

*Appendix-7:*  
*Outline Design Drawings*



PREPARATORY SURVEY FOR THE PROJECT  
FOR  
THE URGENT REPLACEMENT OF BRIDGES  
IN  
FLOOD-PRONE AREAS

OUTLINE DESIGN DRAWINGS

MAY 2017

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO.,LTD.



## DRAWING LIST (1)

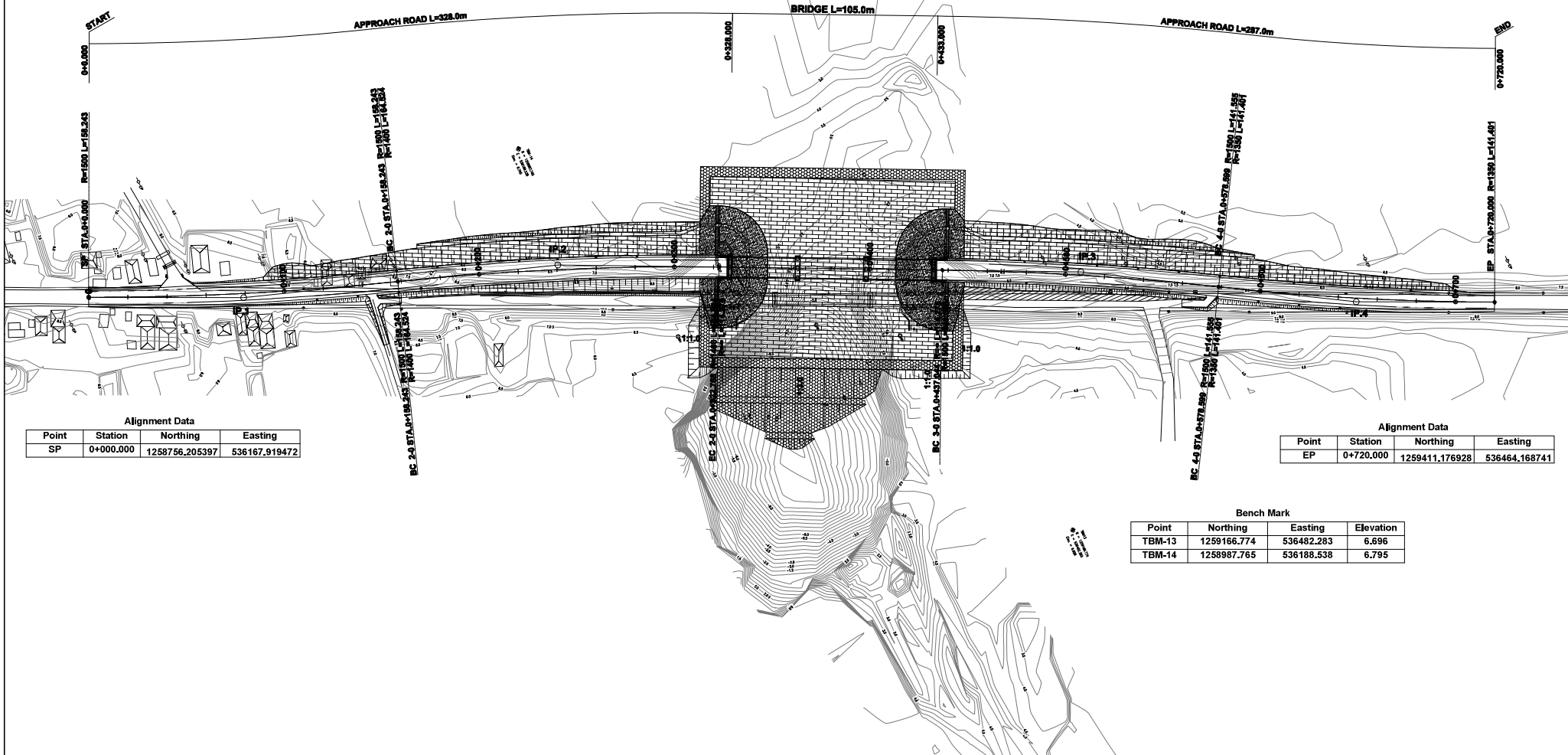
No.	DRAWING TITLE	SHEET NO.	No. of Sheets	No.	DRAWING TITLE	SHEET NO.	No. of Sheets
1.	<b>BA BAONG NO.2 BRIDGE</b>	<b>BB - 01 ~ 19</b>	<b>19</b>		STRUCTURAL DRAWING OF BRIDGE ABUTMENT AND PIER	PS - 05 06	2
	GENERAL PLAN	BB - 01	1		TYPICAL CROSS SECTION OF APPROACH ROAD	PS - 07	1
	GENERAL PROFILE	BB - 02	1		CROSS SECTION OF APPROACH ROAD	PS - 08 ~ 11	4
	GENERAL VIEW OF BRIDGE	BB - 03	1		PLAN OF APPROACH ROAD ( ANCILLARY )	PS - 12	1
	STRUCTURAL DRAWING OF SUPERSTRUCTURE O BRIDGE	BB - 04 ~ 05	2		REVTMENT AND RIVER BED PROTECTION	PS - 13 ~ 16	4
	STRUCTURAL DRAWING OF BRIDGE ABUTMENT AND PIER	BB - 06 ~ 07	2				
2.	<b>BA BAONG NO.1 BRIDGE</b>	<b>BA - 01 ~ 19</b>	<b>19</b>	4.	<b>PREK RUS BRIDGE</b>	<b>PR - 01 ~ 18</b>	<b>18</b>
	GENERAL PLAN	BA - 01	1		GENERAL PLAN	PR - 01	1
	GENERAL PROFILE	BA - 02	1		GENERAL PROFILE	PR - 02	1
	GENERAL VIEW OF BRIDGE	BA - 03	1		GENERAL VIEW OF BRIDGE	PR - 03	1
	STRUCTURAL DRAWING OF SUPERSTRUCTURE O BRIDGE	BA - 04 ~ 05	2		STRUCTURAL DRAWING OF SUPERSTRUCTURE O BRIDGE	PR - 04 ~ 05	2
	STRUCTURAL DRAWING OF BRIDGE ABUTMENT AND PIER	BA - 06 ~ 07	2		STRUCTURAL DRAWING OF BRIDGE ABUTMENT AND PIER	PR - 06 ~ 07	2
3.	<b>PREK SANDAN BRIDGE</b>	<b>PS - 01 ~ 16</b>	<b>16</b>		TYPICAL CROSS SECTION OF APPROACH ROAD	PR - 08	1
	GENERAL PLAN	PS - 01	1		CROSS SECTION OF APPROACH ROAD	PR - 09 ~ 13	5
	GENERAL PROFILE	PS - 02	1		PLAN OF APPROACH ROAD ( ANCILLARY )	PR - 14	1
	GENERAL VIEW OF BRIDGE	PS - 03	1		REVTMENT AND RIVER BED PROTECTION	PR - 15 ~ 18	4
	STRUCTURAL DRAWING OF SUPERSTRUCTURE O BRIDGE	PS - 04	1				
4.	<b>PREK RUS BRIDGE</b>	<b>BB - 08</b>	<b>1</b>	5.	<b>ANGLONG KHLE BRIDGE</b>	<b>AK - 01 ~ 17</b>	<b>17</b>
	TYPICAL CROSS SECTION OF APPROACH ROAD	BB - 09 ~ 12	4		GENERAL PLAN	AK - 01	1
	CROSS SECTION OF APPROACH ROAD	BB - 13	1		GENERAL PROFILE	AK - 02	1
	PLAN OF APPROACH ROAD ( ANCILLARY )	BB - 14 ~ 19	6		GENERAL VIEW OF BRIDGE	AK - 03	1
	REVTMENT AND RIVER BED PROTECTION				STRUCTURAL DRAWING OF SUPERSTRUCTURE O BRIDGE	AK - 04	1
5.	<b>ANGLONG KHLE BRIDGE</b>	<b>BA - 08</b>	<b>1</b>		STRUCTURAL DRAWING OF BRIDGE ABUTMENT AND PIER	AK - 05 ~ 06	2
	GENERAL PLAN	BA - 09 ~ 12	4		TYPICAL CROSS SECTION OF APPROACH ROAD	AK - 07	1
	GENERAL PROFILE	BA - 13	1		CROSS SECTION OF APPROACH ROAD	AK - 08 ~ 12	5
	GENERAL VIEW OF BRIDGE	BA - 14 ~ 19	6		PLAN OF APPROACH ROAD ( ANCILLARY )	AK - 13	1
	STRUCTURAL DRAWING OF SUPERSTRUCTURE O BRIDGE				REVTMENT AND RIVER BED PROTECTION	AK - 14 ~ 17	4

## DRAWING LIST (2)

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6.	<b>PREK CHHLOUNG BRIDGE</b>	PC - 01 ~ 21	21	8.	<b>OUTLINE OF ROAD ANCILLARIES</b>	RA - 01 ~ 7	7
	GENERAL PLAN	PC - 01	1		DETAIL OF ASPHALT PAVEMENT	RA - 01	1
	GENERAL PROFILE	PC - 02	1		GUARDRAIL LAYOUT AR BRIDGE	RA - 02	1
	GENERAL VIEW OF BRIDGE	PC - 03	1		DELINEATIONS AND GUIDEPOSTS	RA - 03	1
	STRUCTURAL DRAWING OF SUPERSTRUCTURE O BRIDGE	PC - 04 ~ 05	2		LANE MARKINGS AND ROAD STUD REFLECTOR	RA - 04	1
	STRUCTURAL DRAWING OF BRIDGE ABUTMENT AND PIER	PC - 06 ~ 09	4		TRAFFIC SIGN AT SCHOOL APPROACH AND CROSSWALK MARKING	RA 05	1
	TYPICAL CROSS SECTION OF APPROACH ROAD	PC - 10	1		TRAFFIC SIGN	RA - 06	1
	CROSS SECTION OF APPROACH ROAD	PC - 11 ~ 13	3		OUTLINE OF DRAINAGE STRUCTURE	RA - 07	1
	PLAN OF APPROACH ROAD ( ANCILLARY )	PC - 14	1				
	REVTMENT AND RIVER BED PROTECTION	PC - 15 ~ 17	3				
	ACCESS ROAD (PEDESTRIAN) AND RIVER BED PROTECTION	PC - 18	1				
	L-SHAPED RETAINING WALL	PC - 19 ~ 21	3				
7.	<b>PEAM TE BRIDGE</b>	PT - 01 ~ 22	22				
	GENERAL PLAN	PT - 01	1				
	GENERAL PROFILE	PT - 02	1				
	GENERAL VIEW OF BRIDGE	PT - 03	1				
	STRUCTURAL DRAWING OF SUPERSTRUCTURE O BRIDGE	PT - 04 ~ 05	2				
	STRUCTURAL DRAWING OF BRIDGE ABUTMENT AND PIER	PT - 06 ~ 09	4				
	TYPICAL CROSS SECTION OF APPROACH ROAD	PT - 10	1				
	CROSS SECTION OF APPROACH ROAD	PT - 11 ~ 15	5				
	PLAN OF APPROACH ROAD ( ANCILLARY )	PT - 16	1				
	REVTMENT AND RIVER BED PROTECTION	PT - 17 ~ 19	3				
	GENERAL VIEW OF CULVERT(10.0×5.0)	PT - 20 ~ 21	2				
	PLAN OF PAPER DRAIN	PT - 22	1				

# Ba Baong No.2 Bridge

Elements of Horizontal Curve									
IP	Station	Speed	Northing	Easting	IA	R	TL	CL	SL
1	0+79.122	80	1258828.424160	536200.420578	6-02-40.026	1500	79.195	158.243	2.089
2	0+240.505	80	1258981.907231	536250.838872	6-43-59.673	1400	82.357	164.524	2.420
3	0+507.821	80	1259224.472208	536363.527929	5-24-25.268	1500	70.830	141.555	1.671
4	0+649.300	80	1259346.693540	536435.020759	6-00-04.476	1350	70.765	141.401	1.853



Alignment Data			
Point	Station	Northing	Easting
SP	0+000.000	1258756.205397	536167.919472

Alignment Data			
Point	Station	Northing	Easting
EP	0+720.000	1259411.176928	536464.168741

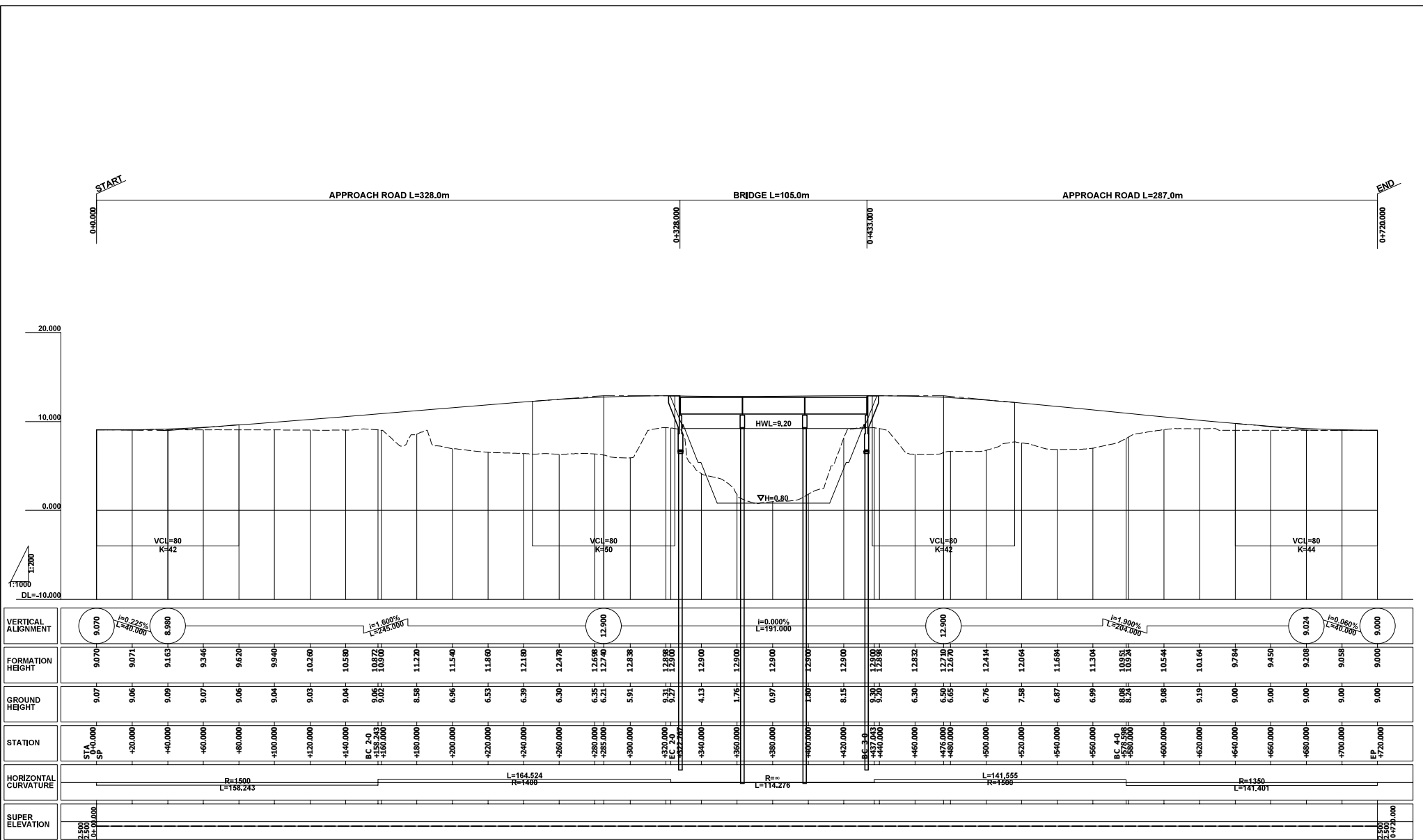
Bench Mark			
Point	Northing	Easting	Elevation
TBM-13	1259166.774	536482.283	6.696
TBM-14	1258987.765	536188.538	6.795

AP7-6

MINISTRY OF PUBLIC WORKS AND TRANSPORT KINGDOM OF CAMBODIA	JAPAN INTERNATIONAL COOPERATION AGENCY CTI ENGINEERING INTERNATIONAL CO., LTD.	PROJECT TITLE: PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT OF BRIDGES IN FLOOD-PRONE AREAS	DRAWING TITLE: <b>1_Ba Baong Bridge No.2</b> <b>GENERAL PLAN</b>	SCALE(A1 SIZE) 1/2,000 (1/1,000)	DRAWING NO. BB-01
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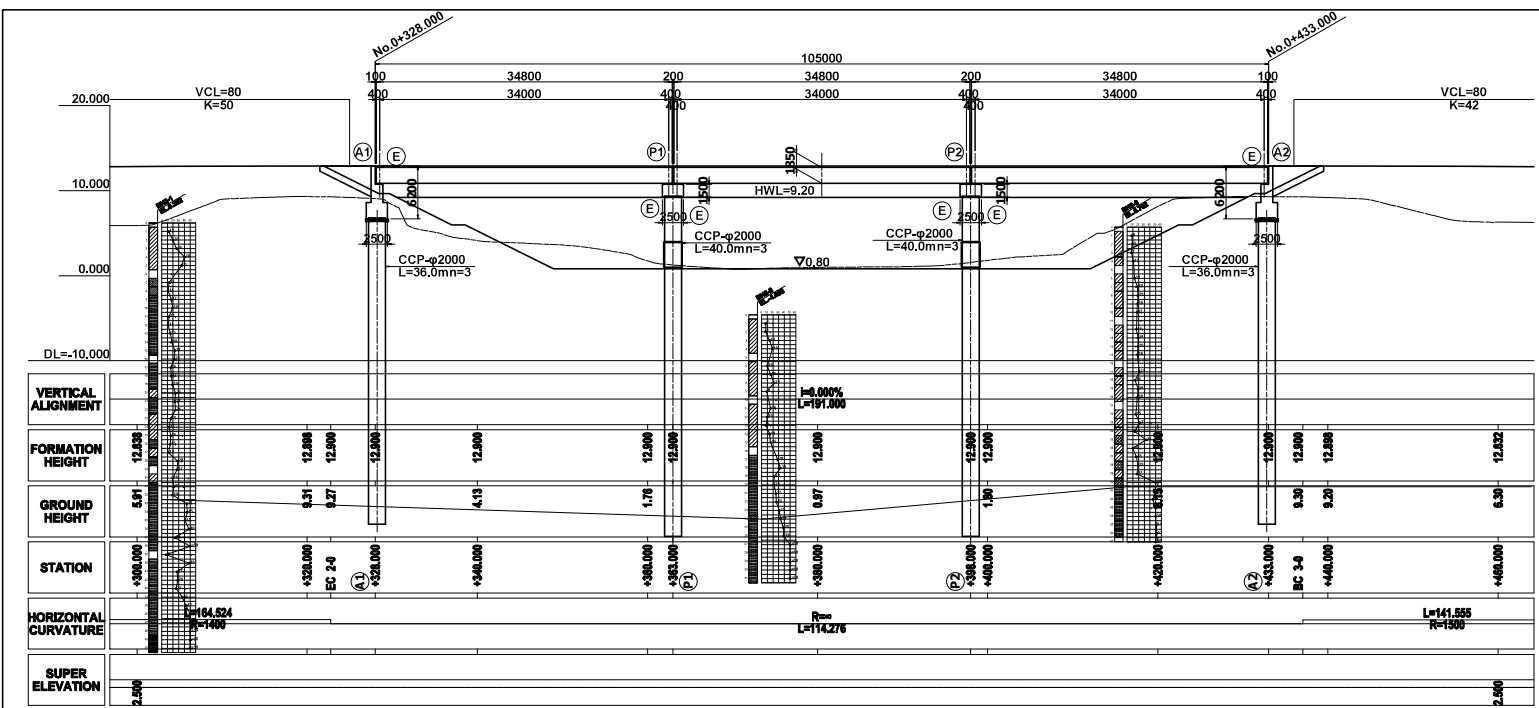


AP7-7

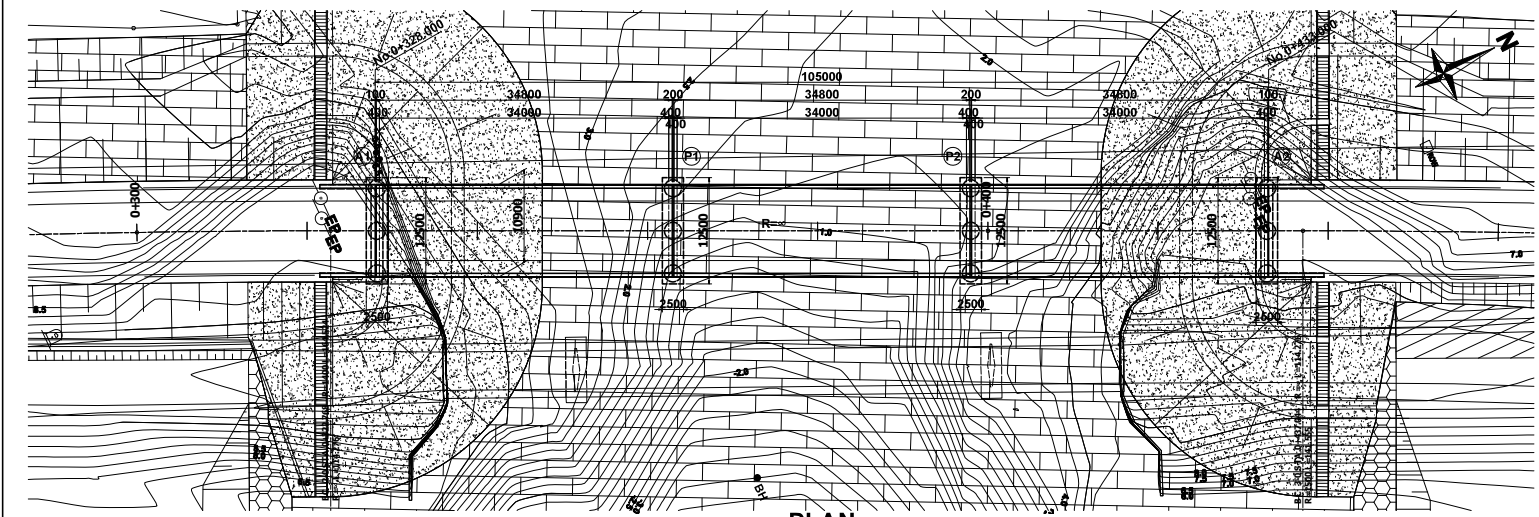


Profile H = 1/1000  
V = 1/200

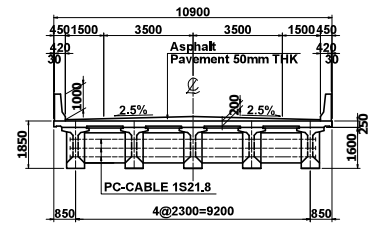
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				AS SHOWN	BB-02



PROFILE S=1:300



PLAN S=1:300



CROSS SECTION S=1:100

**DESIGN CRITERIA**

ROAD CLASS	SECONDARY PRINCIPAL ROAD
DESIGN SPEED	80km/h
LIVE LOAD	AASHTO HS20-44x125% OR EQUIVALENT
BRIDGE LENGTH	105,000m
SPAN LENGTH	34,000+34,000+34,000m
TOTAL WIDTH	2x3.5m(Carriage Way)+2x1.5m(Shoulder)
SEISMIC COEFFICIENT	kh=0.05(L1)
SUPER STRUCTURE TYPE	PC I-Girder
SUBSTRUCTURE TYPE	REVERSED T-ABUTMENT, PILE BENT PIRE
FOUNDATION TYPE	CAST-IN PLACE CONCRETE PILE(A1,P1,P2,A2)
SPECIFICATION CRITERIA	Bridge Design Standard (CAM.PW.04.102.99), 2003 DESIGN SPECIFICATIONS OF HIGHWAY BRIDGES (JAPAN ROAD ASSOCIATION)

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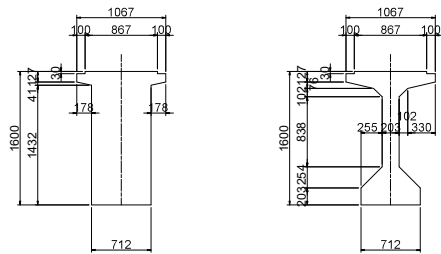
PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
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GENERAL VIEW OF BRIDGE

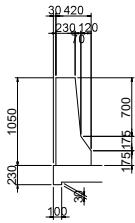
SCALE(A1 SIZE)  
AS SHOWN

DRAWING NO.  
BB-03





PC GIRDER S=1/30



DETAILS OF RAILING S=1/30

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PROJECT TITLE:

PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

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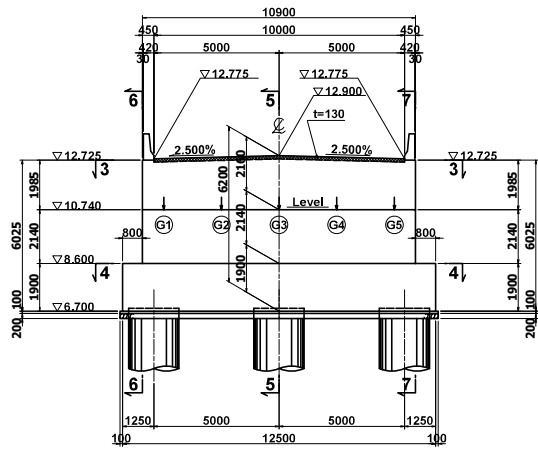
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STRUCTURE DRAWING(2)

SCALE(A1 SIZE)

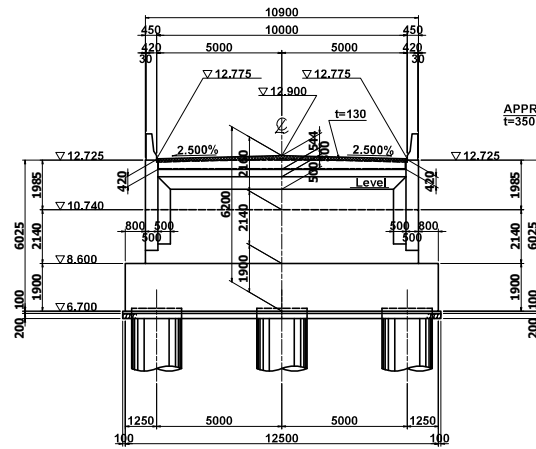
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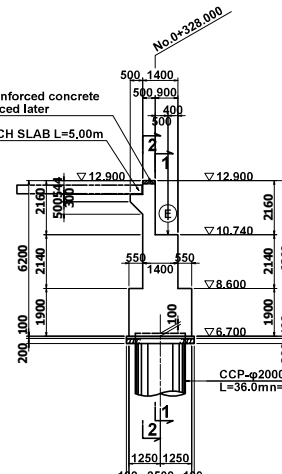
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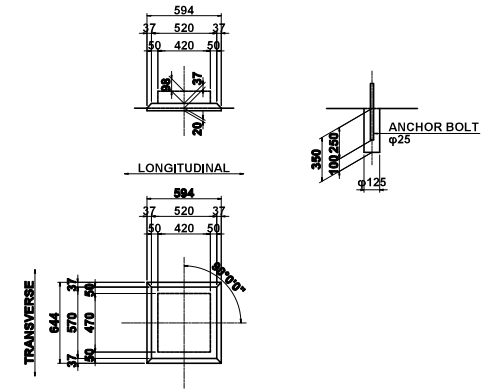
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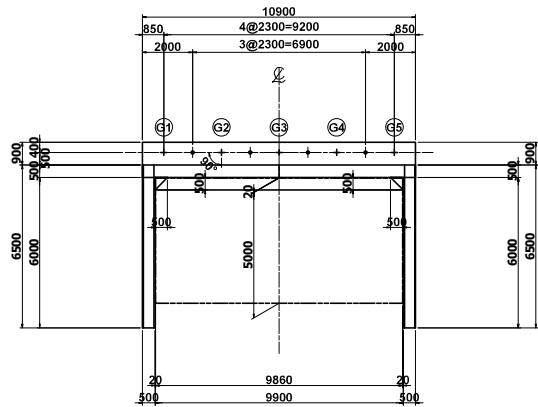
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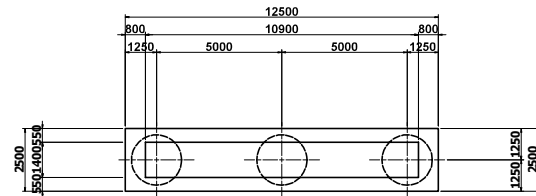
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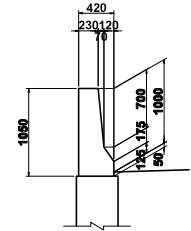
DETAIL S=1/20



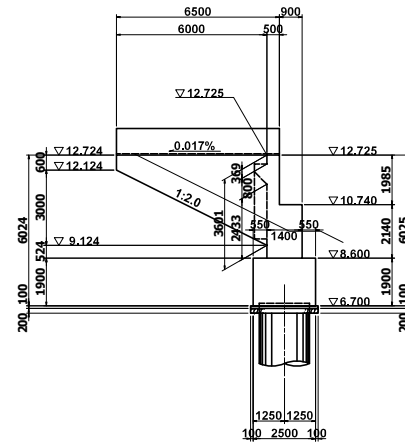
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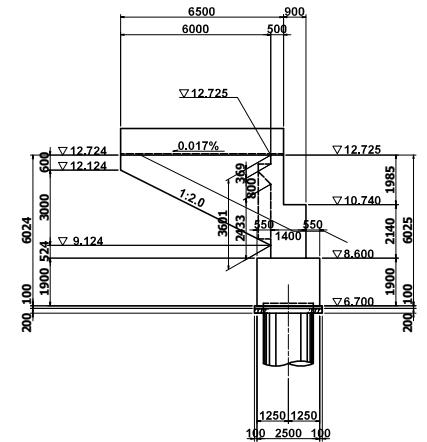
4-4



DETAIL S=1/30



6-6



7-7

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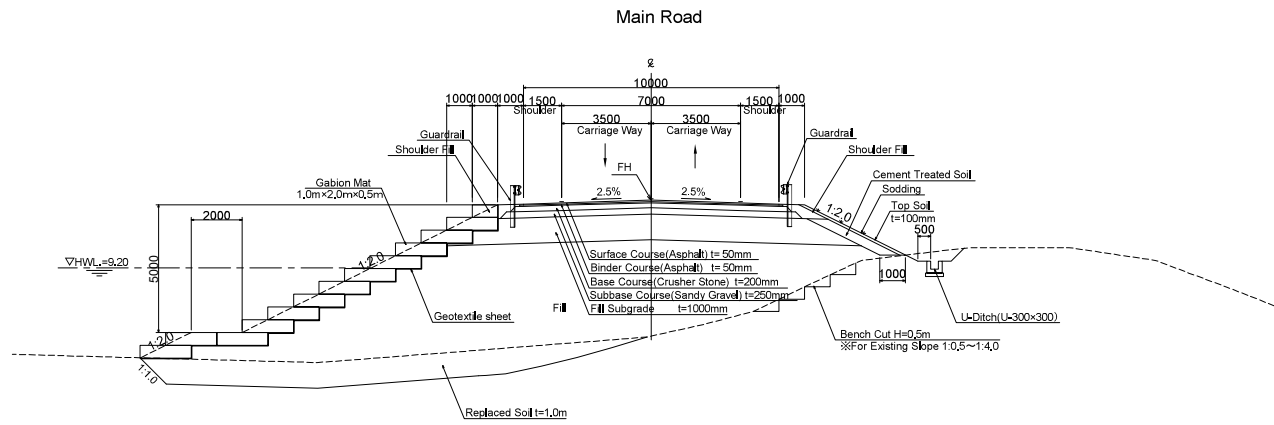
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CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
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STRUCTURAL DRAWING OF A1 ABUTMENT

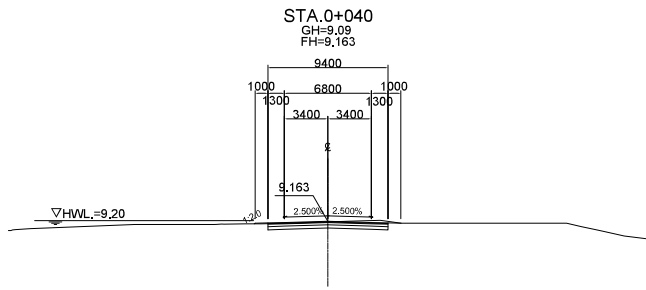
SCALE(A1 SIZE)	DRAWING NO.
1/100	BB-06



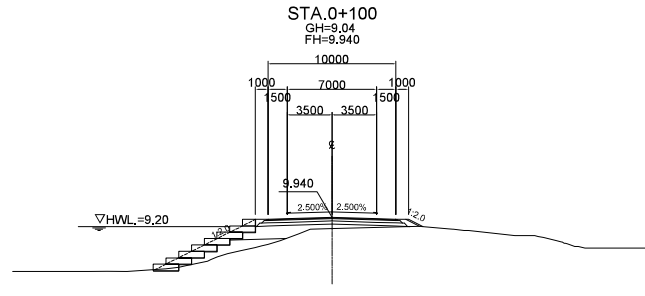


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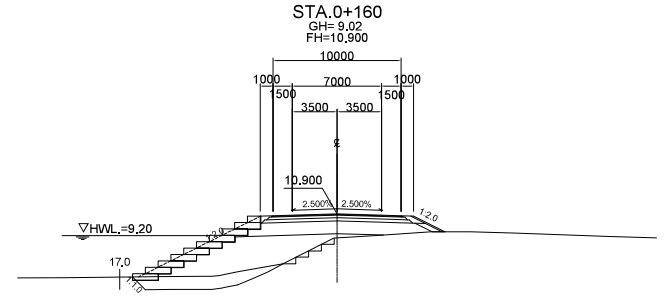
AP7-14



