	NA, NB, NC, LOADING	
DESIGN SPEED	80 km/h	
BRIDGE LENGTH (SPAN LENGTH)	17.0 m	
FREEBOARD	0.7 m	
DESIGN DISCHARGE	342.7 m^3/sec	
LONGITUDINAL GRADIENT	LEVEL	
CROSS-FALL OF CARRIAGE WAY	2.5 %	
SUPER STRUCTURE TYPE	RC GIRDER	
SUB STRUCTURE TYPE	ABUTMENT	RC REVERED-T
FOUNDATION TYPE	ABUTMENT	A1, PILES FOUNDATION
		A2, PILES FOUNDATION

JAPAN INTERNATIONAL COOPERATION AGENCY

NATIONAL ROAD ADMINISTRATION

REMARKS:

THE PREPARATORY SURVEY ON ROAD IMPROVEMENT PLAN IN NACALA DEVELOPMENT CORRIDOR
(N13: CUAMBA-MANDIMBA-LICHINGA)

Eight-Japan Engineering Consultants Inc.
Oriental Consultants Co., Ltd

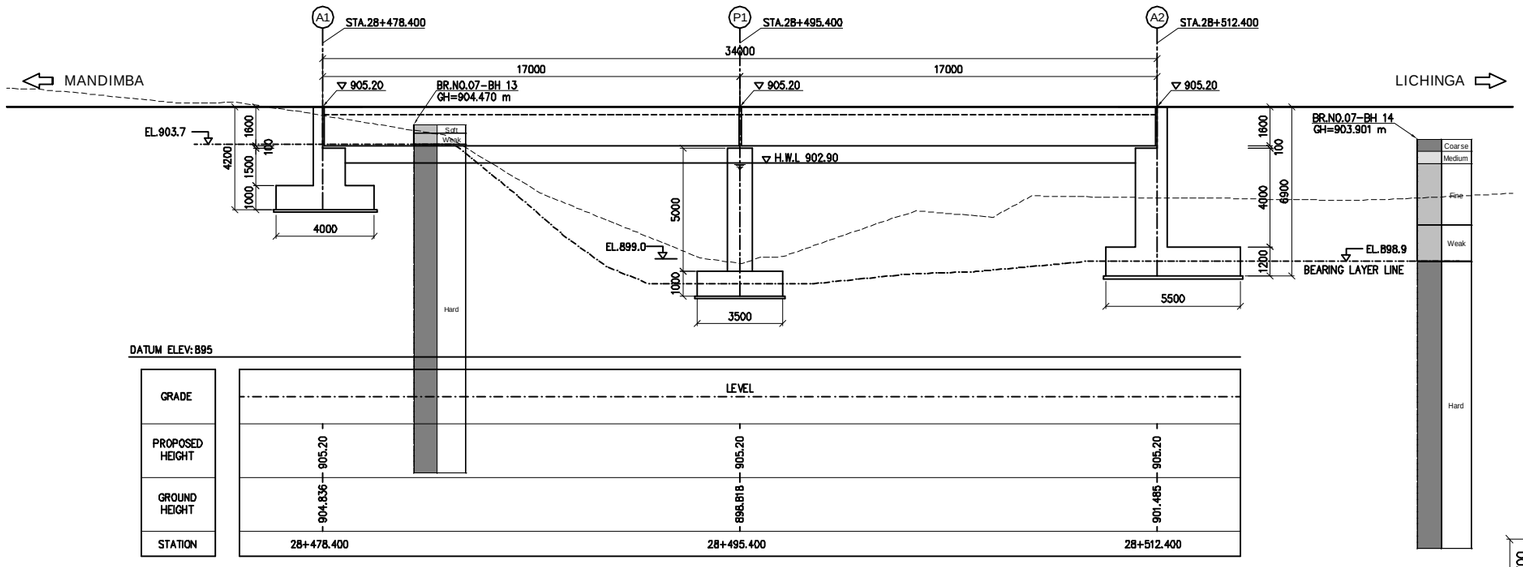
	PREPARED BY	CHECKED BY	APPROVED BY
NAME			
SIGNATURE			
DATE			

DRAWING TITLE
BR N0.6 LILASSE BRIDGE
GENERAL VIEW OF THE BRIDGE

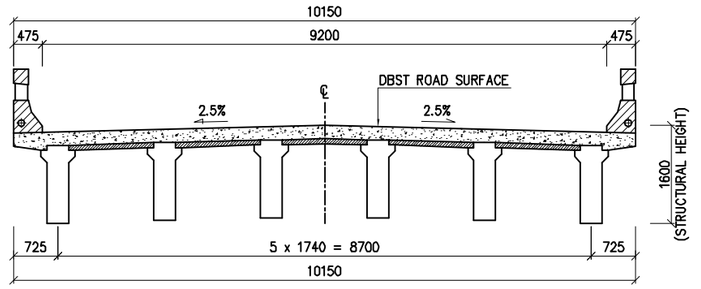
SCALE	SHEET NO.	DRAWING NO.	REV. NO.
As Shown		31	-

BR N0.7 NINDE BRIDGE
GENERAL VIEW OF THE BRIDGE

PROFILE
SCALE 1:125

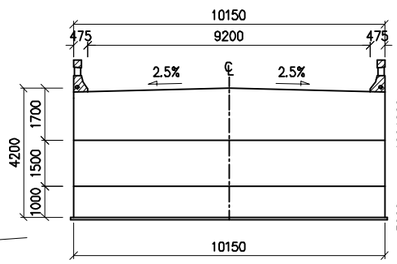


CROSS SECTION
SCALE 1:50

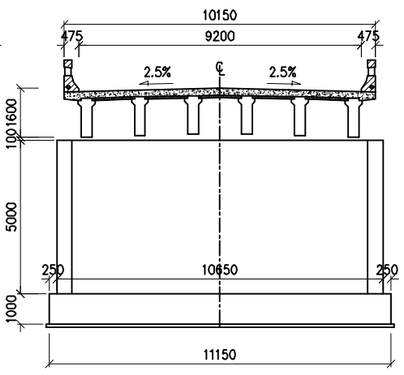


FRONT VIEW
SCALE 1:100

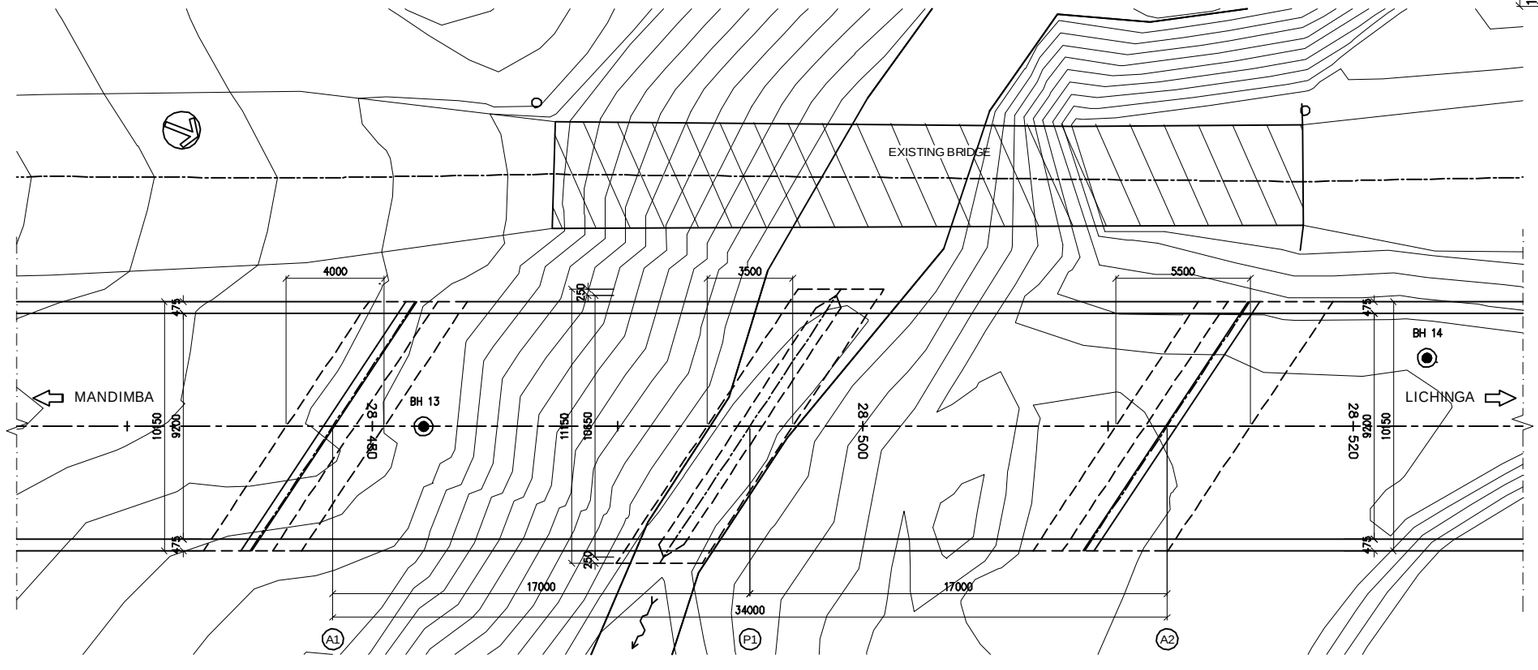
ABUTMENT (A1)



PIER (P1)



PLAN
SCALE 1:125



DESIGN CRITERIA

GENERAL CONDITION		
DESIGN LIVE LOAD	NA, NB, NC, LOADING	
DESIGN SPEED	80 km/h	
BRIDGE LENGTH (SPAN LENGTH)	34.0 m (17.0 m + 17.0 m)	
FREEBOARD	0.7 m	
DESIGN DISCHARGE	316.9 m^3/sec	
LONGITUDINAL GRADIENT	LEVEL	
CROSS-FALL OF CARRIAGE WAY	2.5 %	
SUPER STRUCTURE TYPE	RC GIRDER	
SUB STRUCTURE TYPE	ABUTMENT	RC REVERED-T
	PIER	RC WALL
FOUNDATION TYPE	ABUTMENT	A1, SPREAD FOUNDATION
		A2, SPREAD FOUNDATION
	PIER	P1, SPREAD FOUNDATION

JAPAN INTERNATIONAL COOPERATION AGENCY

NATIONAL ROAD ADMINISTRATION

REMARKS:

THE PREPARATORY SURVEY ON ROAD IMPROVEMENT PLAN IN NACALA DEVELOPMENT CORRIDOR
(N13: CUAMBA-MANDIMBA-LICHINGA)

Eight-Japan Engineering Consultants Inc.
Oriental Consultants Co., Ltd

	PREPARED BY	CHECKED BY	APPROVED BY
NAME			
SIGNATURE			
DATE			

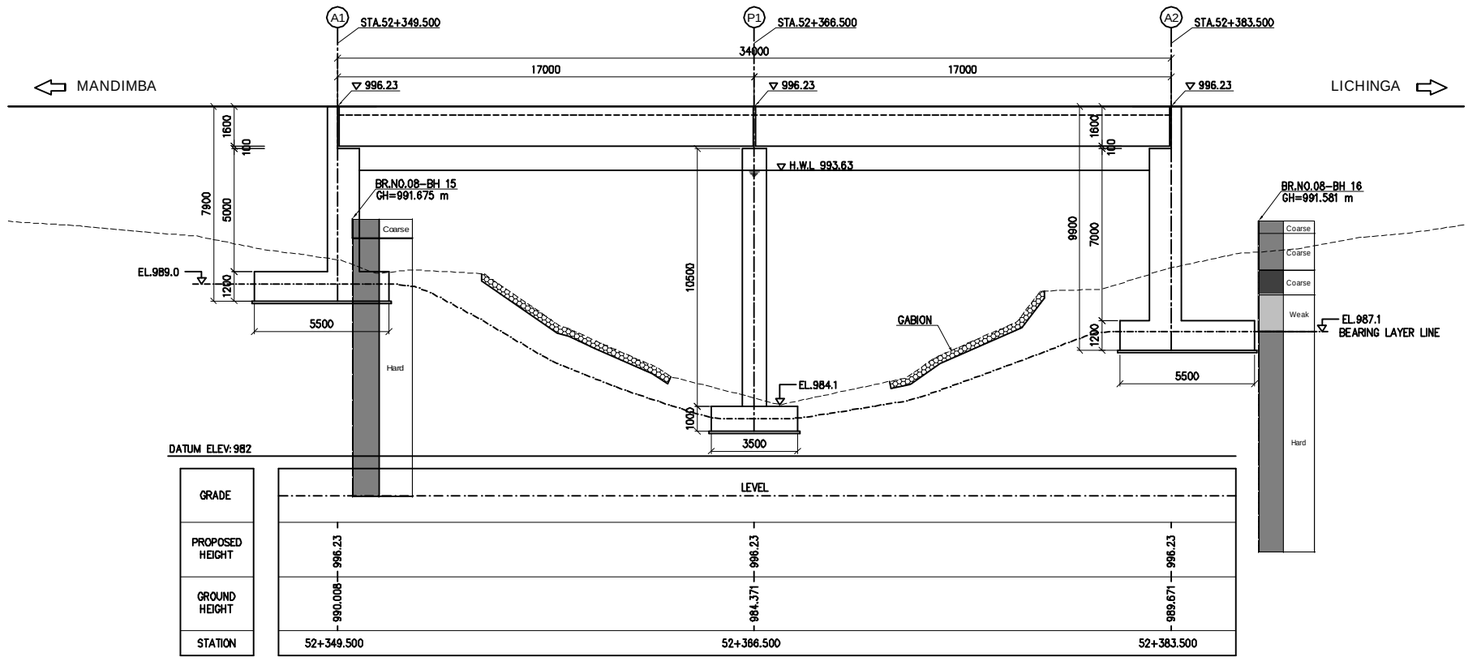
DRAWING TITLE

BR N0.7 NINDE BRIDGE
GENERAL VIEW OF THE BRIDGE

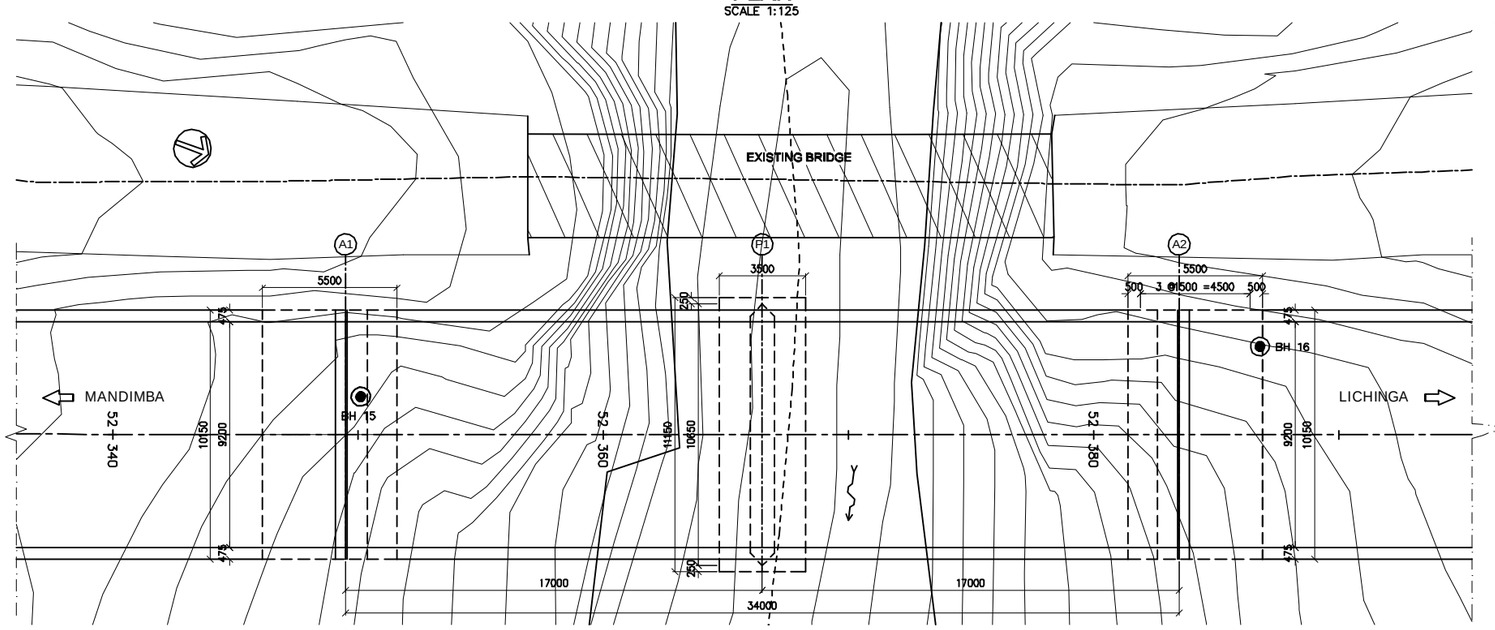
SCALE	SHEET NO.	DRAWING NO.	REV. NO.
As Shown		32	-

BR N0.08 LUCULUMESI BRIDGE
GENERAL VIEW OF THE BRIDGE

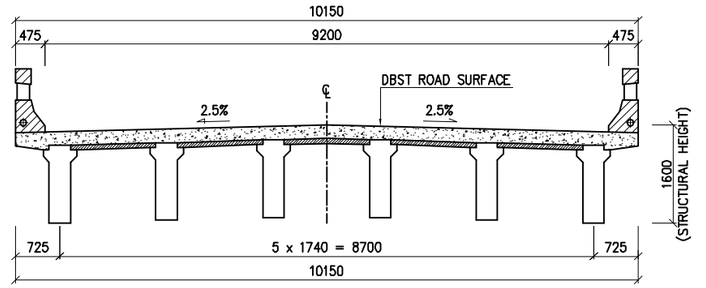
PROFILE
SCALE 1:125



PLAN
SCALE 1:125

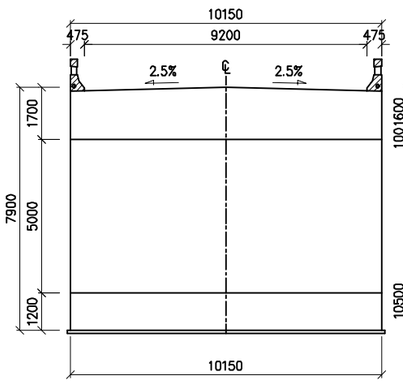


CROSS SECTION
SCALE 1:50

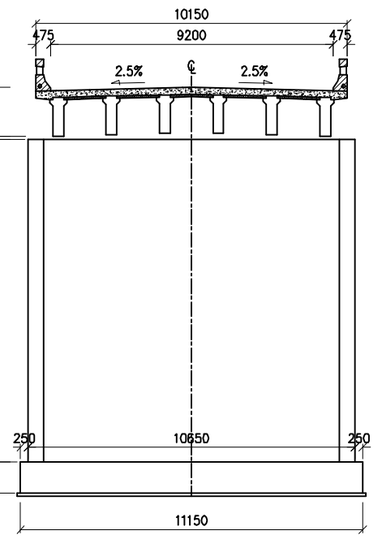


FRONT VIEW
SCALE 1:100

ABUTMENT (A1)



PIER (P1)



DESIGN CRITERIA

GENERAL CONDITION		
DESIGN LIVE LOAD	NA, NB, NC, LOADING	
DESIGN SPEED	80 km/h	
BRIDGE LENGTH (SPAN LENGTH)	34.0 m (17.0 m + 17.0 m)	
FREEBOARD	1.0 m	
DESIGN DISCHARGE	885.0 m^3/sec	
LONGITUDINAL GRADIENT	LEVEL	
CROSS-FALL OF CARRIAGE WAY	2.5 %	
SUPER STRUCTURE TYPE	RC GIRDER	
SUB STRUCTURE TYPE	ABUTMENT	RC REVERED-T
	PIER	RC WALL
FOUNDATION TYPE	ABUTMENT	A1, SPREAD FOUNDATION
		A2, SPREAD FOUNDATION
	PIER	P1, SPREAD FOUNDATION

JAPAN INTERNATIONAL COOPERATION AGENCY

NATIONAL ROAD ADMINISTRATION

REMARKS:

THE PREPARATORY SURVEY ON ROAD IMPROVEMENT PLAN IN NACALA DEVELOPMENT CORRIDOR
(N13: CUAMBA-MANDIMBA-LICHINGA)