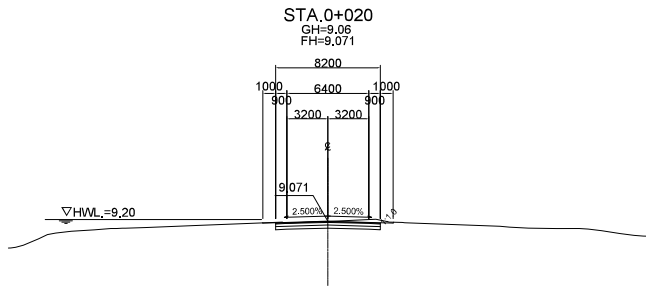
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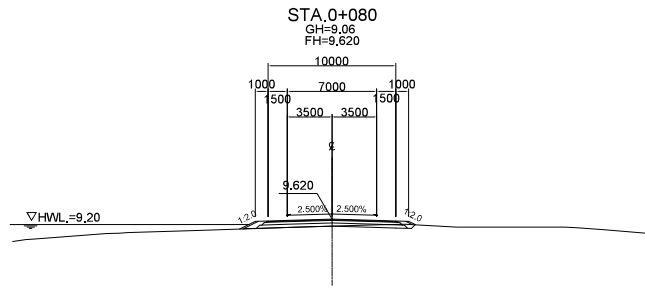
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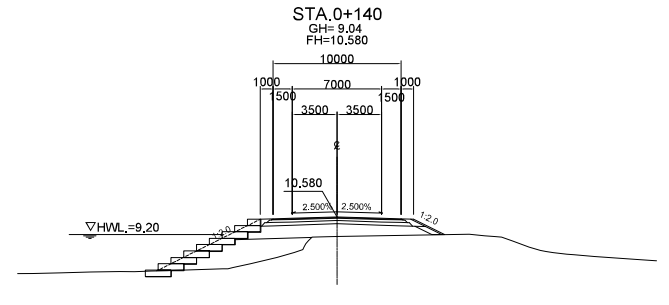
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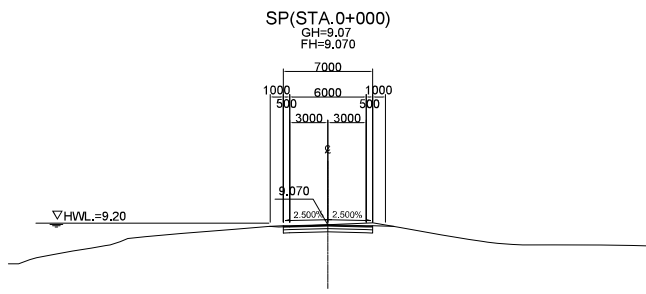
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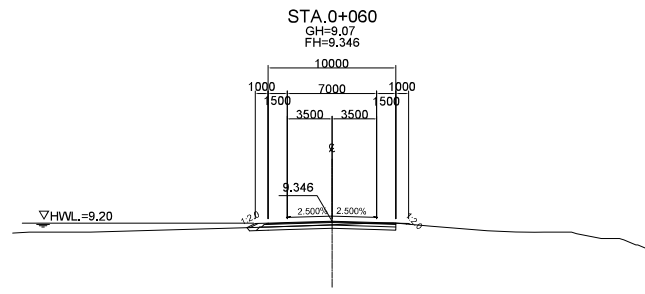
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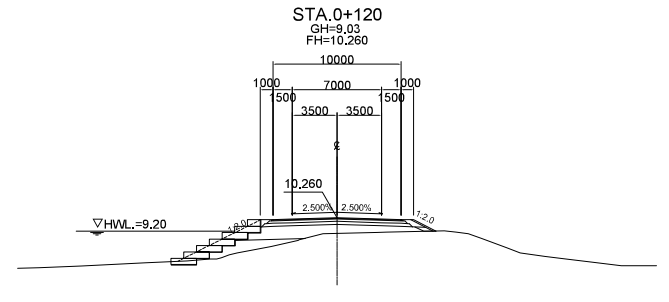
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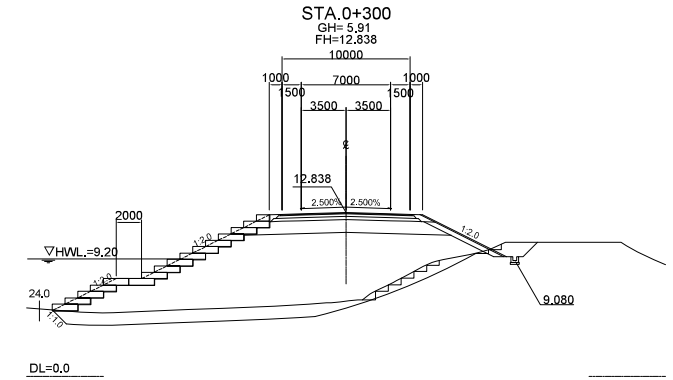
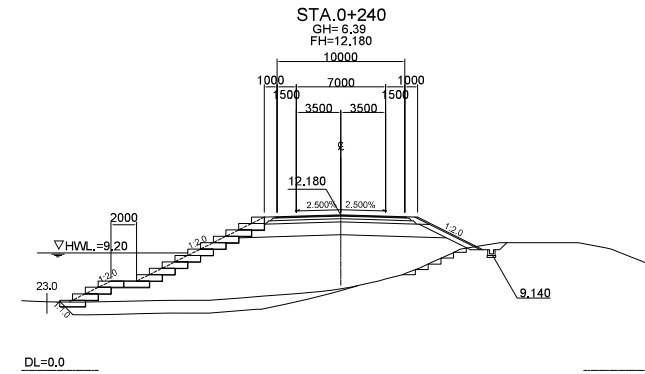
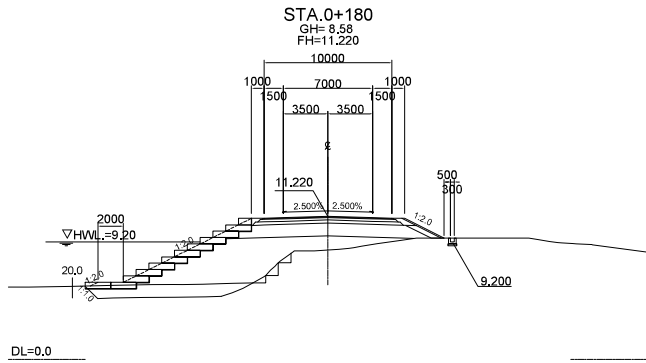
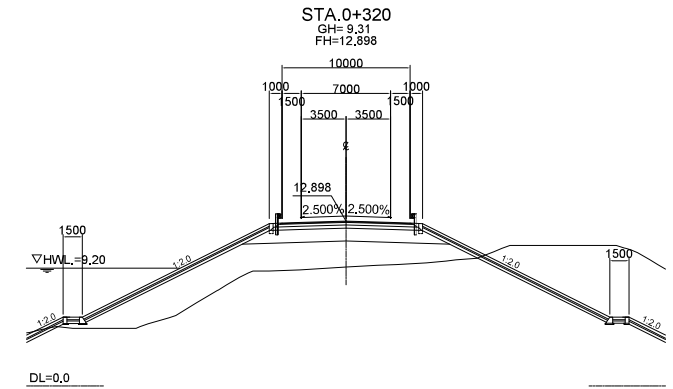
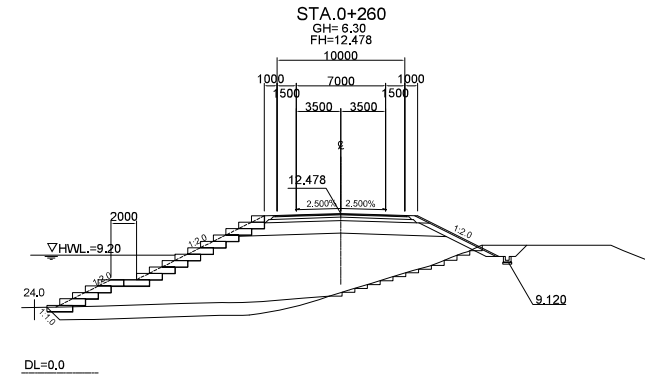
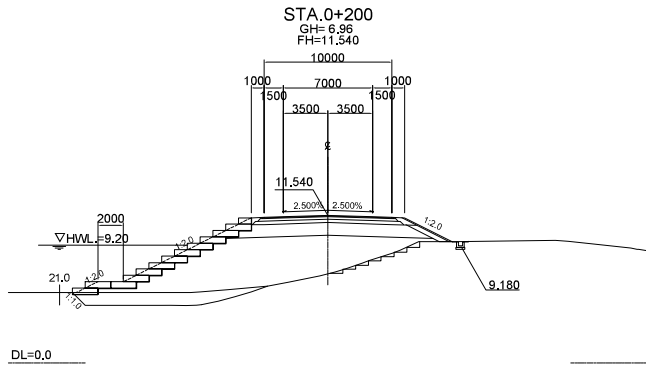
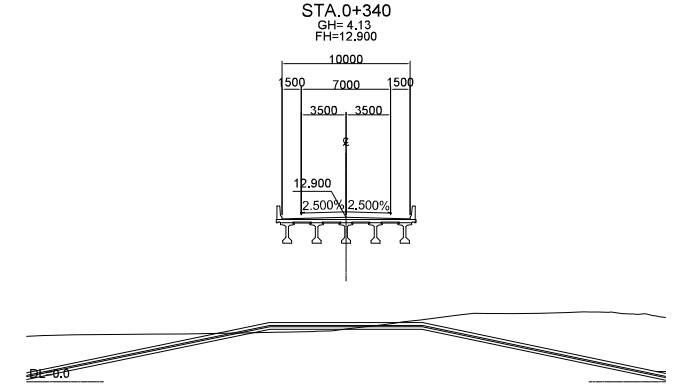
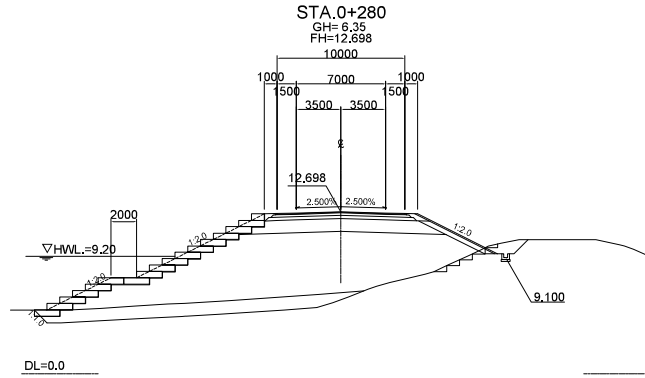
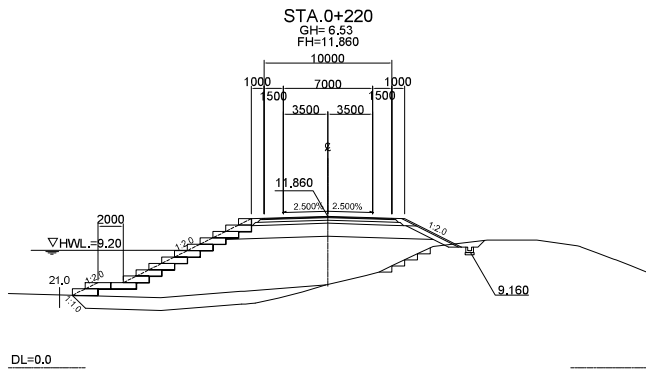
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PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
1\_Ba Baong Bridge No.2  
CROSS SECTION OF APPROACH ROAD (1)

SCALE(A1 SIZE)	DRAWING NO.
1/200	BB-09





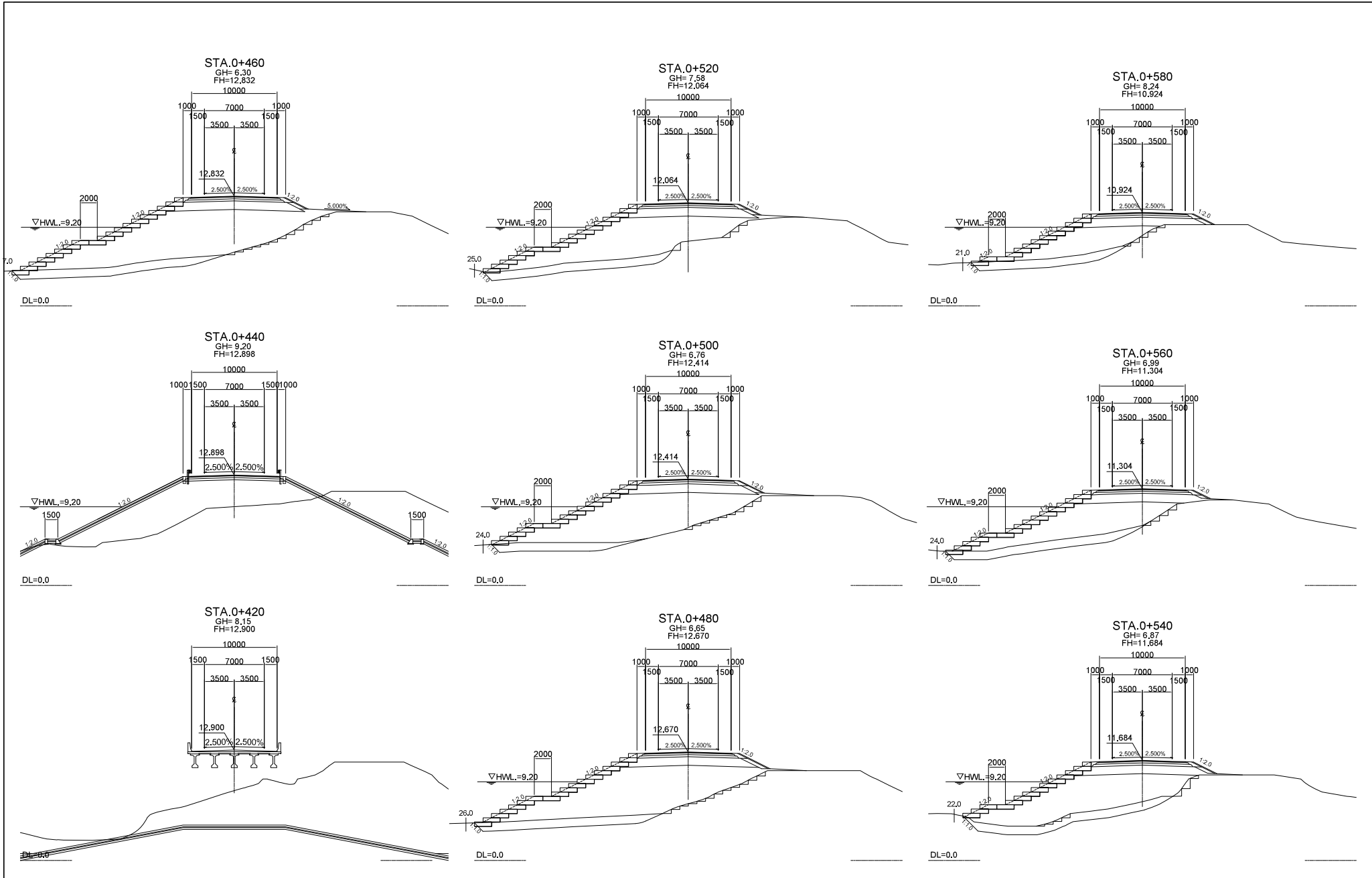
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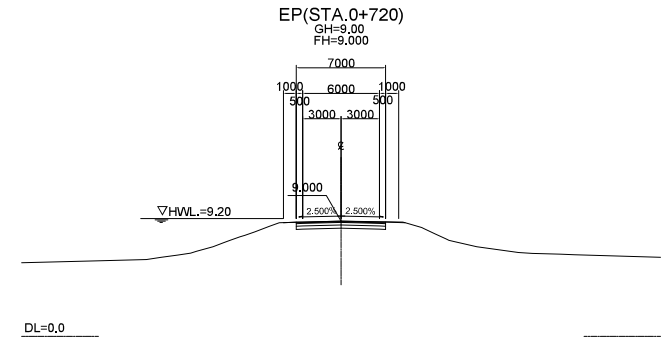
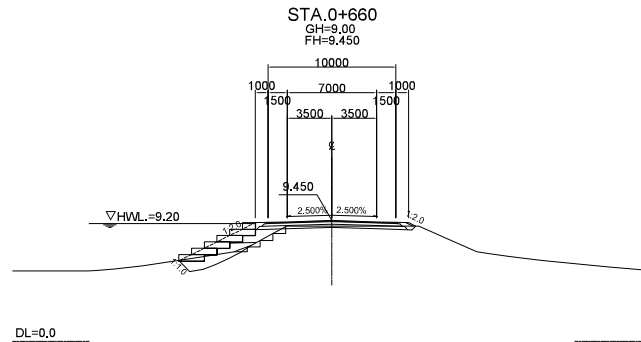
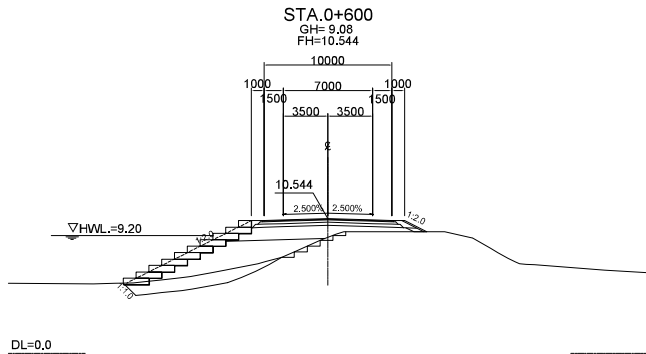
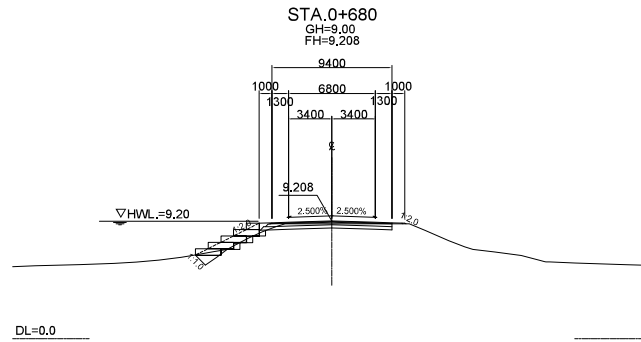
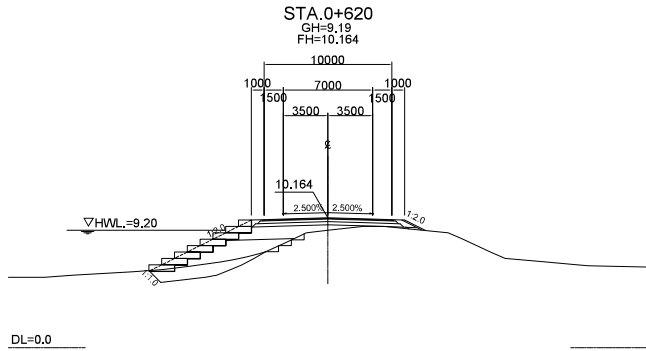
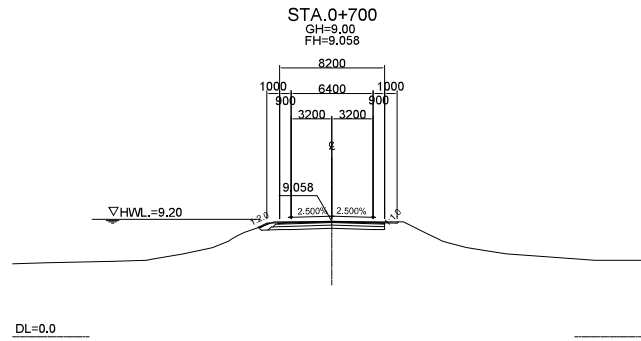
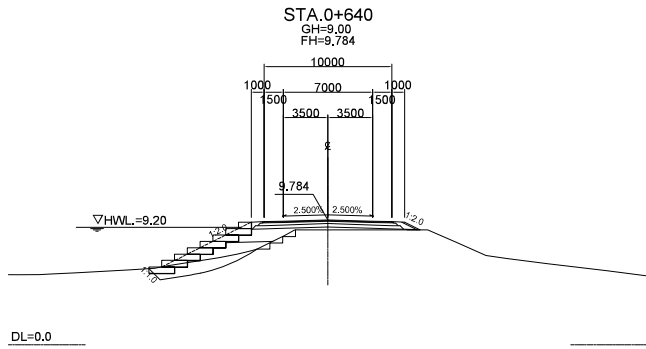
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PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
1\_Ba Baong Bridge No.2  
CROSS SECTION OF APPROACH ROAD (2)

SCALE(A1 SIZE)	DRAWING NO.
1/200	BB-10



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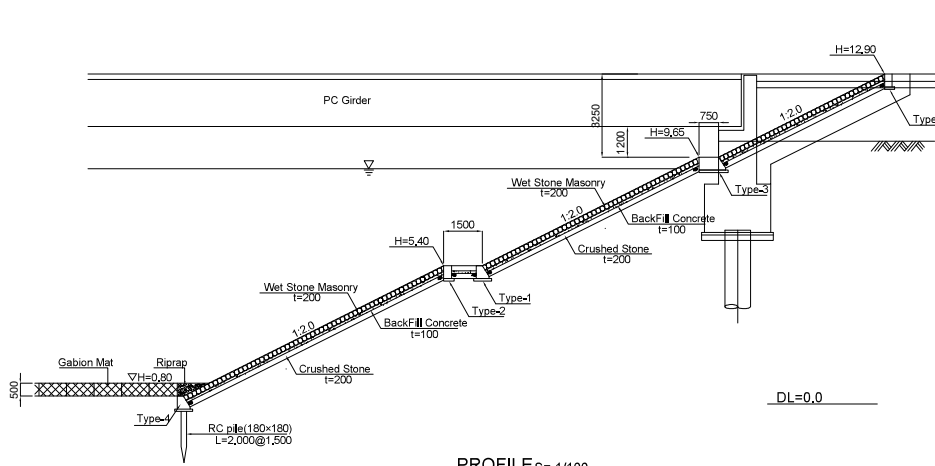
PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
1\_Ba Baong Bridge No.2  
CROSS SECTION OF APPROACH ROAD (4)

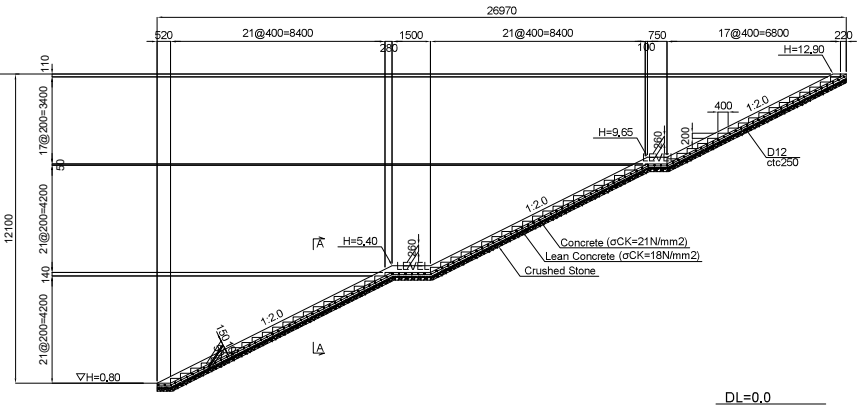
SCALE(A1 SIZE)	DRAWING NO.
1/200	BB-12



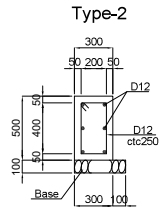
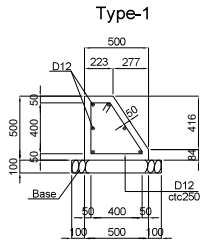




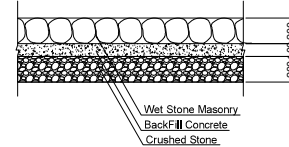
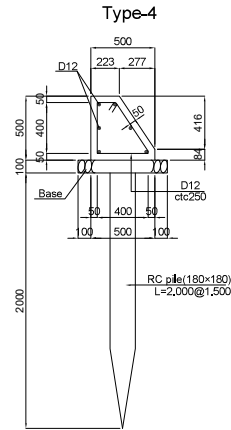
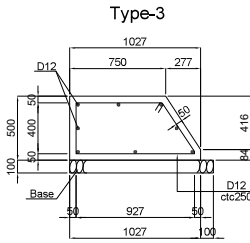
PROFILE S= 1/100



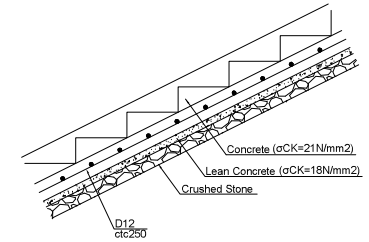
STAIRS S= 1/100



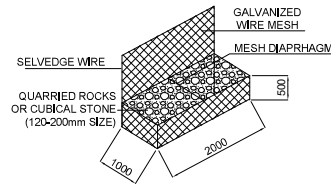
DETAILS S= 1/20



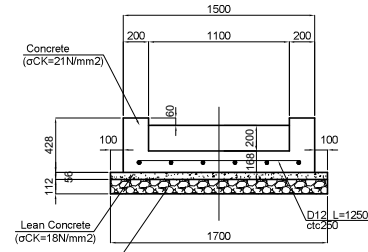
DETAILS S= 1/20



DETAILS S= 1/20



GABION MAT DETAIL  
S = None Scale



SECTION A-A S= 1/20

MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

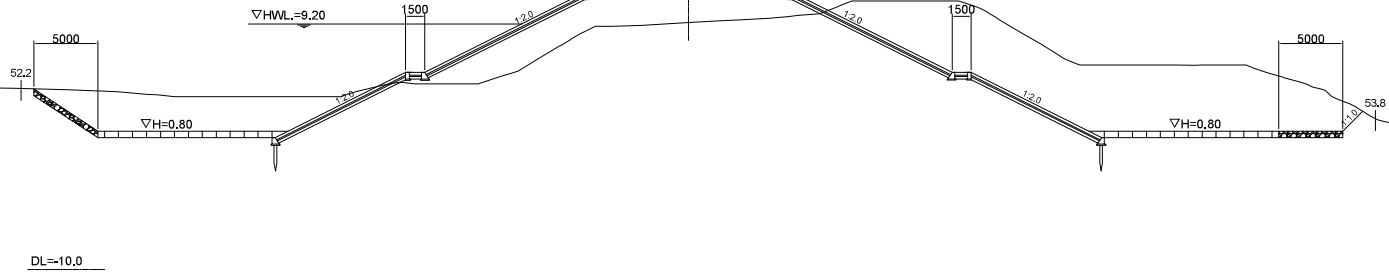
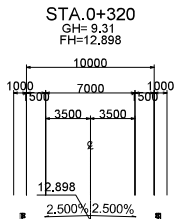
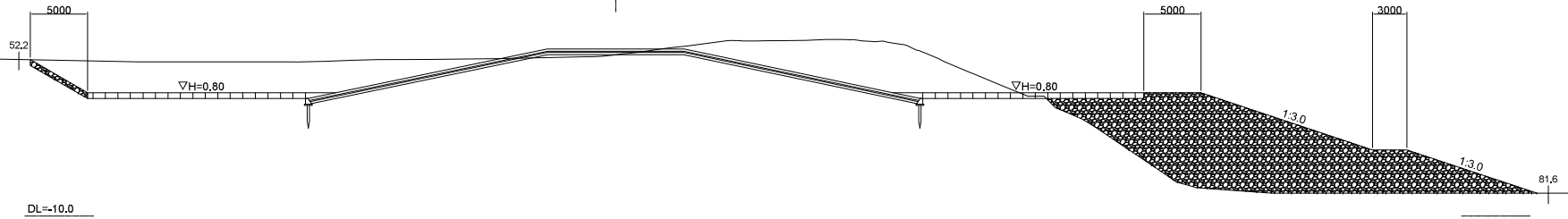
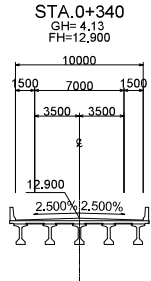
JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
1\_Ba Baong Bridge No.2  
REVTMENT AND RIVER BED PROTECTION(2)

SCALE(A1 SIZE) DRAWING NO.  
AS SHOWN BB-15

AP7-21



MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

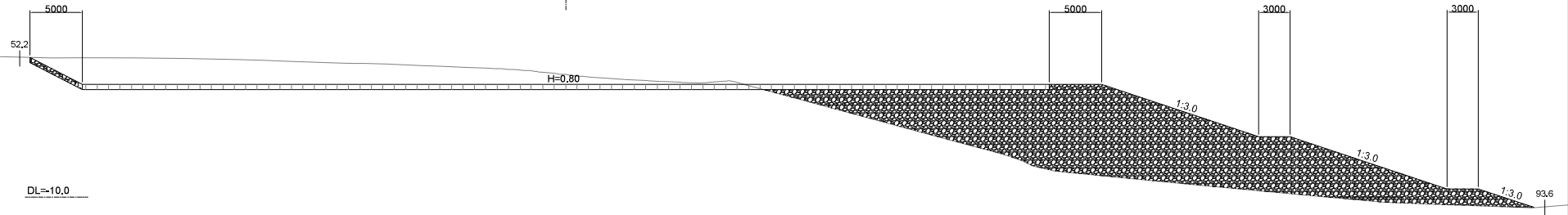
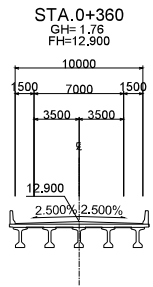
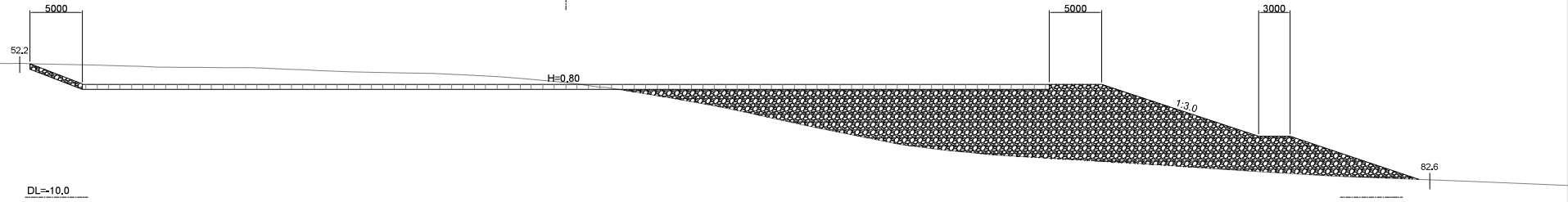
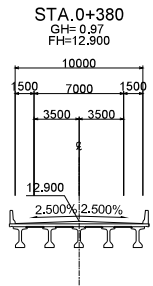
JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
1\_Ba Baong Bridge No.2  
REVTMENT AND RIVER BED PROTECTION(3)

SCALE(A1 SIZE)	DRAWING NO.
1/200	BB-16

AP7-22



MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

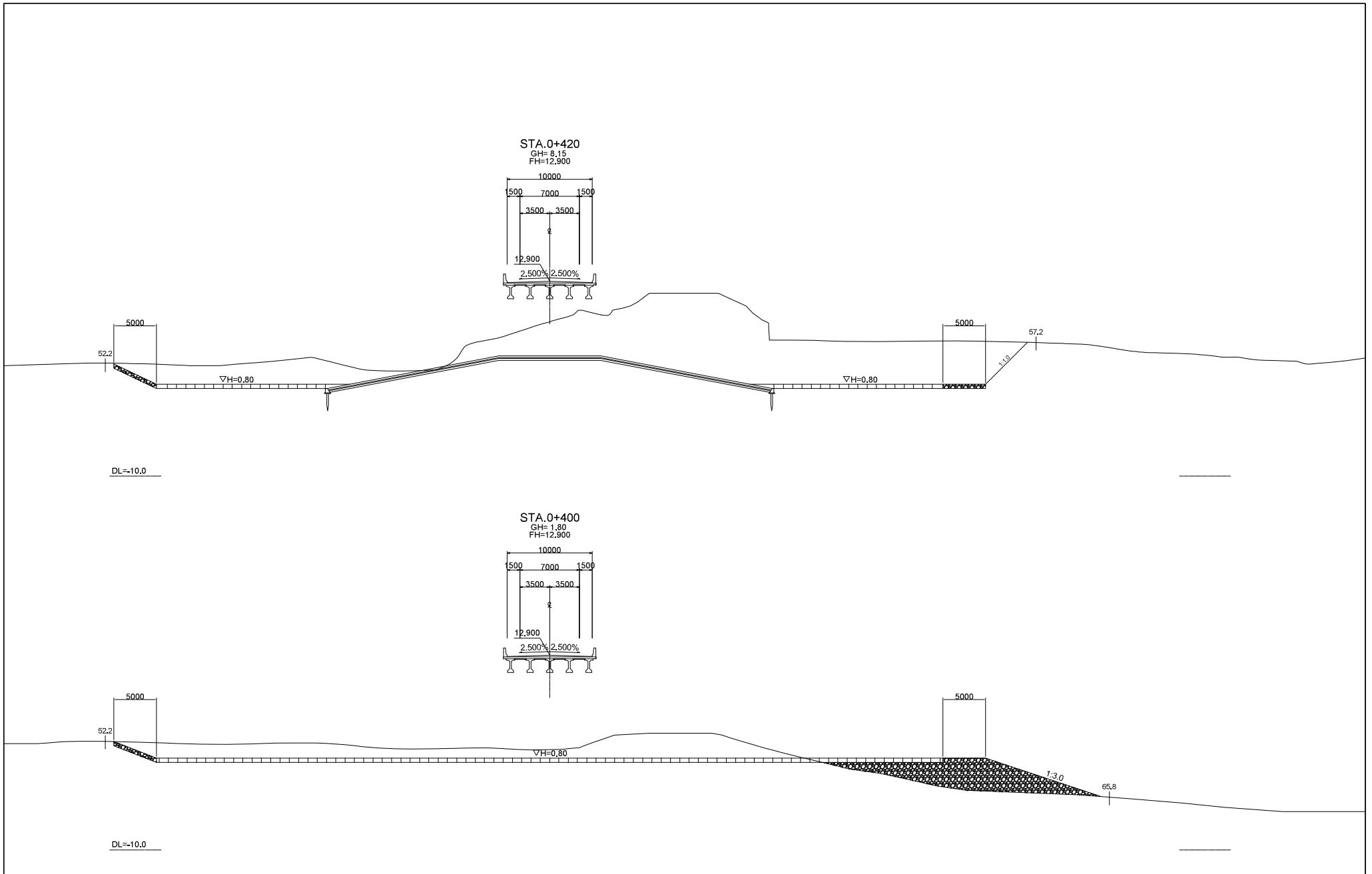
PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
1\_Ba Baong Bridge No.2  
REVETMENT AND RIVER BED PROTECTION(4)

SCALE(A1 SIZE)	DRAWING NO.
1/200	BB-17



AP7-23



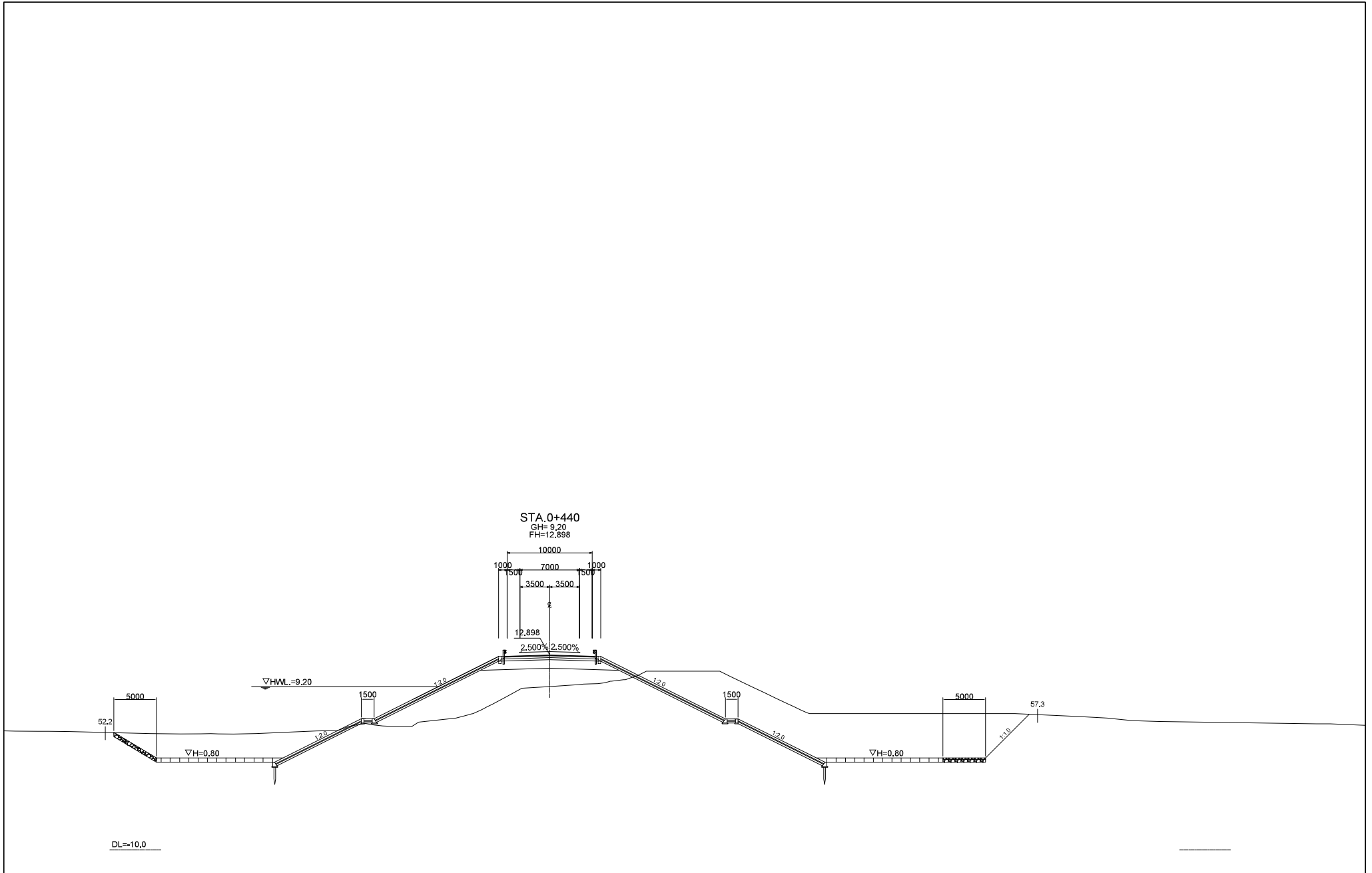
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
1\_Ba Baong Bridge No.2  
REVTMENT AND RIVER BED PROTECTION(5)

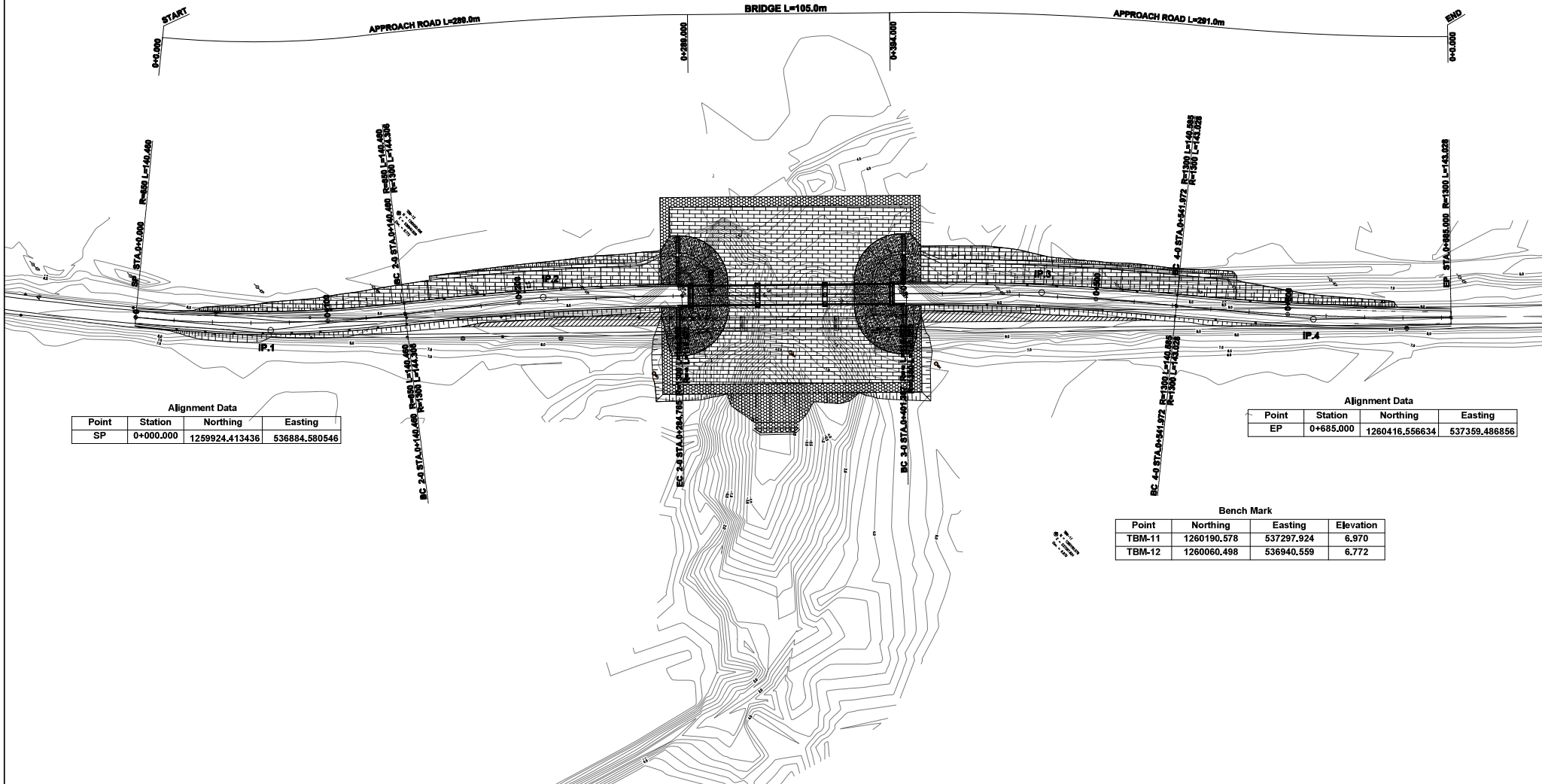
SCALE(A1 SIZE)	DRAWING NO.
1/200	BB-18



MINISTRY OF PUBLIC WORKS AND TRANSPORT KINGDOM OF CAMBODIA	JAPAN INTERNATIONAL COOPERATION AGENCY CTI ENGINEERING INTERNATIONAL CO., LTD.	PROJECT TITLE: PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT OF BRIDGES IN FLOOD-PRONE AREAS	DRAWING TITLE: 1_Ba Baong Bridge No.2 REVETMENT AND RIVER BED PROTECTION(6)	SCALE(A1 SIZE) 1/200	DRAWING NO. BB-19
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# Ba Baong No.1 Bridge

IP	Station	Speed	Northing	Easting	IA	R	TL	CL	SL
1	0+70.230	80	1259970.265312	536938.138725	12-22-52.143	650	70.504	140.460	3.813
2	0+212.613	80	1260084.178315	537024.139199	6-21-36.284	1300	72.227	144.306	2.005
3	0+471.680	80	1260272.477559	537202.277498	6-11-46.000	1300	70.361	140.585	1.903
4	0+613.486	80	1260364.461737	537310.388217	6-18-13.498	1300	71.586	143.028	1.969



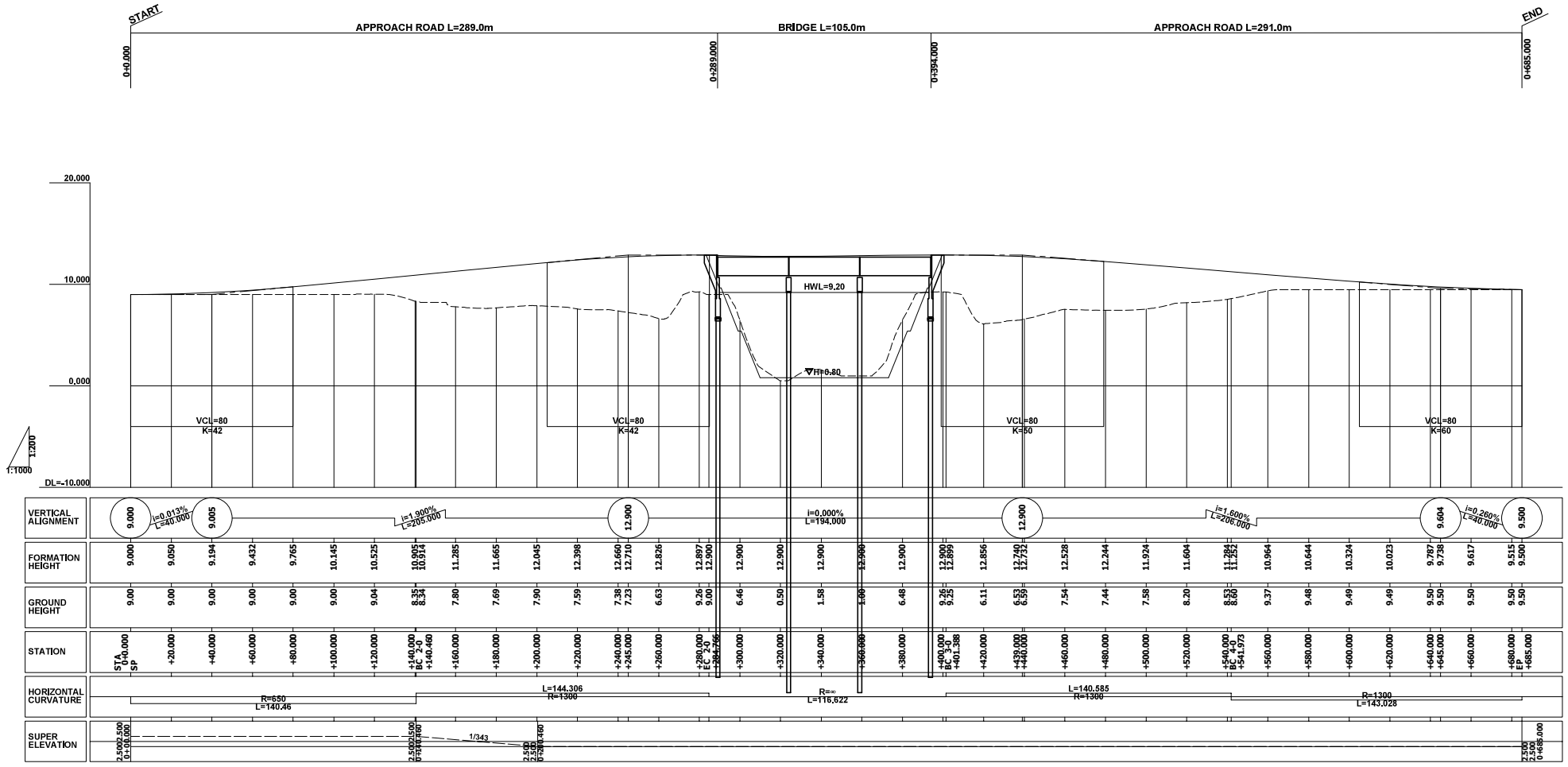
Point	Station	Northing	Easting
SP	0+000.000	1259924.413436	536884.580546

Point	Station	Northing	Easting
EP	0+685.000	1260416.556634	537359.486856

Point	Northing	Easting	Elevation
TBM-11	1260190.578	537297.924	6.970
TBM-12	1260060.498	536940.559	6.772

AP7-26

MINISTRY OF PUBLIC WORKS AND TRANSPORT KINGDOM OF CAMBODIA	JAPAN INTERNATIONAL COOPERATION AGENCY CTI ENGINEERING INTERNATIONAL CO., LTD.	PROJECT TITLE:	DRAWING TITLE:	SCALE(A1 SIZE)	DRAWING NO.
		PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT OF BRIDGES IN FLOOD-PRONE AREAS	<b>2_Ba Baong Bridge No.1</b> <b>GENERAL PLAN</b>	1/2,000 (1/1,000)	BA-01



Profile H = 1/1000  
V = 1/200

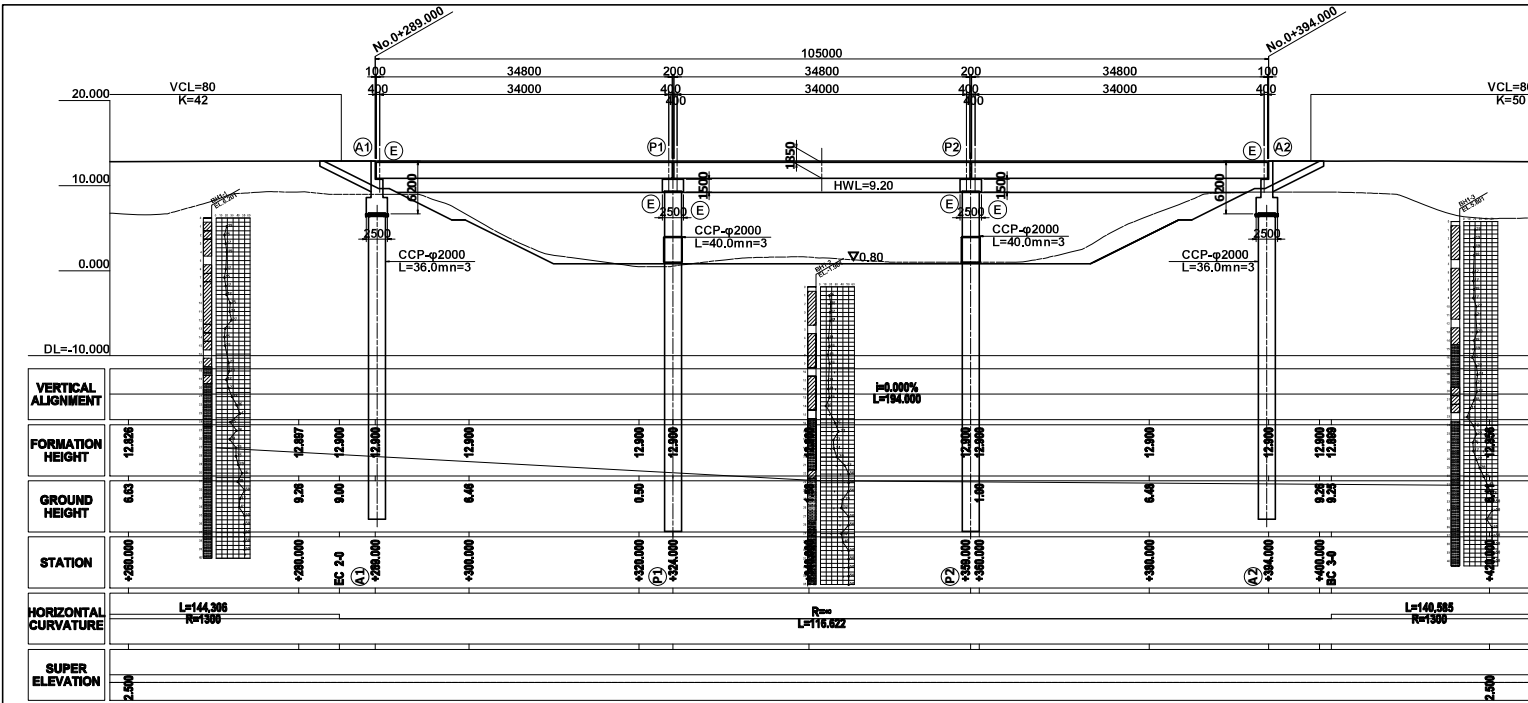
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

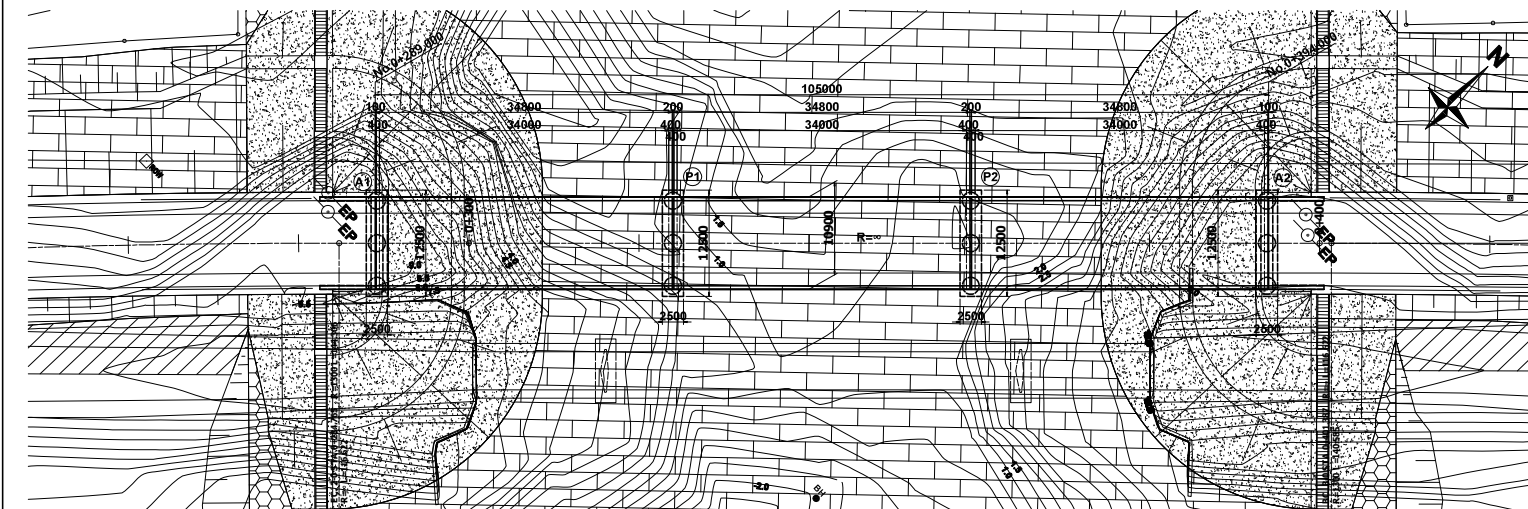
PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
**2\_Ba Baong Bridge No.1**  
**GENERAL PROFILE**

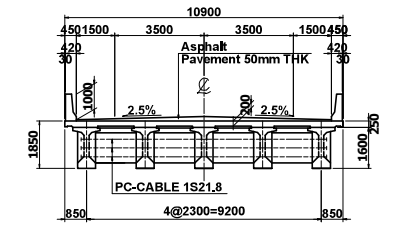
SCALE(A1 SIZE) DRAWING NO.  
AS SHOWN BA-02



PROFILE S=1:300



PLAN S=1:300



CROSS SECTION S=1:100

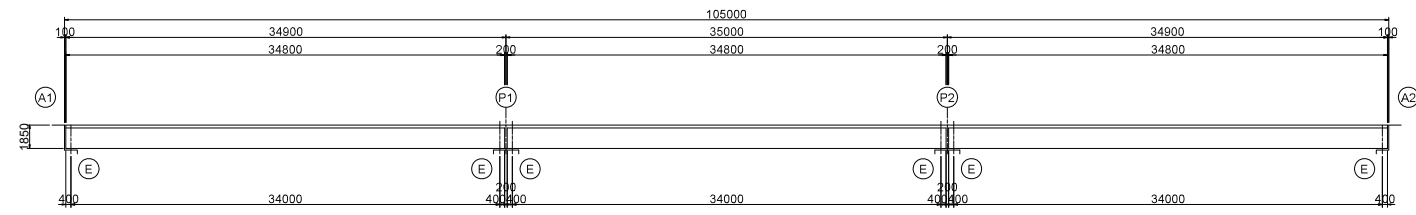
**DESIGN CRITERIA**

ROAD CLASS	SECONDARY PRINCIPAL ROAD
DESIGN SPEED	80km/h
LIVE LOAD	AASHTO HS20-44x125% OR EQUIVALENT
BRIDGE LENGTH	105,000m
SPAN LENGTH	34,000+34,000+34,000m
TOTAL WIDTH	2x3.5m(Carriage Way)+2x1.5m(Shoulder)
SEISMIC COEFFICIENT	kh=0.05(L1)
SUPER STRUCTURE TYPE	PC I-Girder
SUBSTRUCTURE TYPE	REVERSED T-ABUTMENT, PILE BENT PIRE
FOUNDATION TYPE	CAST-IN PLACE CONCRETE PILE(A1,P1,P2,A2)
SPECIFICATION CRITERIA	Bridge Design Standard (CAM.PW.04.102.99), 2003 DESIGN SPECIFICATIONS OF HIGHWAY BRIDGES (JAPAN ROAD ASSOCIATION)

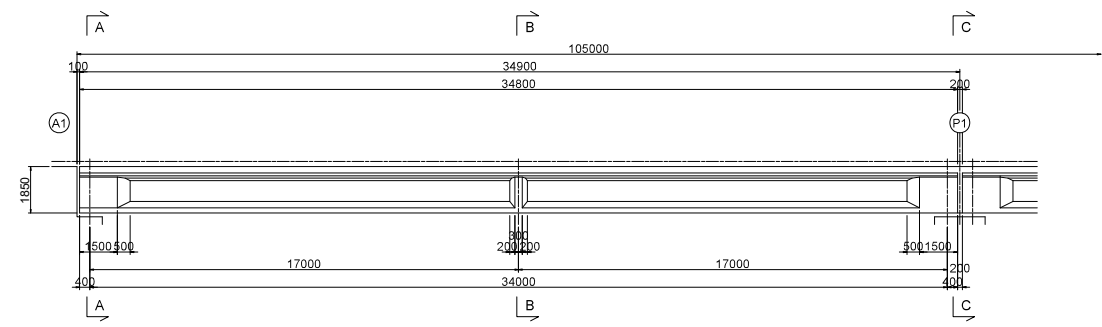
MINISTRY OF PUBLIC WORKS AND TRANSPORT KINGDOM OF CAMBODIA	JAPAN INTERNATIONAL COOPERATION AGENCY CTI ENGINEERING INTERNATIONAL CO., LTD.	PROJECT TITLE: PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT OF BRIDGES IN FLOOD-PRONE AREAS	DRAWING TITLE: <b>2_Ba Baong Bridge No.1</b> GENERAL VIEW OF BRIDGE	SCALE(A1 SIZE)	DRAWING NO.
				AS SHOWN	BA-03

DESIGN CRITERIA	
CATEGORY	PRESTRESSED CONCRETE ROAD BRIDGE
BRIDGE LENGTH	105,000 m
WIDTH	10,900 m
LIVE-LOAD	HS20-44x1,25
ANGLE OF SKEW	90°00'00"

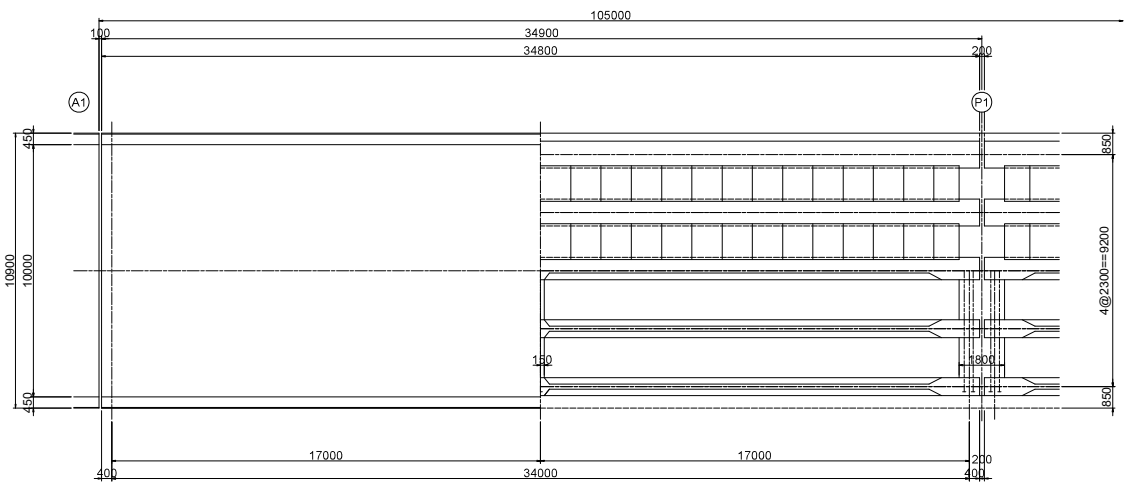
MATERIALS		
CONCRETE	GIRDER	$\sigma_{ck}=45,0$ N/mm <sup>2</sup>
	CROSS BEAM	$\sigma_{ck}=45,0$ N/mm <sup>2</sup>
	DECK SLAB	$\sigma_{ck}=40,0$ N/mm <sup>2</sup>
PC STEEL	GIRDER	12S12,7(SWPR7BL)
	CROSS BEAM	1S21,8 (SWPR19)
DEFORMED BAR	Grade 400	



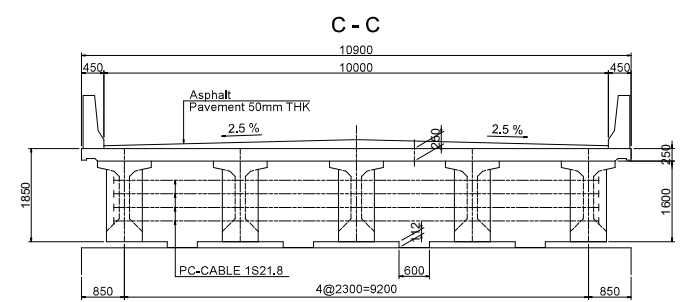
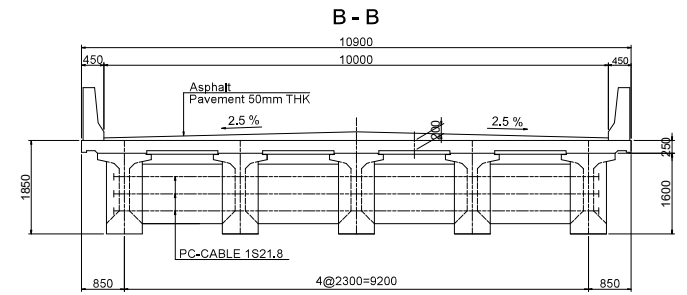
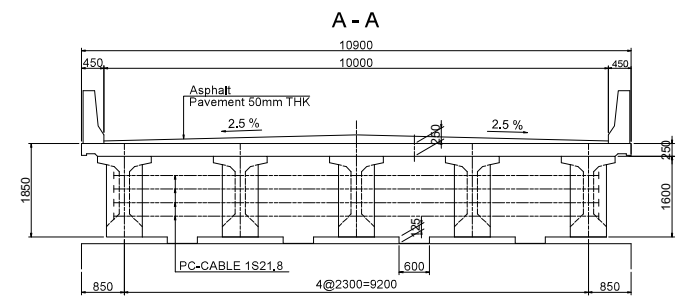
SIDE ELEVATION S=1/200



SIDE ELEVATION S=1/100

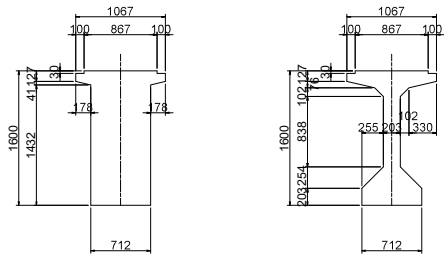


PLAN S=1/100

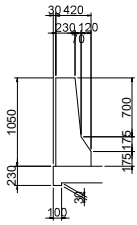


CROSS SECTION S=1/50

MINISTRY OF PUBLIC WORKS AND TRANSPORT KINGDOM OF CAMBODIA	JAPAN INTERNATIONAL COOPERATION AGENCY CTI ENGINEERING INTERNATIONAL CO., LTD.	PROJECT TITLE:	DRAWING TITLE:	SCALE(A1 SIZE)	DRAWING NO.
		PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT OF BRIDGES IN FLOOD-PRONE AREAS	2_Ba Baong Bridge No.1 STRUCTURE DRAWING(1)	AS SHOWN	BA-04



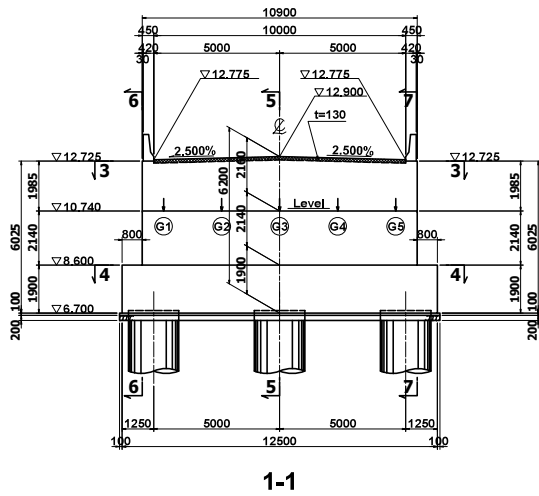
PC GIRDER S=1/30



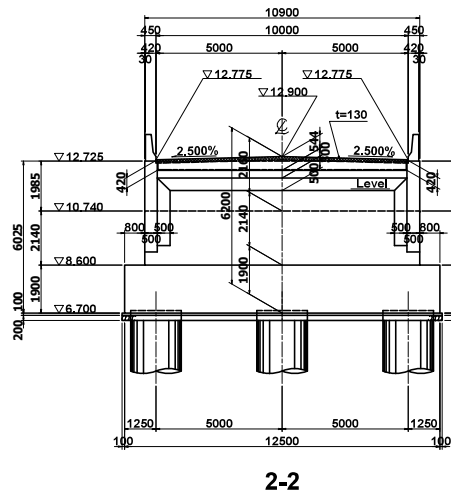
DETAILS OF RAILING S=1/30

MINISTRY OF PUBLIC WORKS AND TRANSPORT KINGDOM OF CAMBODIA	JAPAN INTERNATIONAL COOPERATION AGENCY CTI ENGINEERING INTERNATIONAL CO., LTD.	PROJECT TITLE: PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT OF BRIDGES IN FLOOD-PRONE AREAS	DRAWING TITLE: 2_Ba Baong Bridge No.1 STRUCTURE DRAWING(2)	SCALE(A1 SIZE)	DRAWING NO.
				AS SHOWN	BA-05

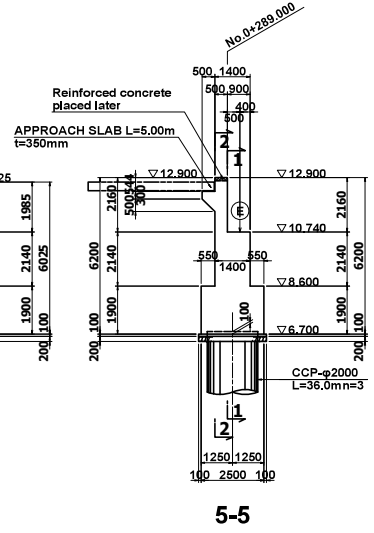




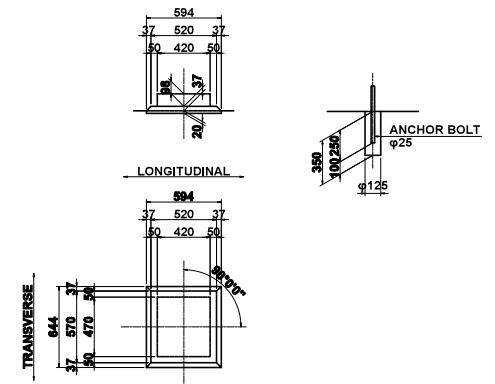
1-1



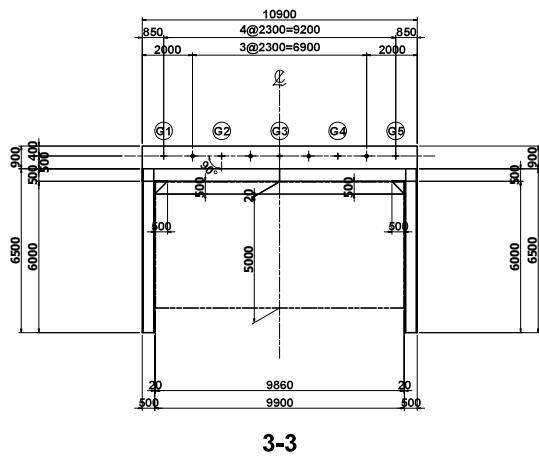
2-2



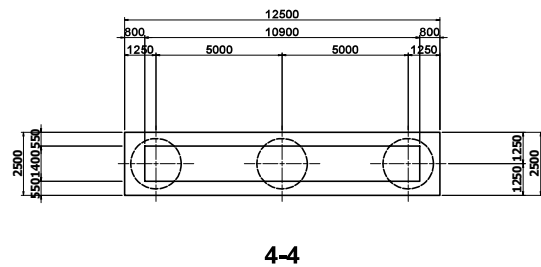
5-5



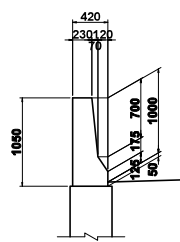
DETAIL S=1/20



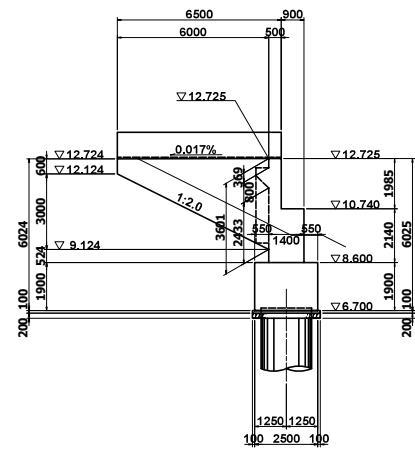
3-3



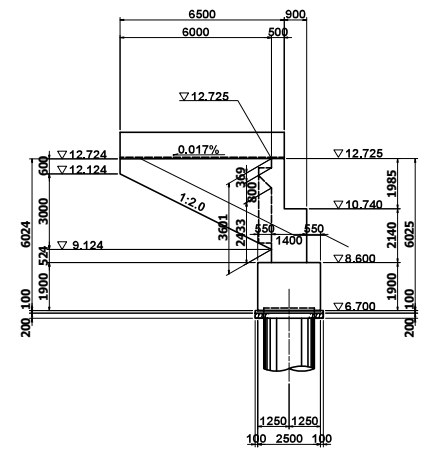
4-4



DETAIL S=1/30



6-6



7-7

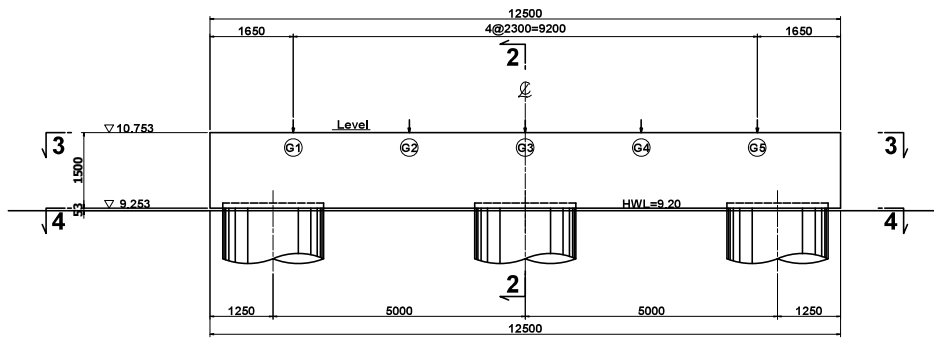
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

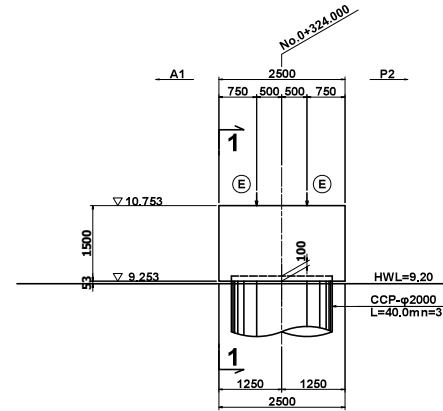
PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
**2\_Ba Baong Bridge No.1**  
**STRUCTURAL DRAWING OF A1 ABUTMENT**

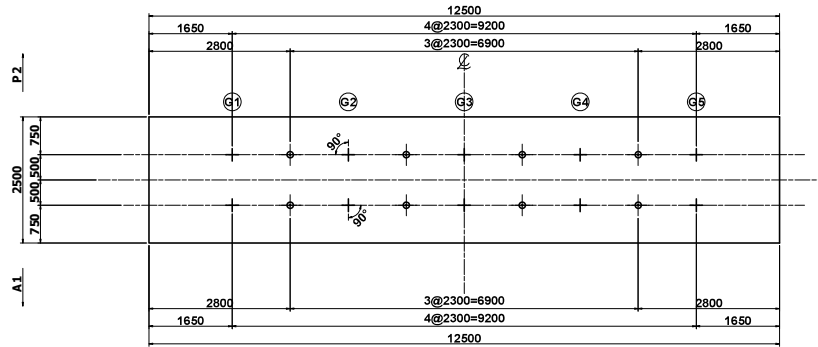
SCALE(A1 SIZE)	DRAWING NO.
1/100	BA-06



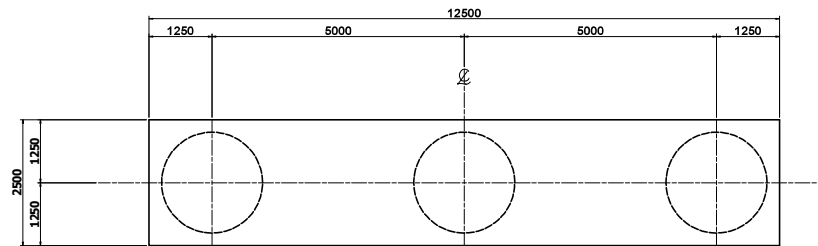
1-1



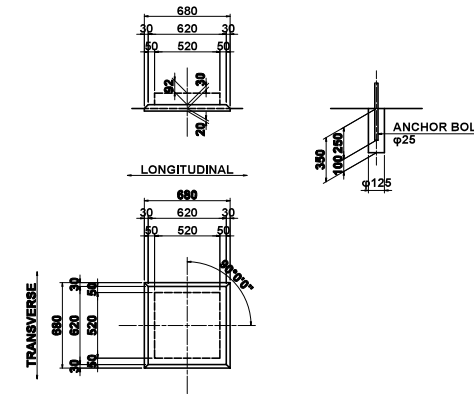
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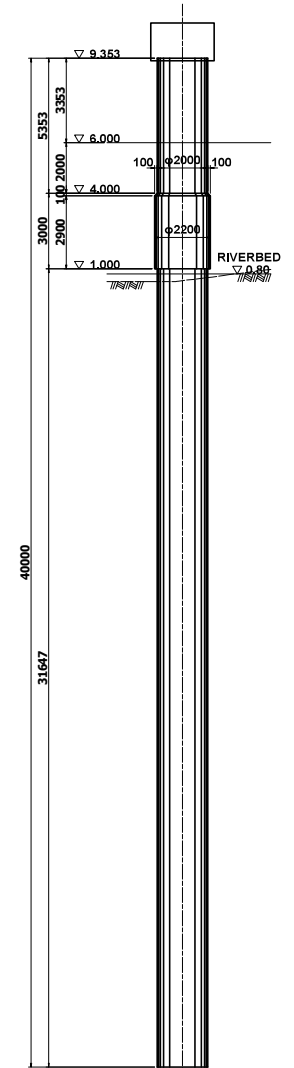
3-3



4-4



DETAIL S=1/20



PROFILE S=1/100

MINISTRY OF PUBLIC WORKS  
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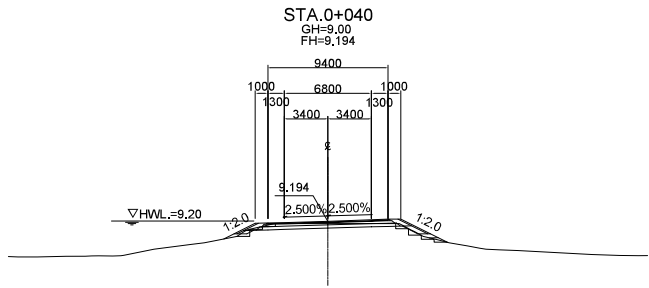
JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

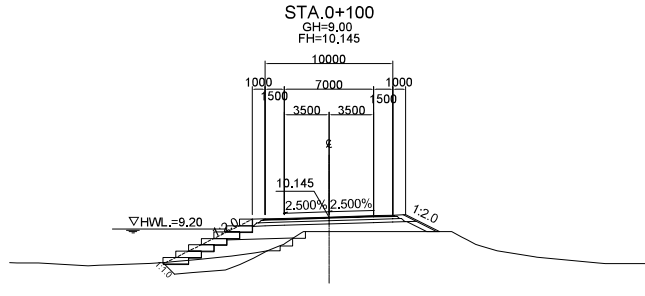
DRAWING TITLE:  
**2\_Ba Baong Bridge No.1**  
**STRUCTURAL DRAWING OF P1 BRIDGE PIER**