Eight-Japan Engineering Consultants Inc.
Oriental Consultants Co., Ltd

	PREPARED BY	CHECKED BY	APPROVED BY
NAME			
SIGNATURE			
DATE			

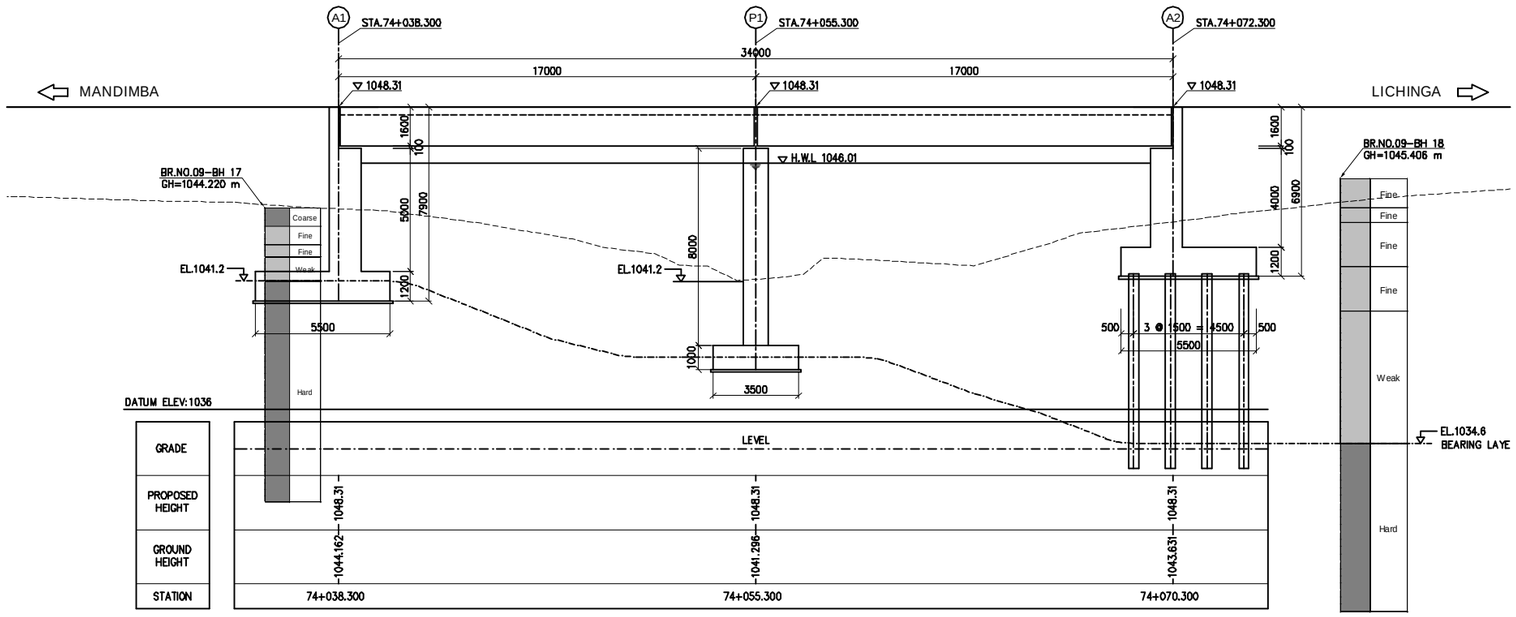
DRAWING TITLE

BR N0.8 LUCULUMESI BRIDGE
GENERAL VIEW OF THE BRIDGE

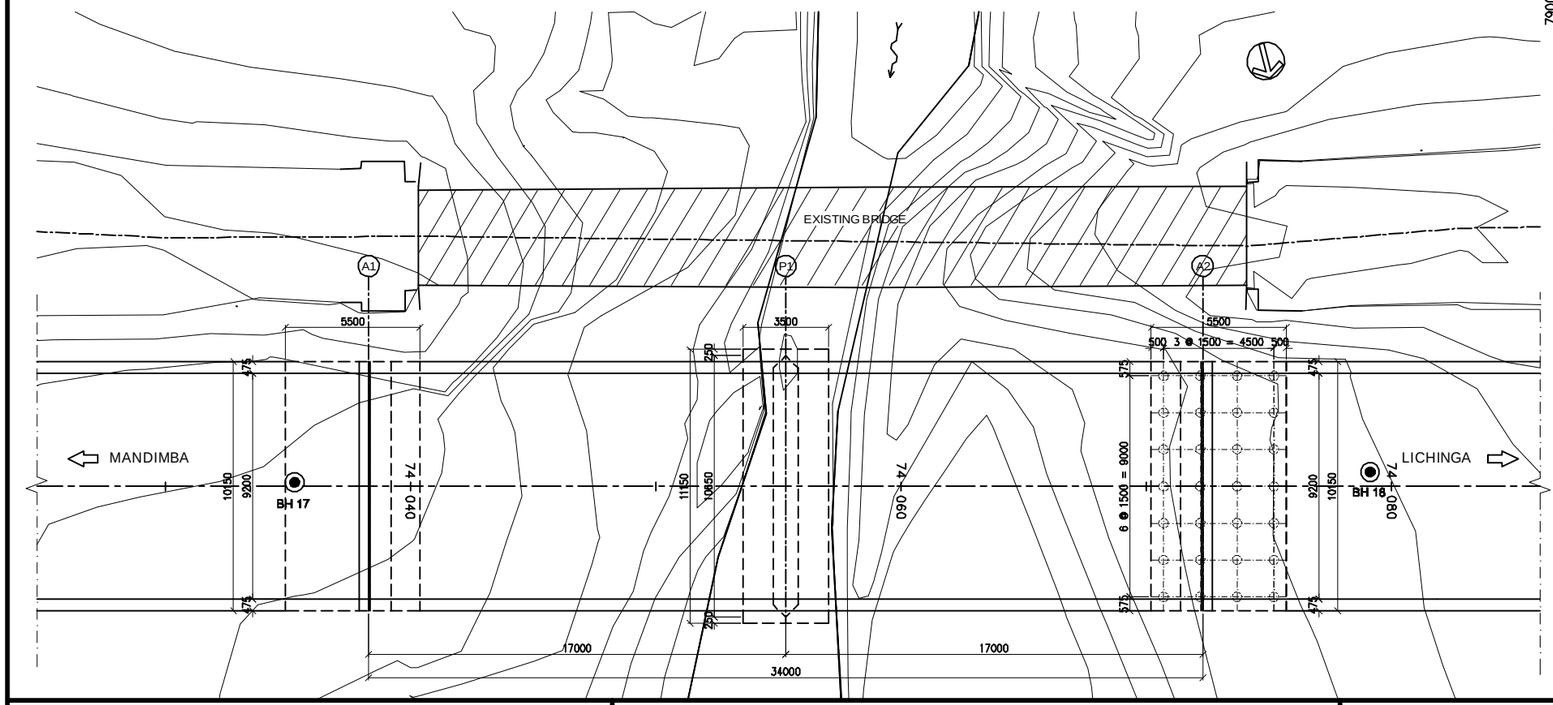
SCALE	SHEET NO.	DRAWING NO.	REV. NO.
As Shown		33	-

BR N0.9 LUTEMBUE BRIDGE
GENERAL VIEW OF THE BRIDGE

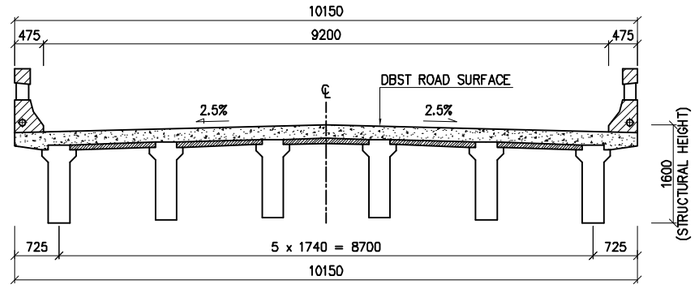
PROFILE
SCALE 1:125



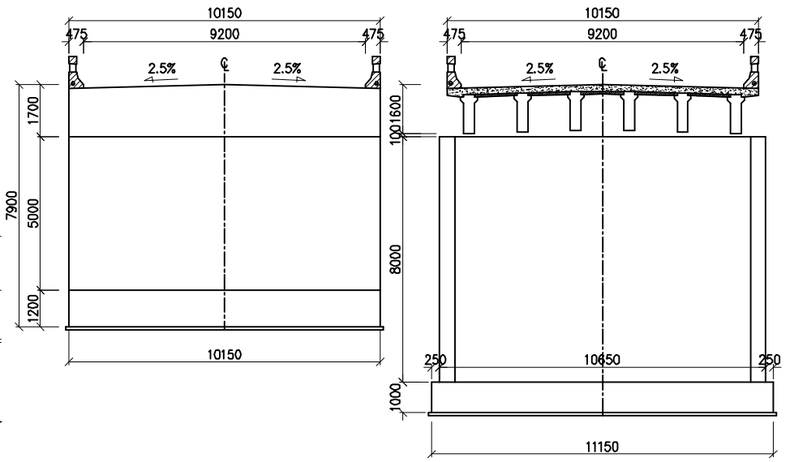
PLAN
SCALE 1:125



CROSS SECTION
SCALE 1:50



FRONT VIEW
SCALE 1:100



DESIGN CRITERIA

GENERAL CONDITION		
DESIGN LIVE LOAD	NA, NB, NC, LOADING	
DESIGN SPEED	80 km/h	
BRIDGE LENGTH (SPAN LENGTH)	34.0 m (17.0 m + 17.0 m)	
FREEBOARD	0.7 m	
DESIGN DISCHARGE	384.7 m^3/sec	
LONGITUDINAL GRADIENT	LEVEL	
CROSS-FALL OF CARRIAGE WAY	2.5 %	
SUPER STRUCTURE TYPE	RC GIRDER	
SUB STRUCTURE TYPE	ABUTMENT	RC REVERED-T
	PIER	RC WALL
FOUNDATION TYPE	ABUTMENT	A1, SPREAD FOUNDATION
		A2, PILES FOUNDATION
	PIER	P1, SPREAD FOUNDATION

JAPAN INTERNATIONAL COOPERATION AGENCY

NATIONAL ROAD ADMINISTRATION

REMARKS:

THE PREPARATORY SURVEY ON ROAD IMPROVEMENT PLAN IN NACALA DEVELOPMENT CORRIDOR
(N13: CUAMBA-MANDIMBA-LICHINGA)

Eight-Japan Engineering Consultants Inc.
Oriental Consultants Co., Ltd

	PREPARED BY	CHECKED BY	APPROVED BY
NAME			
SIGNATURE			
DATE			

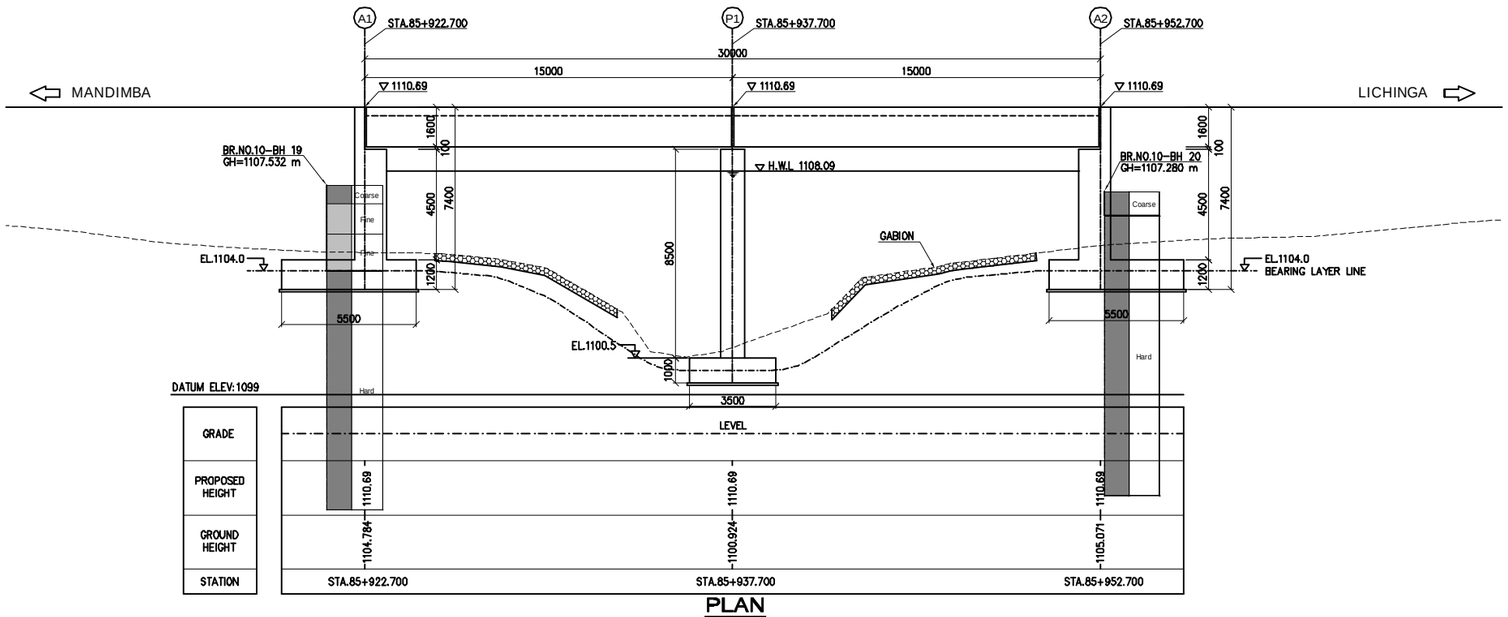
DRAWING TITLE

BR N0.9 LUTEMBUE BRIDGE
GENERAL VIEW OF THE BRIDGE

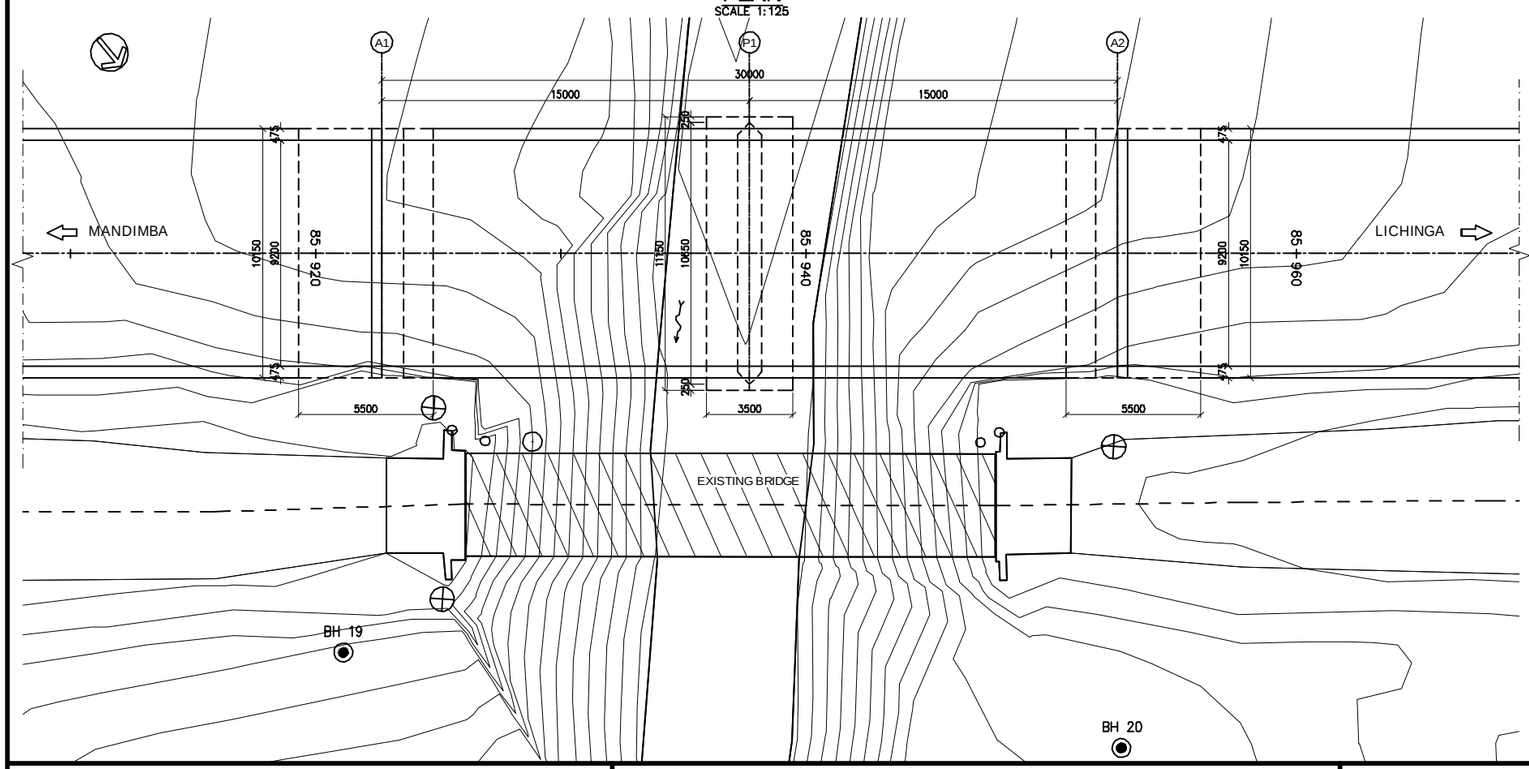
SCALE	SHEET NO.	DRAWING NO.	REV. NO.
As Shown		34	-

BR N0.10 LUAMBALA BRIDGE
GENERAL VIEW OF THE BRIDGE

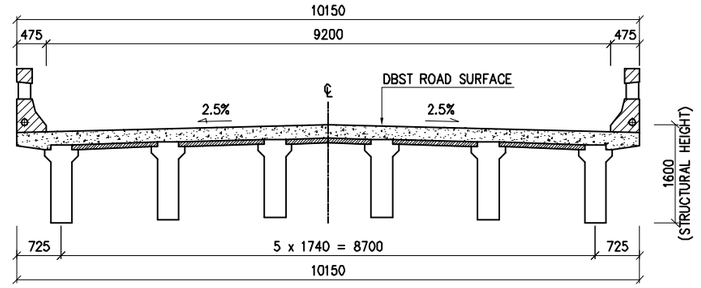
PROFILE
SCALE 1:125



PLAN
SCALE 1:125

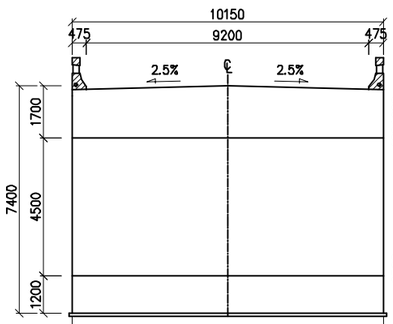


CROSS SECTION
SCALE 1:50

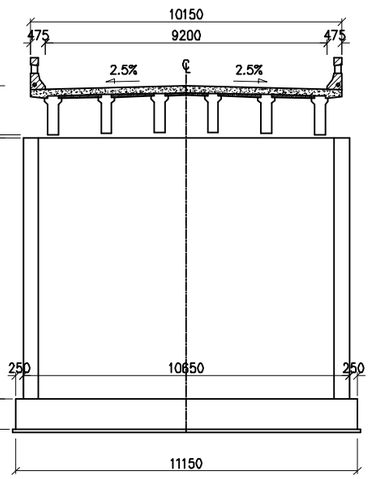


FRONT VIEW
SCALE 1:100

ABUTMENT (A1)



PIER (P1)



DESIGN CRITERIA

GENERAL CONDITION		
DESIGN LIVE LOAD	NA, NB, NC, LOADING	
DESIGN SPEED	80 km/h	
BRIDGE LENGTH (SPAN LENGTH)	30.0 m (15.0 m + 15.0 m)	
FREEBOARD	1.0 m	
DESIGN DISCHARGE	576.5 m^3/sec	
LONGITUDINAL GRADIENT	LEVEL	
CROSS-FALL OF CARRIAGE WAY	2.5 %	
SUPER STRUCTURE TYPE	RC GIRDER	
SUB STRUCTURE TYPE	ABUTMENT	RC REVERED-T
	PIER	RC WALL
FOUNDATION TYPE	ABUTMENT	A1, SPREAD FOUNDATION
		A2, SPREAD FOUNDATION
	PIER	P1, SPREAD FOUNDATION

JAPAN INTERNATIONAL COOPERATION AGENCY

NATIONAL ROAD ADMINISTRATION

REMARKS:

THE PREPARATORY SURVEY ON ROAD IMPROVEMENT PLAN IN NACALA DEVELOPMENT CORRIDOR
(N13: CUAMBA-MANDIMBA-LICHINGA)

Eight-Japan Engineering Consultants Inc.
Oriental Consultants Co., Ltd

	PREPARED BY	CHECKED BY	APPROVED BY
NAME			
SIGNATURE			
DATE			

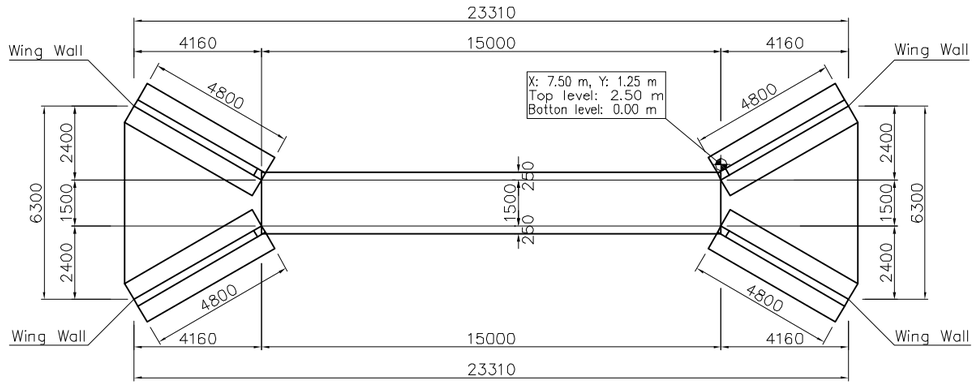
DRAWING TITLE

BR N0.10 LUAMBALA BRIDGE
GENERAL VIEW OF THE BRIDGE

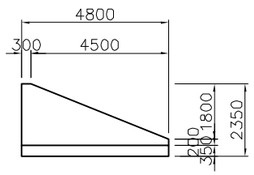
SCALE	SHEET NO.	DRAWING NO.	REV. NO.
As Shown		35	-

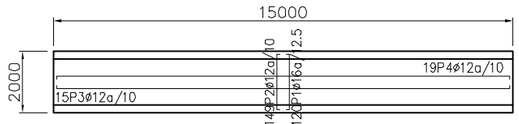
Box Culvert Structural Details (1)

1500x1500 Type A (1 Cell)

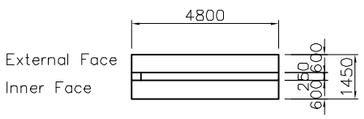


Plan View **Scale: 1/100**

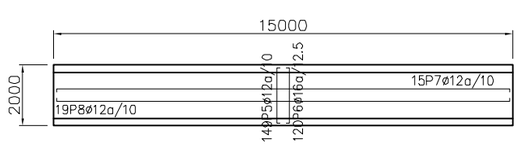




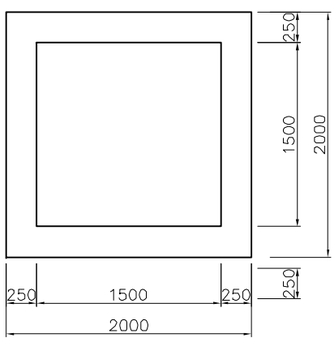
Top Slab **Scale: 1/100**



Wing Walls **Scale: 1/100**

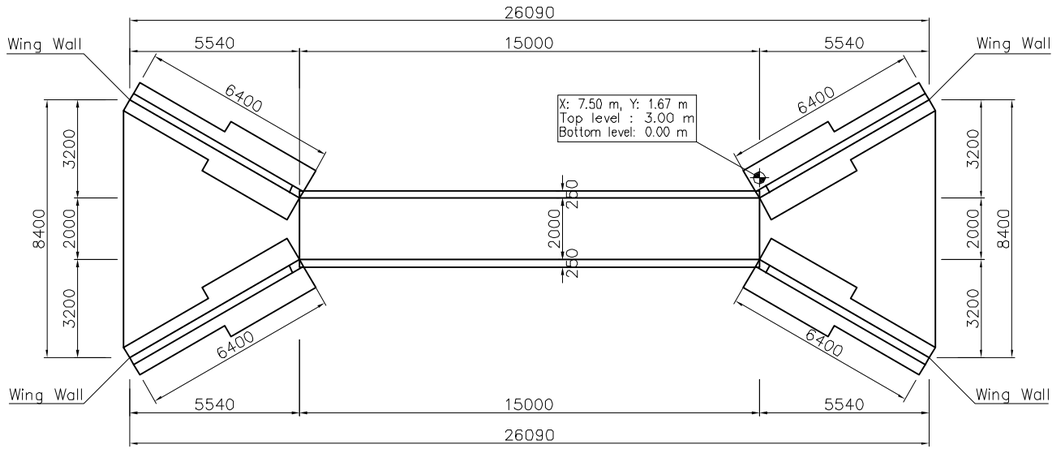


Bottom Slab **Scale: 1/100**

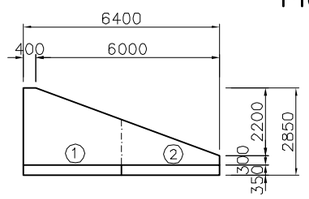


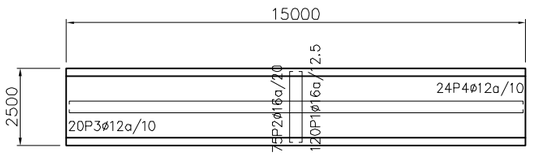
Section View **Scale: 1/25**

2000x2000 Type A (1 Cell)

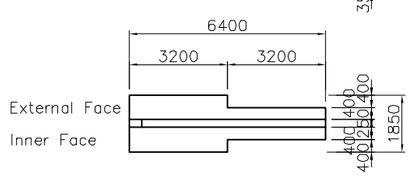


Plan View **Scale: 1/100**

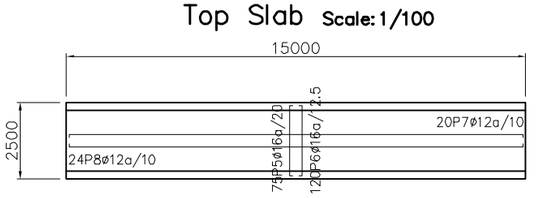




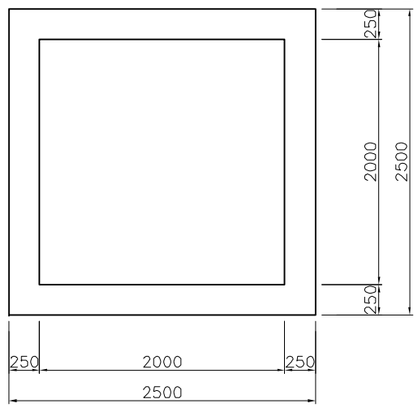
Top Slab **Scale: 1/100**



Wing Walls **Scale: 1/100**



Bottom Slab **Scale: 1/100**



Section View **Scale: 1/25**

JAPAN INTERNATIONAL COOPERATION AGENCY

NATIONAL ROAD ADMINISTRATION

REMARKS:

THE PREPARATORY SURVEY ON ROAD IMPROVEMENT PLAN IN NACALA DEVELOPMENT CORRIDOR
(N13: CUAMBA-MANDIMBA-LICHINGA)

Eight-Japan Engineering Consultants Inc.
Oriental Consultants Co., Ltd

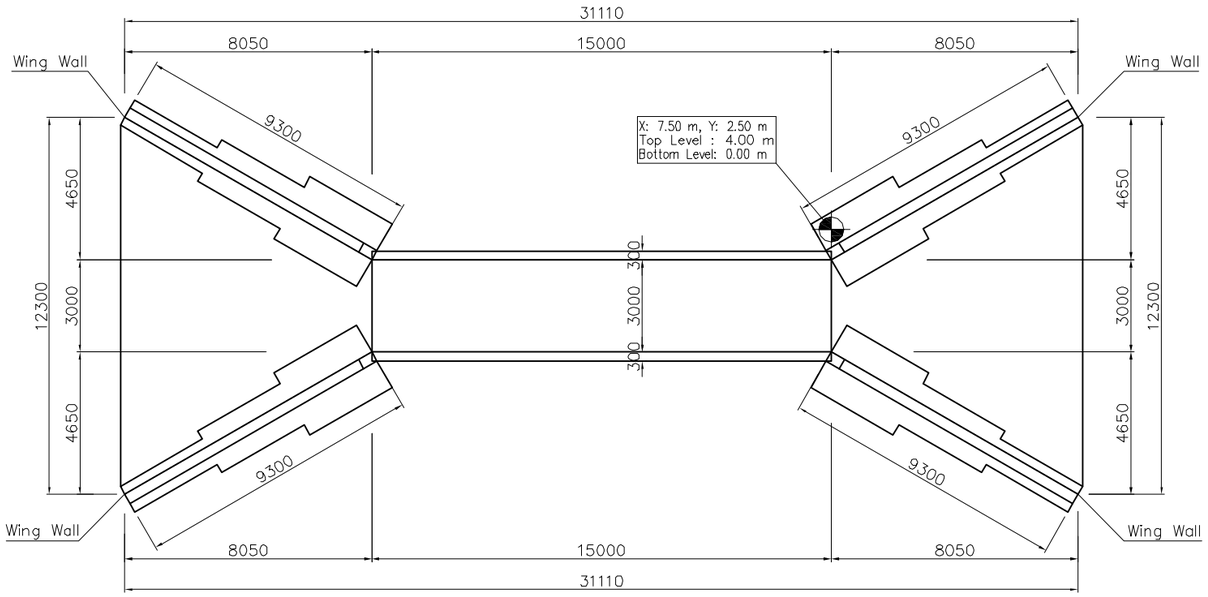
	PREPARED BY	CHECKED BY	APPROVED BY
NAME			
SIGNATURE			
DATE			

DRAWING TITLE: Box Culvert Structural Details (1)

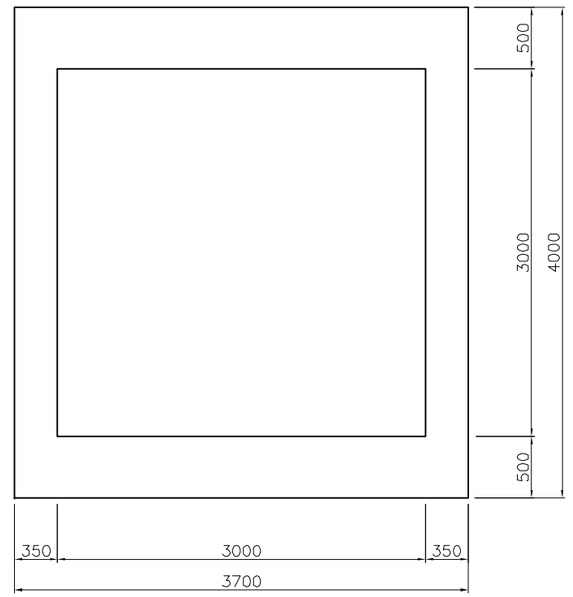
SCALE	SHEET NO.	DRAWING NO.	REV. NO.
As Shown		36	-

Box Culvert Structural Details (2)

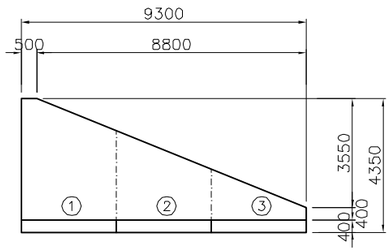
3000x3000 Type A (1 Cell)

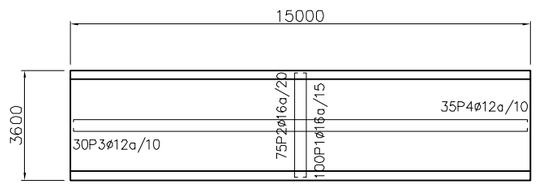


Plan View **Scale: 1/100**

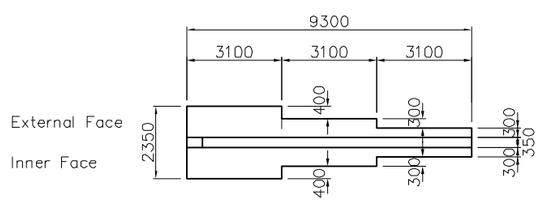


Section View **Scale: 1/25**

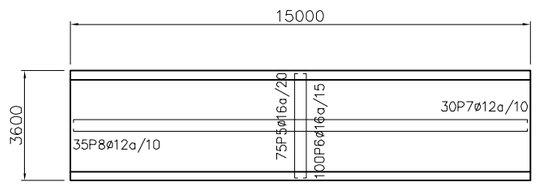




Top Slab **Scale: 1/100**



Wing Walls **Scale: 1/100**



Bottom Slab **Scale: 1/100**

JAPAN INTERNATIONAL COOPERATION AGENCY

NATIONAL ROAD ADMINISTRATION

REMARKS:

THE PREPARATORY SURVEY ON ROAD IMPROVEMENT PLAN IN NACALA DEVELOPMENT CORRIDOR
(N13: CUAMBA-MANDIMBA-LICHINGA)

Eight-Japan Engineering Consultants Inc.
Oriental Consultants Co., Ltd

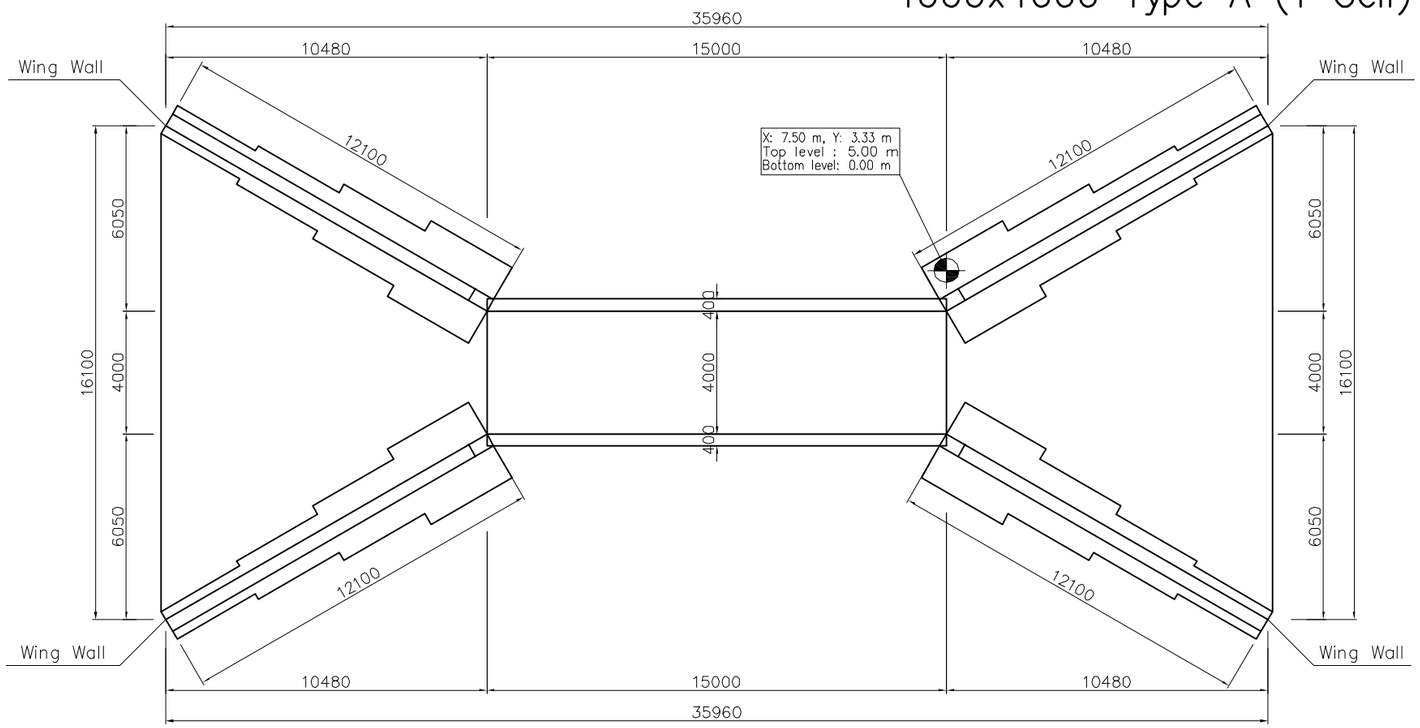
DRAWING TITLE: Box Culvert Structural Details (2)

	PREPARED BY	CHECKED BY	APPROVED BY
NAME			
SIGNATURE			
DATE			

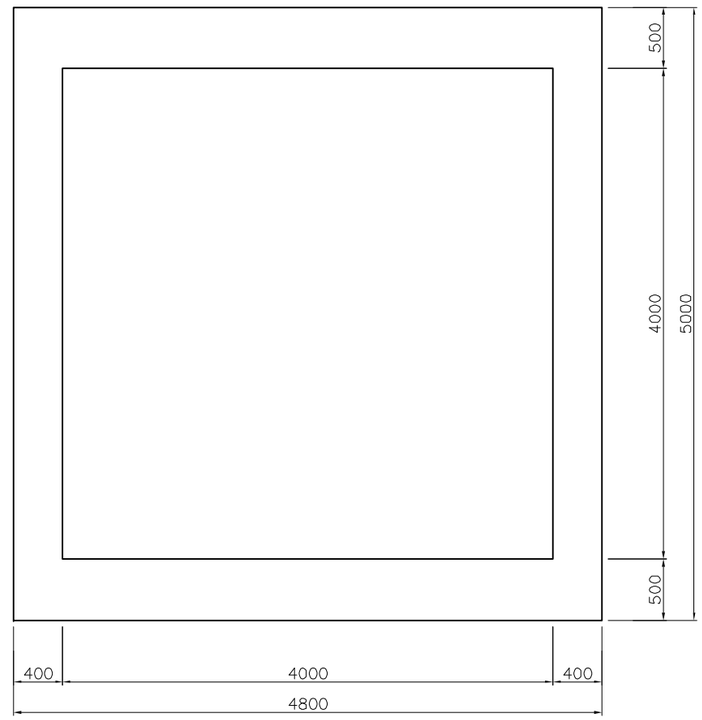
SCALE	SHEET NO.	DRAWING NO.	REV. NO.
As Shown		37	-

Box Culvert Structural Details (3)

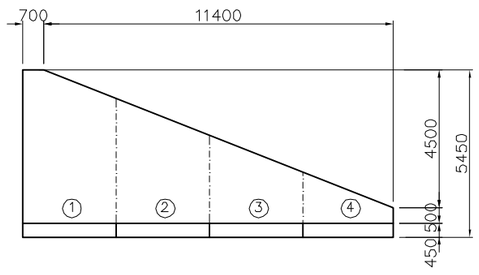
4000x4000 Type A (1 Cell)

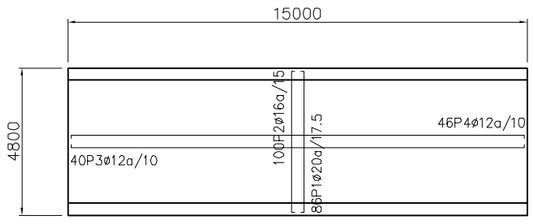


Plan View **Scale: 1/100**

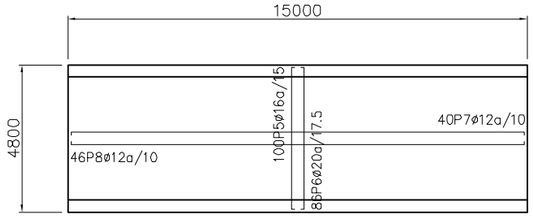


Section View **Scale: 1/25**

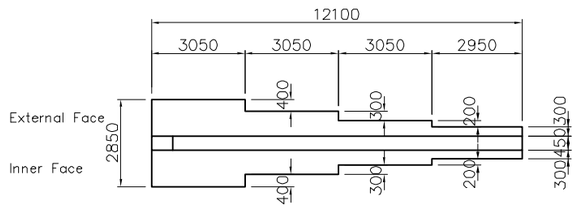




Top Slab **Scale: 1/100**



Bottom Slab **Scale: 1/100**



Wing Walls **Scale: 1/100**

JAPAN INTERNATIONAL COOPERATION AGENCY

NATIONAL ROAD ADMINISTRATION

REMARKS:

THE PREPARATORY SURVEY ON ROAD IMPROVEMENT PLAN IN NACALA DEVELOPMENT CORRIDOR
(N13: CUAMBA-MANDIMBA-LICHINGA)

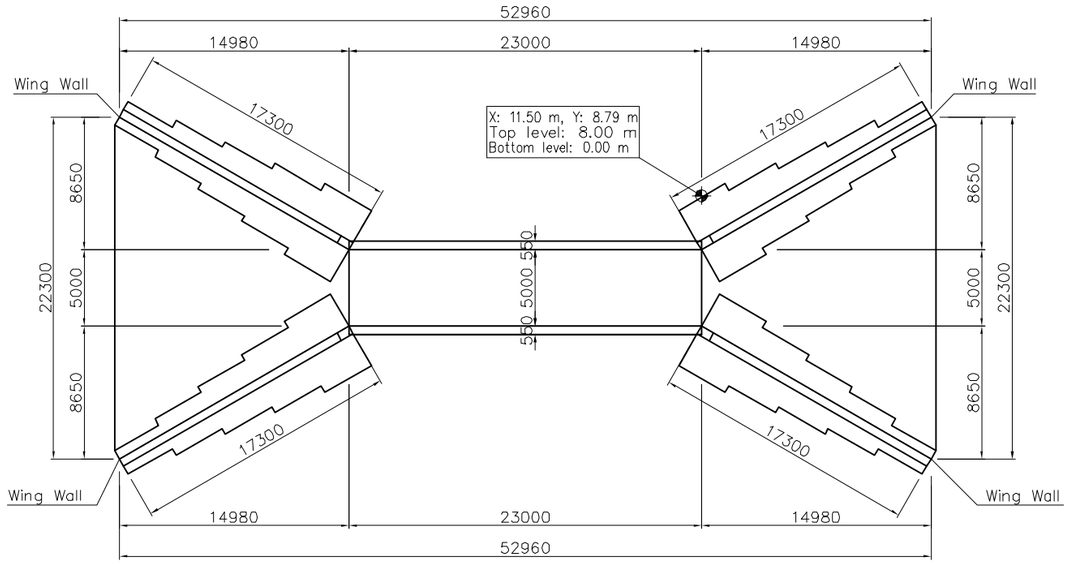
Eight-Japan Engineering Consultants Inc.
Oriental Consultants Co., Ltd

	PREPARED BY	CHECKED BY	APPROVED BY
NAME			
SIGNATURE			
DATE			

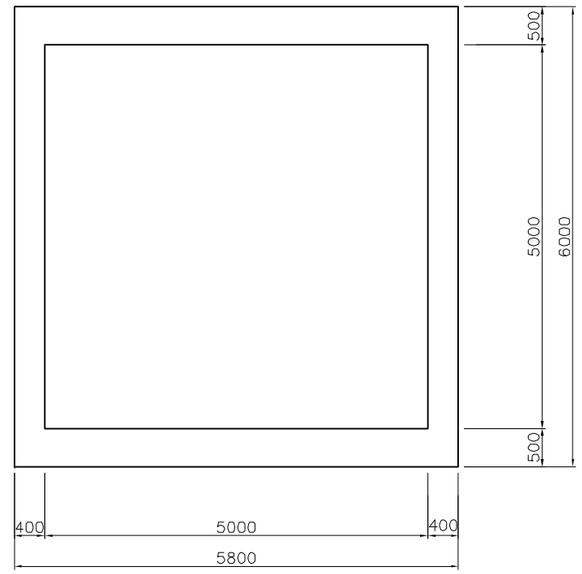
DRAWING TITLE: Box Culvert Structural Details (3)

SCALE	SHEET NO.	DRAWING NO.	REV. NO.
As Shown		38	-

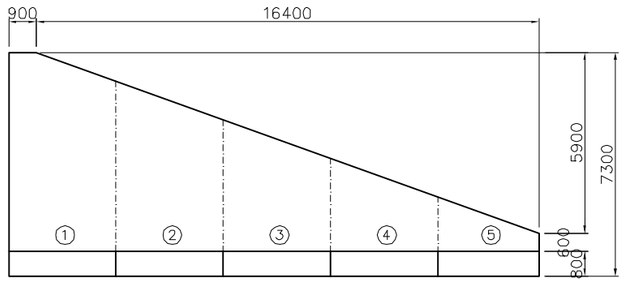
Box Culvert Structural Details (4)
5000x5000 Type A (1 Cell)

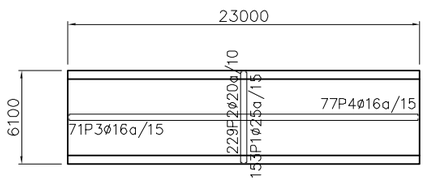


Plan View **Scale: 1/200**

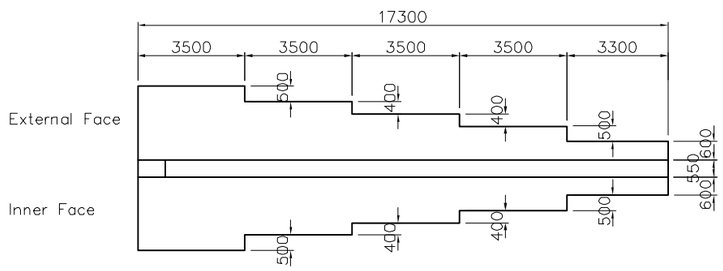


Section View **Scale: 1/40**

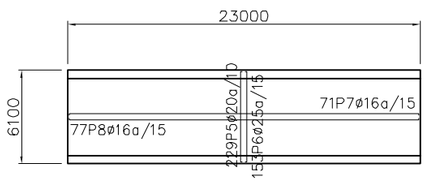




Top Slab **Scale: 1/200**



Wing Walls **Scale: 1/100**



Bottom Slab **Scale: 1/200**

JAPAN INTERNATIONAL COOPERATION AGENCY

NATIONAL ROAD ADMINISTRATION

REMARKS:

THE PREPARATORY SURVEY ON ROAD IMPROVEMENT PLAN IN NACALA DEVELOPMENT CORRIDOR
(N13: CUAMBA-MANDIMBA-LICHINGA)

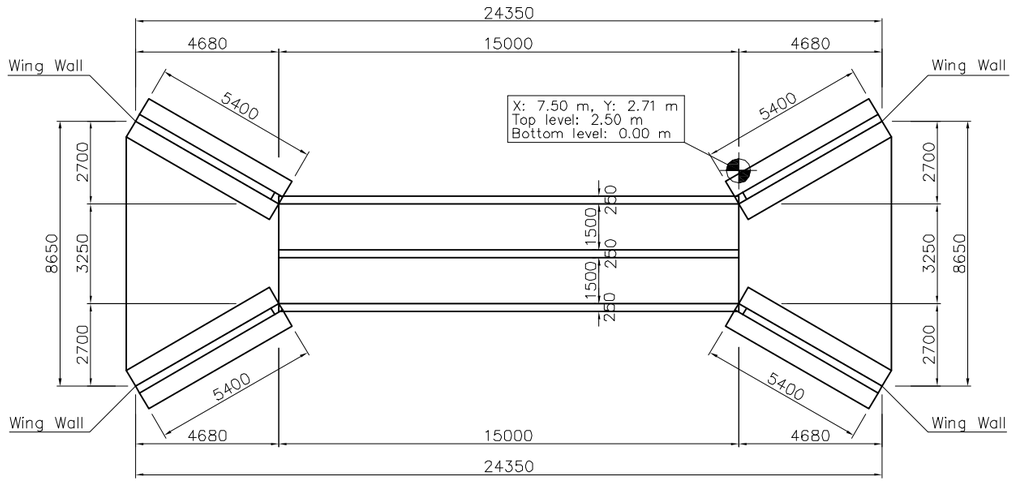
Eight-Japan Engineering Consultants Inc.
Oriental Consultants Co., Ltd

	PREPARED BY	CHECKED BY	APPROVED BY
NAME			
SIGNATURE			
DATE			

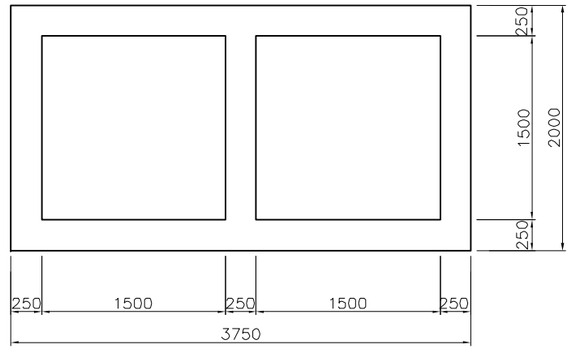
DRAWING TITLE: Box Culvert Structural Details (4)

SCALE	SHEET NO.	DRAWING NO.	REV. NO.
As Shown		39	-

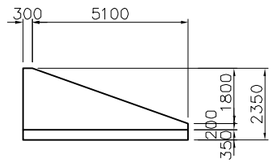
Box Culvert Structural Details (5)
1500x1500 Type A (2 Cells)

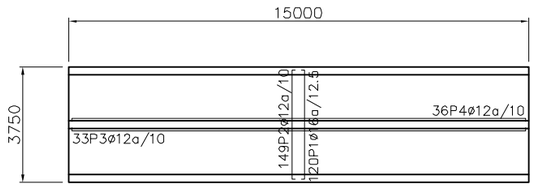


Plan View **Scale: 1/100**

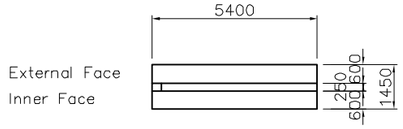


Section View **Scale: 1/25**

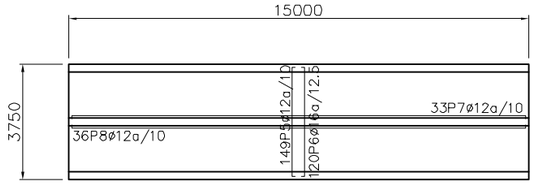




Top Slab **Scale: 1/100**



Wing Walls **Scale: 1/100**



Bottom Slab **Scale: 1/100**

JAPAN INTERNATIONAL COOPERATION AGENCY

NATIONAL ROAD ADMINISTRATION

REMARKS:

THE PREPARATORY SURVEY ON ROAD IMPROVEMENT PLAN IN NACALA DEVELOPMENT CORRIDOR
(N13: CUAMBA-MANDIMBA-LICHINGA)

Eight-Japan Engineering Consultants Inc.
Oriental Consultants Co., Ltd

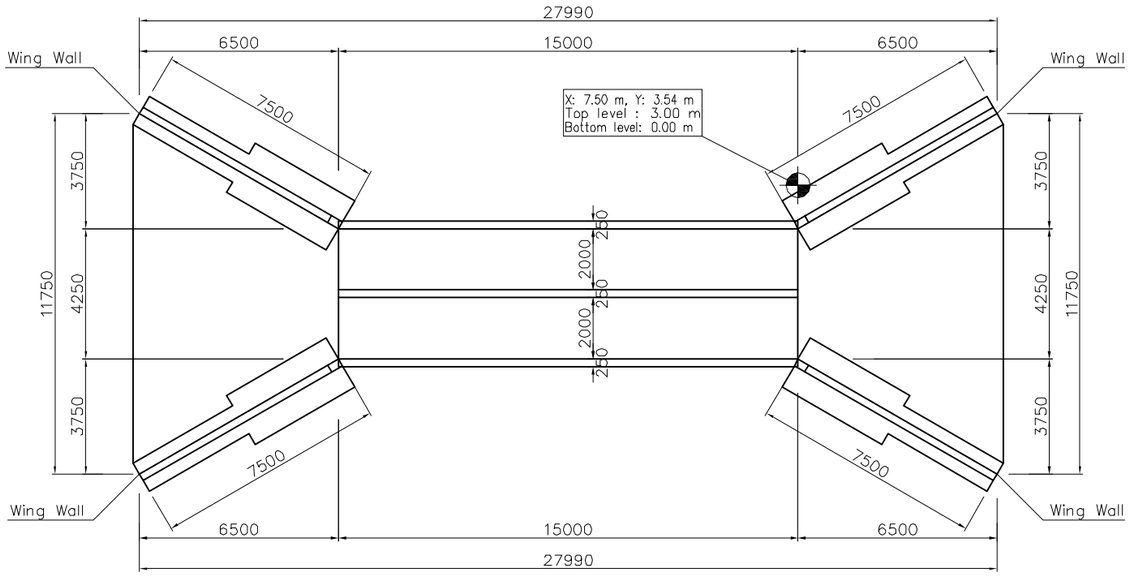
	PREPARED BY	CHECKED BY	APPROVED BY
NAME			
SIGNATURE			
DATE			

DRAWING TITLE: Box Culvert Structural Details (5)

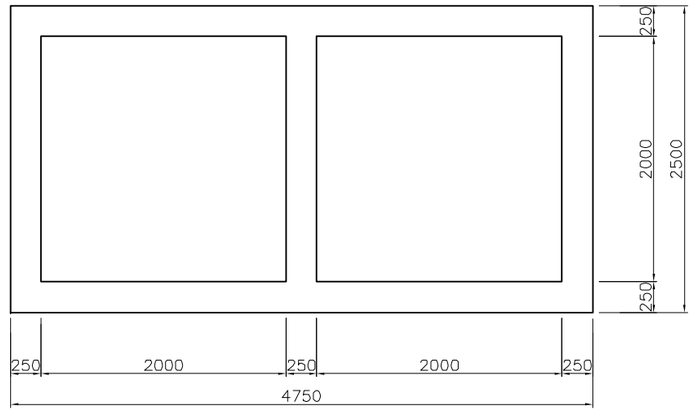
SCALE	SHEET NO.	DRAWING NO.	REV. NO.
As Shown		40	-

Box Culvert Structural Details (6)

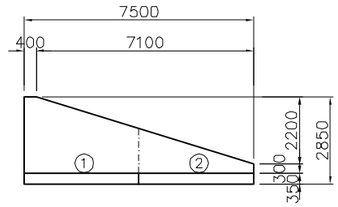
2000x2000 Type A (2 Cells)

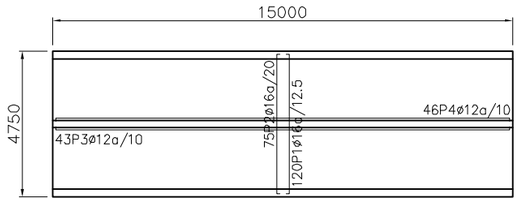


Plan View **Scale: 1/100**

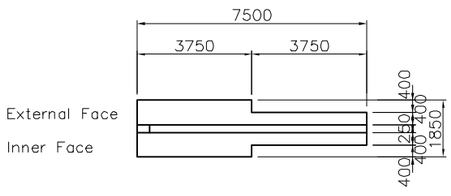


Section View **Scale: 1/25**

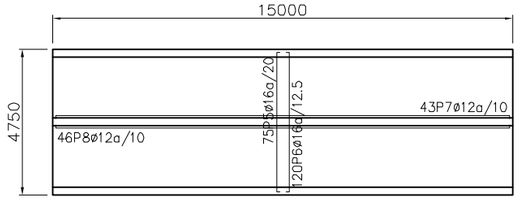




Top Slab **Scale: 1/100**



Wing Walls **Scale: 1/100**



Bottom Slab **Scale: 1/100**

JAPAN INTERNATIONAL COOPERATION AGENCY

NATIONAL ROAD ADMINISTRATION

REMARKS:

THE PREPARATORY SURVEY ON ROAD IMPROVEMENT PLAN IN NACALA DEVELOPMENT CORRIDOR
(N13: CUAMBA-MANDIMBA-LICHINGA)

Eight-Japan Engineering Consultants Inc.
Oriental Consultants Co., Ltd

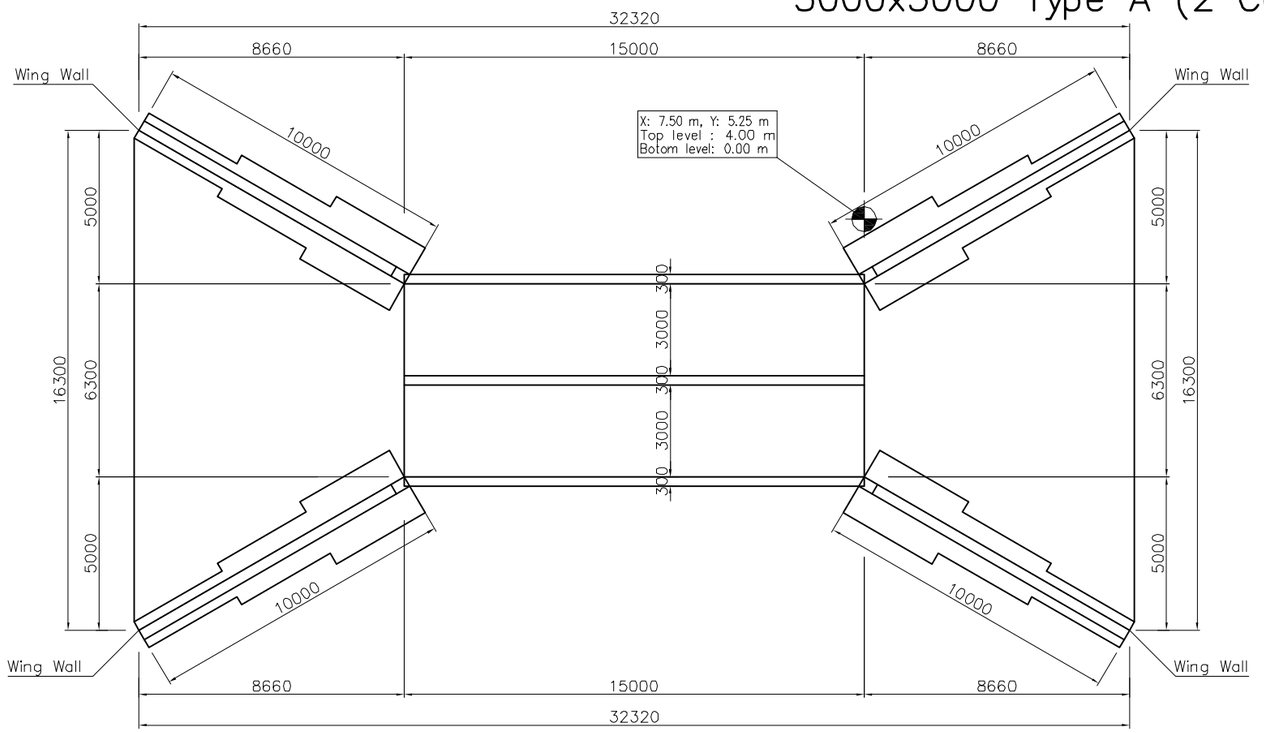
	PREPARED BY	CHECKED BY	APPROVED BY
NAME			
SIGNATURE			
DATE			

DRAWING TITLE: Box Culvert Structural Details (6)

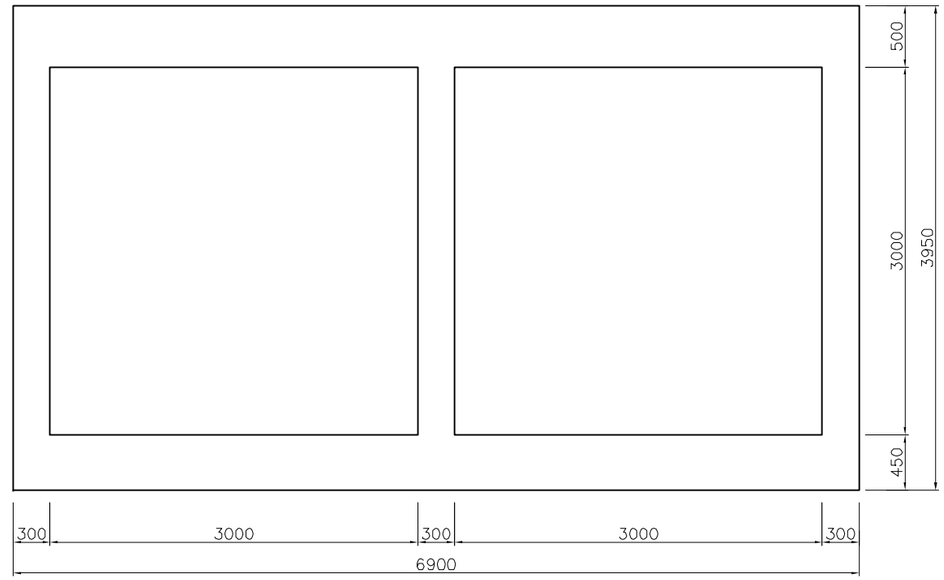
SCALE	SHEET NO.	DRAWING NO.	REV. NO.
As Shown		41	-