SCALE(A1 SIZE)	DRAWING NO.
1/50	BA-07

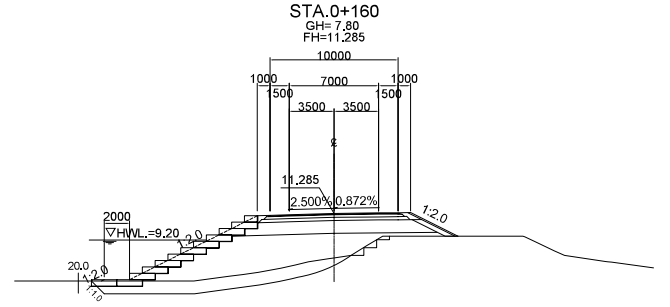




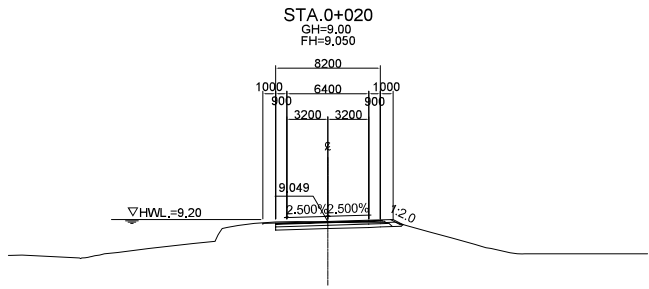
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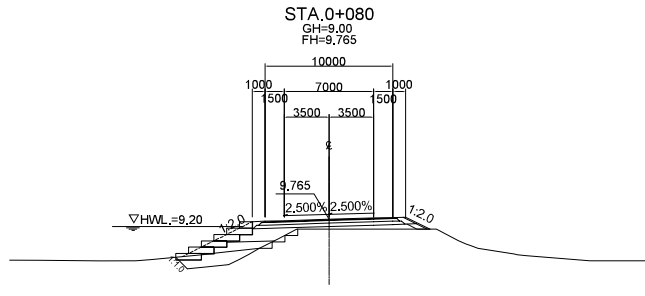
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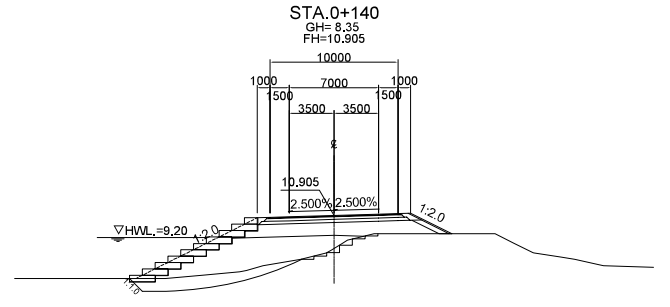
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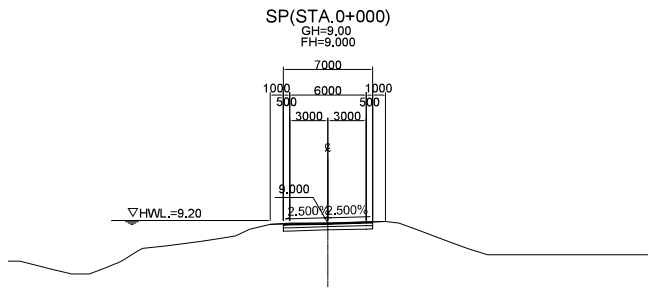
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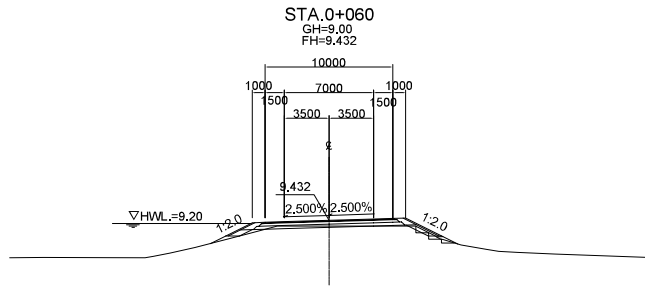
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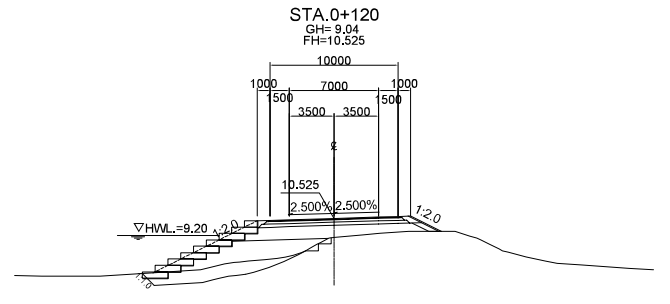
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DL=0.0



DL=0.0



DL=0.0

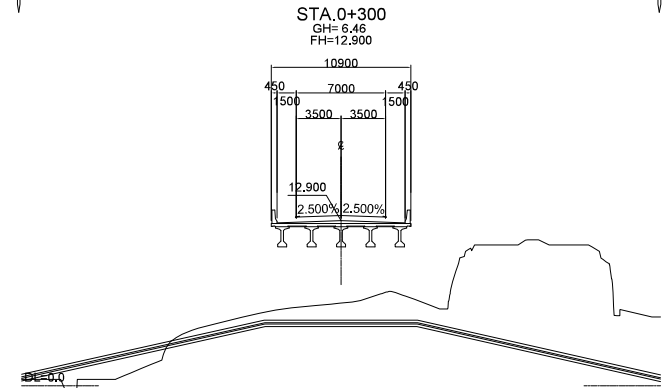
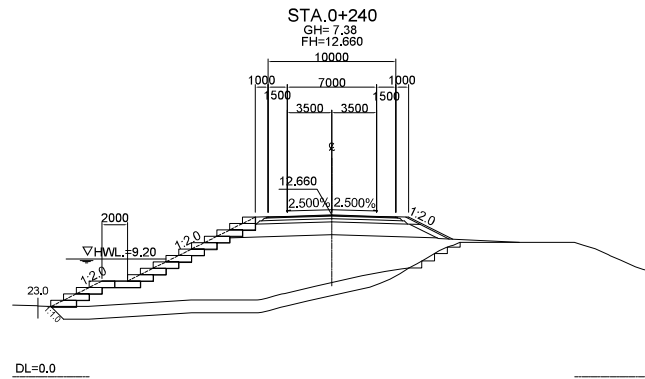
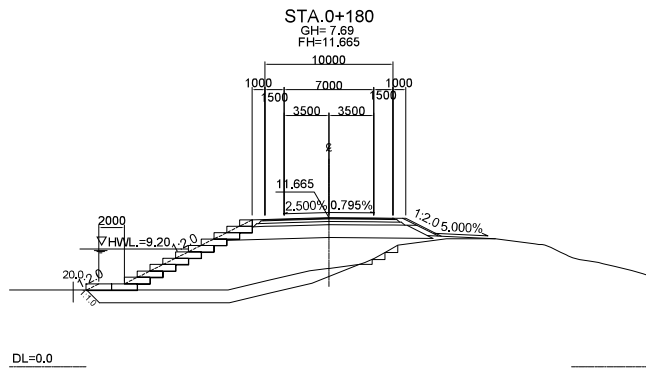
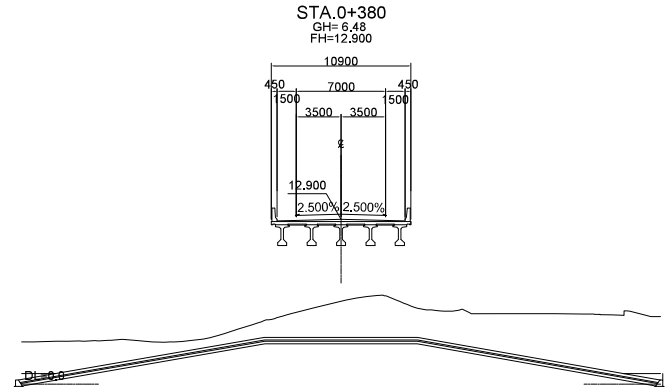
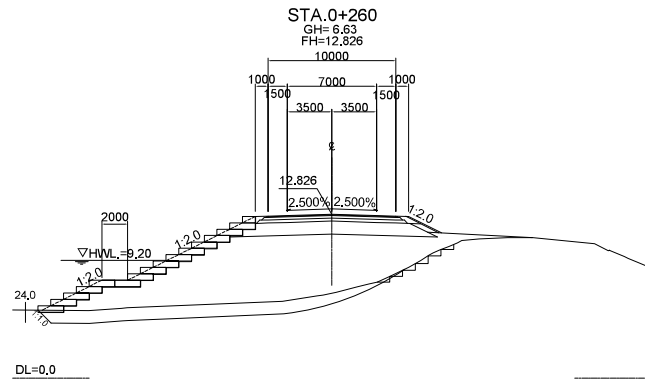
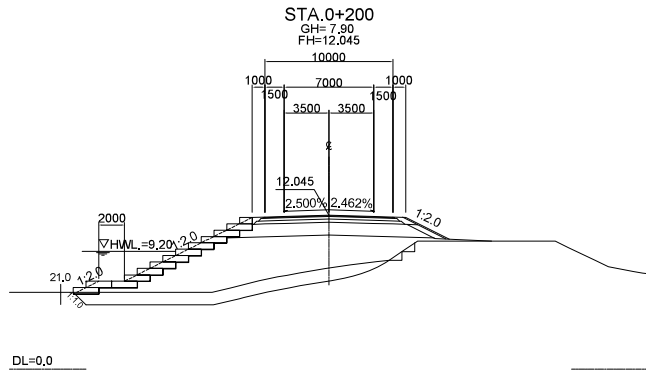
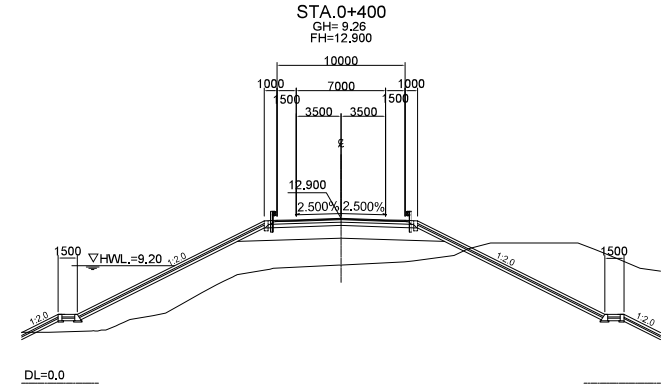
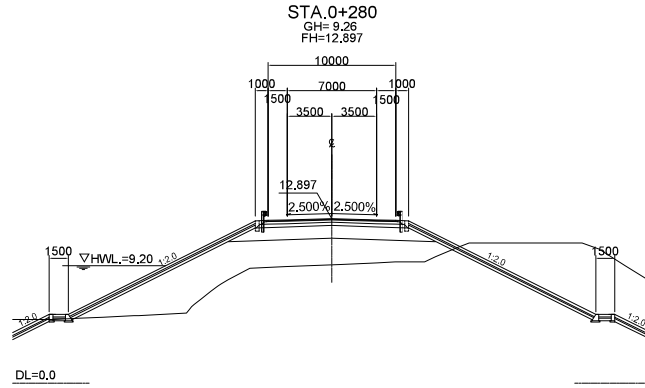
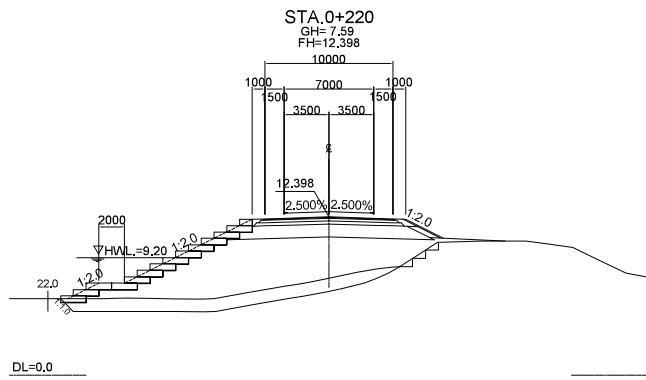
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
2\_Ba Baong Bridge No.1  
CROSS SECTION OF APPROACH ROAD (1)

SCALE(A1 SIZE)	DRAWING NO.
1/200	BA-09



MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

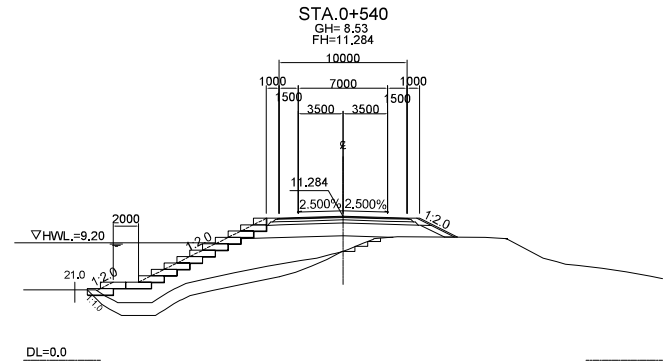
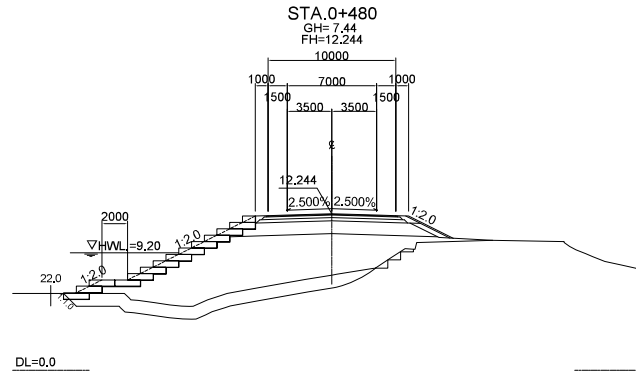
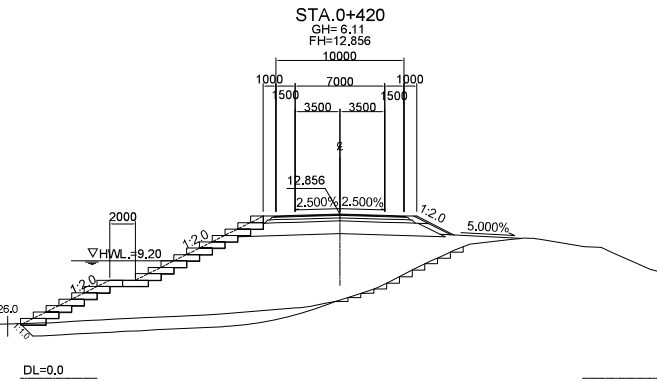
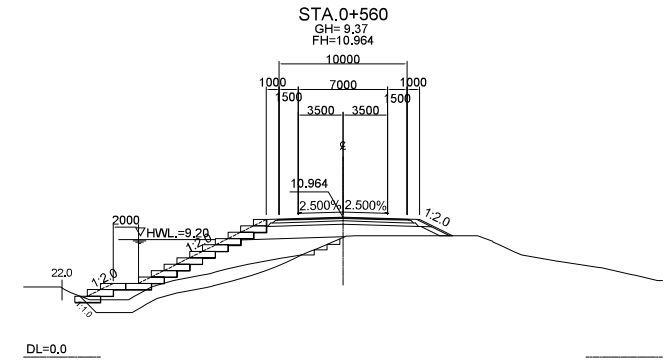
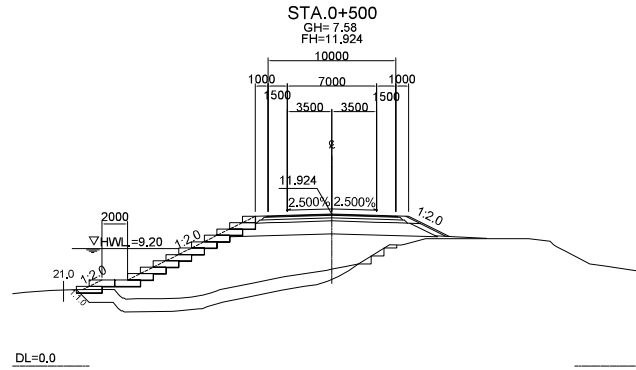
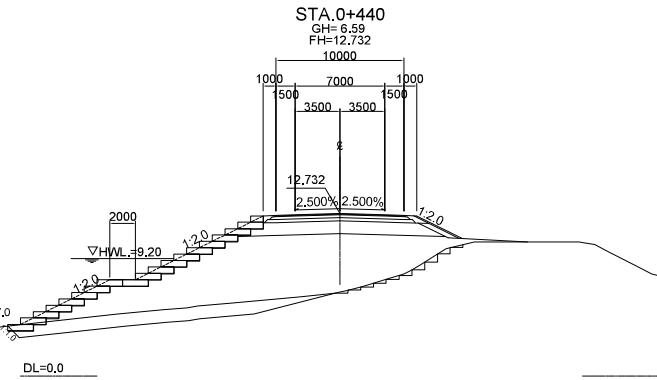
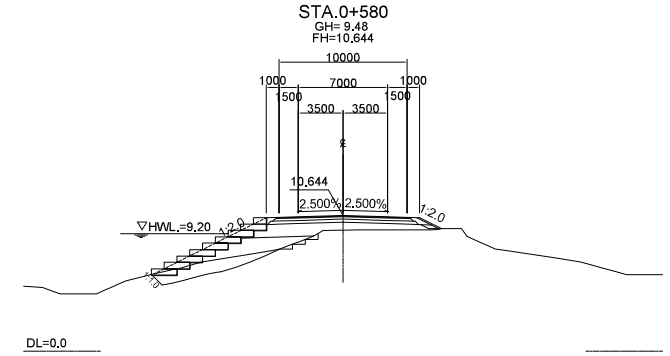
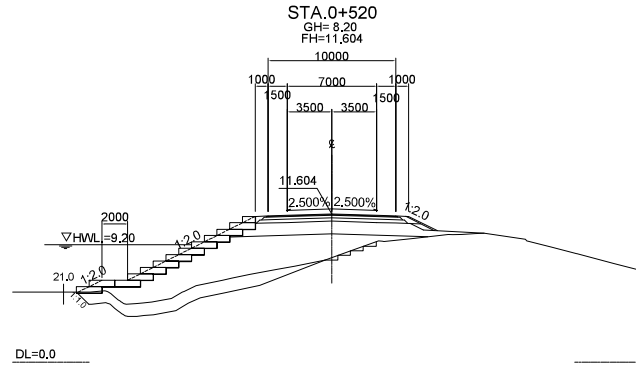
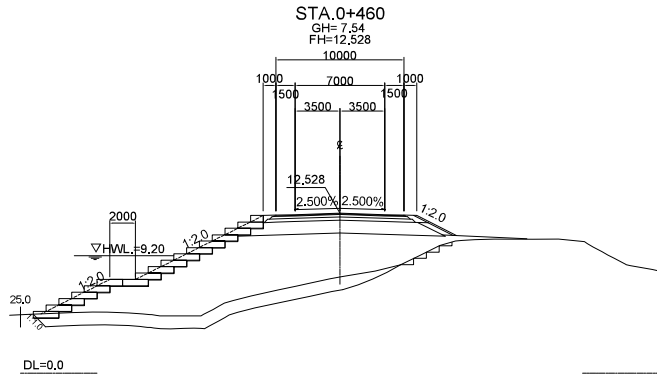
JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
2\_Ba Baong Bridge No.1  
CROSS SECTION OF APPROACH ROAD (2)

SCALE(A1 SIZE) DRAWING NO.  
1/200 BA-10

AP7-36



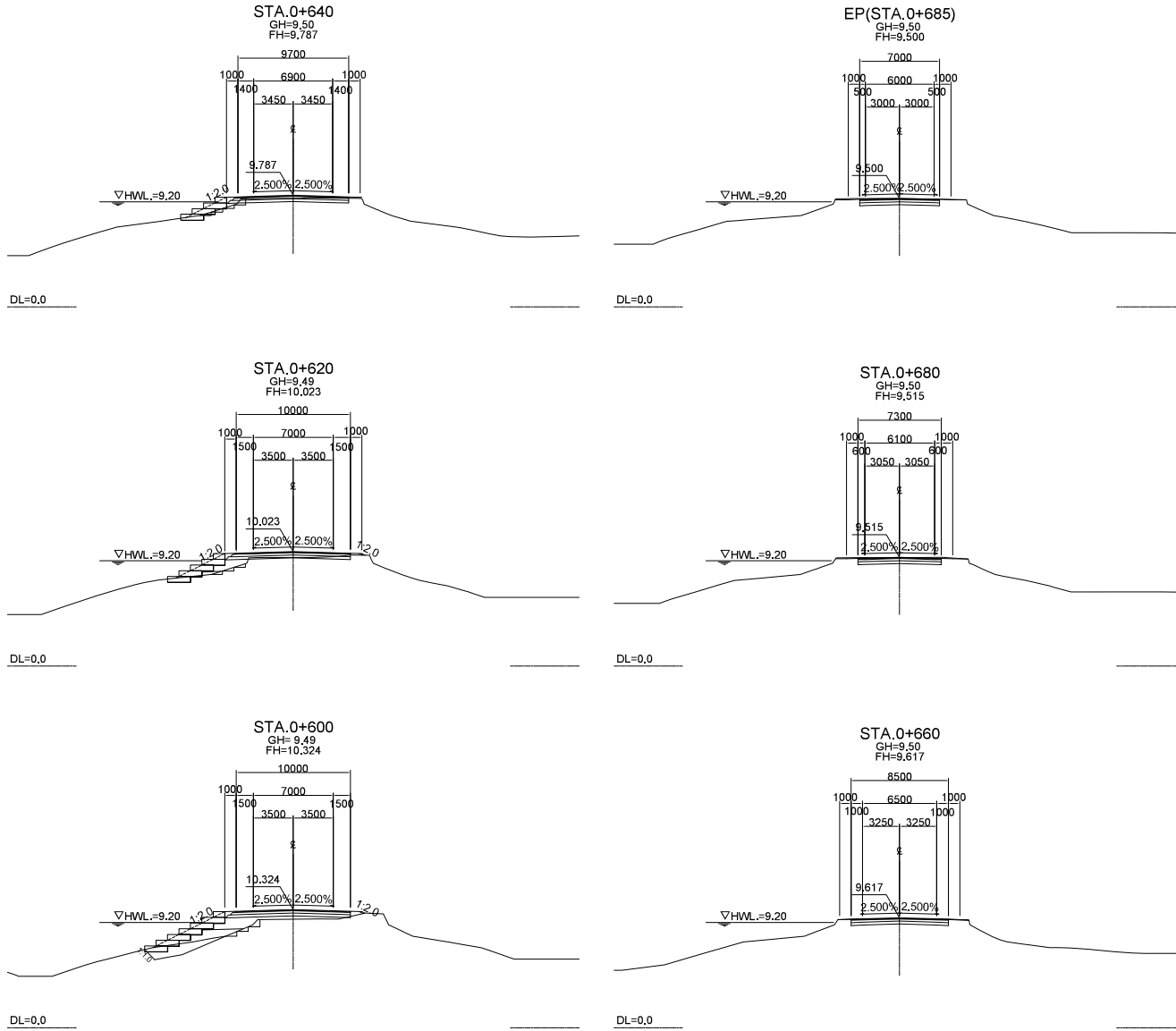
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

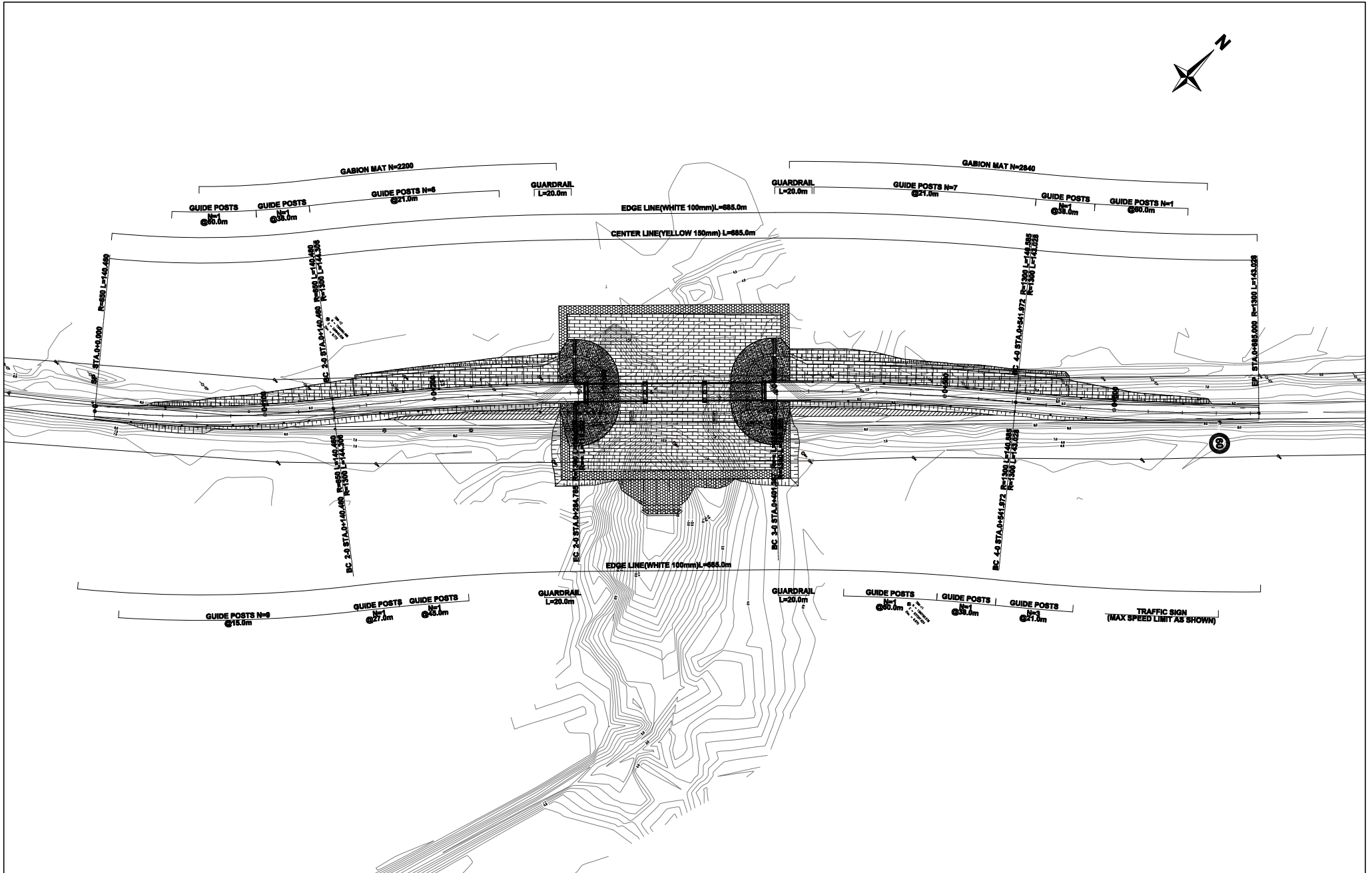
PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
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CROSS SECTION OF APPROACH ROAD (3)

SCALE(A1 SIZE)	DRAWING NO.
1/200	BA-11

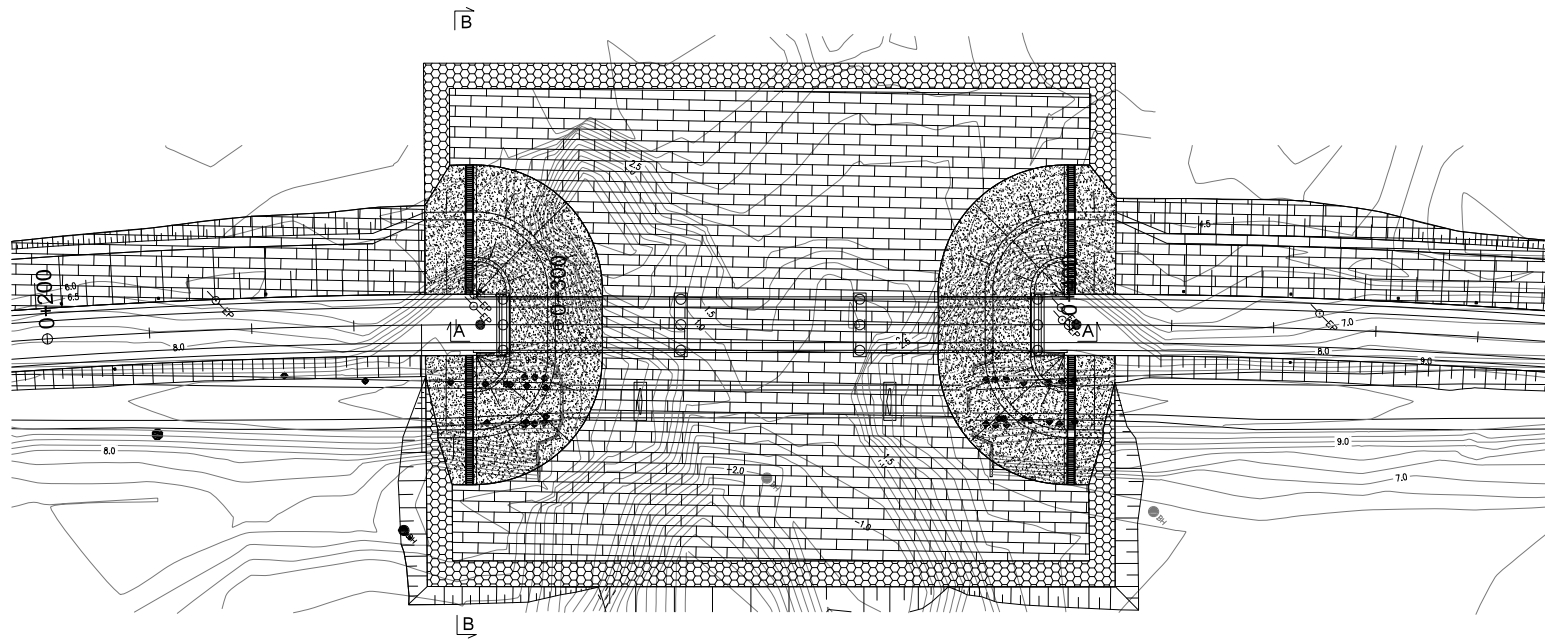


MINISTRY OF PUBLIC WORKS AND TRANSPORT KINGDOM OF CAMBODIA	JAPAN INTERNATIONAL COOPERATION AGENCY CTI ENGINEERING INTERNATIONAL CO., LTD.	PROJECT TITLE: PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT OF BRIDGES IN FLOOD-PRONE AREAS	DRAWING TITLE: 2_Ba Baong Bridge No.1 CROSS SECTION OF APPROACH ROAD (4)	SCALE(A1 SIZE)	DRAWING NO.
				1/200	BA-12

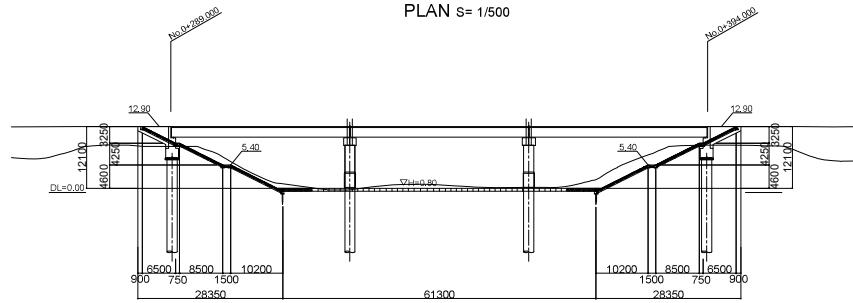


MINISTRY OF PUBLIC WORKS AND TRANSPORT KINGDOM OF CAMBODIA	JAPAN INTERNATIONAL COOPERATION AGENCY CTI ENGINEERING INTERNATIONAL CO., LTD.	PROJECT TITLE: PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT OF BRIDGES IN FLOOD-PRONE AREAS	DRAWING TITLE: <b>2_Ba Baong Bridge No.1 PLAN OF APPROACH ROAD (ANCILLARY)</b>	SCALE(A1 SIZE) 1/2,000 (1/1,000)	DRAWING NO. BA-13
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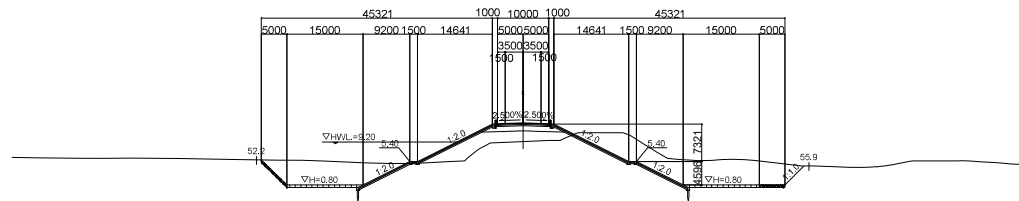




PLAN s= 1/500



SECTION A-A s= 1/500



SECTION B-B s= 1/500

MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

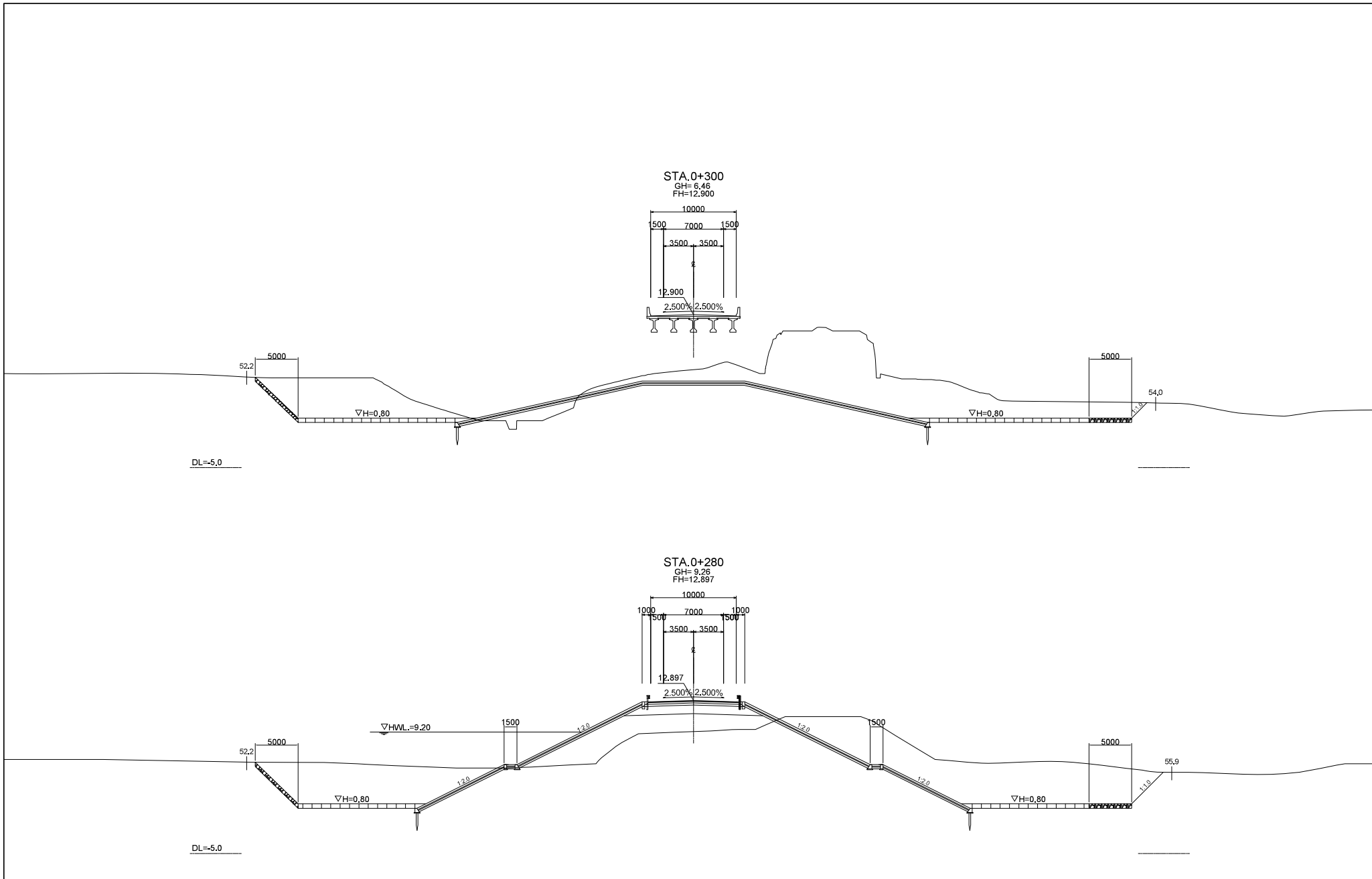
PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
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REVTMENT AND RIVER BED PROTECTION(1)

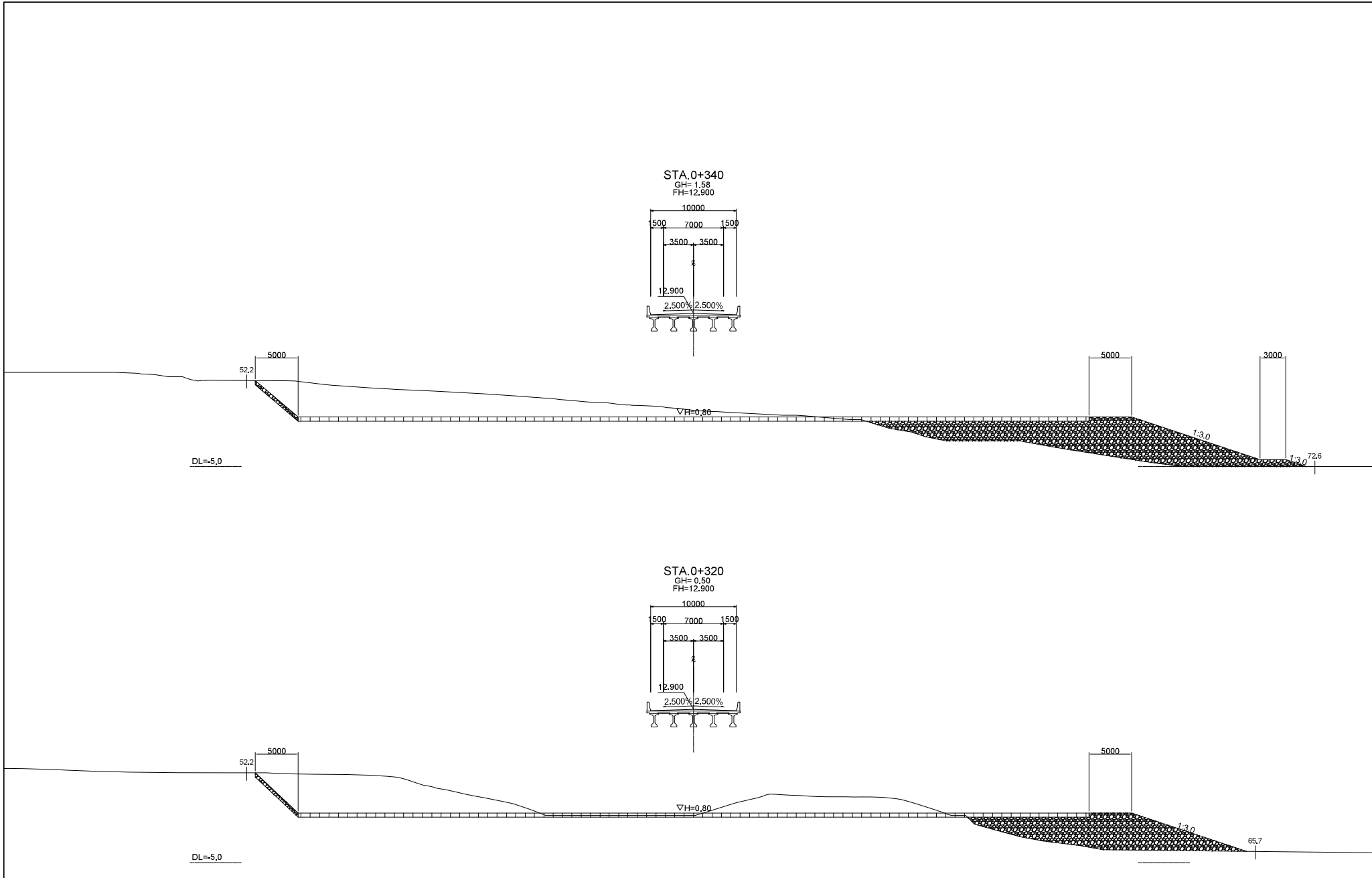
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AS SHOWN	BA-14