Box Culvert Structural Details (7)

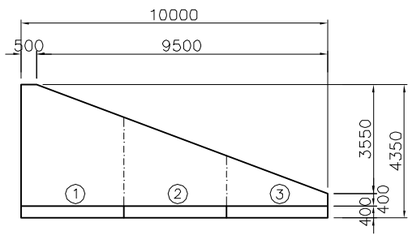
3000x3000 Type A (2 Cells)

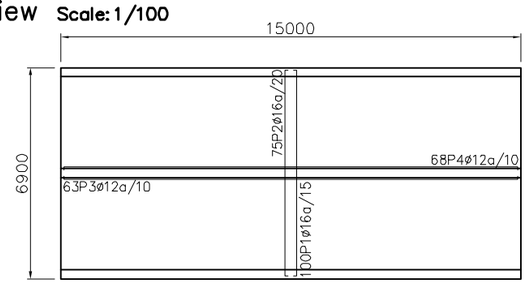


Plan View **Scale: 1/100**

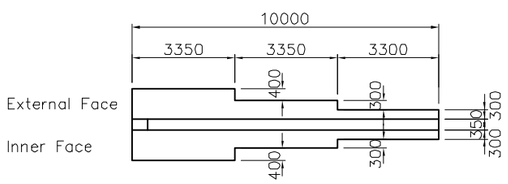


Section View **Scale: 1/25**

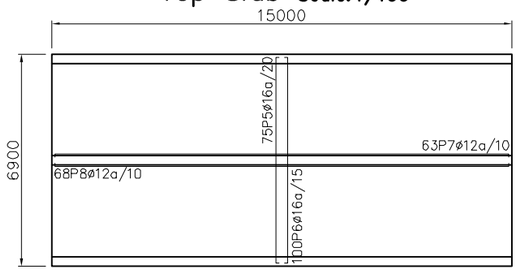




Top Slab **Scale: 1/100**



Wing Walls **Scale: 1/100**



Bottom Slab **Scale: 1/100**

JAPAN INTERNATIONAL COOPERATION AGENCY

NATIONAL ROAD ADMINISTRATION

REMARKS:

THE PREPARATORY SURVEY ON ROAD IMPROVEMENT PLAN IN NACALA DEVELOPMENT CORRIDOR
(N13: CUAMBA-MANDIMBA-LICHINGA)

Eight-Japan Engineering Consultants Inc.
Oriental Consultants Co., Ltd

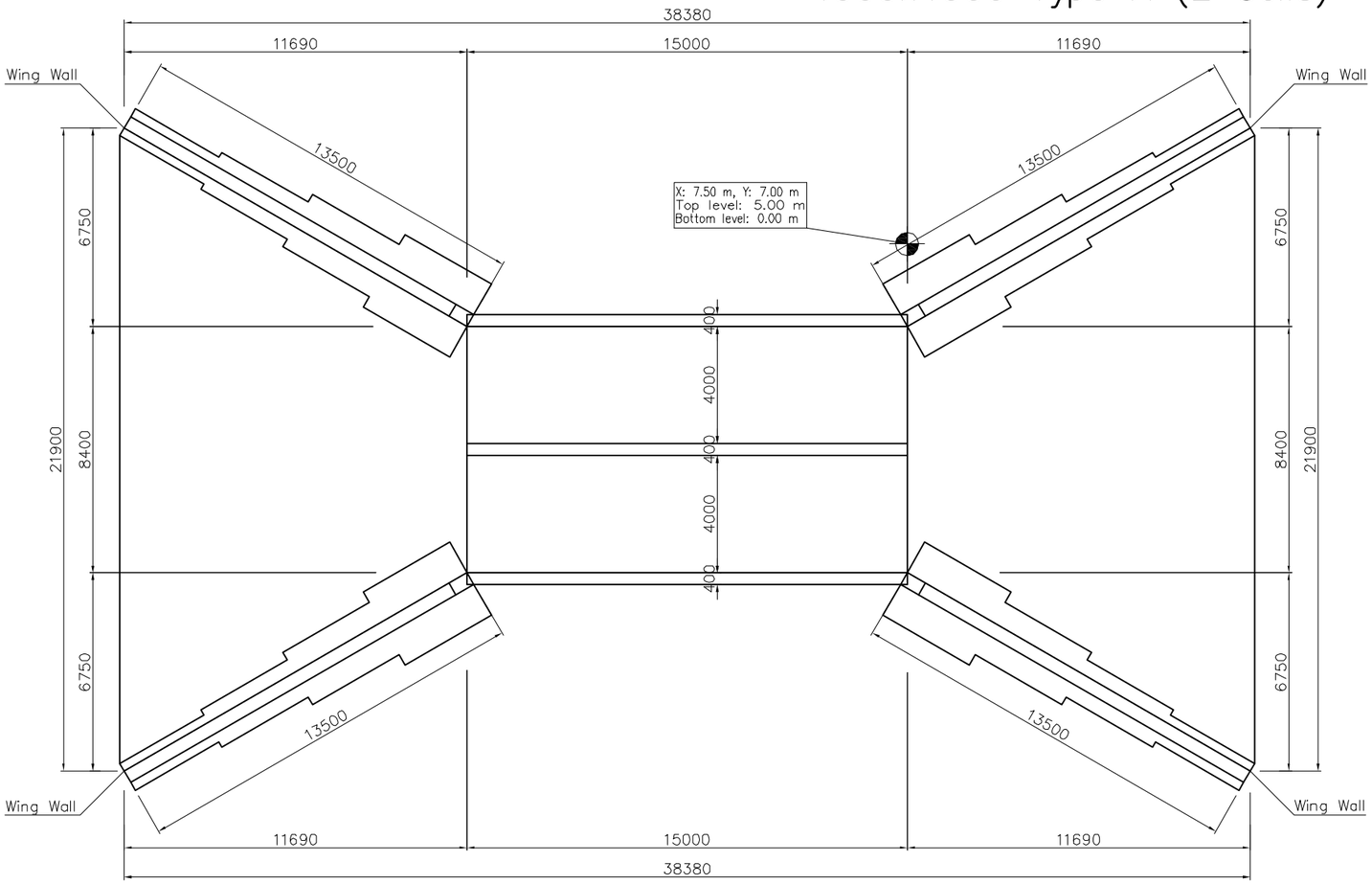
DRAWING TITLE: Box Culvert Structural Details (7)

	PREPARED BY	CHECKED BY	APPROVED BY
NAME			
SIGNATURE			
DATE			

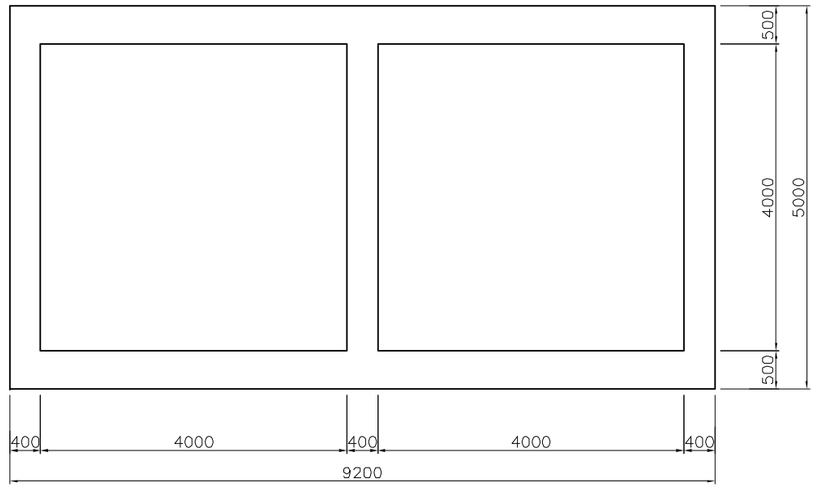
SCALE	SHEET NO.	DRAWING NO.	REV. NO.
As Shown		42	-

Box Culvert Structural Details (8)

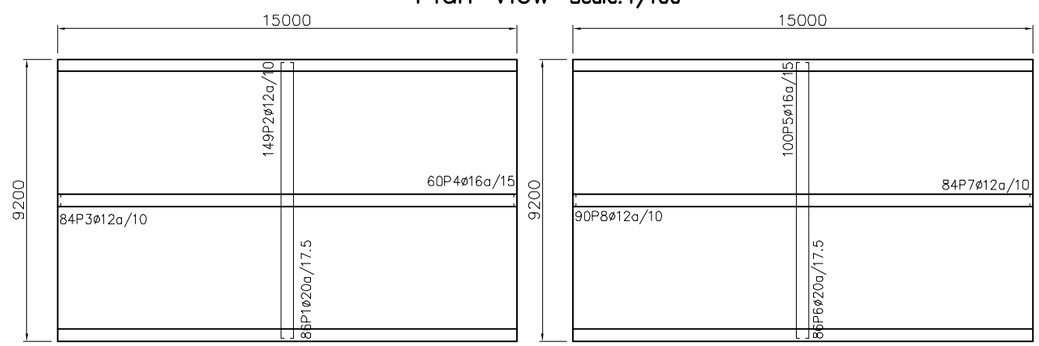
4000x4000 Type A (2 Cells)



Plan View **Scale: 1/100**

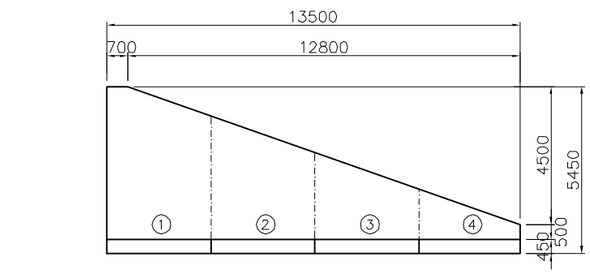


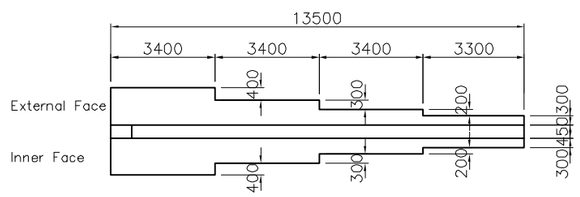
Section View **Scale: 1/40**



Top Slab **Scale: 1/100**

Bottom Slab **Scale: 1/100**





Wing Walls **Scale: 1/100**

JAPAN INTERNATIONAL COOPERATION AGENCY

NATIONAL ROAD ADMINISTRATION

REMARKS:

THE PREPARATORY SURVEY ON ROAD IMPROVEMENT PLAN IN NACALA DEVELOPMENT CORRIDOR
(N13: CUAMBA-MANDIMBA-LICHINGA)

Eight-Japan Engineering Consultants Inc.
Oriental Consultants Co., Ltd

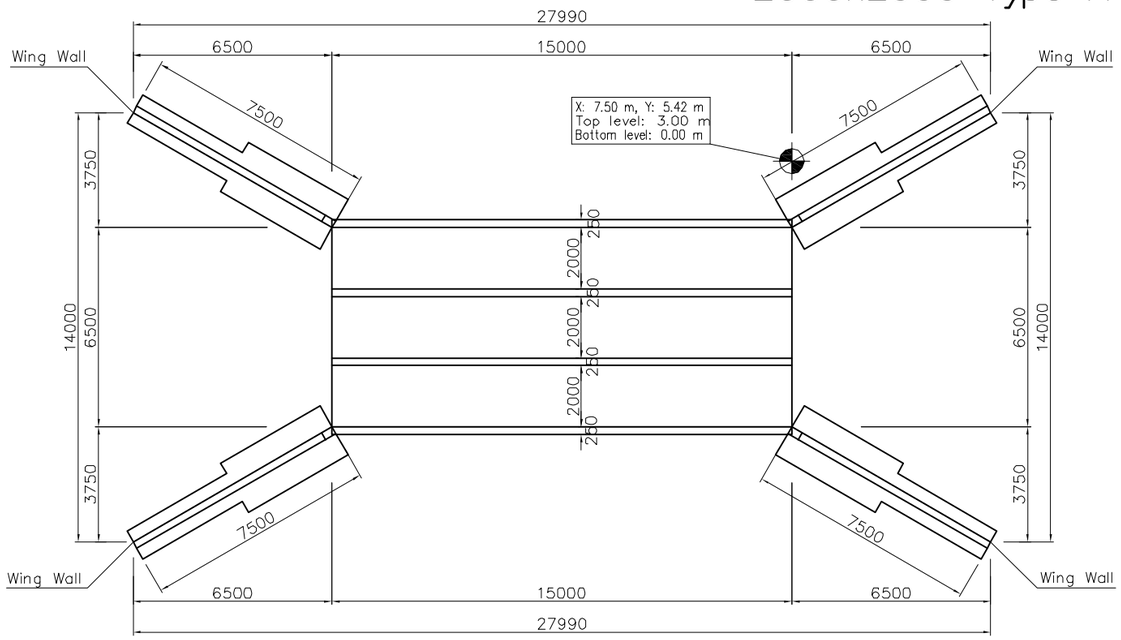
	PREPARED BY	CHECKED BY	APPROVED BY
NAME			
SIGNATURE			
DATE			

DRAWING TITLE: Box Culvert Structural Details (8)

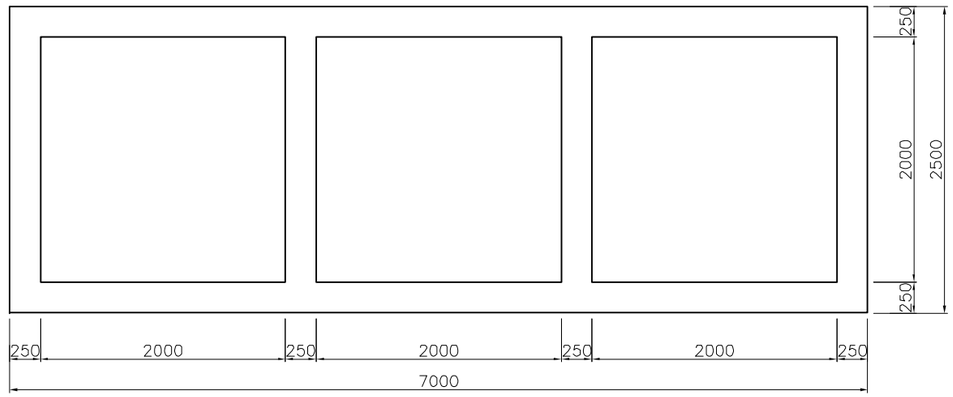
SCALE	SHEET NO.	DRAWING NO.	REV. NO.
As Shown		43	-

Box Culvert Structural Details (9)

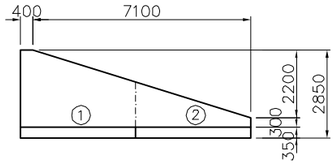
2000x2000 Type A (3 Cells)

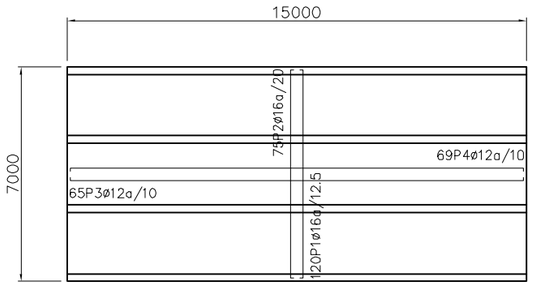


Plan View **Scale: 1/100**

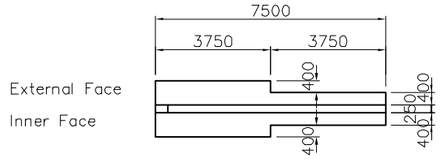


Section View **Scale: 1/25**

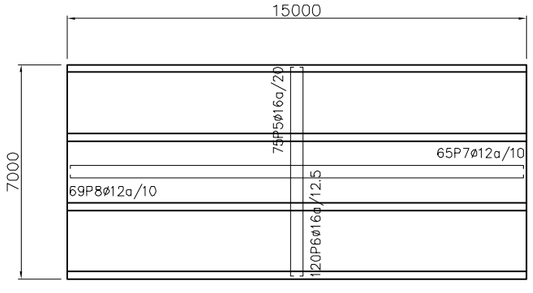




Top Slab **Scale: 1/100**



Wing Walls **Scale: 1/100**



Bottom Slab **Scale: 1/100**

JAPAN INTERNATIONAL COOPERATION AGENCY

NATIONAL ROAD ADMINISTRATION

REMARKS:

THE PREPARATORY SURVEY ON ROAD IMPROVEMENT PLAN IN NACALA DEVELOPMENT CORRIDOR
(N13: CUAMBA-MANDIMBA-LICHINGA)

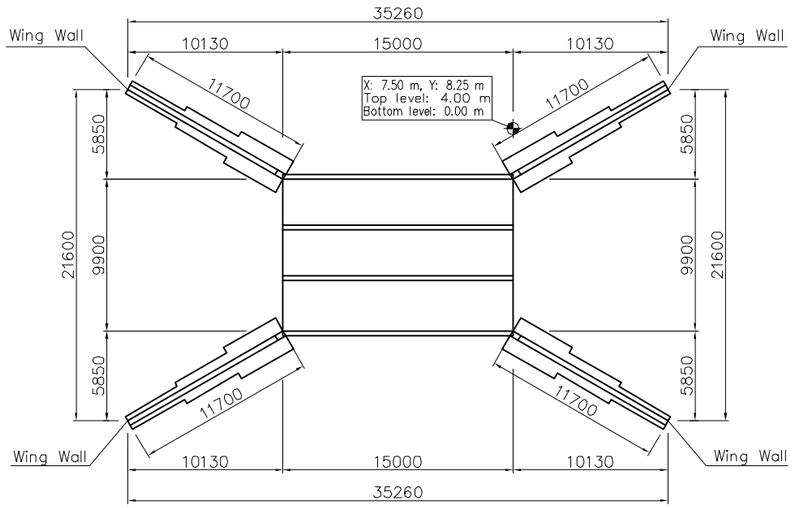
Eight-Japan Engineering Consultants Inc.
Oriental Consultants Co., Ltd

	PREPARED BY	CHECKED BY	APPROVED BY
NAME			
SIGNATURE			
DATE			

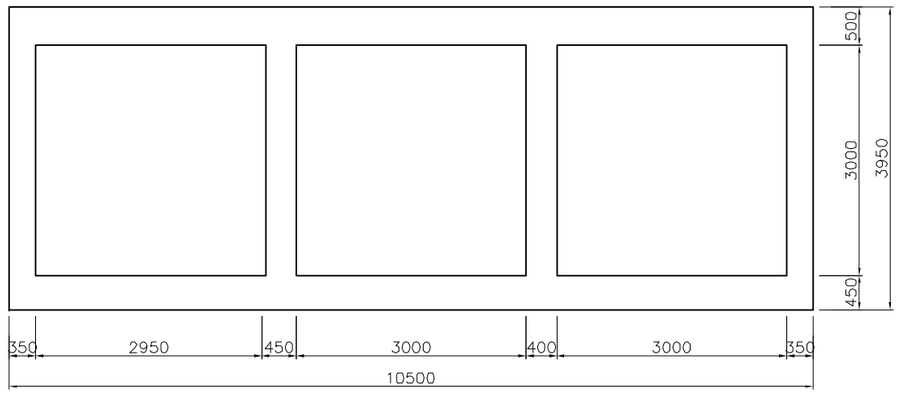
DRAWING TITLE: Box Culvert Structural Details (9)

SCALE	SHEET NO.	DRAWING NO.	REV. NO.
As Shown		44	-

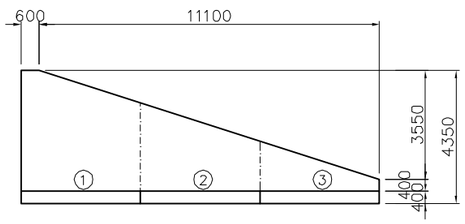
Box Culvert Structural Details (10)
3000x3000 Type A (3 Cells)