AP7-41

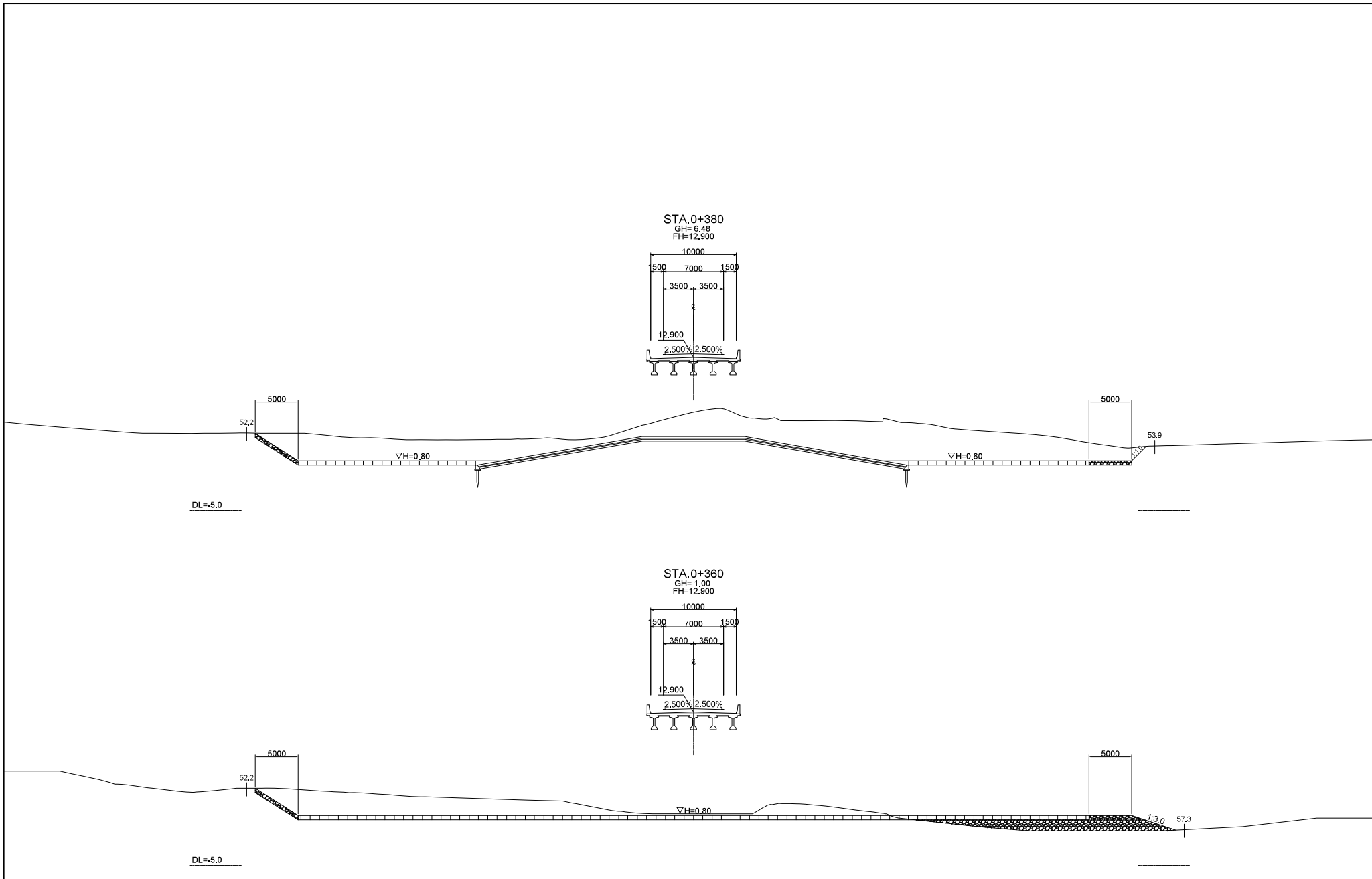


MINISTRY OF PUBLIC WORKS AND TRANSPORT KINGDOM OF CAMBODIA	JAPAN INTERNATIONAL COOPERATION AGENCY CTI ENGINEERING INTERNATIONAL CO., LTD.	PROJECT TITLE: PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT OF BRIDGES IN FLOOD-PRONE AREAS	DRAWING TITLE: 2_Ba-Baong Bridge No.1 REVETMENT AND RIVER BED PROTECTION(3)	SCALE(A1 SIZE) 1/200	DRAWING NO. BA-16
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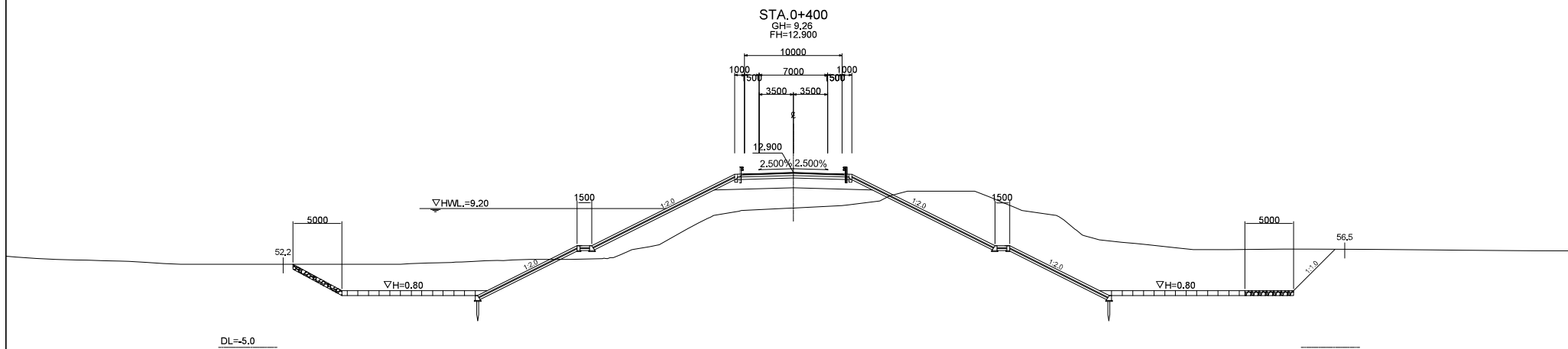


<p>MINISTRY OF PUBLIC WORKS AND TRANSPORT KINGDOM OF CAMBODIA</p>	<p>JAPAN INTERNATIONAL COOPERATION AGENCY CTI ENGINEERING INTERNATIONAL CO., LTD.</p>	<p>PROJECT TITLE: PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT OF BRIDGES IN FLOOD-PRONE AREAS</p>	<p>DRAWING TITLE: 2_Ba-Baong Bridge No.1 REVETMENT AND RIVER BED PROTECTION(4)</p>	<p>SCALE(A1 SIZE) 1/200</p>	<p>DRAWING NO. BA-17</p>
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AP7-43



<p>MINISTRY OF PUBLIC WORKS AND TRANSPORT KINGDOM OF CAMBODIA</p>	<p>JAPAN INTERNATIONAL COOPERATION AGENCY CTI ENGINEERING INTERNATIONAL CO., LTD.</p>	<p>PROJECT TITLE: PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT OF BRIDGES IN FLOOD-PRONE AREAS</p>	<p>DRAWING TITLE: 2_Ba-Baong Bridge No.1 REVETMENT AND RIVER BED PROTECTION(5)</p>	<p>SCALE(A1 SIZE) 1/200</p>	<p>DRAWING NO. BA-18</p>
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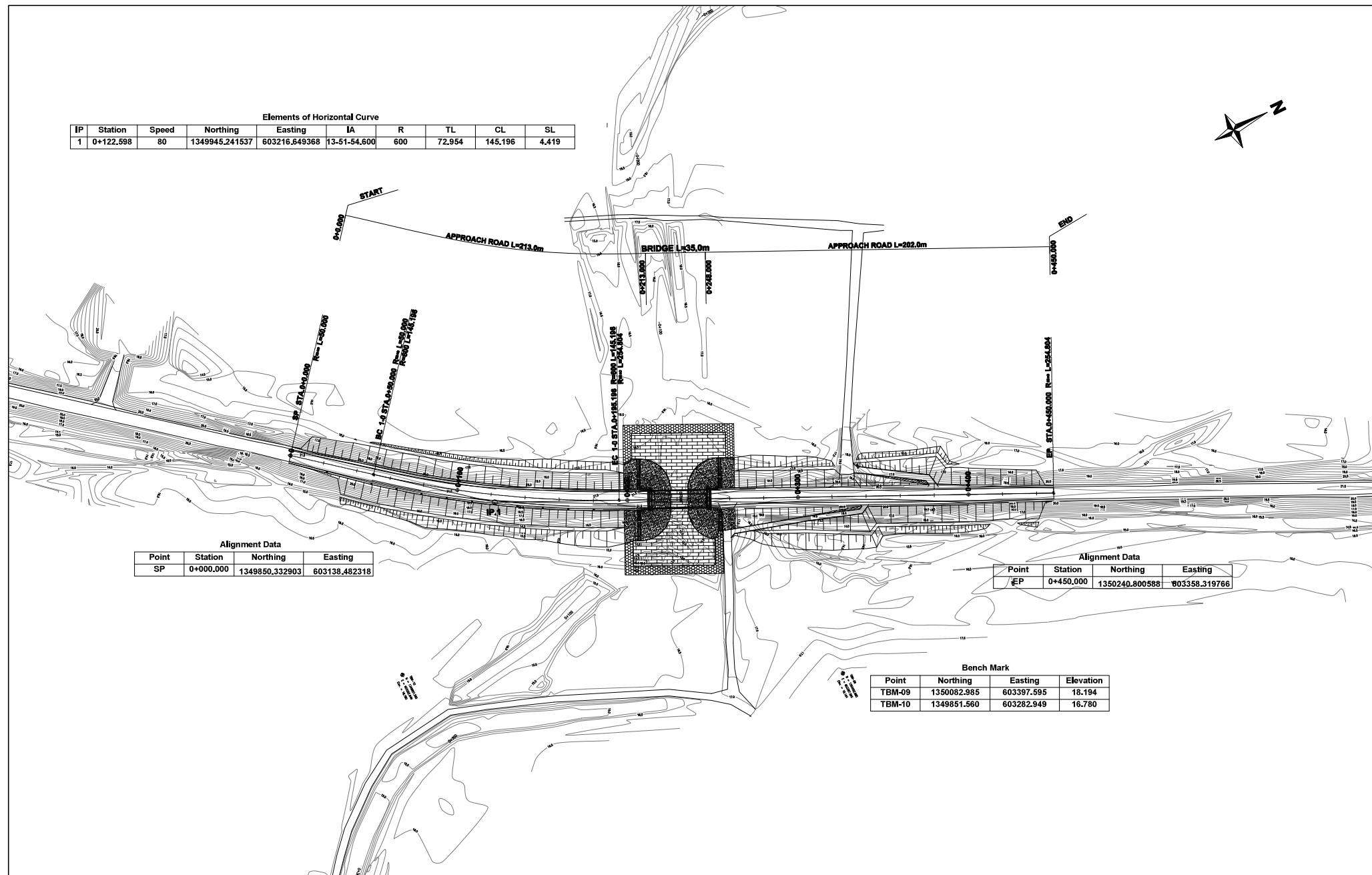
MINISTRY OF PUBLIC WORKS AND TRANSPORT KINGDOM OF CAMBODIA	JAPAN INTERNATIONAL COOPERATION AGENCY CTI ENGINEERING INTERNATIONAL CO., LTD.	PROJECT TITLE: PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT OF BRIDGES IN FLOOD-PRONE AREAS	DRAWING TITLE: 2_Ba-Baong Bridge No.1 REVETMENT AND RIVER BED PROTECTION(6)	SCALE(A1 SIZE) 1/200	DRAWING NO. BA-19
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# Prek Sandan Bridge



Elements of Horizontal Curve

IP	Station	Speed	Northing	Easting	IA	R	TL	CL	SL
1	0+122.598	80	1349945.241537	603216.649368	13-51-54.600	600	72.954	145.196	4.419



Alignment Data

Point	Station	Northing	Easting
SP	0+000.000	1349850.332903	603138.482318

Alignment Data

Point	Station	Northing	Easting
EP	0+450.000	1350240.800588	603358.319766

Bench Mark

Point	Northing	Easting	Elevation
TBM-09	1350082.985	603397.595	18.194
TBM-10	1349851.560	603282.949	16.780

AP7-46

MINISTRY OF PUBLIC WORKS  
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KINGDOM OF CAMBODIA

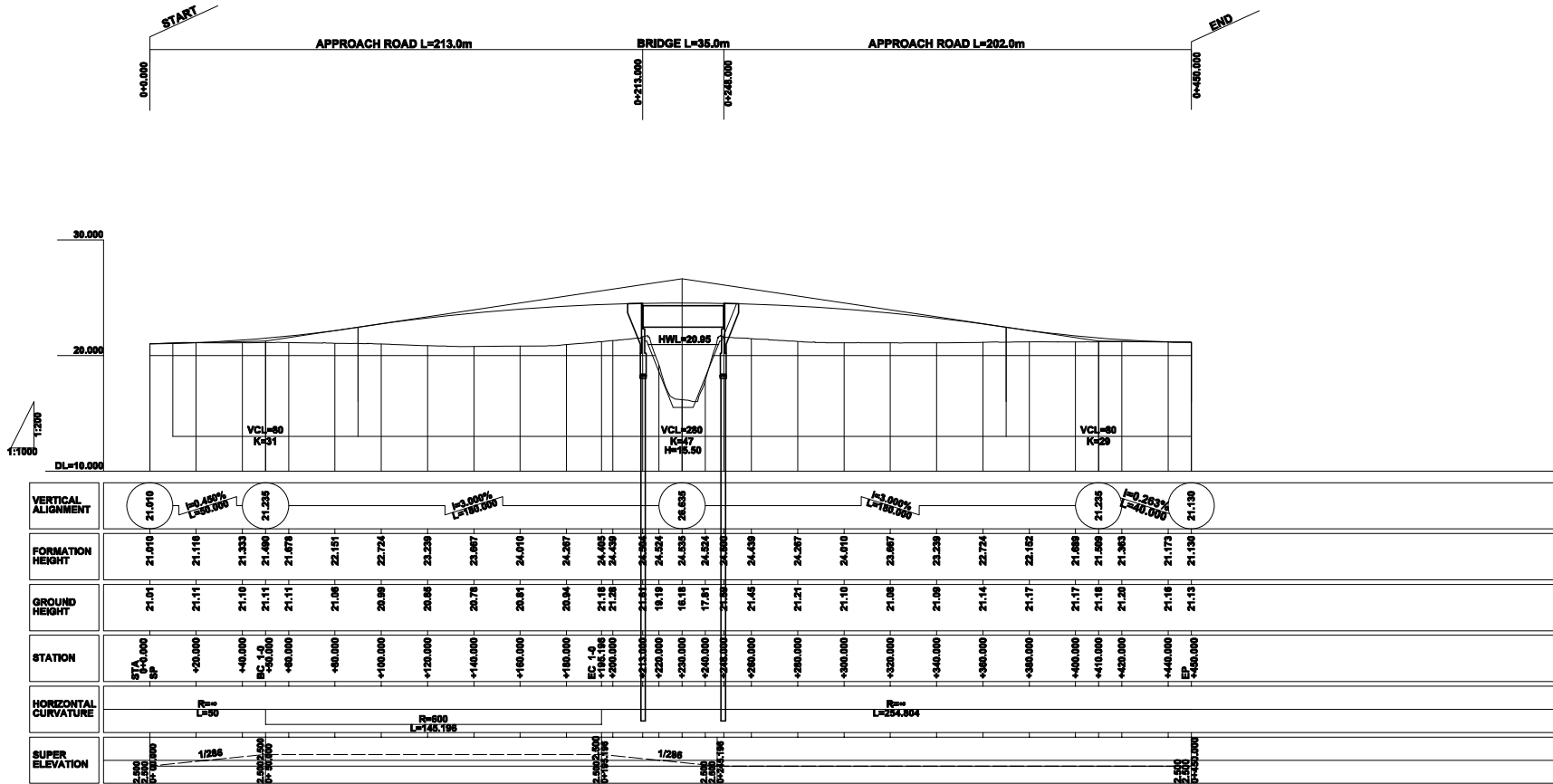
JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
**3\_Prek Sandan Bridge**  
**GENERAL PLAN**

SCALE(A1 SIZE)	DRAWING NO.
1/2,000 (1/1,000)	PS-01





Profile  $H = 1/1000$   
 $V = 1/200$

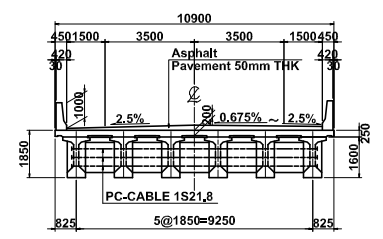
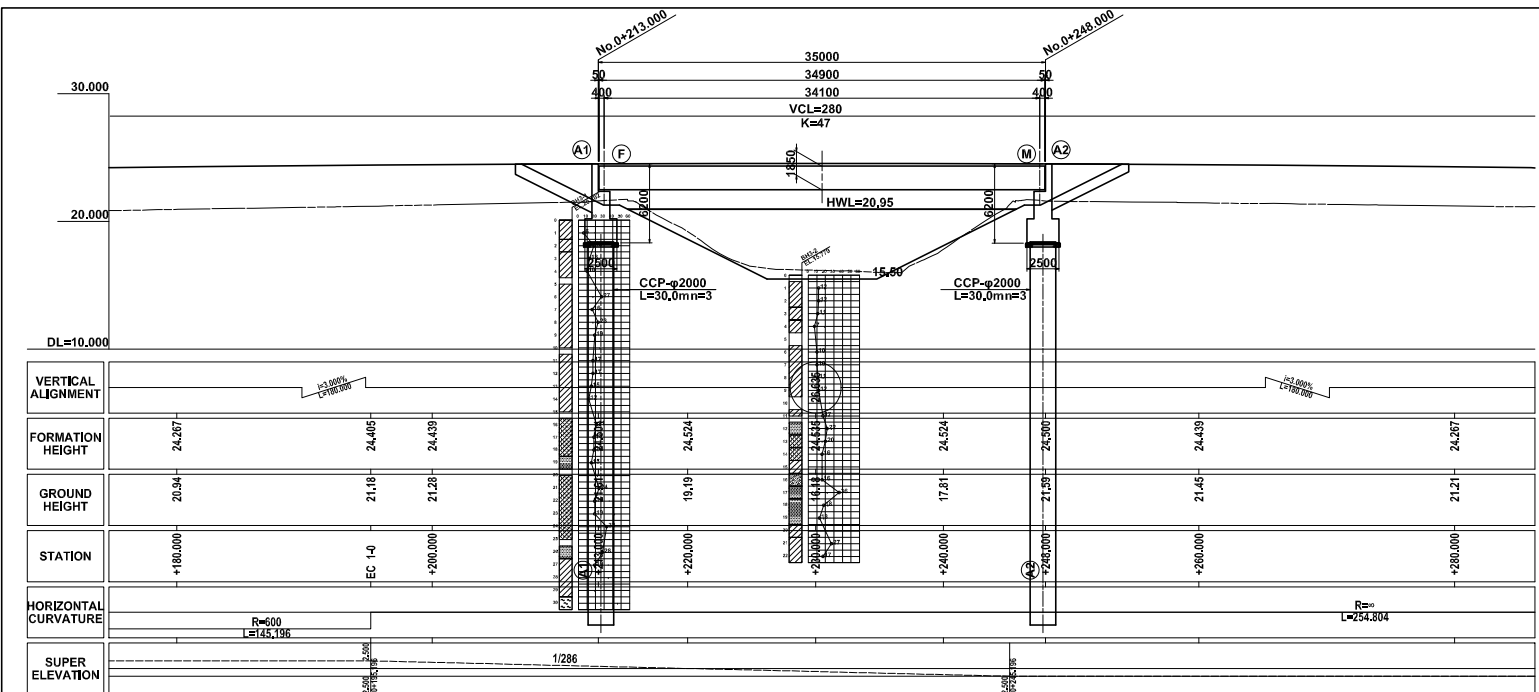
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

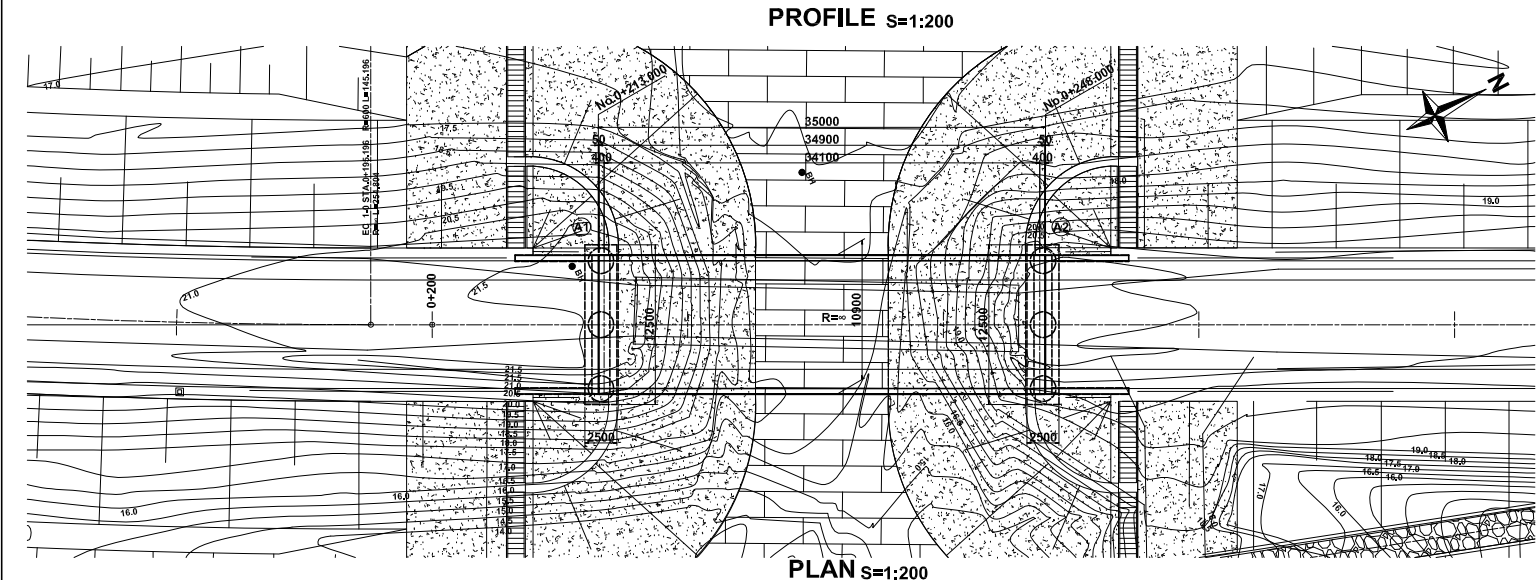
PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
**3\_Prek Sandan Bridge**  
**GENERAL PROFILE**

SCALE(A1 SIZE)	DRAWING NO.
AS SHOWN	PS-02



CROSS SECTION S=1:100



PLAN S=1:200

**DESIGN CRITERIA**

ROAD CLASS	SECONDARY PRINCIPAL ROAD
DESIGN SPEED	80km/h
LIVE LOAD	AASHTO HS20-44x125% OR EQUIVALENT
BRIDGE LENGTH	35.000m
SPAN LENGTH	34.100m
TOTAL WIDTH	2x3.5m(Carrilage Way)+2x1.5m(Shoulder)
SEISMIC COEFFICIENT	kh=0.05(L1)
SUPER STRUCTURE TYPE	PC I-Girder
SUBSTRUCTURE TYPE	REVERSED T-ABUTMENT
FOUNDATION TYPE	CAST-IN PLACE CONCRETE PILE(A1,A2)
SPECIFICATION CRITERIA	Bridge Design Standard (CAM.PW.04.102.99), 2003 DESIGN SPECIFICATIONS OF HIGHWAY BRIDGES (JAPAN ROAD ASSOCIATION)

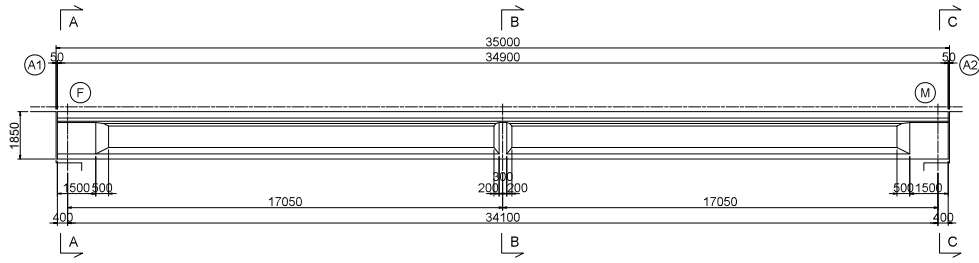
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
**3\_Prek Sandan Bridge**  
GENERAL VIEW OF BRIDGE

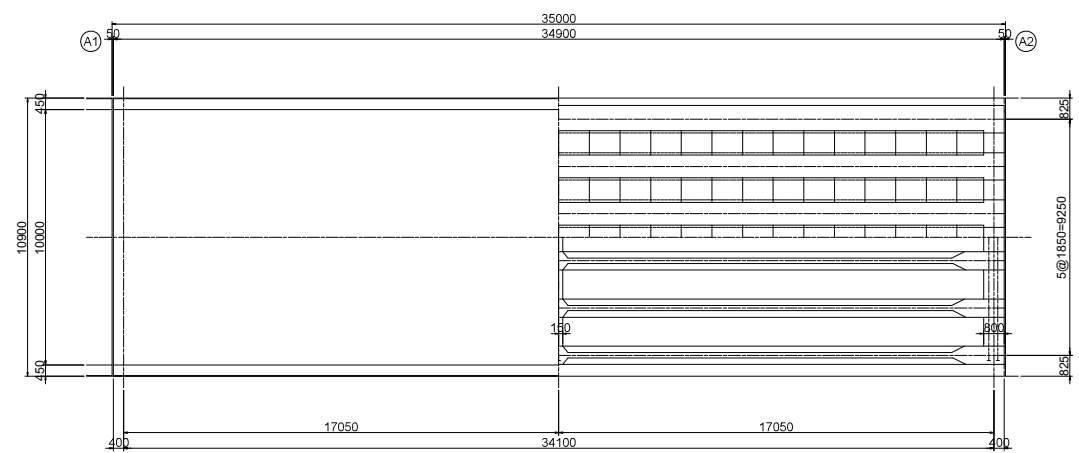
SCALE(A1 SIZE)	DRAWING NO.
AS SHOWN	PS-03



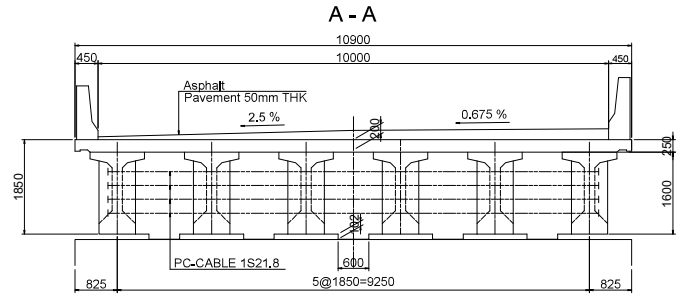
SIDE ELEVATION S=1/100

DESIGN CRITERIA	
CATEGORY	PRESTRESSED CONCRETE ROAD BRIDGE
BRIDGE LENGTH	35,000 m
WIDTH	10,900 m
LIVE-LOAD	HS20-44x1.25
ANGLE OF SKEW	90°00'00"

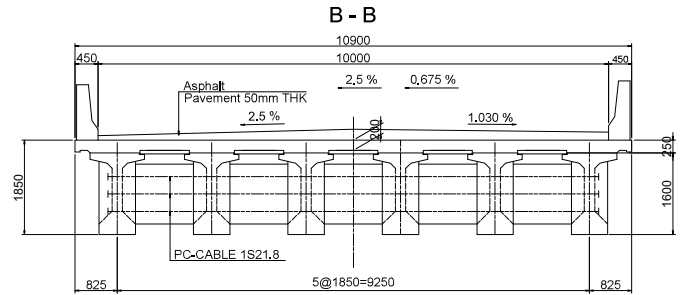
MATERIALS		
CONCRETE	GIRDER	o <sub>ck</sub> =45,0 N/mm <sup>2</sup>
	CROSS BEAM	o <sub>ck</sub> =45,0 N/mm <sup>2</sup>
	DECK SLAB	o <sub>ck</sub> =40,0 N/mm <sup>2</sup>
PC STEEL	GIRDER	12S12,7(SWPR7BL)
	CROSS BEAM	12S12,8 (SWPR19)
DEFORMED BAR	Grade 400	



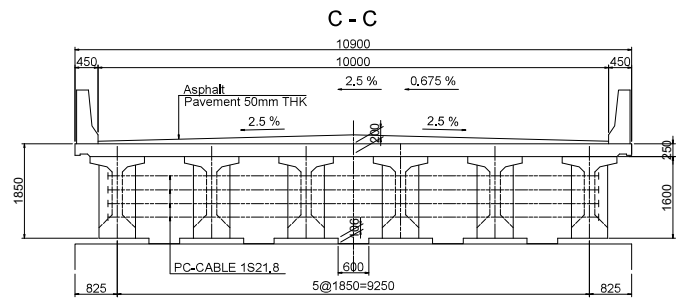
PLAN S=1/100



A - A

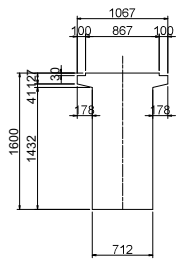


B - B

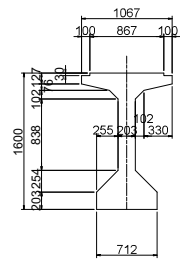


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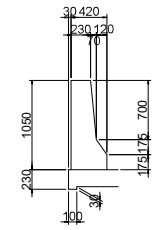
CROSS SECTION S=1/50



PC GIRDER S=1/30



DETAILS OF RAILING S=1/30



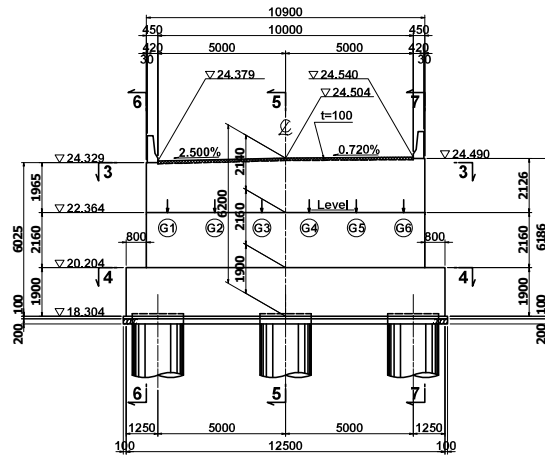
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

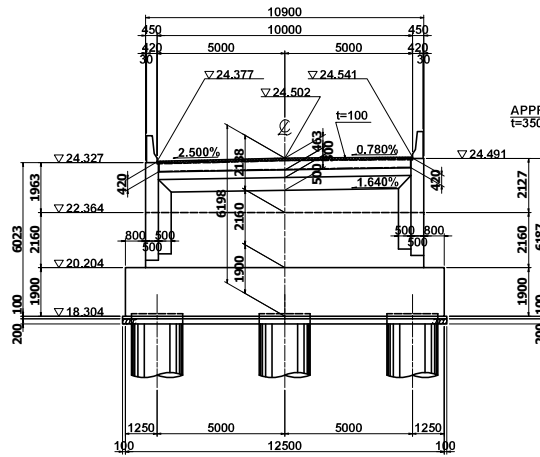
PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
3\_Prek Sandan Bridge  
STRUCTURE DRAWING

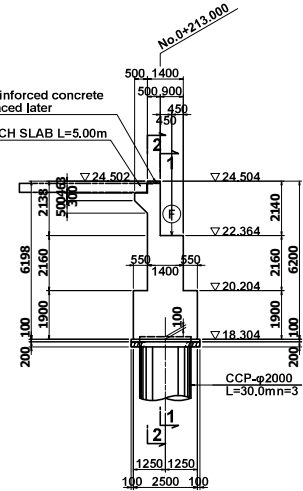
SCALE(A1 SIZE) DRAWING NO.  
AS SHOWN PS-04



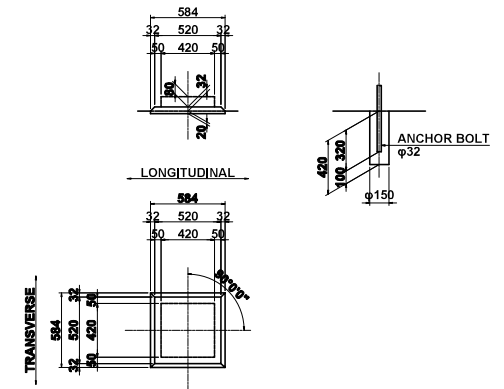
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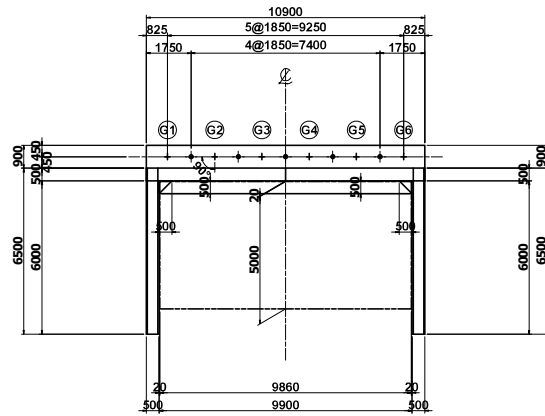
2-2



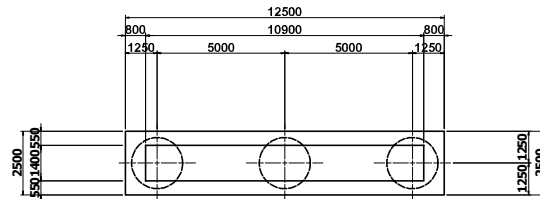
5-5



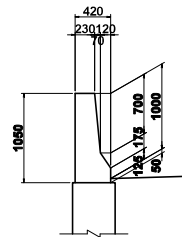
DETAIL S=1:20



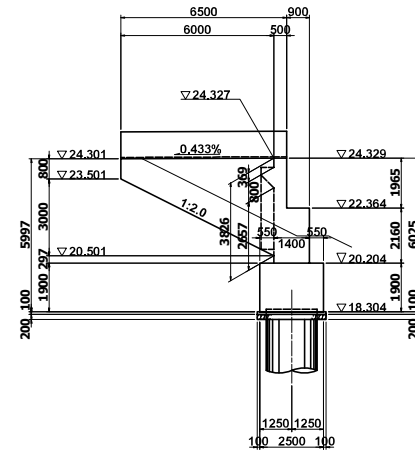
3-3



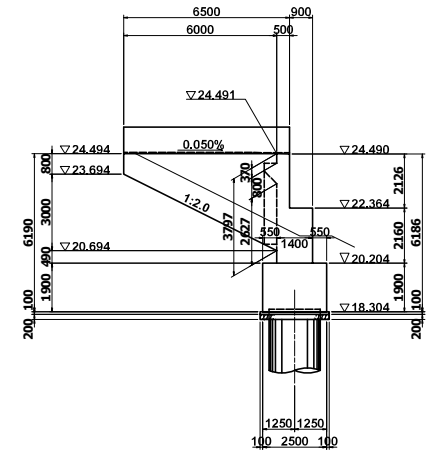
4-4



DETAIL S=1:30



6-6



7-7

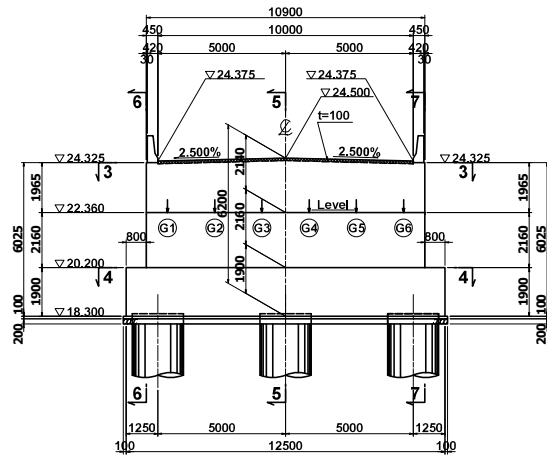
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

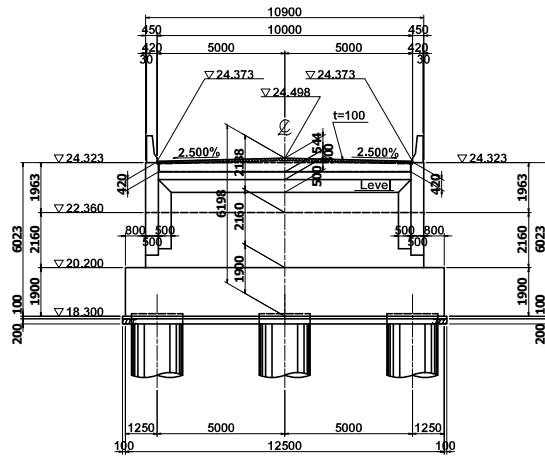
PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
**3\_Prek Sandan Bridge**  
**STRUCTURAL DRAWING OF A1 ABUTMENT**