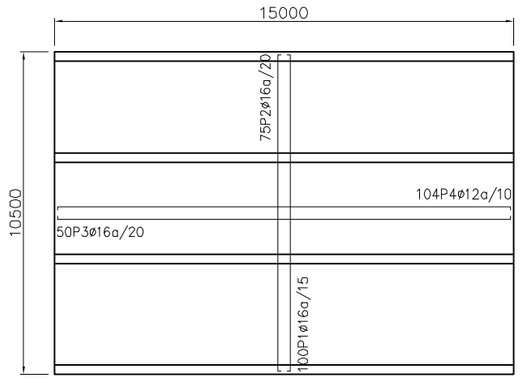


Plan View **Scale: 1/200**

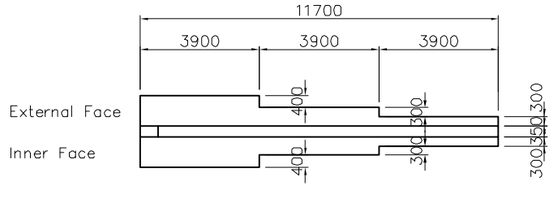


Section View **Scale: 1/40**

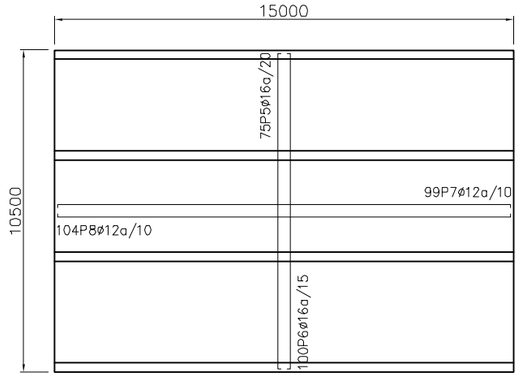




Top Slab **Scale: 1/100**



Wing Walls **Scale: 1/100**



Bottom Slab **Scale: 1/100**

JAPAN INTERNATIONAL COOPERATION AGENCY

NATIONAL ROAD ADMINISTRATION

REMARKS:

THE PREPARATORY SURVEY ON ROAD IMPROVEMENT PLAN IN NACALA DEVELOPMENT CORRIDOR
(N13: CUAMBA-MANDIMBA-LICHINGA)

Eight-Japan Engineering Consultants Inc.
Oriental Consultants Co., Ltd

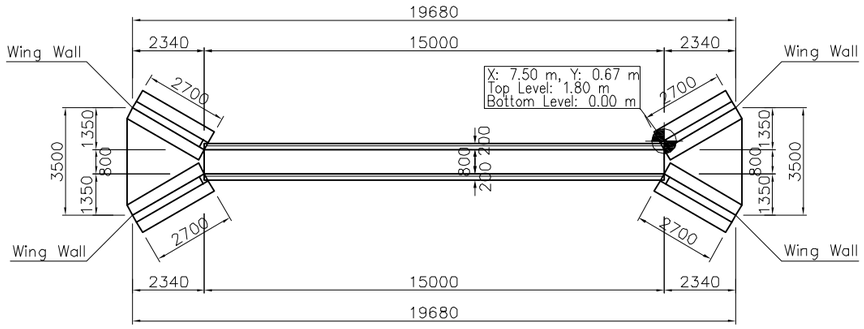
	PREPARED BY	CHECKED BY	APPROVED BY
NAME			
SIGNATURE			
DATE			

DRAWING TITLE: Box Culvert Structural Details (10)

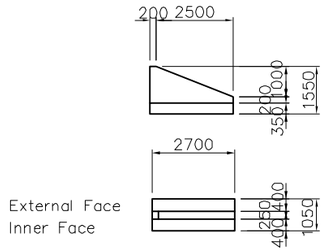
SCALE	SHEET NO.	DRAWING NO.	REV. NO.
As Shown		45	-

Pipe Culvert Structural Details (1)

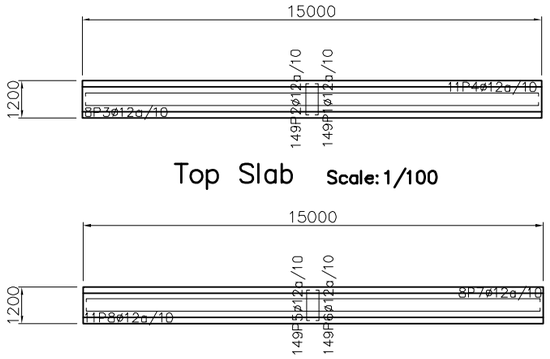
ø 800 Type A (1 Cell)



Plan View **Scale: 1/100**

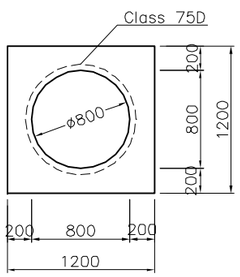


Wing Walls **Scale: 1/100**



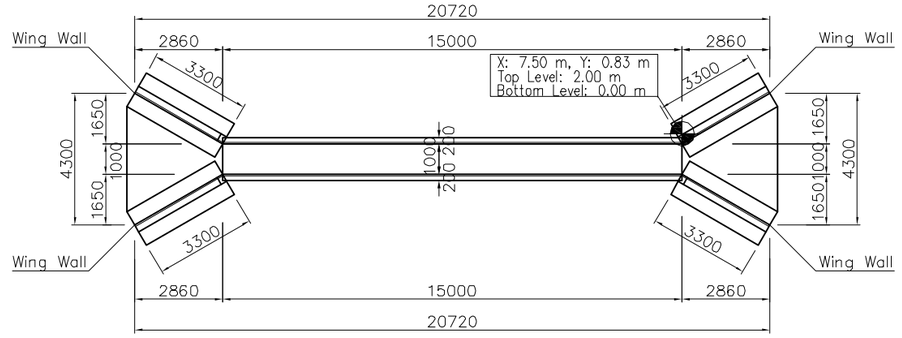
Top Slab **Scale: 1/100**

Bottom Slab **Scale: 1/100**

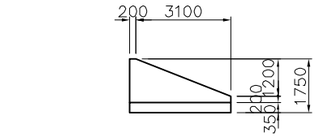


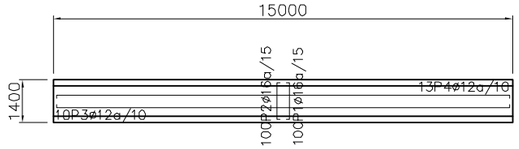
Section View **Scale: 1/25**

ø 1000 Type A (1 Cell)

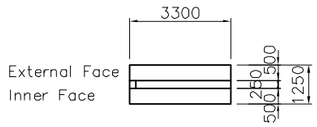


Plan View **Scale: 1/100**

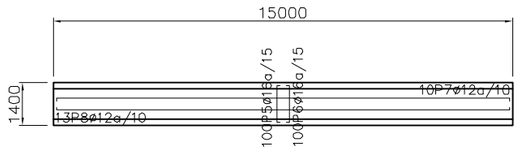




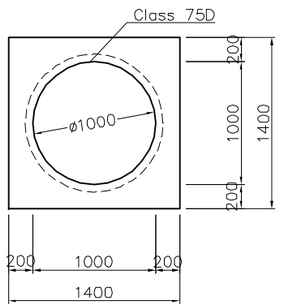
Top Slab **Scale: 1/100**



Wing Walls **Scale: 1/100**



Bottom Slab **Scale: 1/100**



Section View **Scale: 1/25**

JAPAN INTERNATIONAL COOPERATION AGENCY	REMARKS:	THE PREPARATORY SURVEY ON ROAD IMPROVEMENT PLAN IN NACALA DEVELOPMENT CORRIDOR (N13: CUAMBA-MANDIMBA-LICHINGA)
NATIONAL ROAD ADMINISTRATION		Eight-Japan Engineering Consultants Inc. Oriental Consultants Co., Ltd

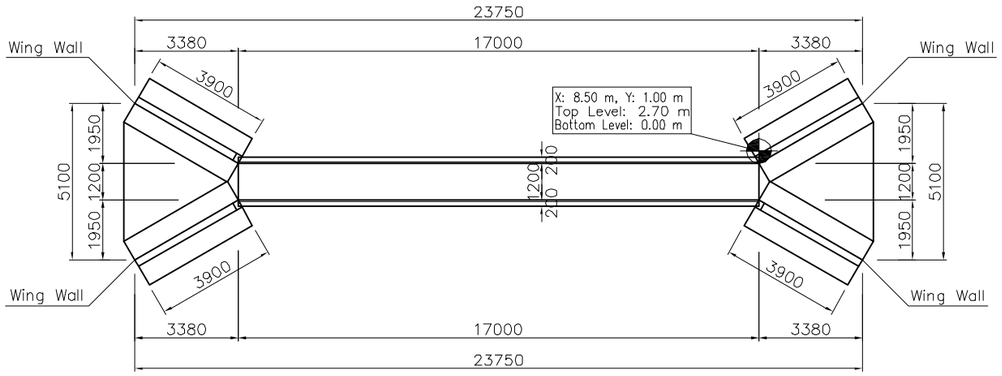
	PREPARED BY	CHECKED BY	APPROVED BY
NAME			
SIGNATURE			
DATE			

DRAWING TITLE: Pipe Culvert Structural Details (1)

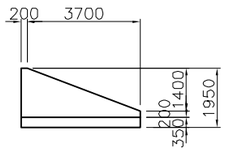
SCALE	SHEET NO.	DRAWING NO.	REV. NO.
As Shown		46	-

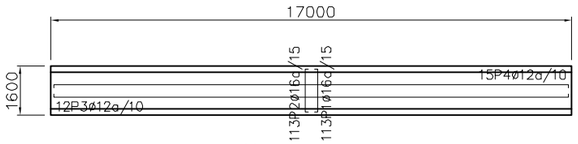
Pipe Culvert Structural Details (2)

ø 1200 Type A (1 Cell)

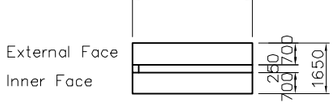


Plan View **Scale: 1/100**

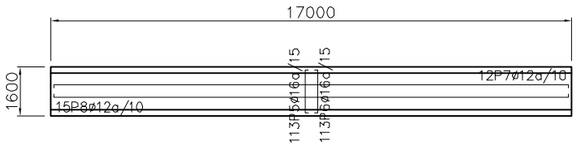




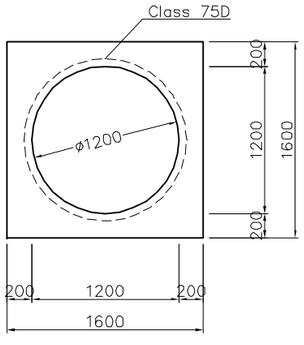
Top Slab **Scale: 1/100**



Wing Walls **Scale: 1/100**

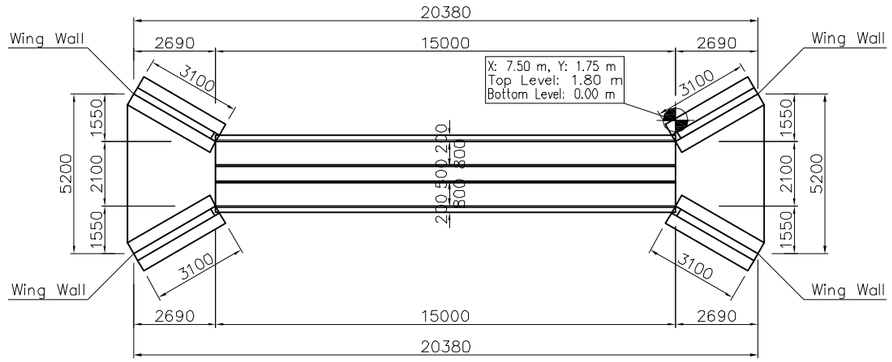


Bottom Slab **Scale: 1/100**

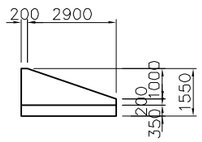


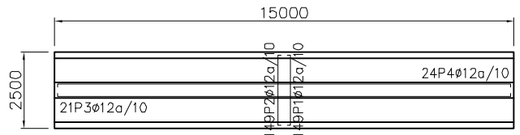
Section View **Scale: 1/25**

ø 800 Type A (2 Cells)

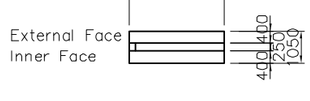


Plan View **Scale: 1/100**

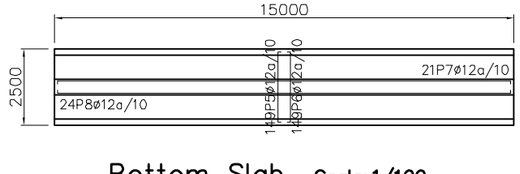




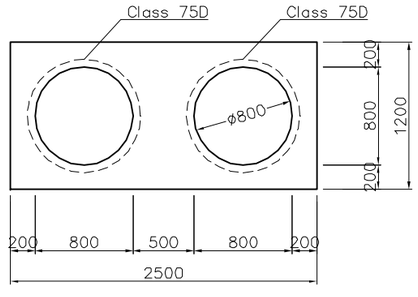
Top Slab **Scale: 1/100**



Wing Walls **Scale: 1/100**



Bottom Slab **Scale: 1/100**

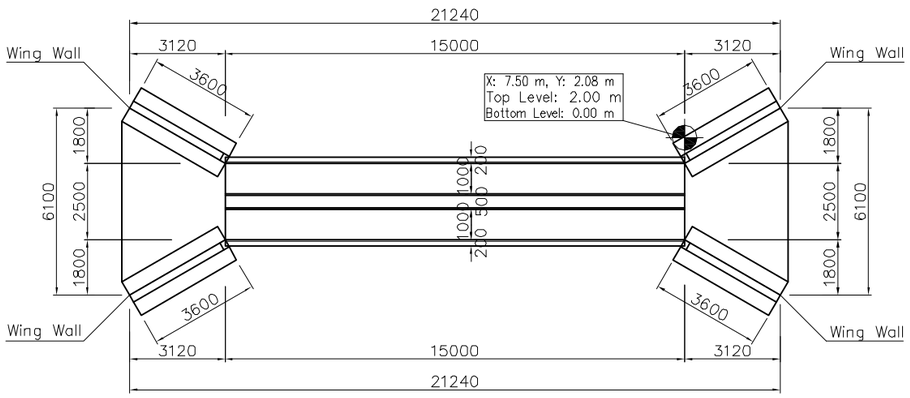


Section View **Scale: 1/25**

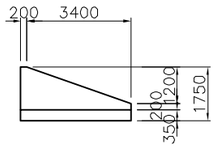
JAPAN INTERNATIONAL COOPERATION AGENCY	REMARKS:	THE PREPARATORY SURVEY ON ROAD IMPROVEMENT PLAN IN NACALA DEVELOPMENT CORRIDOR (N13: CUAMBA-MANDIMBA-LICHINGA)					
NATIONAL ROAD ADMINISTRATION		Eight-Japan Engineering Consultants Inc. Oriental Consultants Co., Ltd			DRAWING TITLE: Pipe Culvert Structural Details (2)		
			PREPARED BY	CHECKED BY	APPROVED BY	SCALE	SHEET NO. / DRAWING NO. / REV. NO.
		NAME				As Shown	47 / -
		SIGNATURE					
		DATE					

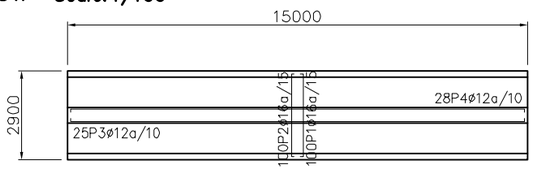
Pipe Culvert Structural Details (3)

ø 1000 Type A (2 Cells)

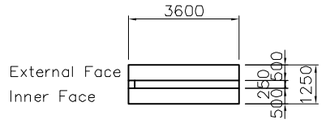


Plan View **Scale: 1/100**

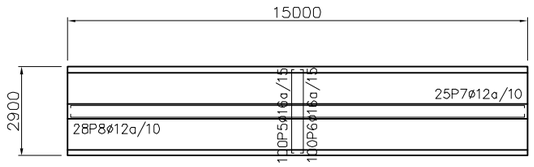




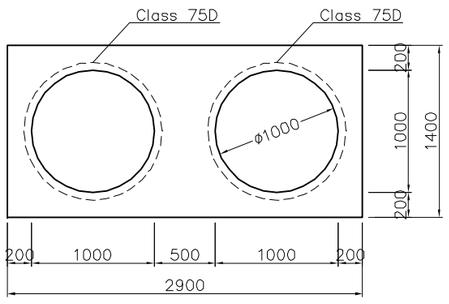
Top Slab **Scale: 1/100**



Wing Walls **Scale: 1/100**

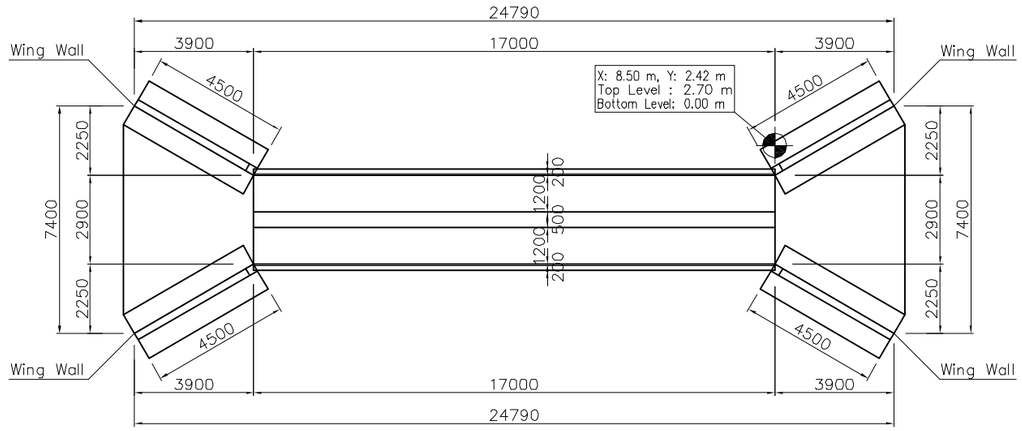


Bottom Slab **Scale: 1/100**

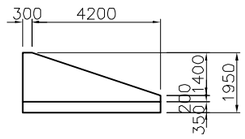


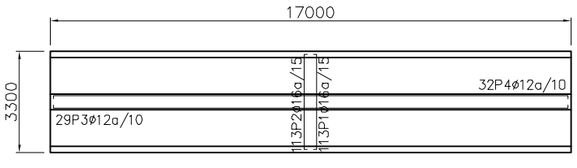
Section View **Scale: 1/25**

ø 1200 Type A (2 Cells)

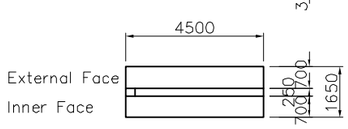


Plan View **Scale: 1/100**

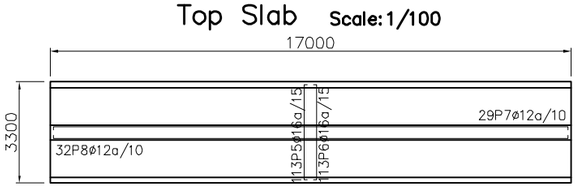




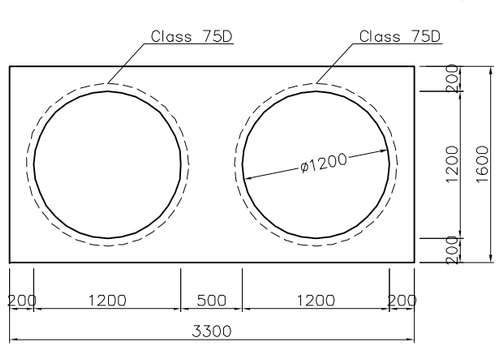
Top Slab **Scale: 1/100**



Wing Walls **Scale: 1/100**



Bottom Slab **Scale: 1/100**



Section View **Scale: 1/25**

JAPAN INTERNATIONAL COOPERATION AGENCY

NATIONAL ROAD ADMINISTRATION

REMARKS:

THE PREPARATORY SURVEY ON ROAD IMPROVEMENT PLAN IN NACALA DEVELOPMENT CORRIDOR
(N13: CUAMBA-MANDIMBA-LICHINGA)