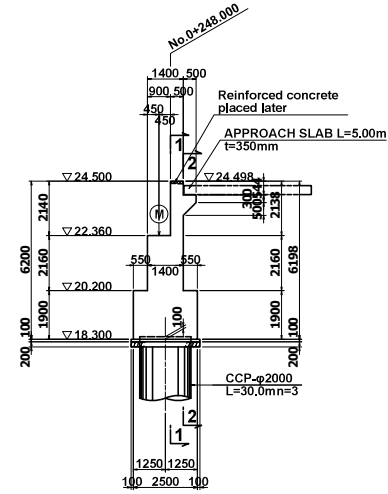
SCALE(A1 SIZE)	DRAWING NO.
1/100	PS-05



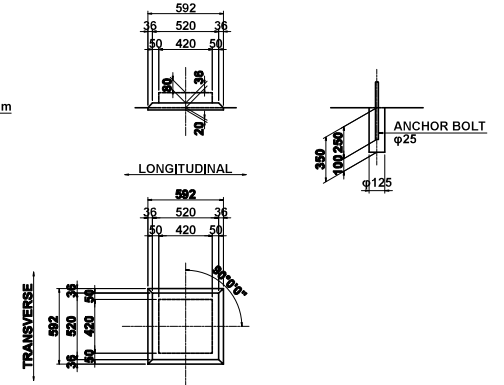
1-1



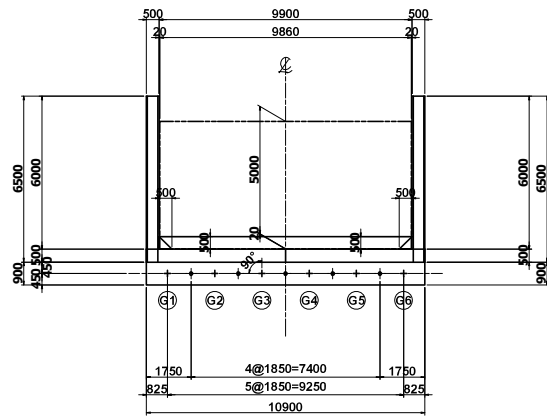
2-2



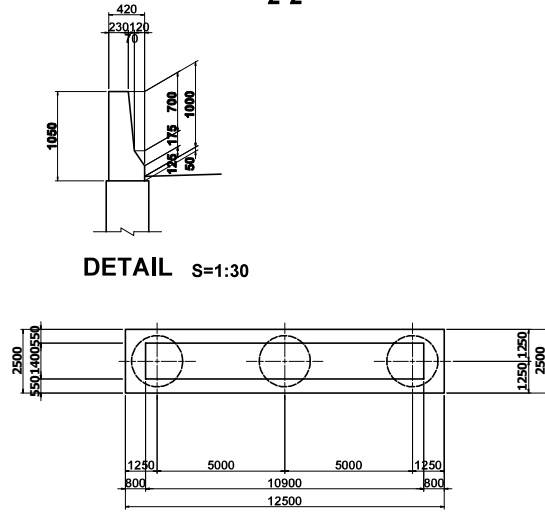
5-5



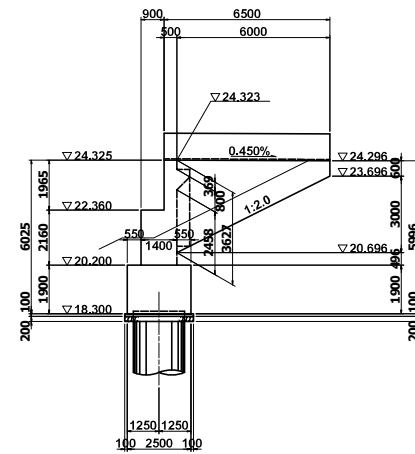
DETAIL S=1:20



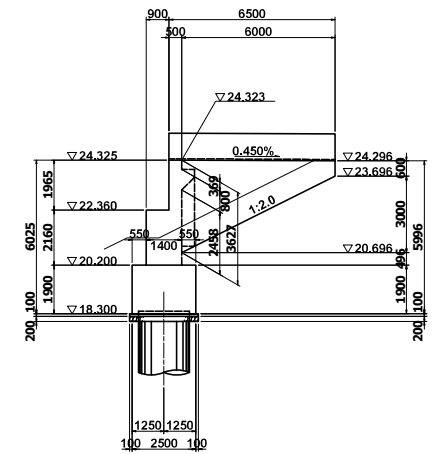
3-3



DETAIL S=1:30



6-6



7-7

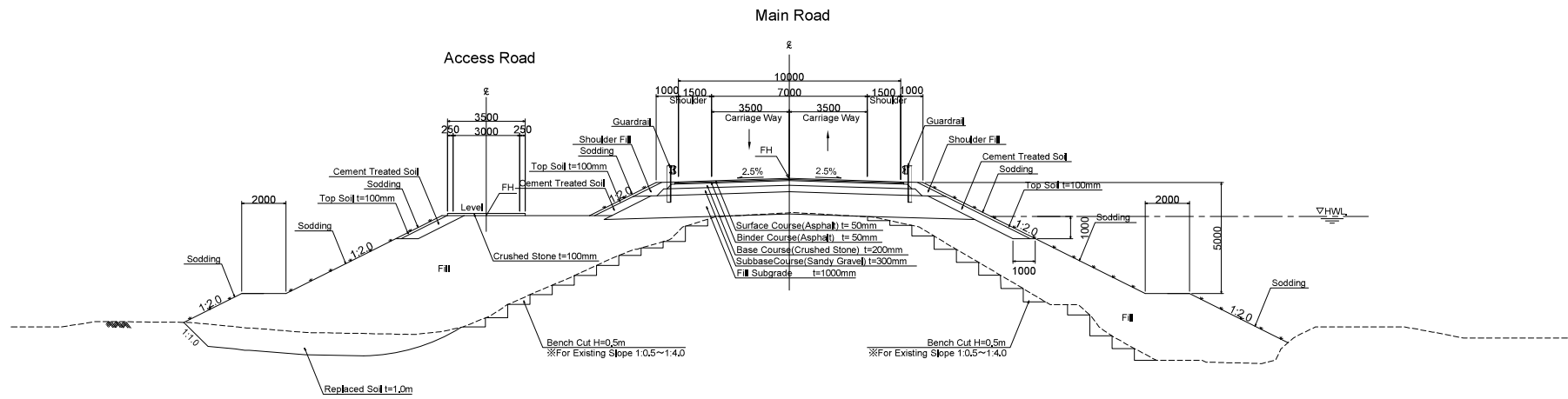
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
**3\_Prek Sandan Bridge**  
**STRUCTURAL DRAWING OF A2 ABUTMENT**

SCALE(A1 SIZE)	DRAWING NO.
1/100	PS-06



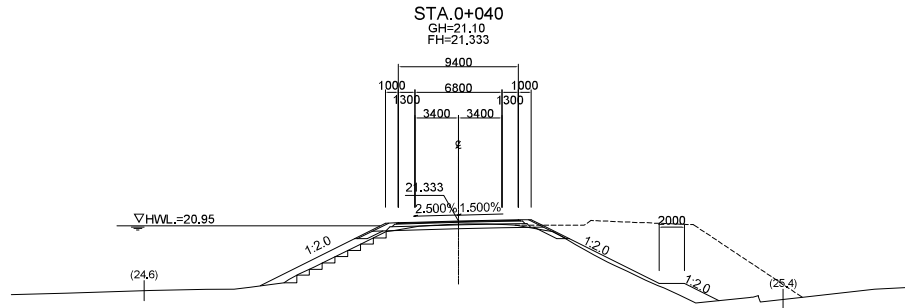
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

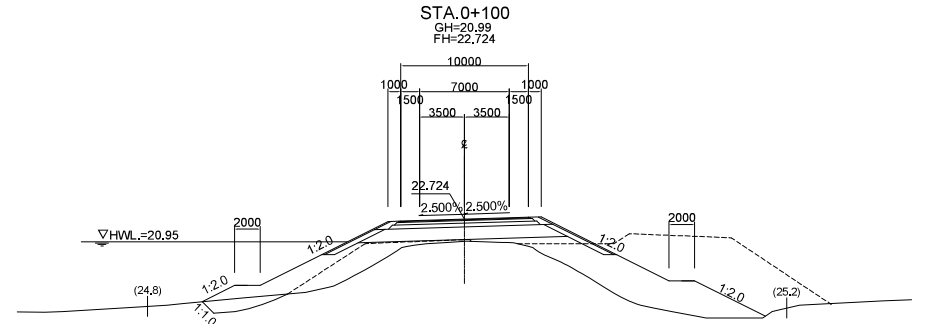
PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
3\_PreK Sandan Bridge  
TYPICAL CROSS SECTION OF APPROACH ROAD

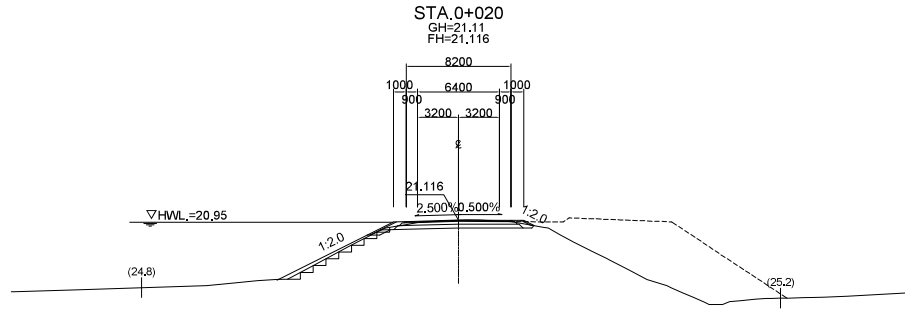
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1/100	PS-07



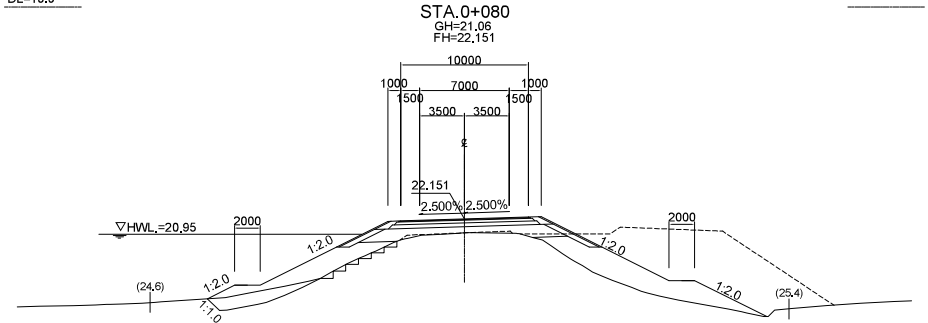
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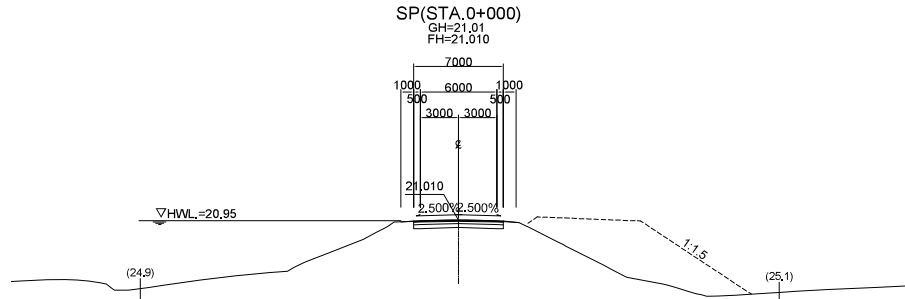
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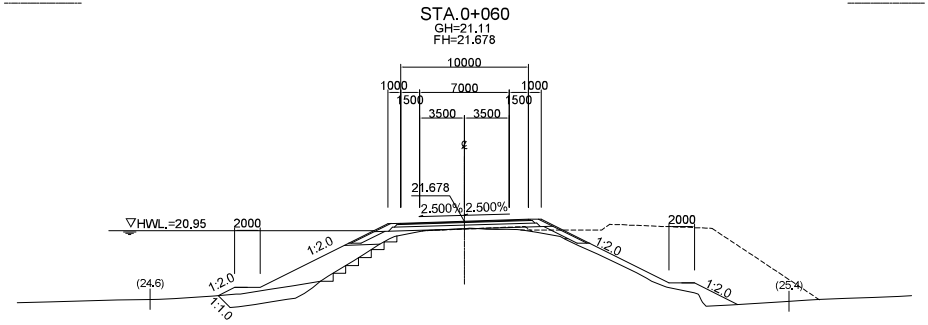
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MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

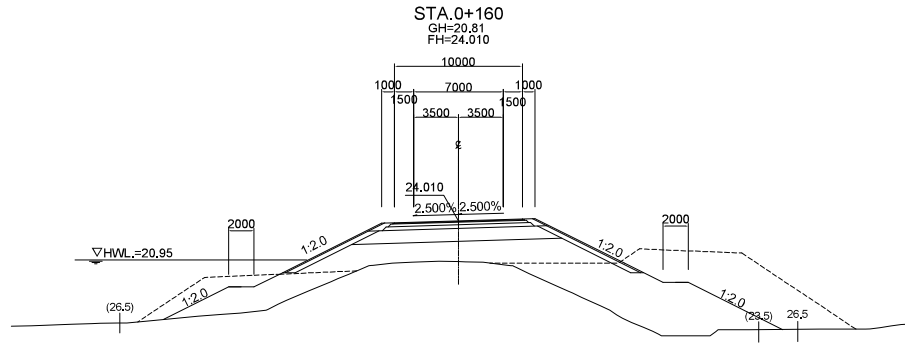
JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

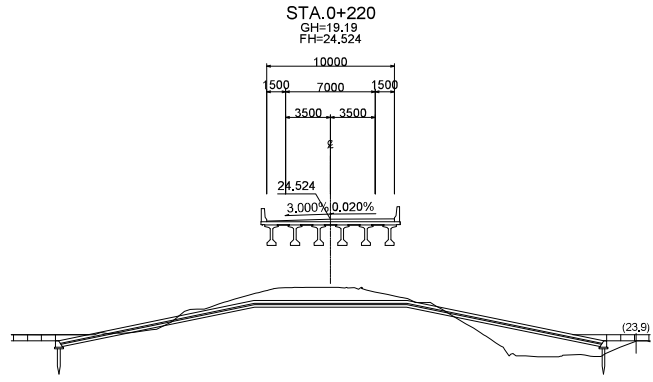
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3\_Prek Sandan Bridge  
CROSS SECTION OF APPROACH ROAD (1)

SCALE(A1 SIZE)	DRAWING NO.
1/200	PS-08

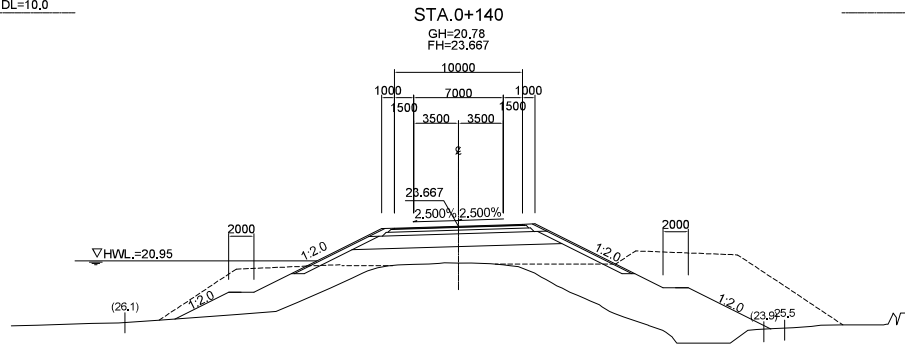
AP7-54



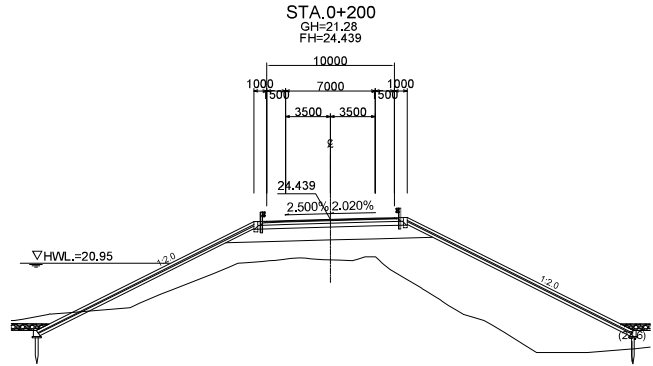
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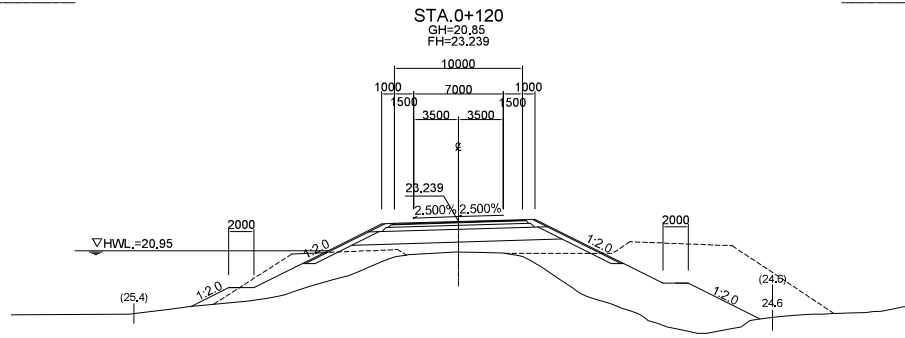
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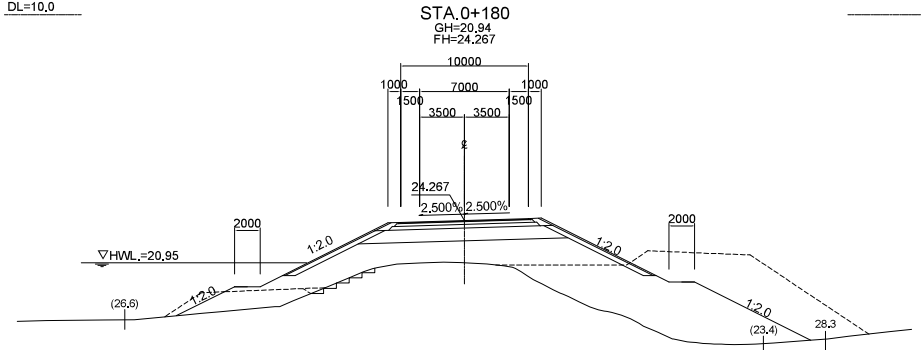
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MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

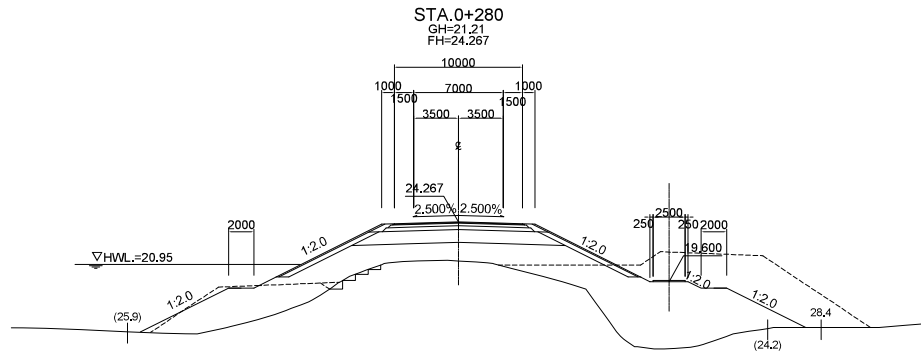
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CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

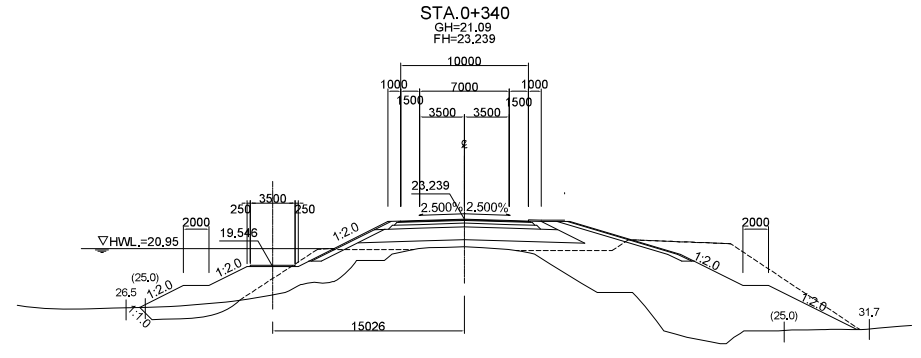
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CROSS SECTION OF APPROACH ROAD (2)

SCALE(A1 SIZE)	DRAWING NO.
1/200	PS-09

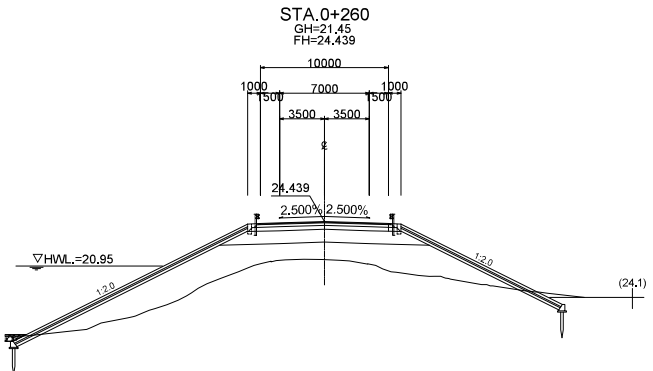




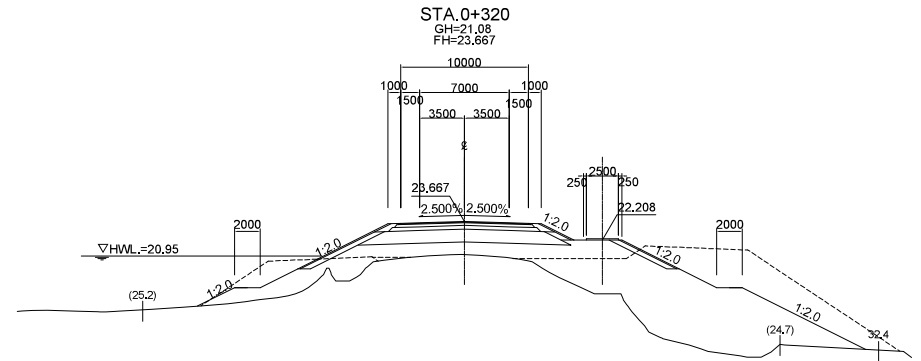
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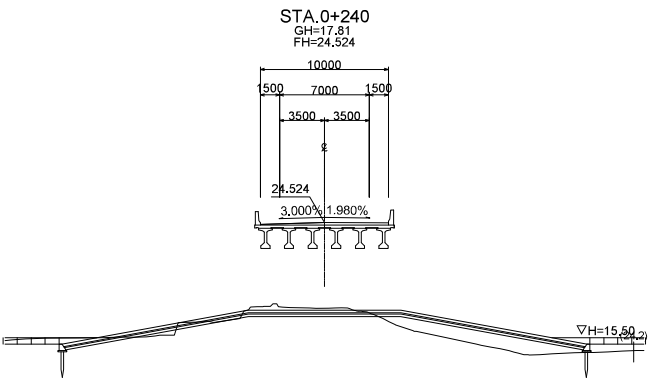
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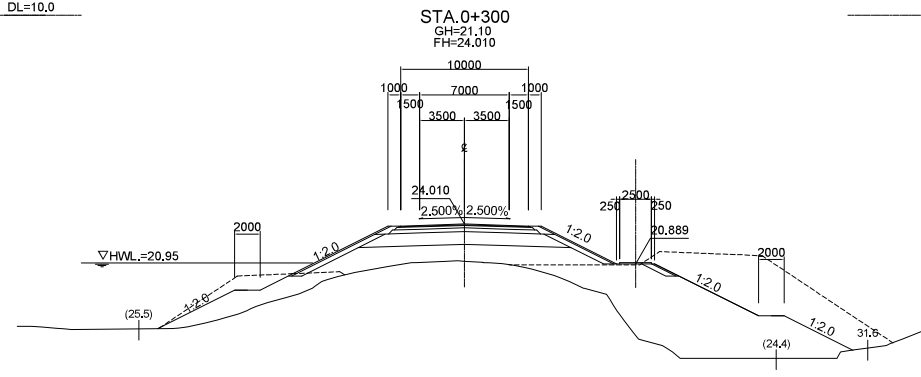
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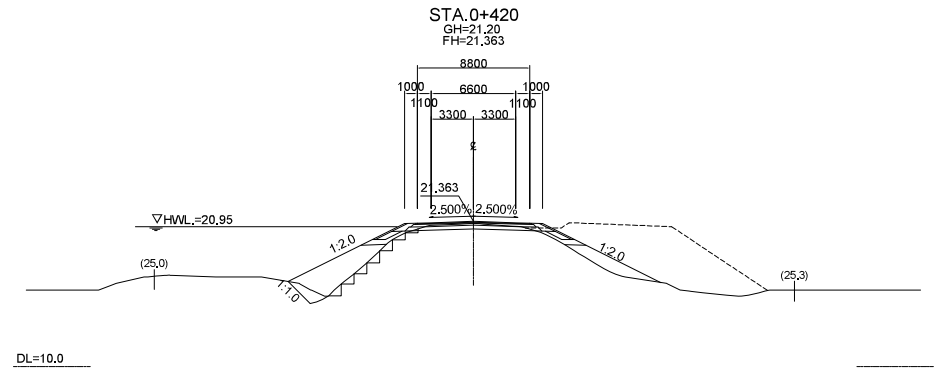
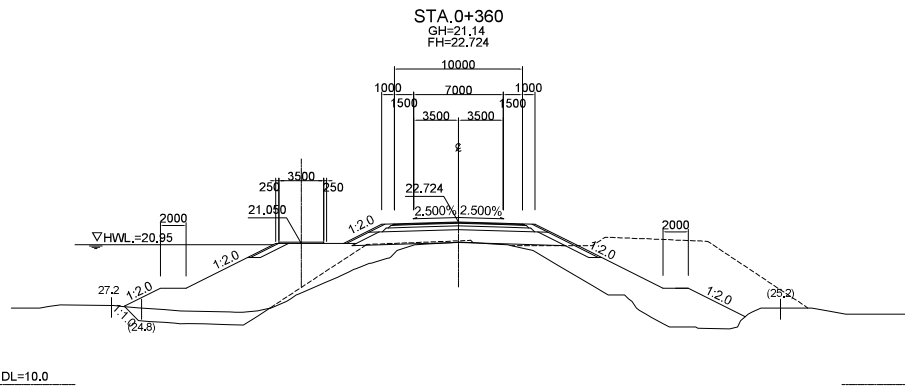
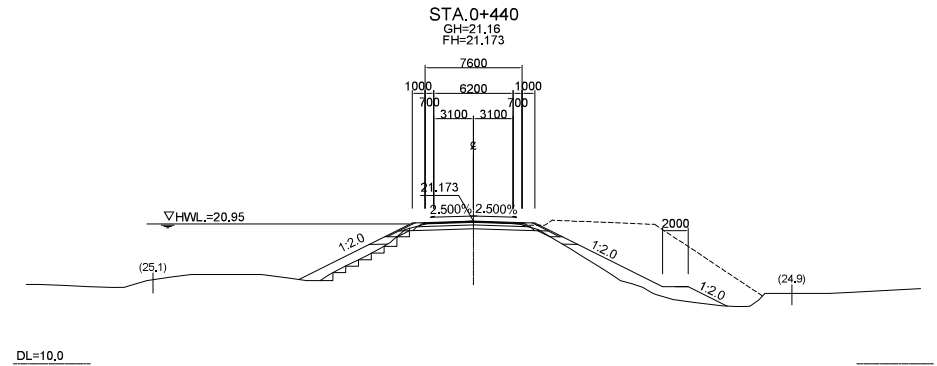
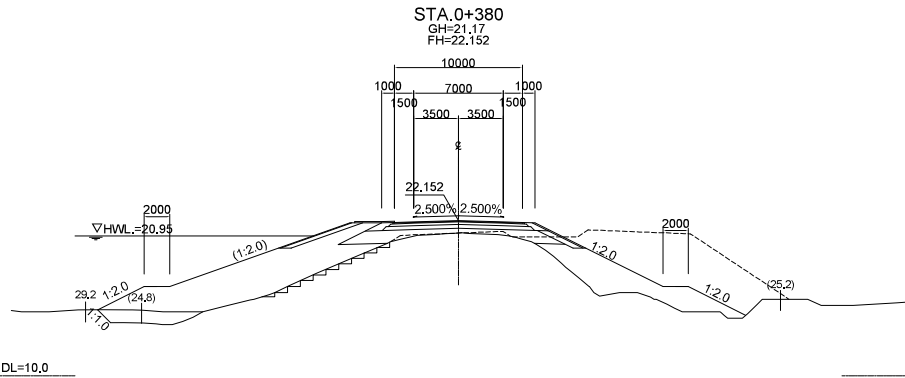
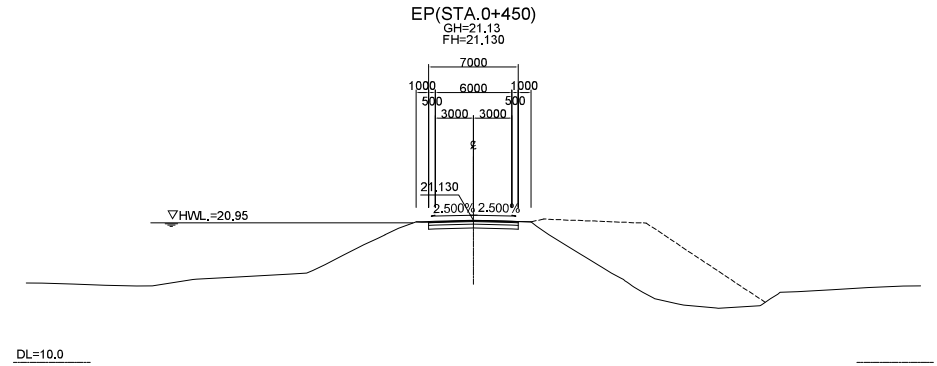
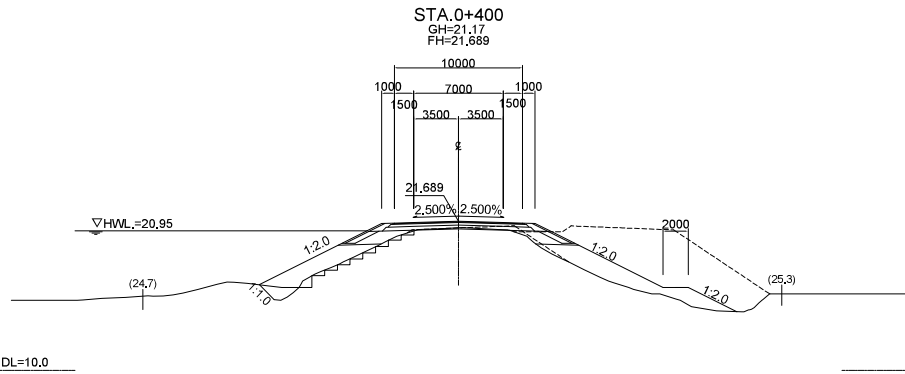
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
3\_Prek Sandan Bridge  
CROSS SECTION OF APPROACH ROAD (3)

SCALE(A1 SIZE)	DRAWING NO.
1/200	PS-10



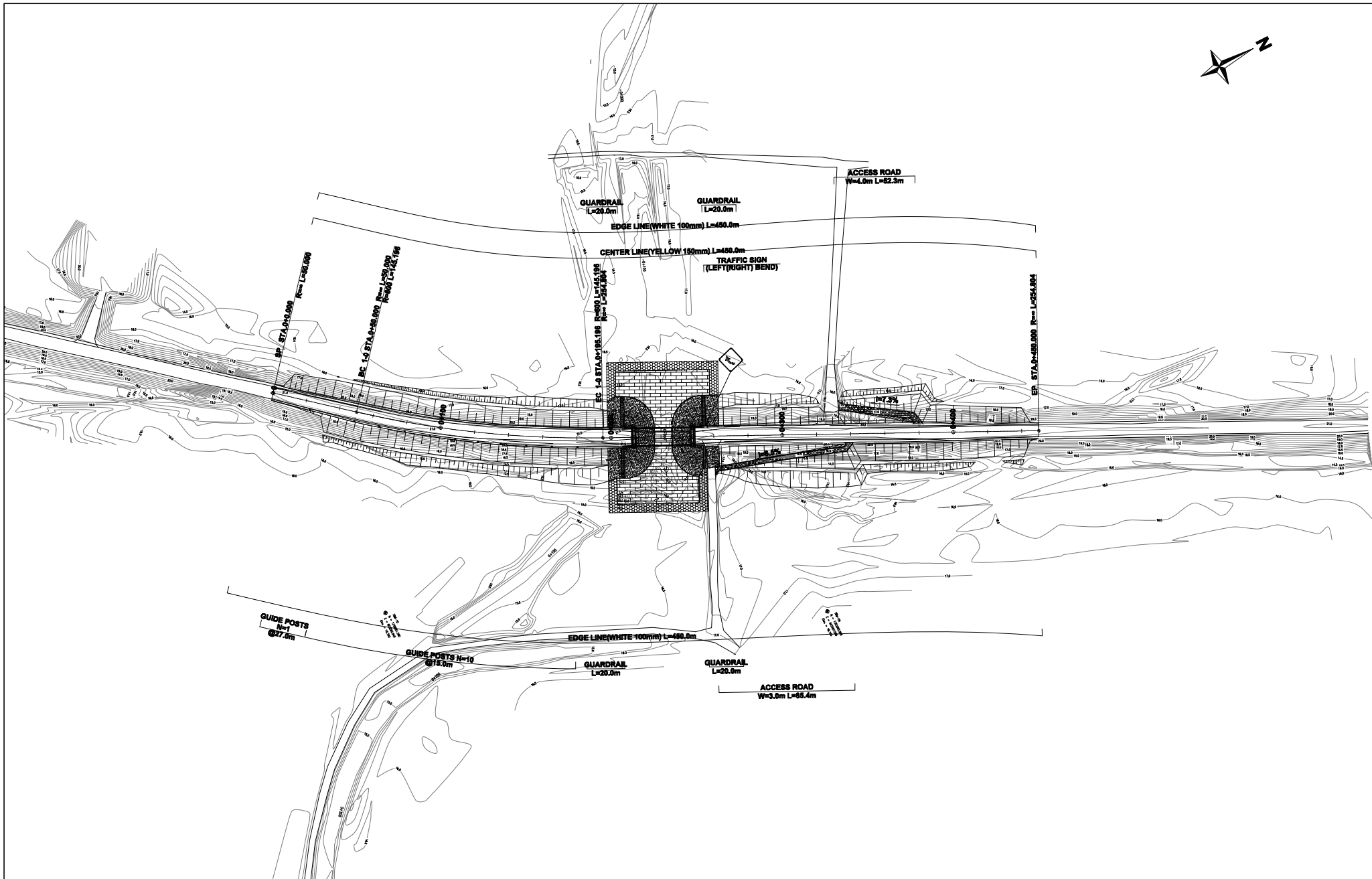
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