Eight-Japan Engineering Consultants Inc.
Oriental Consultants Co., Ltd

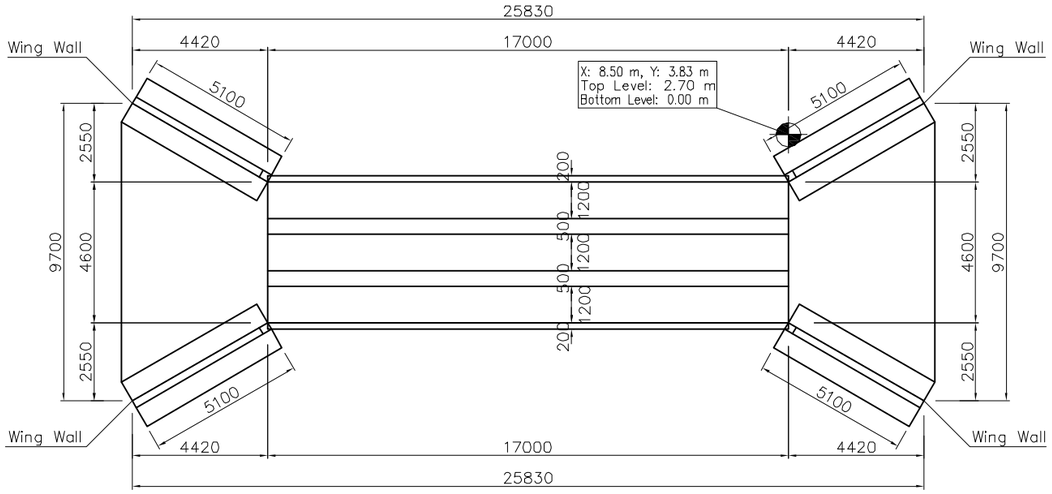
	PREPARED BY	CHECKED BY	APPROVED BY
NAME			
SIGNATURE			
DATE			

DRAWING TITLE: Pipe Culvert Structural Details (3)

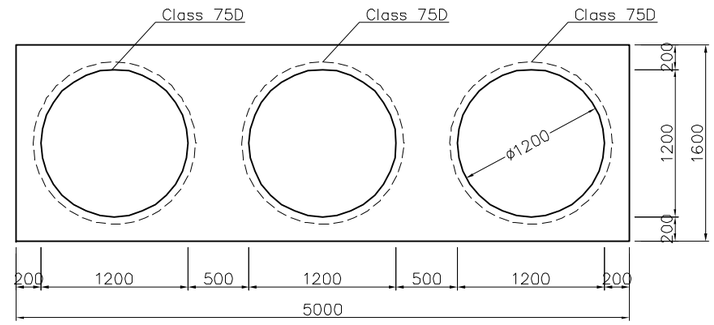
SCALE	SHEET NO.	DRAWING NO.	REV. NO.
As Shown		48	-

Pipe Culvert Structural Details (4)

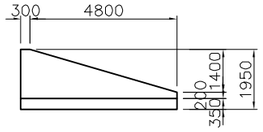
ø 1200 Type A (3 Cells)

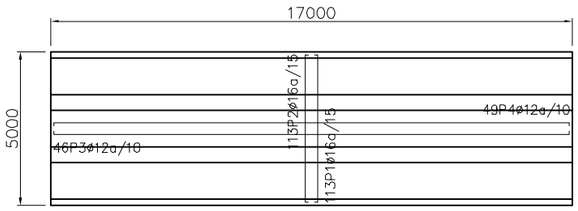


Plan View **Scale: 1/100**

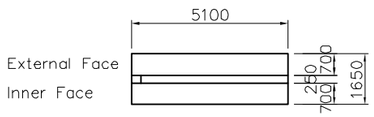


Section View **Scale: 1/25**

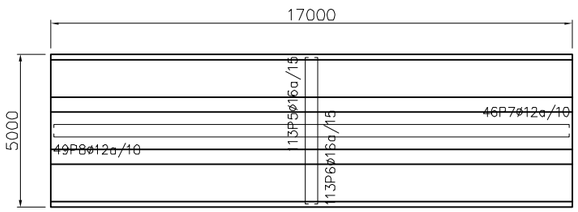




Top Slab **Scale: 1/100**



Wing Walls **Scale: 1/100**



Bottom Slab **Scale: 1/100**

JAPAN INTERNATIONAL COOPERATION AGENCY

NATIONAL ROAD ADMINISTRATION

REMARKS:

THE PREPARATORY SURVEY ON ROAD IMPROVEMENT PLAN IN NACALA DEVELOPMENT CORRIDOR
(N13: CUAMBA-MANDIMBA-LICHINGA)

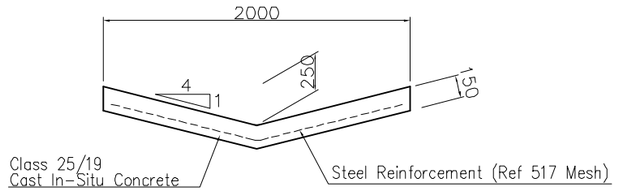
Eight-Japan Engineering Consultants Inc.
Oriental Consultants Co., Ltd

DRAWING TITLE: Pipe Culvert Structural Details (4)

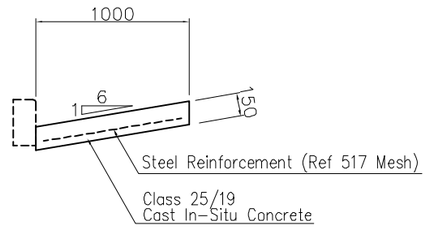
	PREPARED BY	CHECKED BY	APPROVED BY
NAME			
SIGNATURE			
DATE			

SCALE	SHEET NO.	DRAWING NO.	REV. NO.
As Shown		49	-

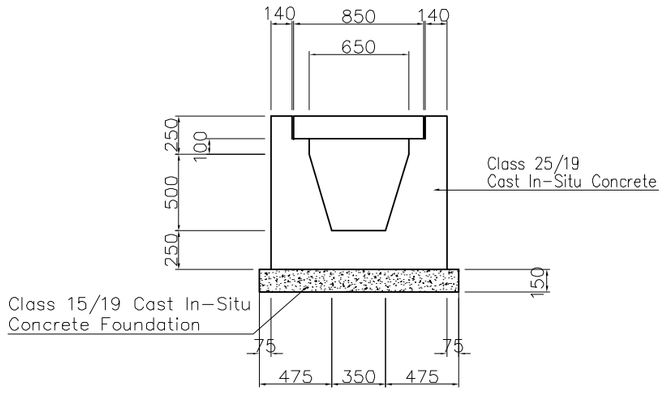
Drainage Details



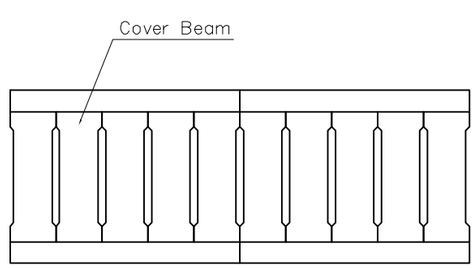
Type 1 Drain **Scale: 1/20**



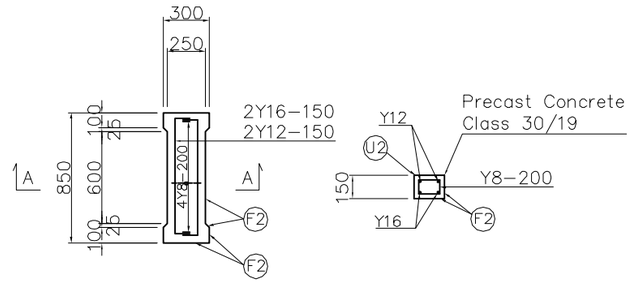
Type 2 Drain **Scale: 1/20**



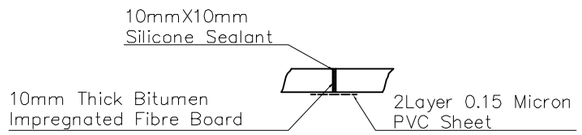
Type 3 Drain **Scale: 1/20**



Plan View of Cover Beam



Section A-A



EXPANSION JOINT

CONSTRUCTION JOINT

Joint Details All Drains Not to Scale

JAPAN INTERNATIONAL COOPERATION AGENCY

NATIONAL ROAD ADMINISTRATION

REMARKS:

THE PREPARATORY SURVEY ON ROAD IMPROVEMENT PLAN IN NACALA DEVELOPMENT CORRIDOR
(N13: CUAMBA-MANDIMBA-LICHINGA)

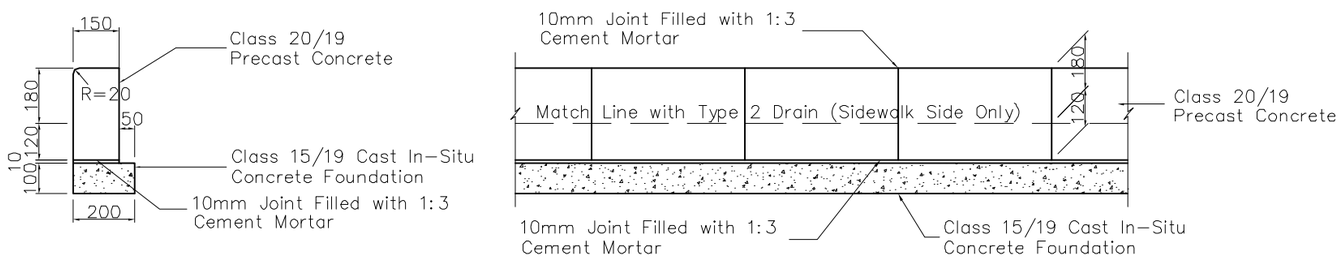
Eight-Japan Engineering Consultants Inc.
Oriental Consultants Co., Ltd

	PREPARED BY	CHECKED BY	APPROVED BY
NAME			
SIGNATURE			
DATE			

DRAWING TITLE: Drainage Details

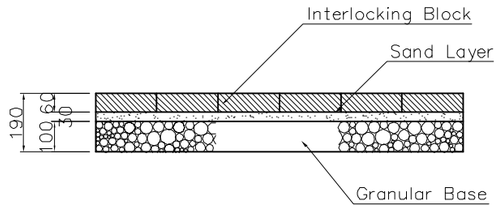
SCALE	SHEET NO.	DRAWING NO.	REV. NO.
As Shown		50	-

Ancillary Work

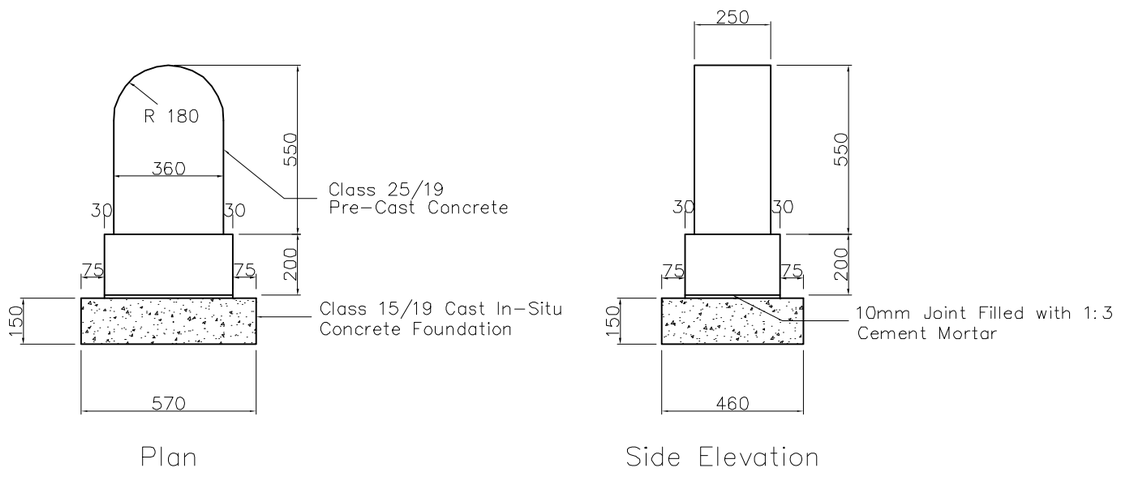


Concrete Kerb **Scale: 1/10**

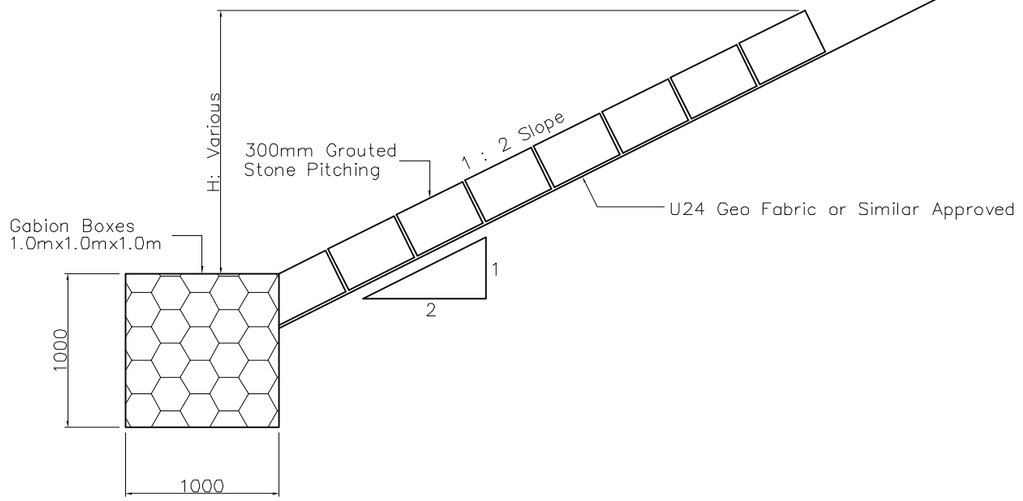
SABS 927–1969 TYPE 1



Detail Composition of Sidewalk **Scale: 1/10**



Typical Detail of A km–Marker **Scale: 1/10**



Typical Detail of Bank Erosion Protection **Scale: 1/20**

JAPAN INTERNATIONAL COOPERATION AGENCY

NATIONAL ROAD ADMINISTRATION

REMARKS:

THE PREPARATORY SURVEY ON ROAD IMPROVEMENT PLAN IN NACALA DEVELOPMENT CORRIDOR
(N13: CUAMBA-MANDIMBA-LICHINGA)

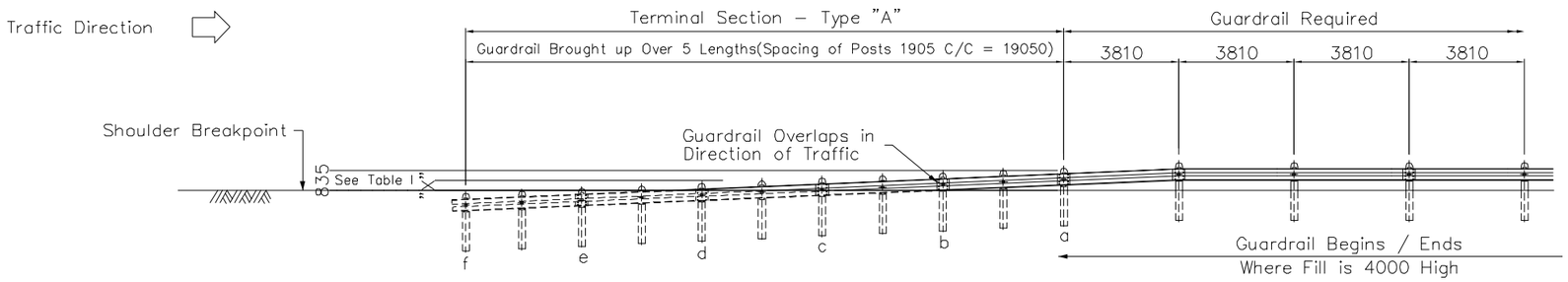
Eight-Japan Engineering Consultants Inc.
Oriental Consultants Co., Ltd

DRAWING TITLE: Ancillary Work

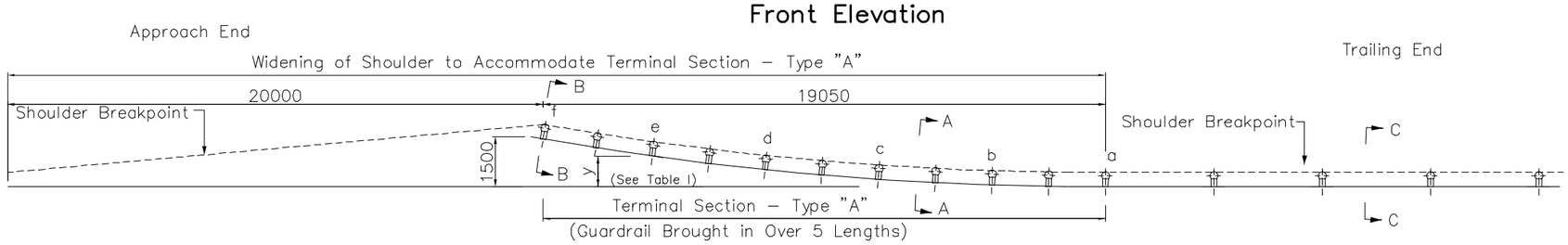
	PREPARED BY	CHECKED BY	APPROVED BY
NAME			
SIGNATURE			
DATE			

SCALE	SHEET NO.	DRAWING NO.	REV. NO.
		51	-

Guardrail Placing Details



Front Elevation

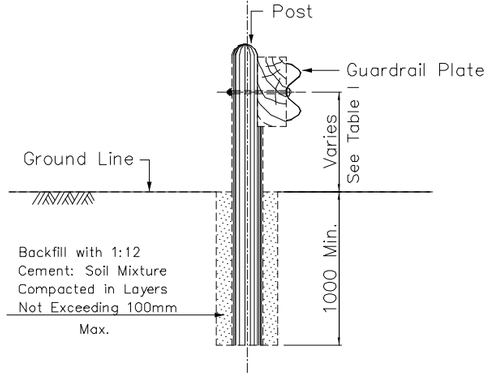


Plan

Typical Details of Terminal Sections

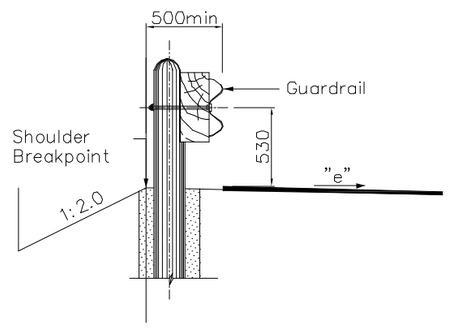
Scale: 1/100

Table I		
Placing of Poles at Parabolic Terminal Sections		
	Horizontal Off – Sets for Parabolic Terminal Sections Y (mm)	Vertical Off–Sets for Parabolic Terminal Section (Measured from Top of Post) X (mm)
a	0	0
b	60	33
c	240	133
d	540	299
e	960	531
f	1500	835



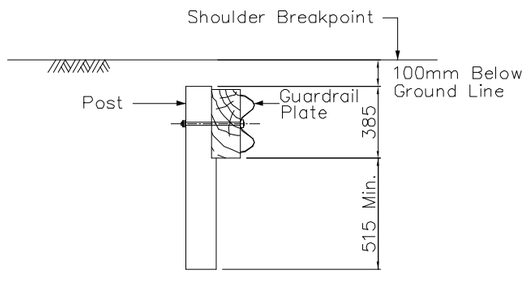
Section A–A

Scale: 1/20



Section C–C

Scale: 1/20



Section B–B

Scale: 1/20

Notes on Erection Details

1. The Holes for Timber Posts Shall be of Sufficient Size to Permit Proper Setting of the Posts and to Allow Sufficient Room for Backfilling.
2. At Least 1.0m of Post Shall be Embedded in the Ground.
3. Holes for Timber Posts Shall be Spaced to Suite the Standard Length of Guardrail Supplied.
4. Holes Shall be Backfilled with 12:1 Soil : Cement Mixture at Optimum Moisture Content in Compacted Layers not Exceeding 100mm.