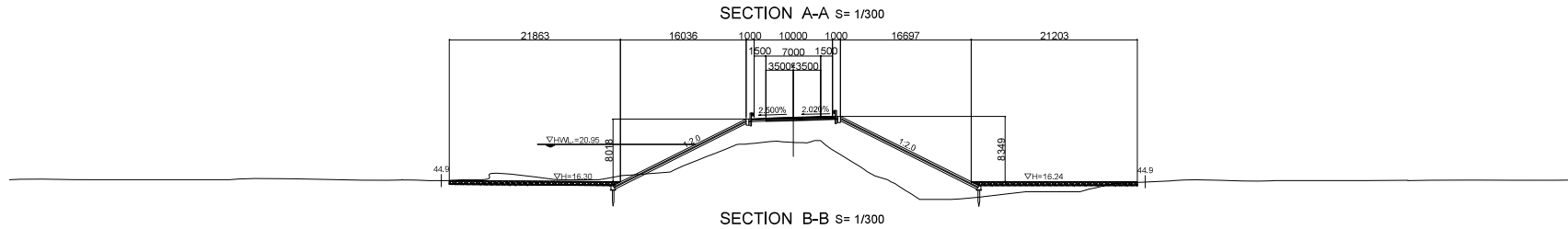
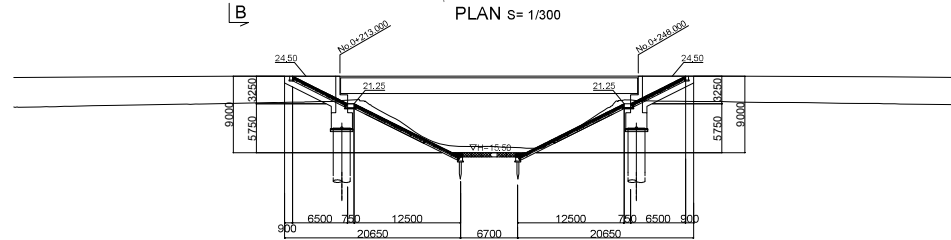
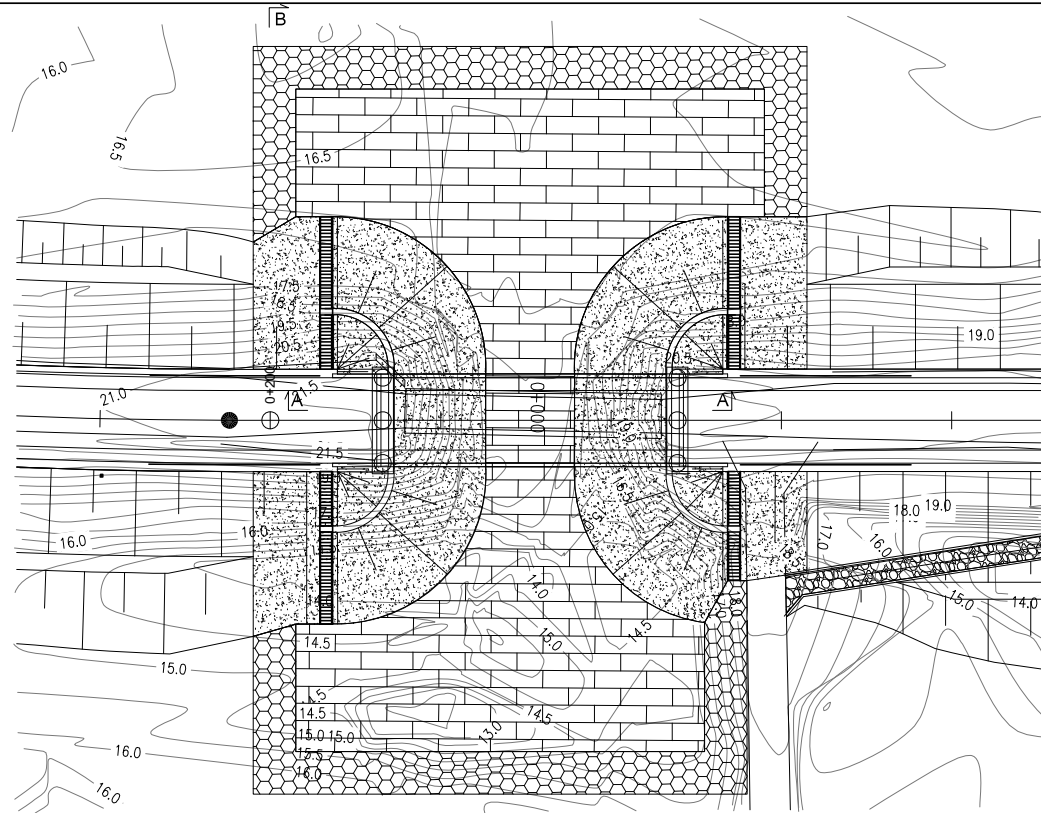
DRAWING TITLE:  
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CROSS SECTION OF APPROACH ROAD (4)

SCALE(A1 SIZE)	DRAWING NO.
1/200	PS-11

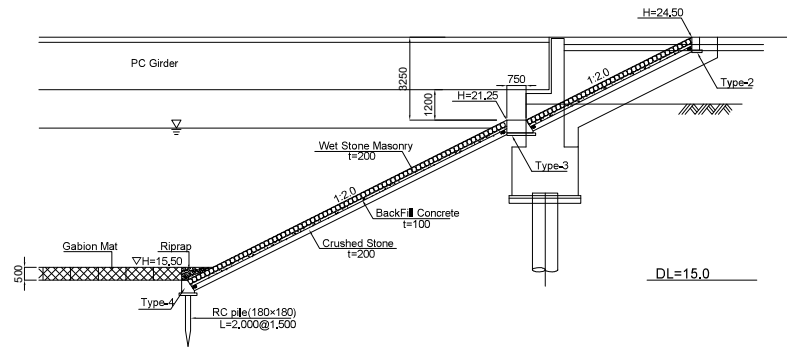


AP7-57

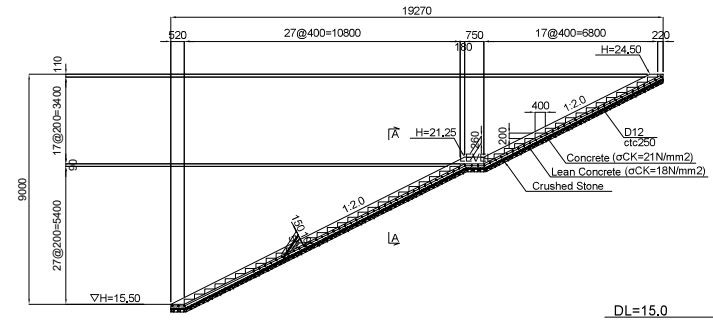
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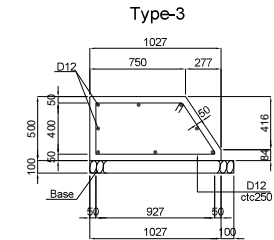
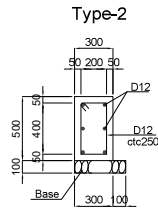
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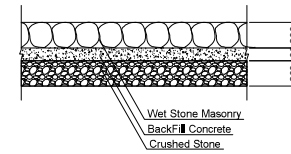
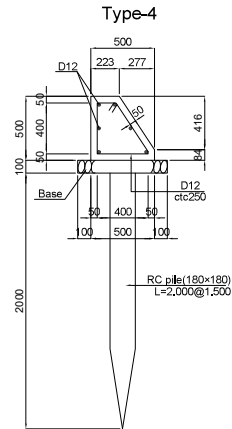
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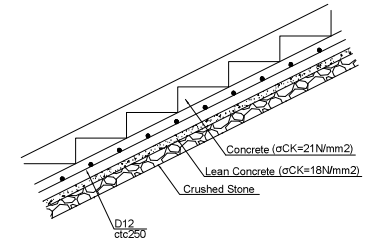
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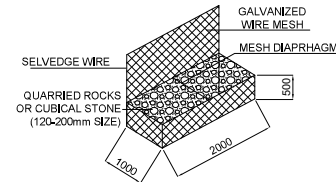
DETAILS S= 1/20



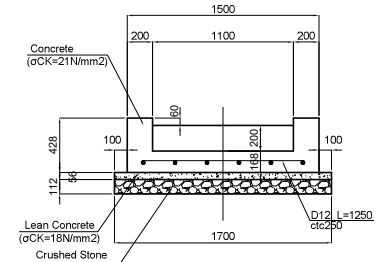
DETAILS S= 1/20



DETAILS S= 1/20



GABION MAT DETAIL  
S = None Scale



SECTION A-A S= 1/20

MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

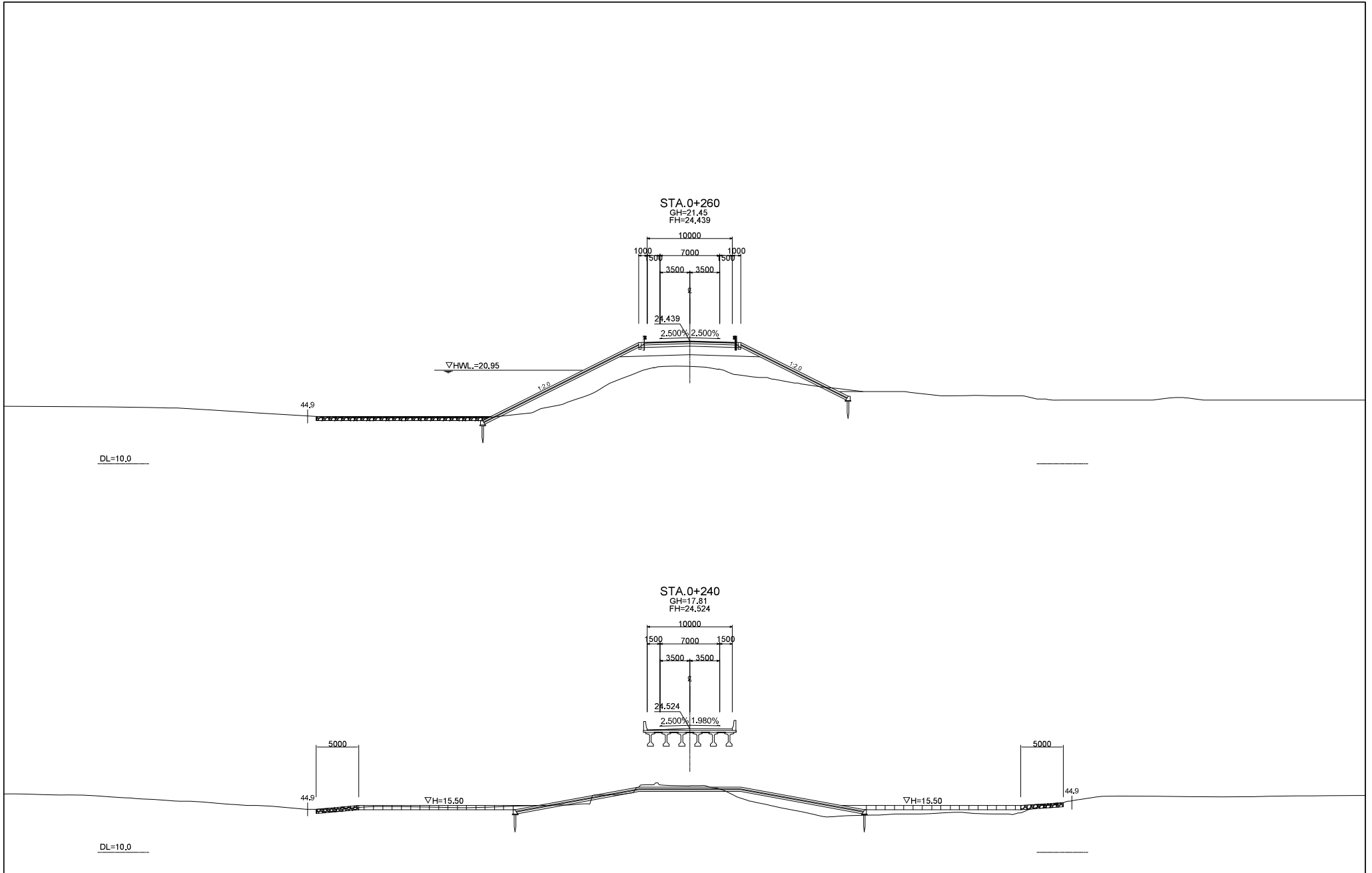
PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
3\_PreK Sandan Bridge  
REVTMENT AND RIVER BED PROTECTION(2)

SCALE(A1 SIZE) DRAWING NO.  
AS SHOWN PS-14



AP7-61



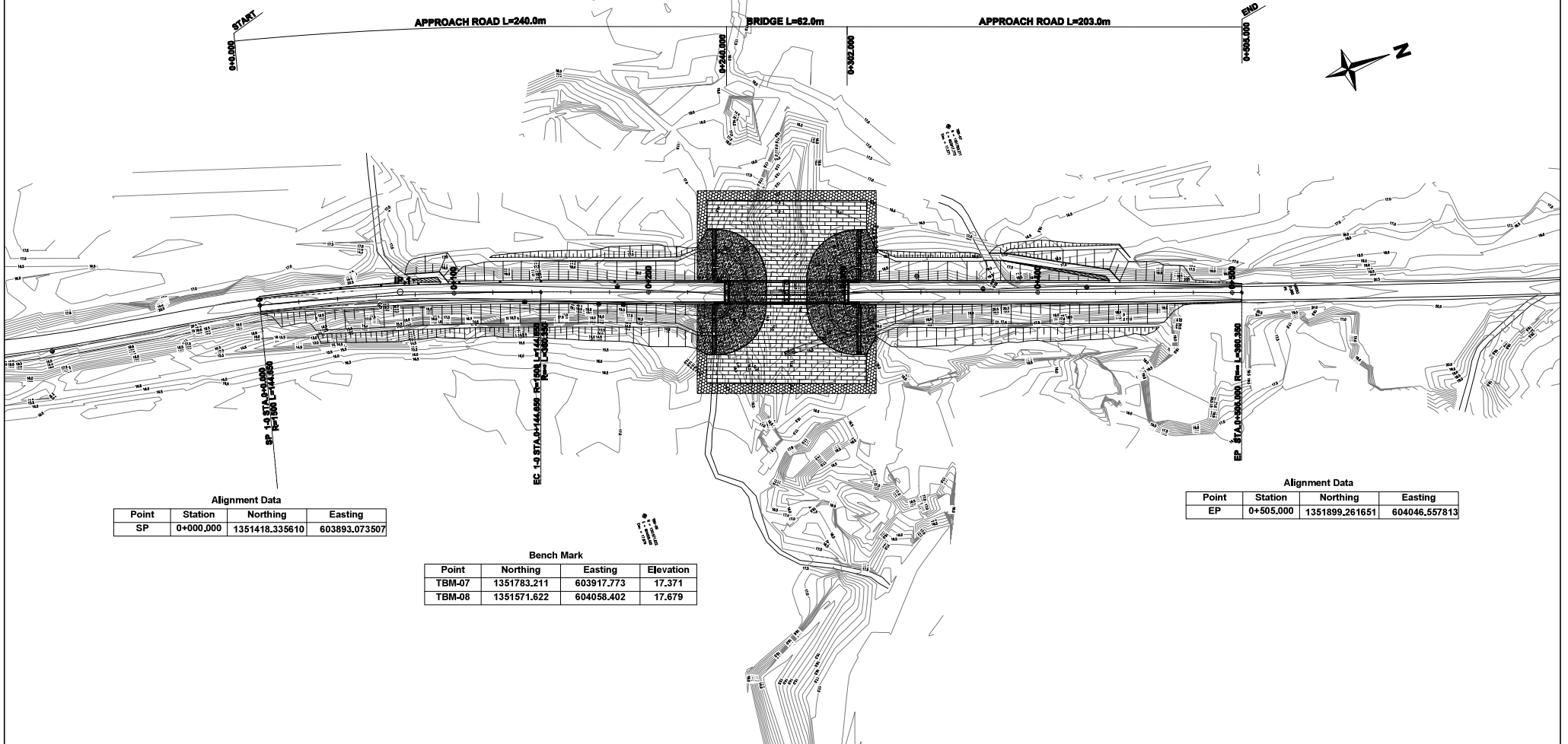
MINISTRY OF PUBLIC WORKS AND TRANSPORT KINGDOM OF CAMBODIA	JAPAN INTERNATIONAL COOPERATION AGENCY CTI ENGINEERING INTERNATIONAL CO., LTD.	PROJECT TITLE: PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT OF BRIDGES IN FLOOD-PRONE AREAS	DRAWING TITLE: 3_PreK Sandan Bridge REVETMENT AND RIVER BED PROTECTION(4)	SCALE(A1 SIZE) 1/200	DRAWING NO. PS-16
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# Prek Rus Bridge



AP7-63

Elements of Horizontal Curve									
IP	Station	Speed	Northing	Easting	IA	R	TL	CL	SL
1	0+72.325	80	1351488.871334	603909.313756	5-31-30.822	1500	72.381	144.650	1.745%



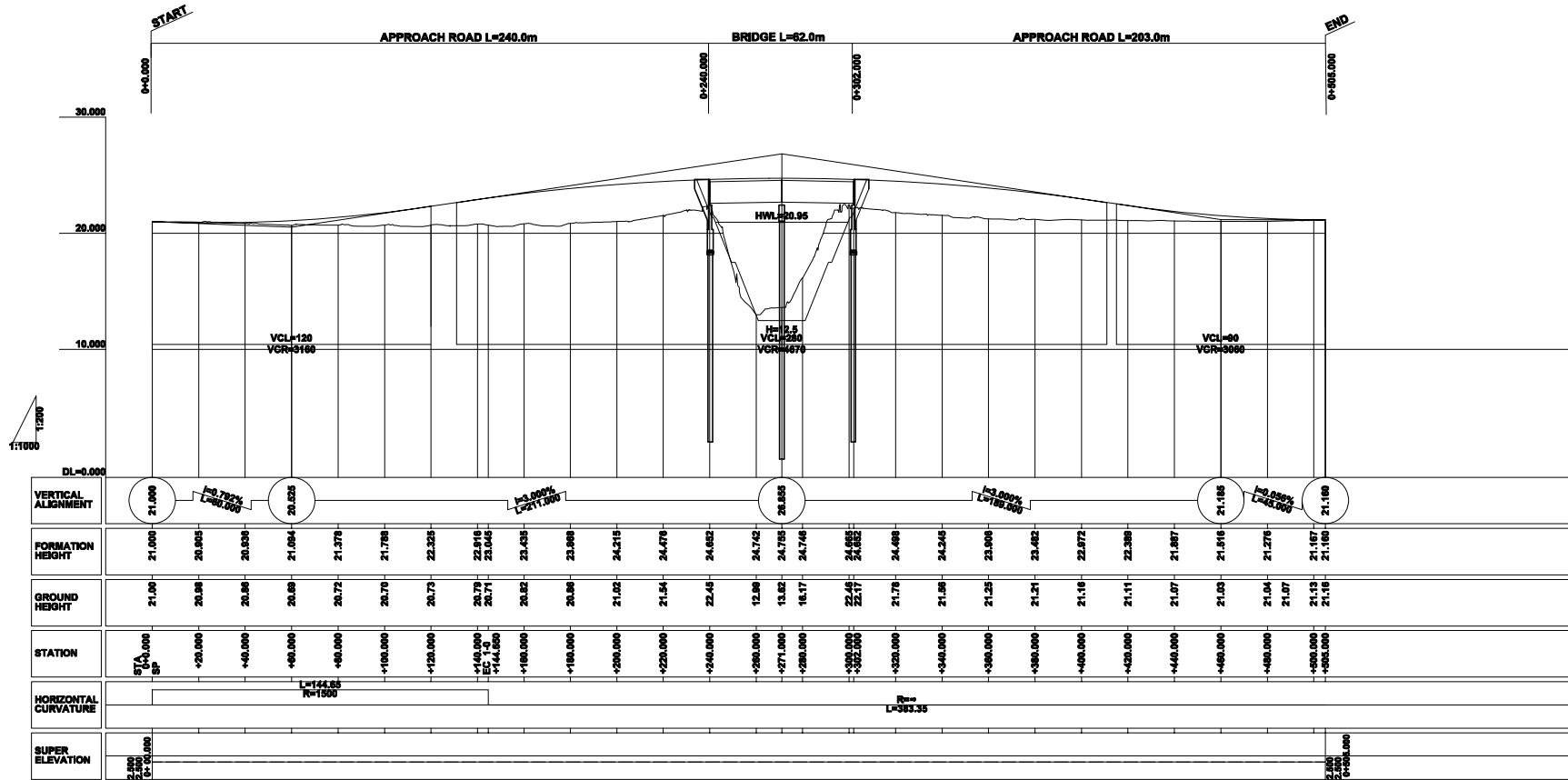
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
**4\_Prak Rus Bridge**  
**GENERAL PLAN**

SCALE(A1 SIZE)	DRAWING NO.
1/2,000 (1/1,000)	PR-01



Profile H = 1/1000  
V = 1/200

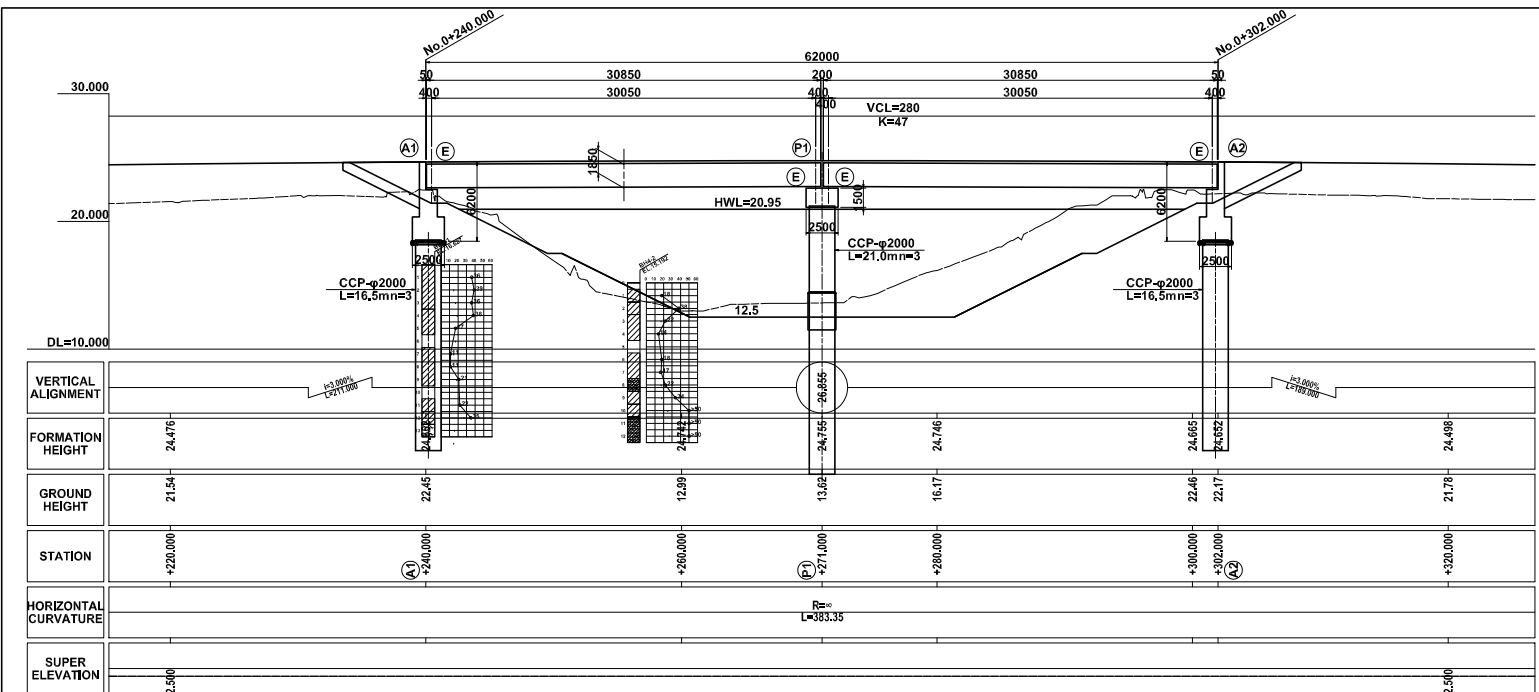
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AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

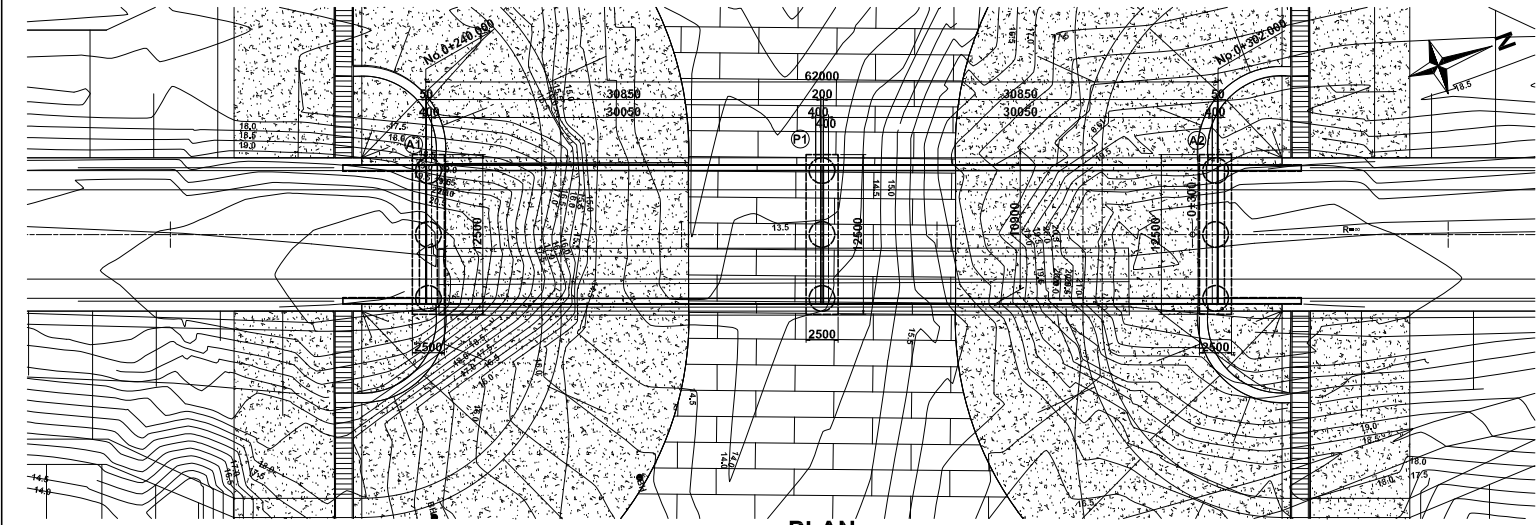
PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
**4\_Prek Rus Bridge**  
**GENERAL PROFILE**

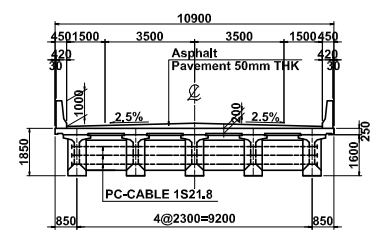
SCALE(A1 SIZE)	DRAWING NO.
AS SHOWN	PR-02



PROFILE S=1:200



PLAN S=1:200



CROSS SECTION S=1:100

DESIGN CRITERIA

ROAD CLASS	SECONDARY PRINCIPAL ROAD
DESIGN SPEED	80km/h
LIVE LOAD	AASHTO HS20-44x125% OR EQUIVALENT
BRIDGE LENGTH	62.000m
SPAN LENGTH	30.050+30.050m
TOTAL WIDTH	2x3.5m(Carriage Way)+2x1.5m(Shoulder)
SEISMIC COEFFICIENT	kh=0.05(L1)
SUPER STRUCTURE TYPE	PC I-Girder
SUBSTRUCTURE TYPE	REVERSED T-ABUTMENT, PILE BENT PIER
FOUNDATION TYPE	CAST-IN PLACE CONCRETE PILE(A1,P1,A2)
SPECIFICATION CRITERIA	Bridge Design Standard (CAM.PW.04.102.99), 2003 DESIGN SPECIFICATIONS OF HIGHWAY BRIDGES (JAPAN ROAD ASSOCIATION)

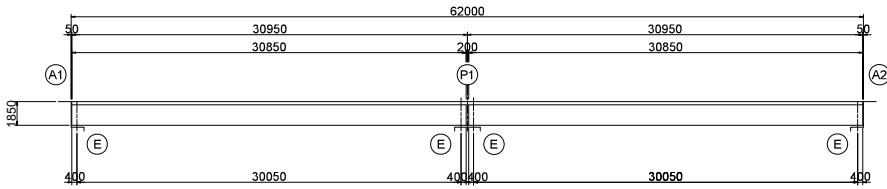
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

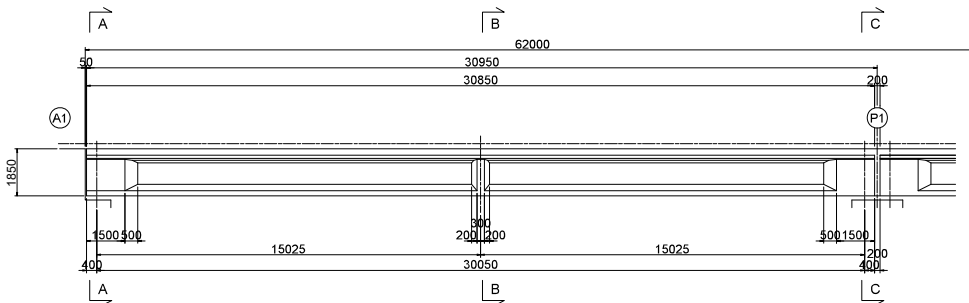
PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
**4\_Prek Rus Bridge**  
GENERAL VIEW OF BRIDGE

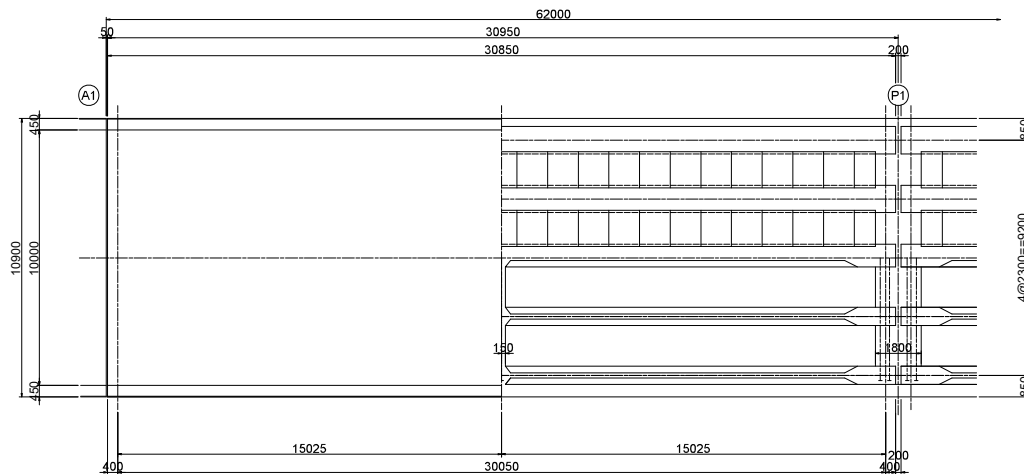
SCALE(A1 SIZE)	DRAWING NO.
AS SHOWN	PR-03



SIDE ELEVATION S=1/200



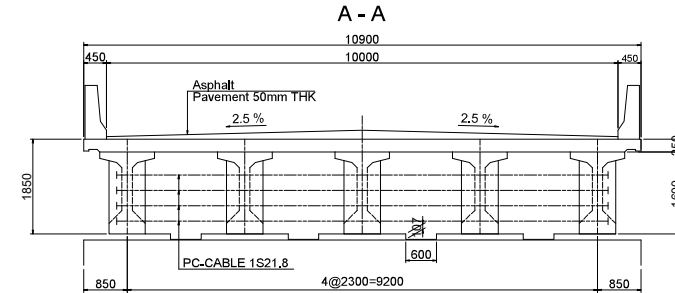
SIDE ELEVATION S=1/100



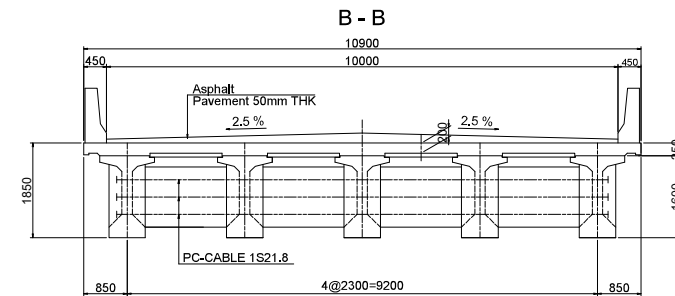
PLAN S=1/100

DESIGN CRITERIA	
CATEGORY	PRESTRESSED CONCRETE ROAD BRIDGE
BRIDGE LENGTH	62,000 m
WIDTH	10,900 m
LIVE-LOAD	HS20-44×1.25
ANGLE OF SKEW	90°00'00"

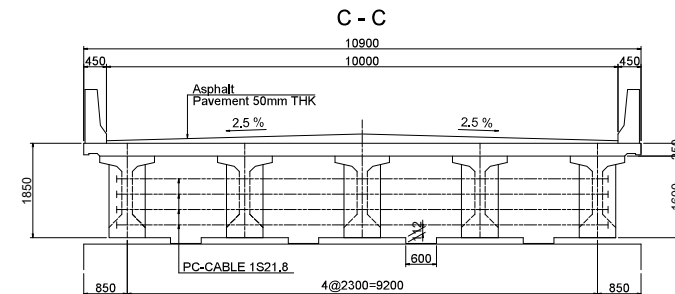
MATERIALS		
CONCRETE	GIRDER	σ <sub>ck</sub> =45,0 N/mm <sup>2</sup>
	CROSS BEAM	σ <sub>ck</sub> =45,0 N/mm <sup>2</sup>
	DECK SLAB	σ <sub>ck</sub> =40,0 N/mm <sup>2</sup>
PC STEEL	GIRDER	12S12,7(SWPR7BL)
	CROSS BEAM	1S21,8(SWPR19)
DEFORMED BAR		Grade 400



A - A



B - B



C - C

CROSS SECTION S=1/50

AP7-66

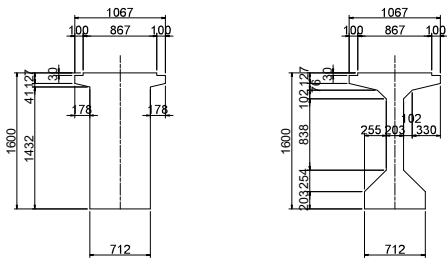
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

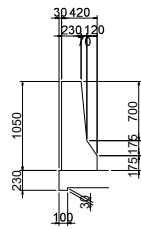
PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
4\_Prek Rus Bridge  
STRUCTURE DRAWING(1)

SCALE(A1 SIZE)	DRAWING NO.
AS SHOWN	PR-04



PC GIRDER S=1/30



DETAILS OF RAILING S=1/30

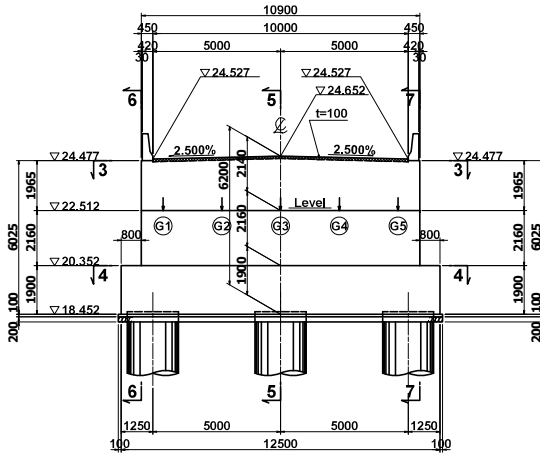
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

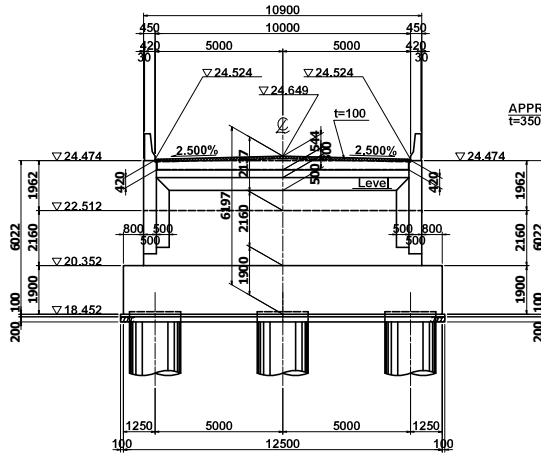
PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
4\_PreK Rus Bridge  
STRUCTURE DRAWING(2)

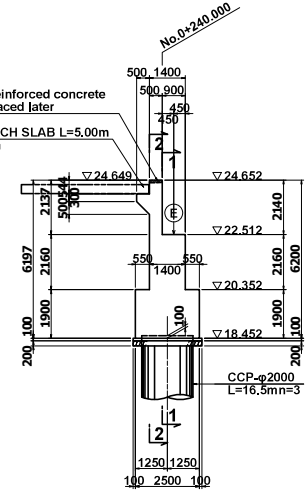
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AS SHOWN	PR-05



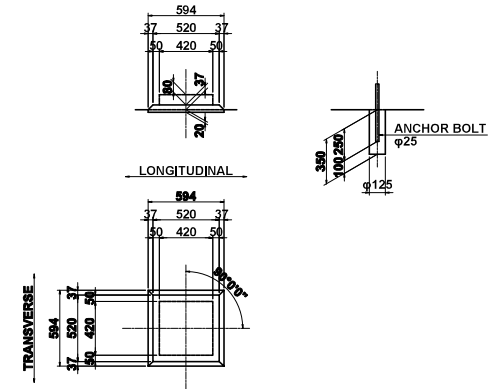
1-1



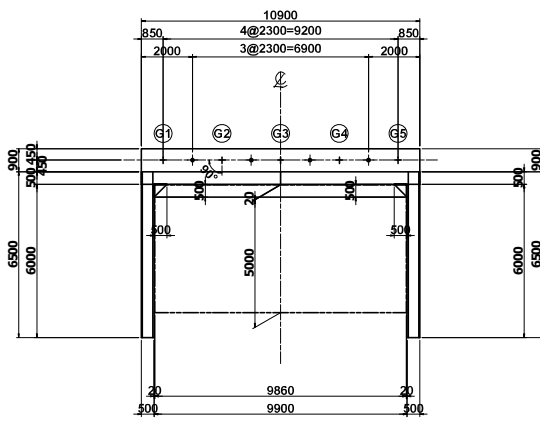
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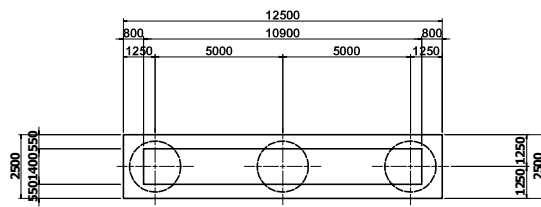
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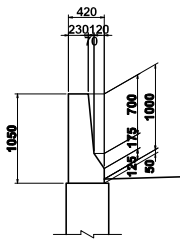
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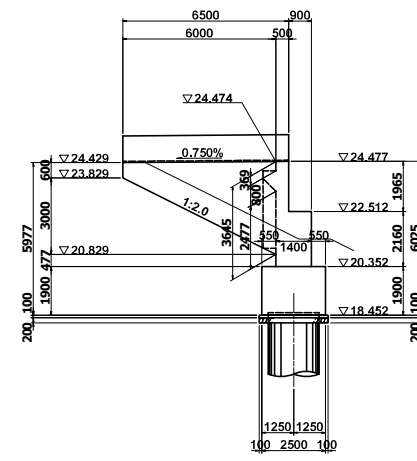
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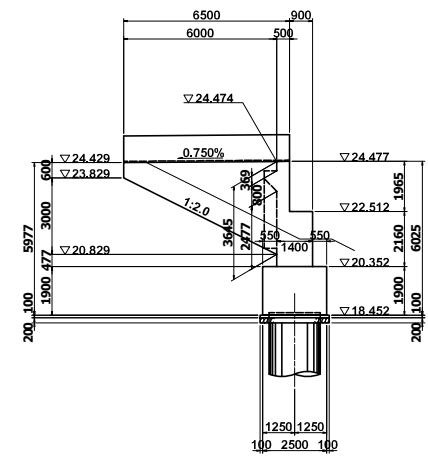
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DETAIL S=1/30