Without Concrete Side Drain

JAPAN INTERNATIONAL COOPERATION AGENCY

NATIONAL ROAD ADMINISTRATION

REMARKS:

THE PREPARATORY SURVEY ON ROAD IMPROVEMENT PLAN IN NACALA DEVELOPMENT CORRIDOR (N13: CUAMBA-MANDIMBA-LICHINGA)

Eight-Japan Engineering Consultants Inc.
Oriental Consultants Co., Ltd

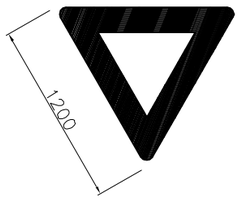
	PREPARED BY	CHECKED BY	APPROVED BY
NAME			
SIGNATURE			
DATE			

DRAWING TITLE: Guardrail Placing Details

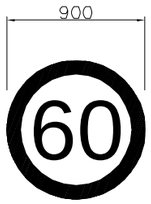
SCALE	SHEET NO.	DRAWING NO.	REV. NO.
As Shown		52	-

Traffic Signs

R1



R2

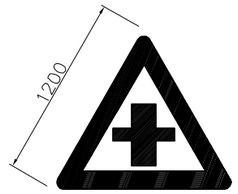


R201–60

R201–80

R201–100

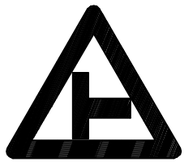
R201–60–600



W102

W104

W107



W108

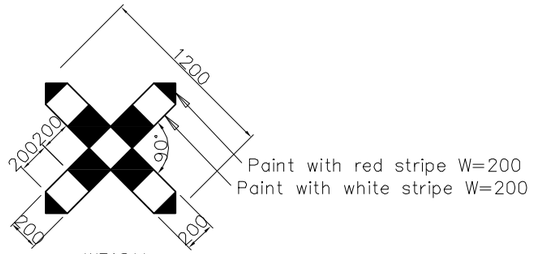
W202

W203

W306

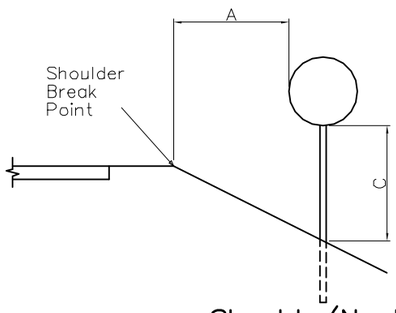
W318*

W328

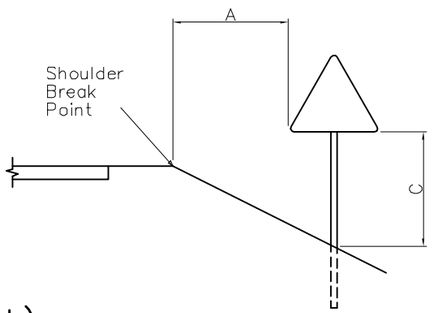


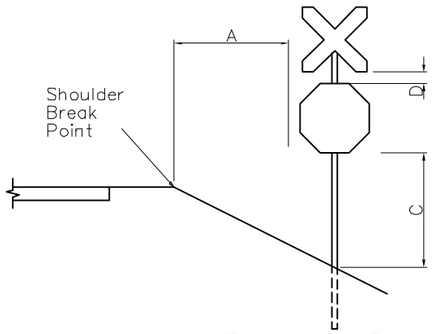
W318**

Regulatory And Warning Signs Scale: 1/20



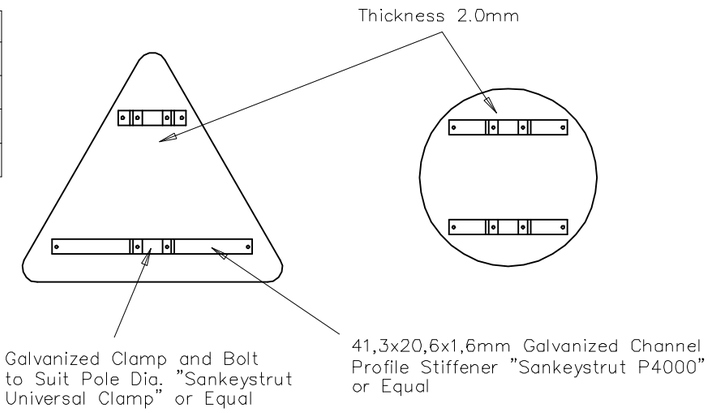
Shoulder(No Kerb) Scale: 1/40

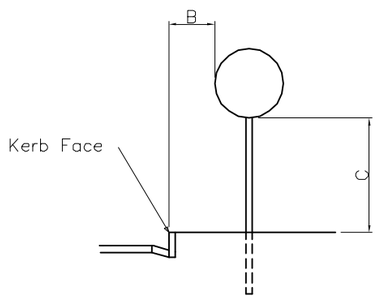




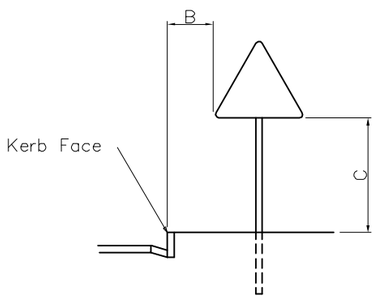
For Level Crossing Scale: 1/40

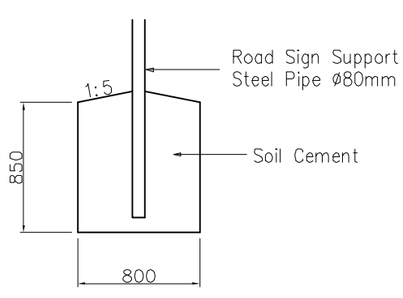
Positioning (mm)	
A	1500
B	600
C	1500
D	150





Shoulder(With Kerb) Scale: 1/40





Foundation Detail Scale: 1/20

Notes:

1. Details on This Drawing are Applicable to Road Signs Smaller than 1.5m Requiring a Single Support.
2. All Steel Bolts and Nuts Shall Conform to Sabs 135 or Sabs 1143 and all Components Shall Have a Hot–Dip (Galvanized) Zink Coating as Specified in Sabs 763 for C1 Articles.
3. W318* and W318** are not standardized in SATCC Standard.

Typical Fixing Detail

JAPAN INTERNATIONAL COOPERATION AGENCY

NATIONAL ROAD ADMINISTRATION

REMARKS:

THE PREPARATORY SURVEY ON ROAD IMPROVEMENT PLAN IN NACALA DEVELOPMENT CORRIDOR
(N13: CUAMBA-MANDIMBA-LICHINGA)

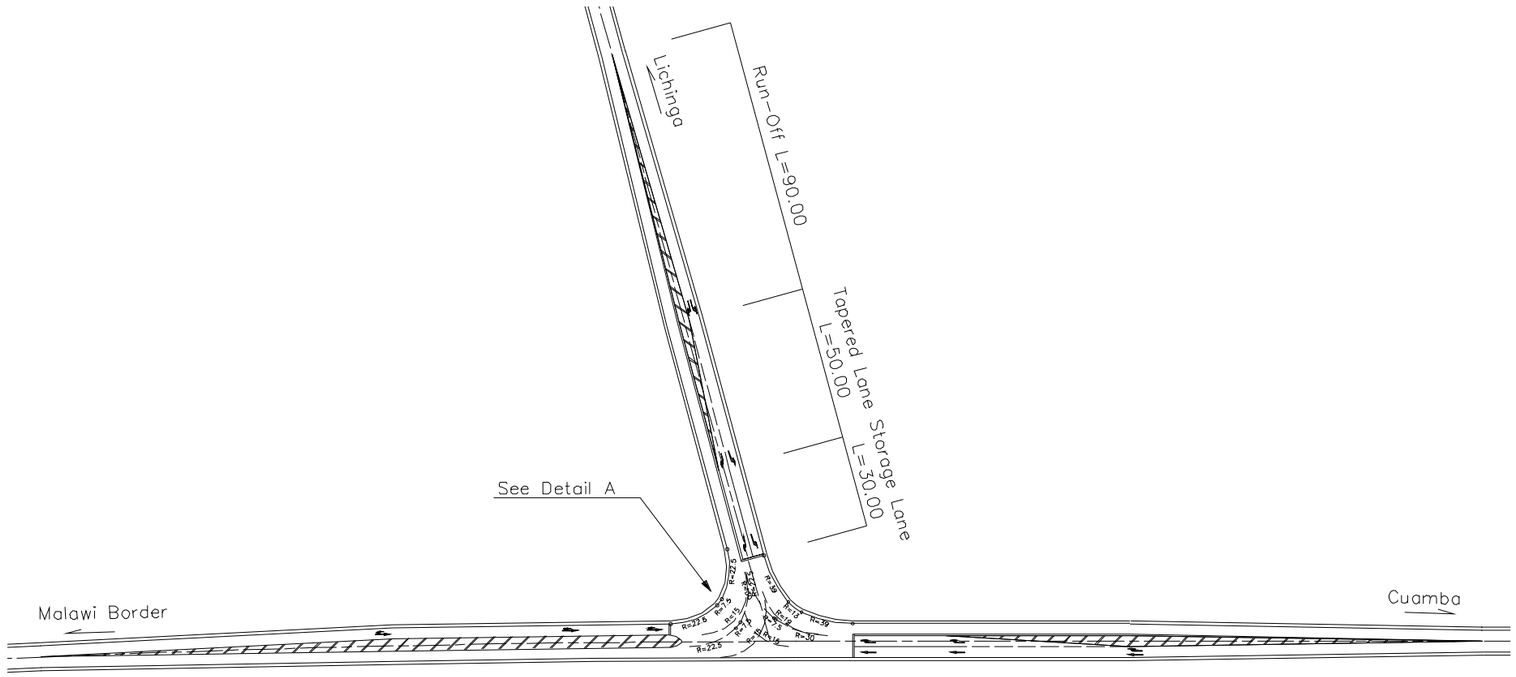
Eight-Japan Engineering Consultants Inc.
Oriental Consultants Co., Ltd

	PREPARED BY	CHECKED BY	APPROVED BY
NAME			
SIGNATURE			
DATE			

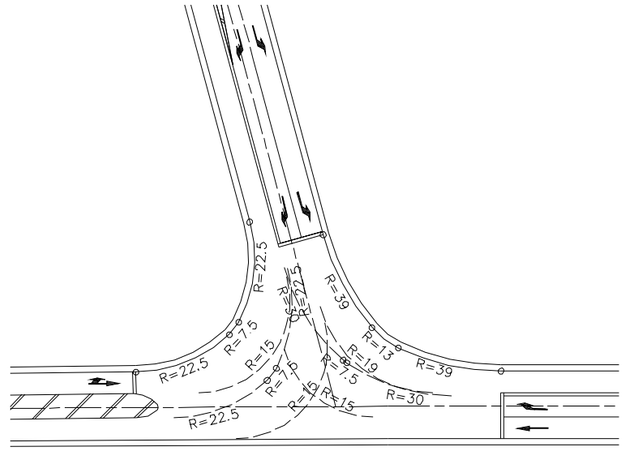
DRAWING TITLE: Traffic Signs

SCALE	SHEET NO.	DRAWING NO.	REV. NO.
As Shown		53	-

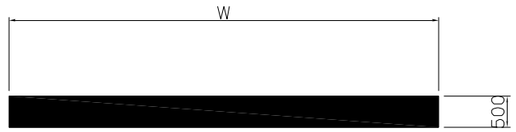
Traffic Marking (1)



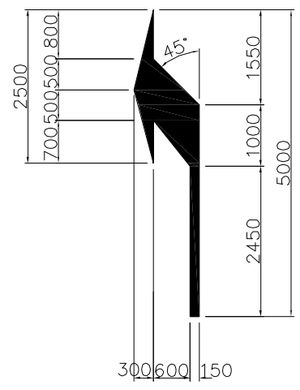
Plan **Scale: 1/1000**



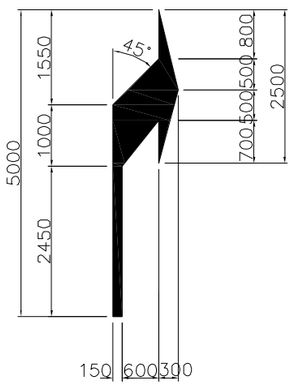
Detail A **Scale: 1/500**



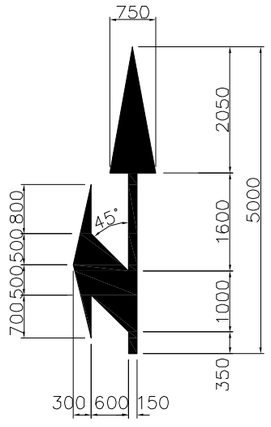
Stop Line **Scale: 1/50**



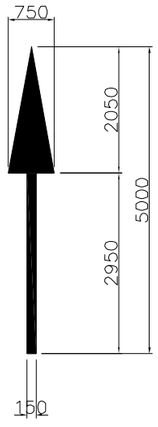
Left–Turn **Scale: 1/50**



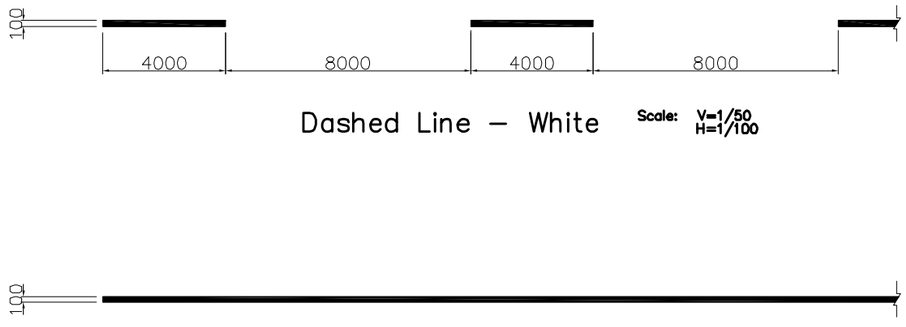
Right–Turn **Scale: 1/50**



Straight–Left–Turn **Scale: 1/50**



Straight **Scale: 1/50**



Dashed Line – White **Scale: V=1/50 H=1/100**

Continuous Line – Yellow , White **Scale: 1/50**

JAPAN INTERNATIONAL COOPERATION AGENCY

NATIONAL ROAD ADMINISTRATION

REMARKS:

THE PREPARATORY SURVEY ON ROAD IMPROVEMENT PLAN IN NACALA DEVELOPMENT CORRIDOR
(N13: CUAMBA-MANDIMBA-LICHINGA)

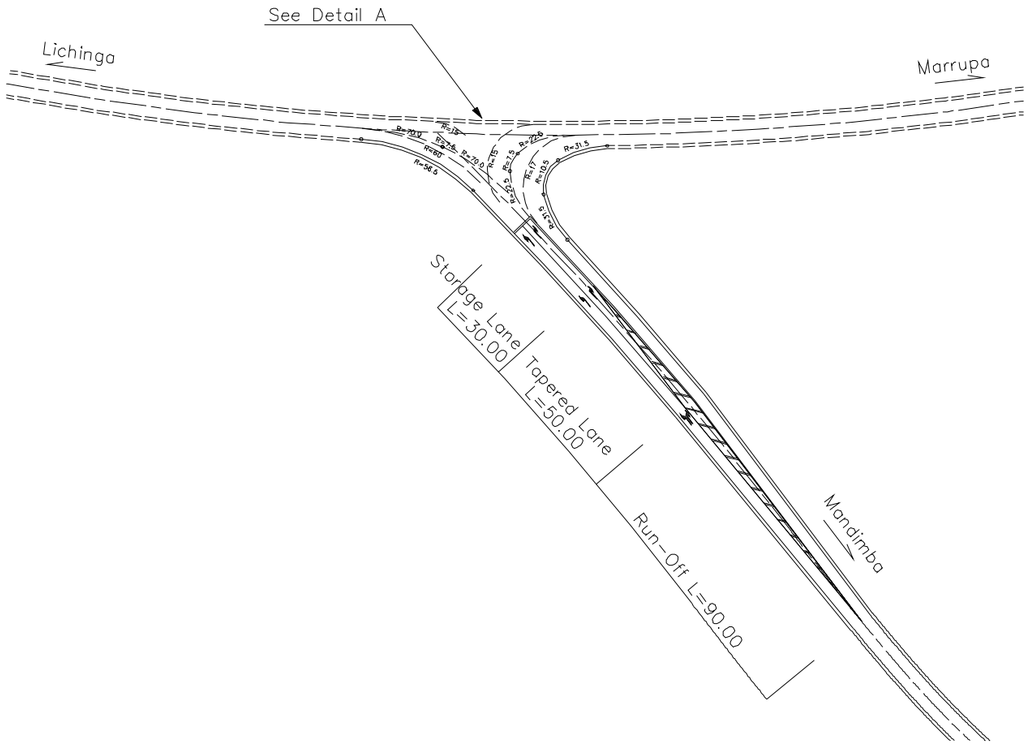
Eight-Japan Engineering Consultants Inc.
Oriental Consultants Co., Ltd

	PREPARED BY	CHECKED BY	APPROVED BY
NAME			
SIGNATURE			
DATE			

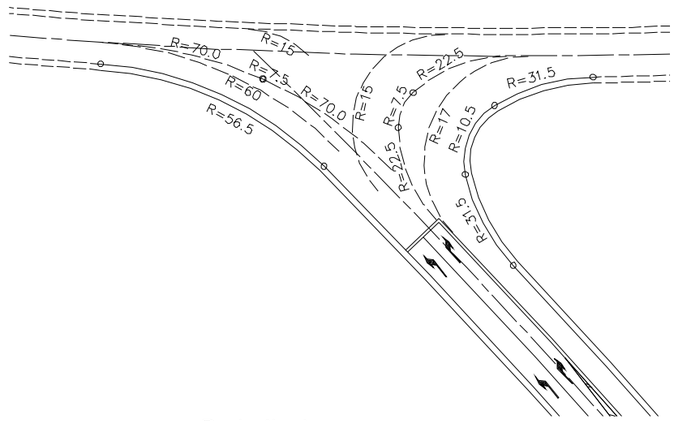
DRAWING TITLE: Traffic Marking (1)

SCALE	SHEET NO.	DRAWING NO.	REV. NO.
As Shown		54	-

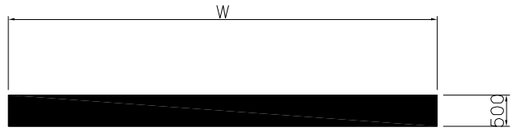
Traffic Marking (2)



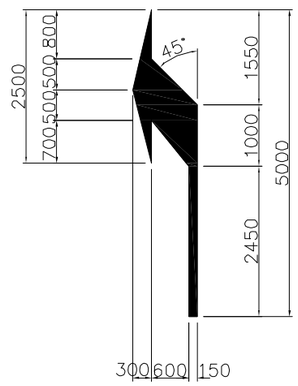
Plan **Scale: 1/1000**



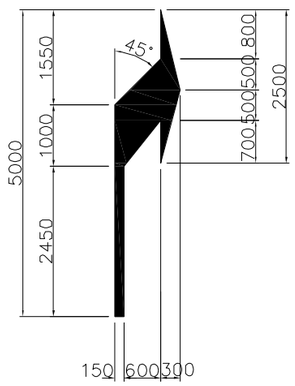
Detail A **Scale: 1/500**



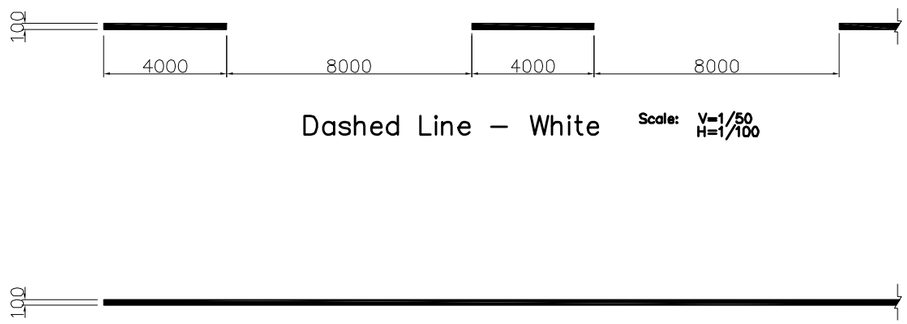
Stop Line **Scale: 1/50**



Left–Turn **Scale: 1/50**



Right–Turn **Scale: 1/50**



Dashed Line – White **Scale: V=1/50 H=1/100**

Continuous Line – Yellow , White **Scale: 1/50**

JAPAN INTERNATIONAL COOPERATION AGENCY

NATIONAL ROAD ADMINISTRATION

REMARKS:

THE PREPARATORY SURVEY ON ROAD IMPROVEMENT PLAN IN NACALA DEVELOPMENT CORRIDOR (N13: CUAMBA-MANDIMBA-LICHINGA)

Eight-Japan Engineering Consultants Inc.
Oriental Consultants Co., Ltd

DRAWING TITLE: Traffic Marking (2)

	PREPARED BY	CHECKED BY	APPROVED BY
NAME			
SIGNATURE			
DATE			

SCALE	SHEET NO.	DRAWING NO.	REV. NO.
As Shown		55	-


JICA