6-6



7-7

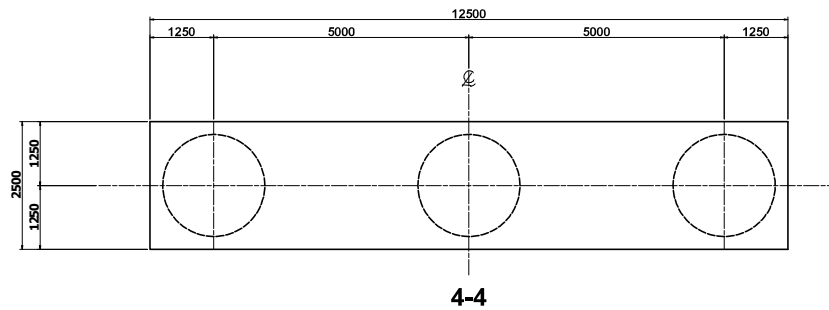
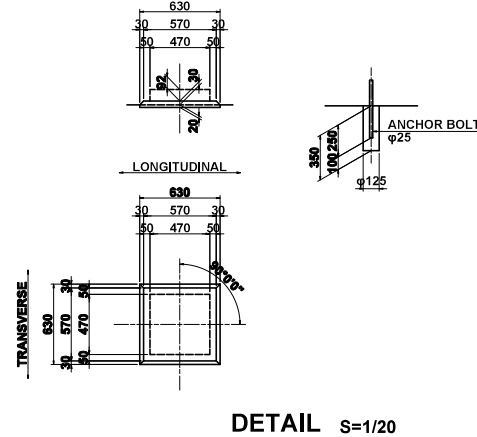
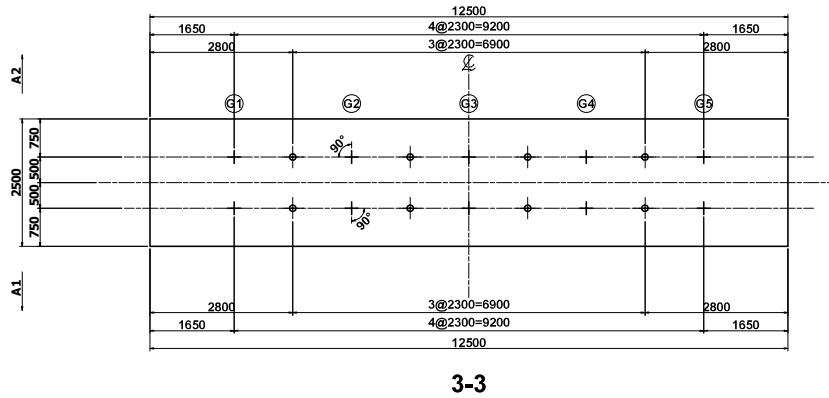
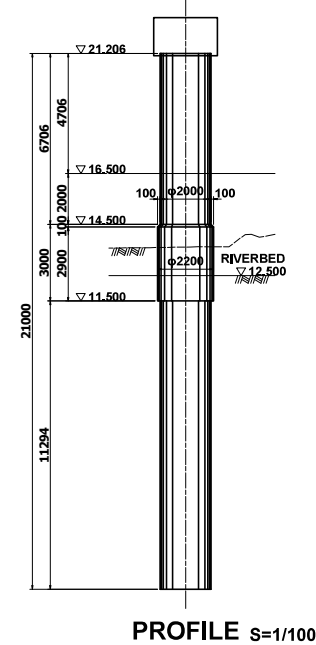
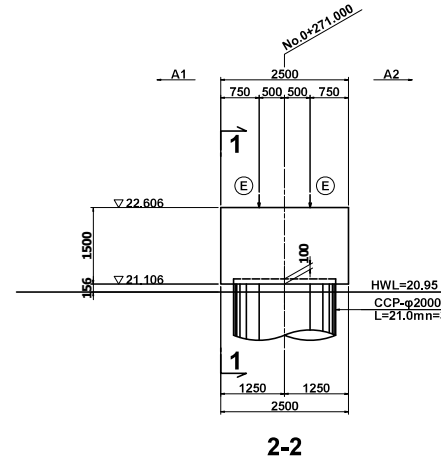
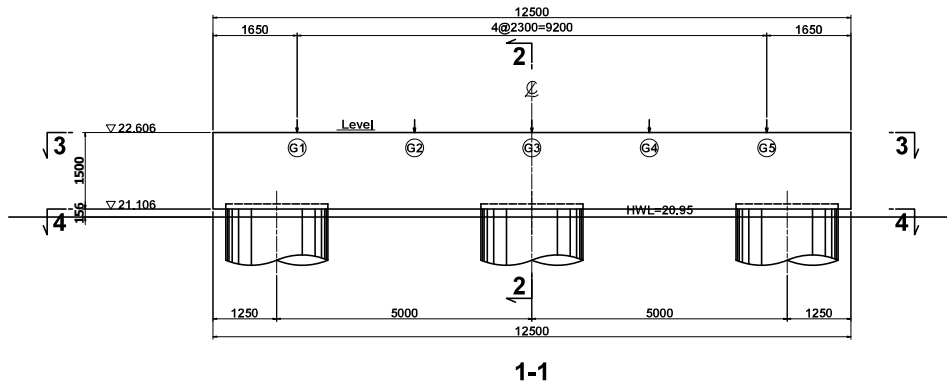
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
**4\_Prek Rus Bridge**  
**STRUCTURAL DRAWING OF A1 ABUTMENT**

SCALE(A1 SIZE)	DRAWING NO.
1/100	PR-06



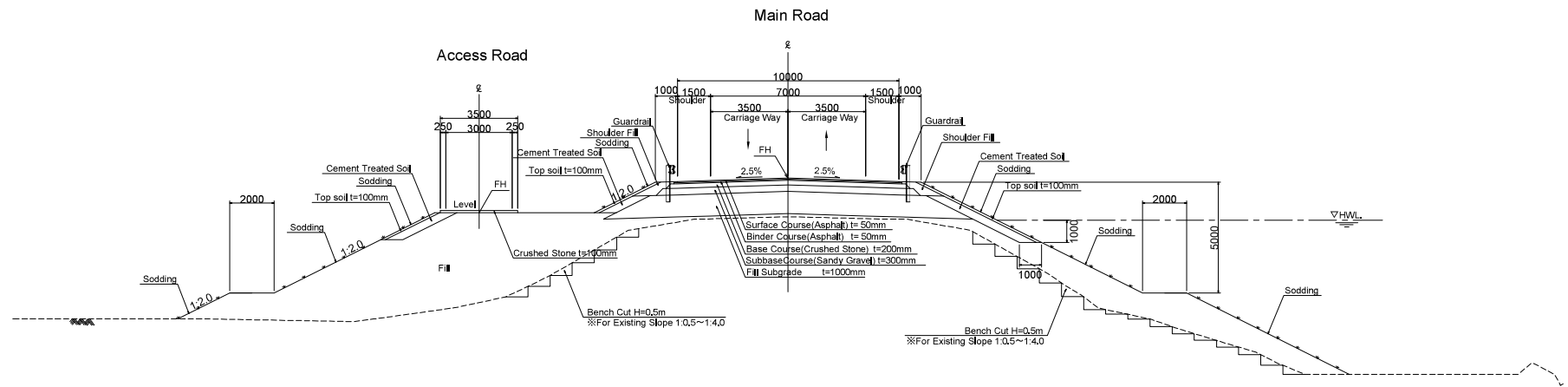
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
4\_Prek Rus Bridge  
STRUCTURAL DRAWING OF P1 BRIDGE PIER

SCALE(A1 SIZE)	DRAWING NO.
1/50	PR-07



※Typical cross section with cross section of Access Road

MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

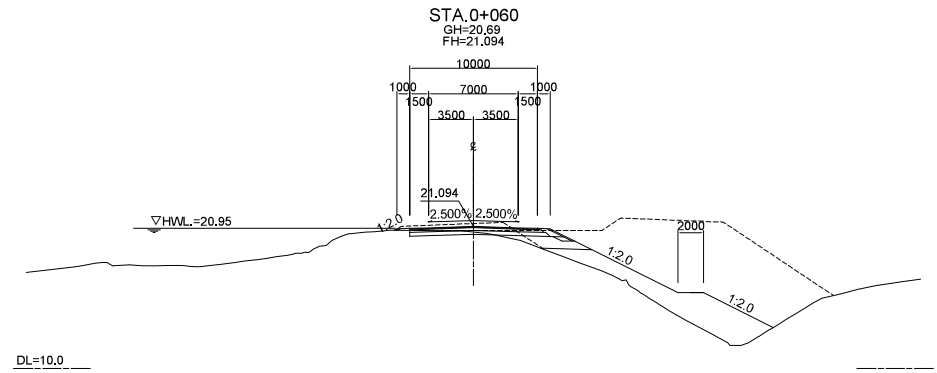
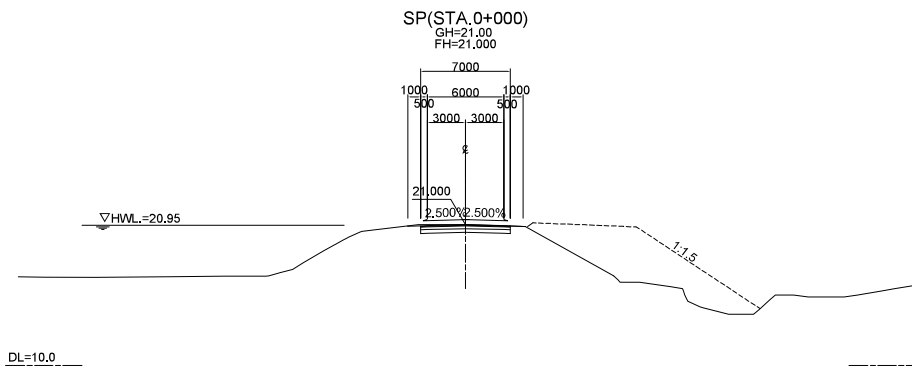
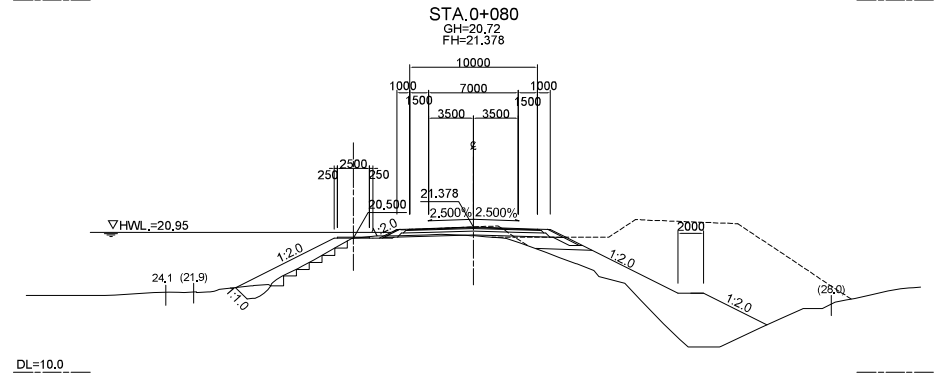
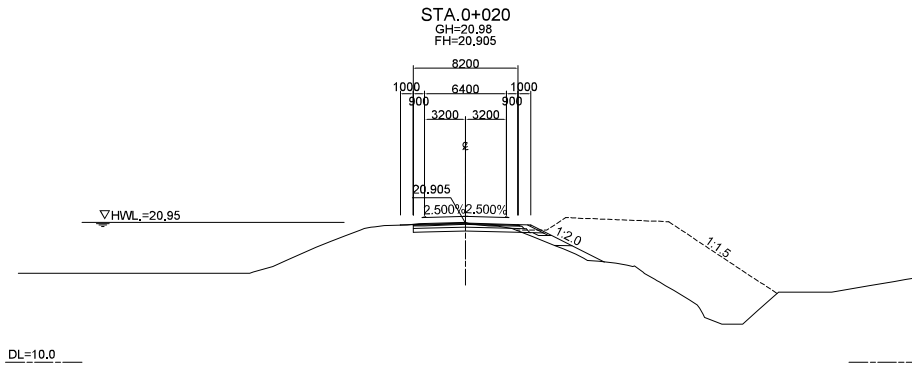
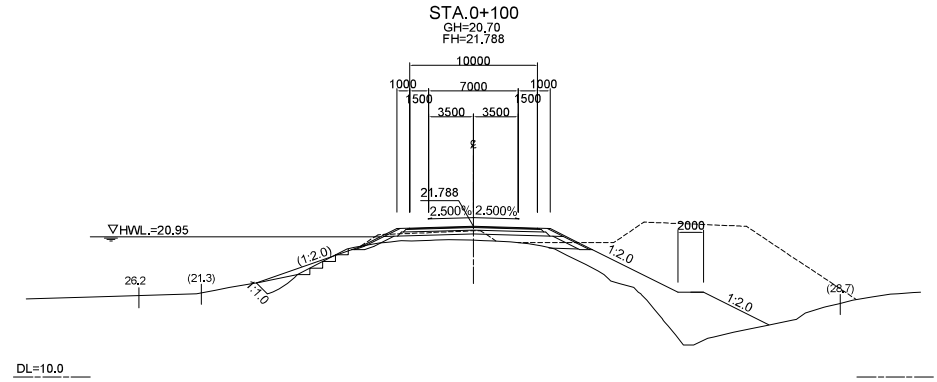
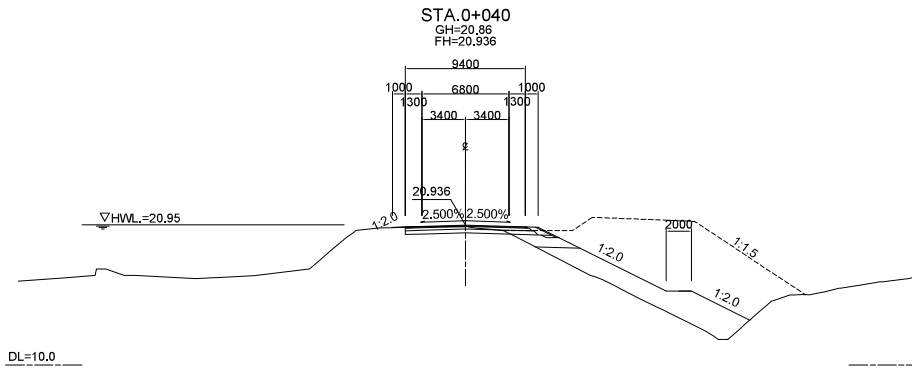
JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
4\_PreK Rus Bridge  
TYPICAL CROSS SECTION OF APPROACH ROAD

SCALE(A1 SIZE)	DRAWING NO.
1/100	PR-08





MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

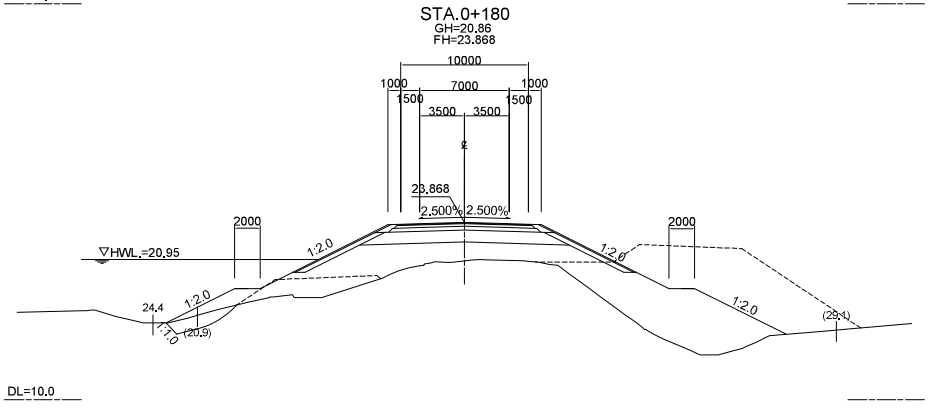
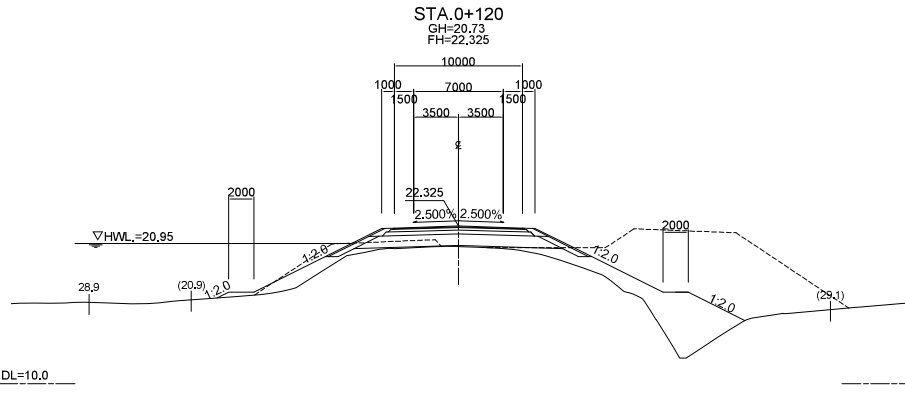
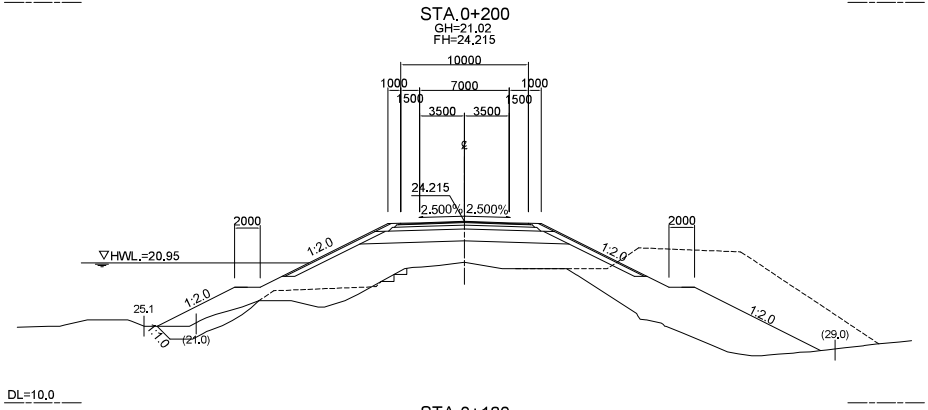
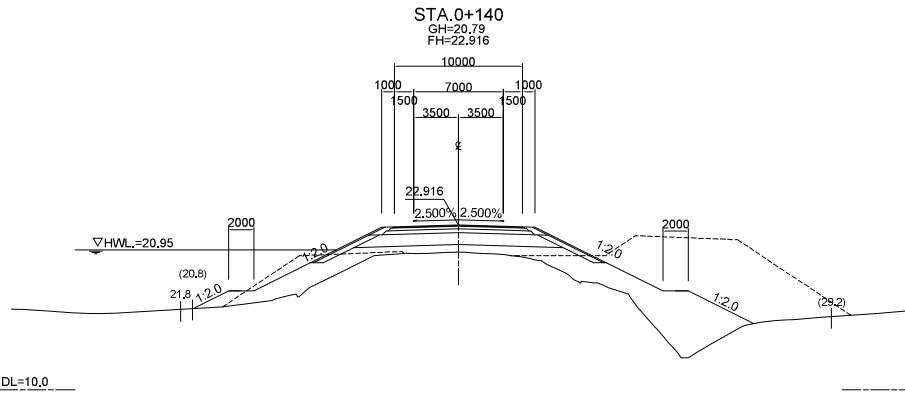
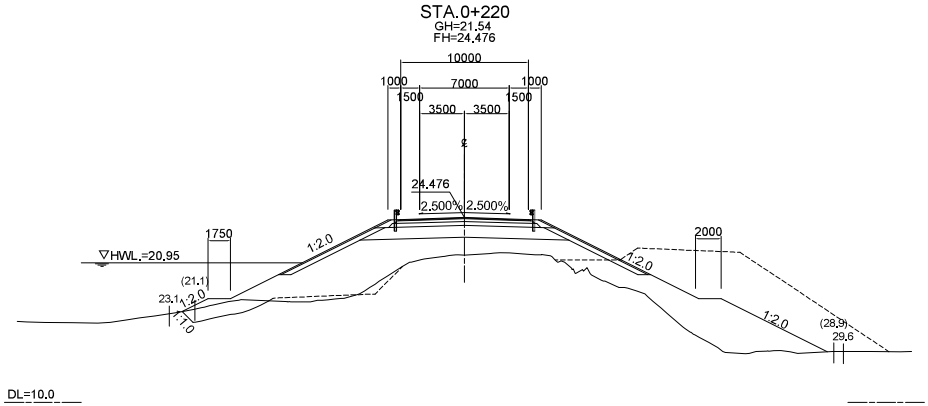
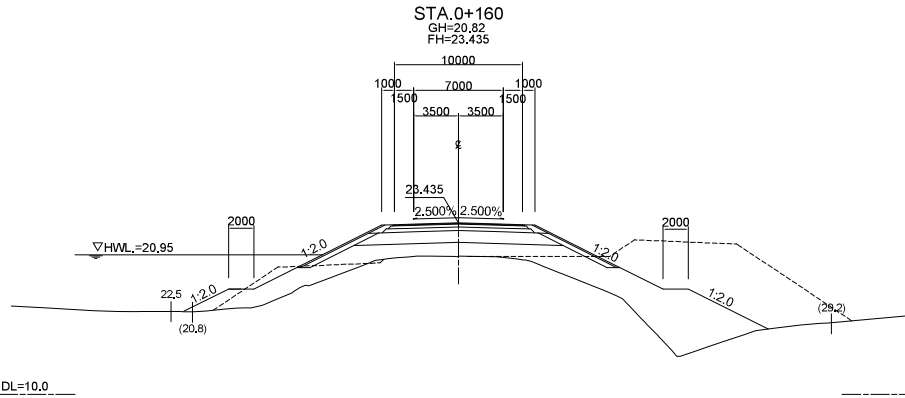
JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
4\_PreK Rus Bridge  
CROSS SECTION OF APPROACH ROAD (1)

SCALE(A1 SIZE)	DRAWING NO.
1/200	PR-09

AP7-72



MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

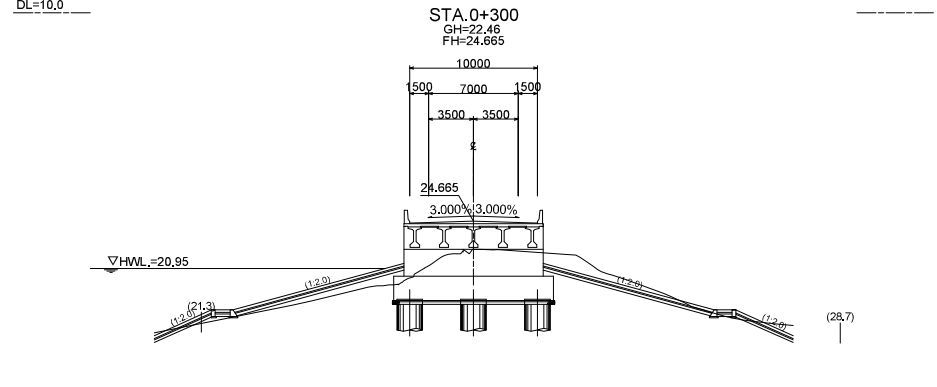
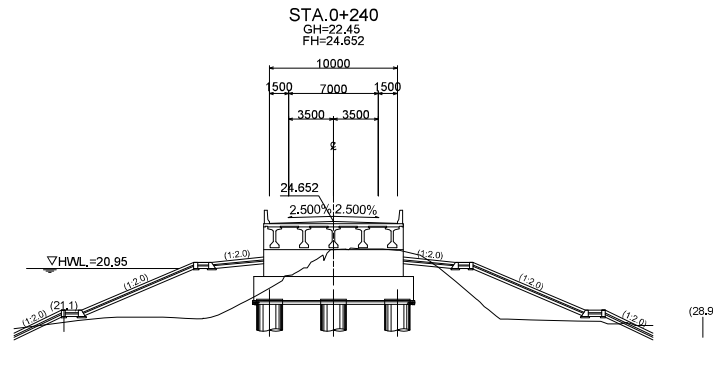
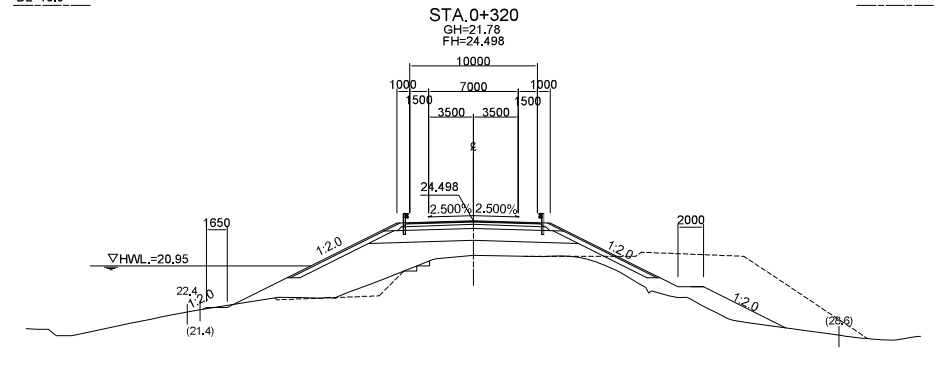
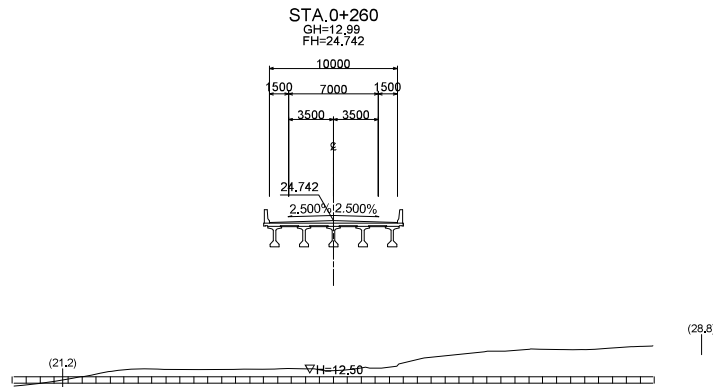
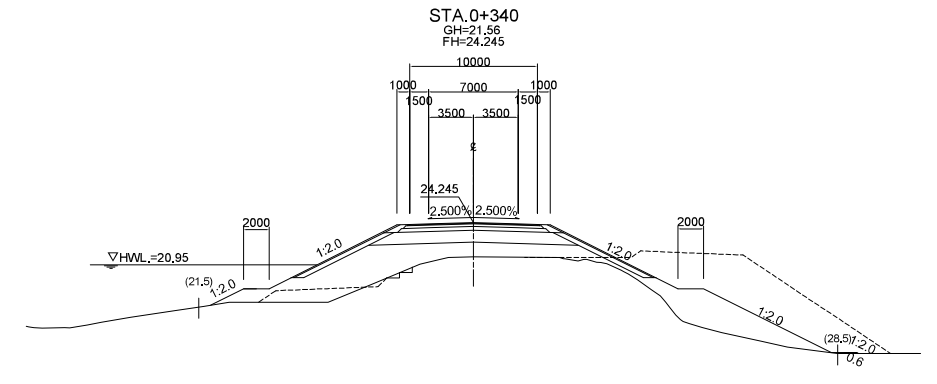
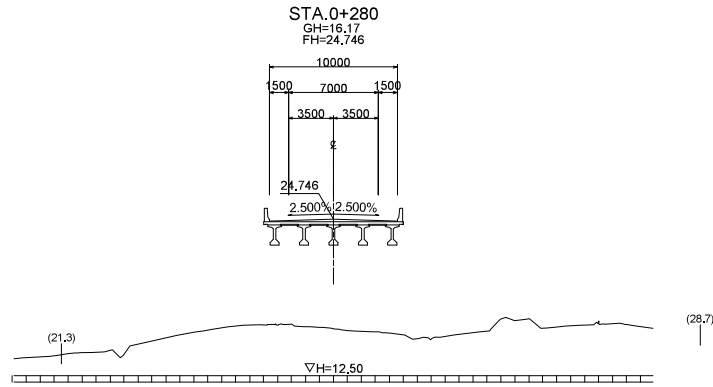
JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
4\_PreK Rus Bridge  
CROSS SECTION OF APPROACH ROAD (2)

SCALE(A1 SIZE)	DRAWING NO.
1/200	PR-10

AP7-73



MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

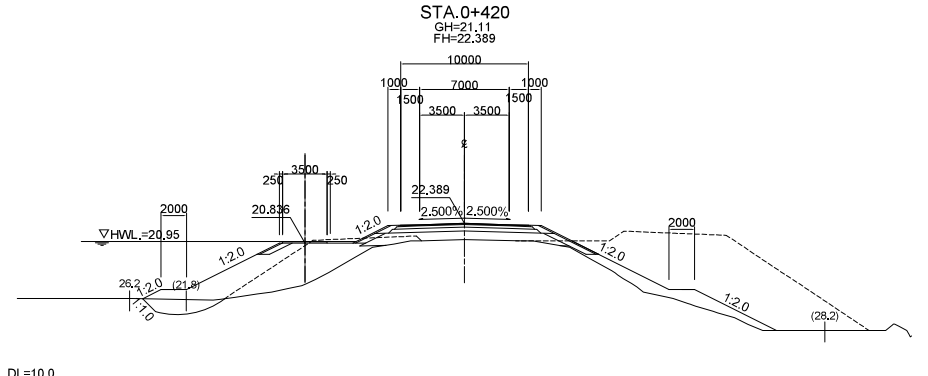
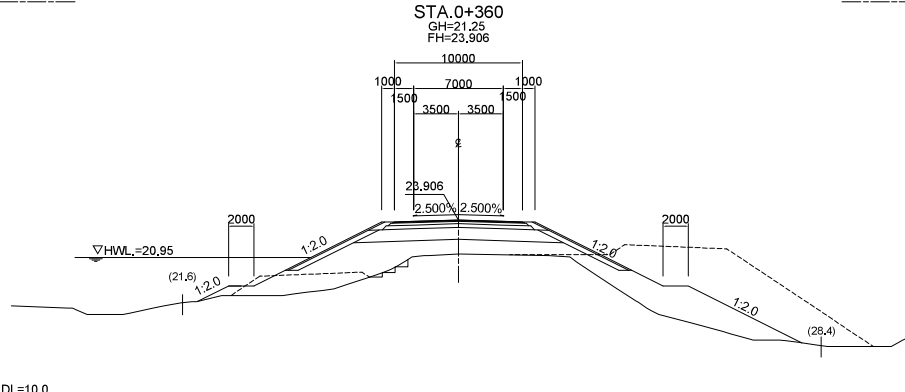
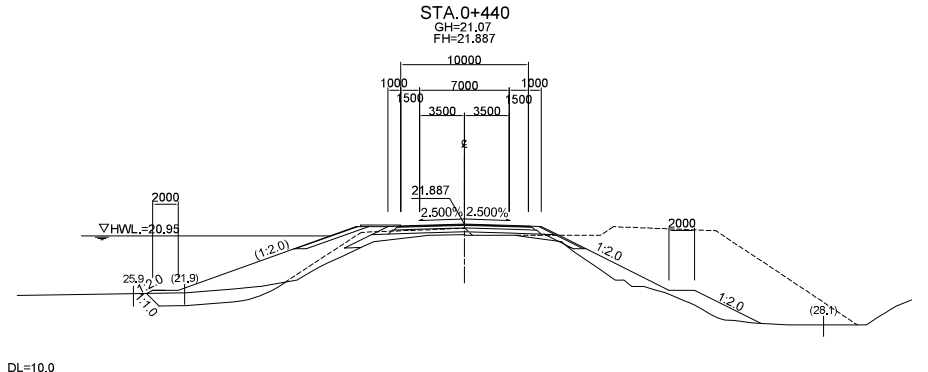
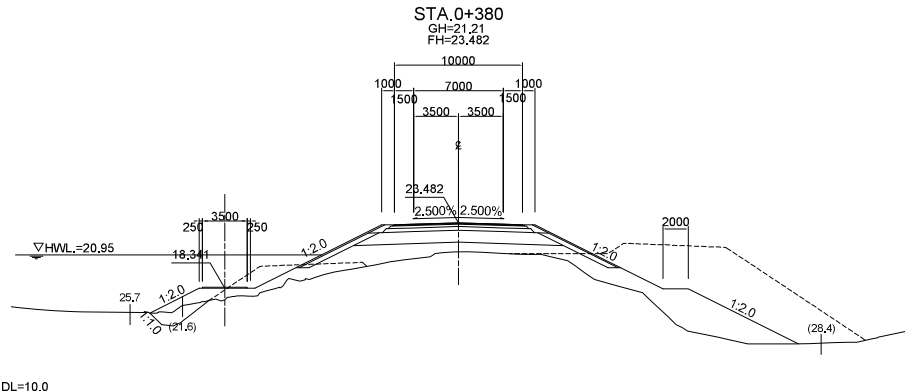
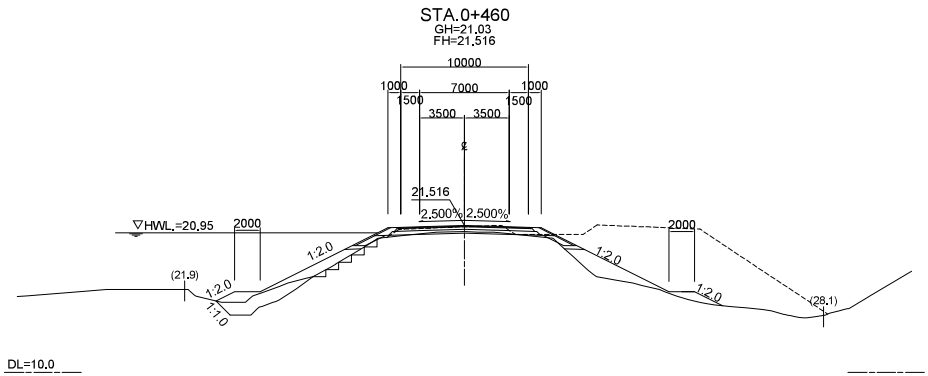
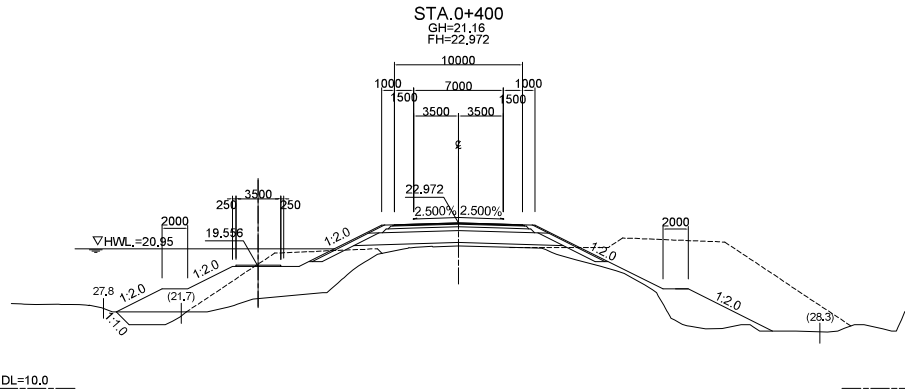
JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
4\_PreK Rus Bridge  
CROSS SECTION OF APPROACH ROAD (3)

SCALE(A1 SIZE)	DRAWING NO.
1/200	PR-11

AP7-74



DL=10.0

DL=10.0

MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

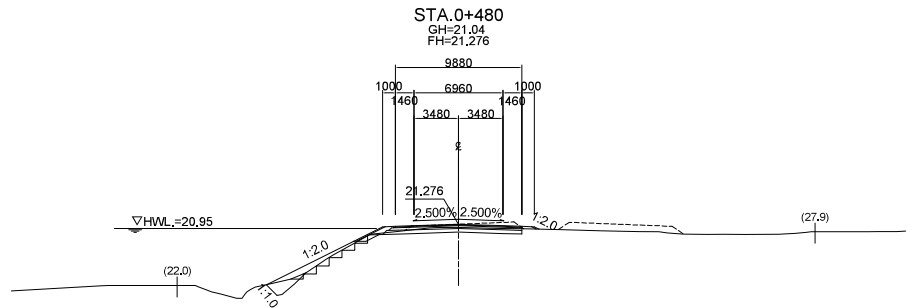
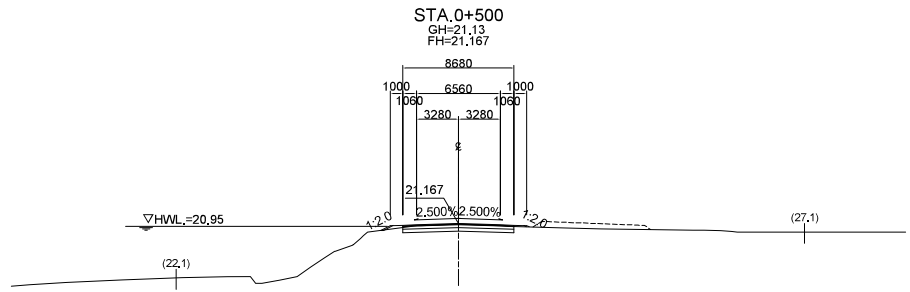
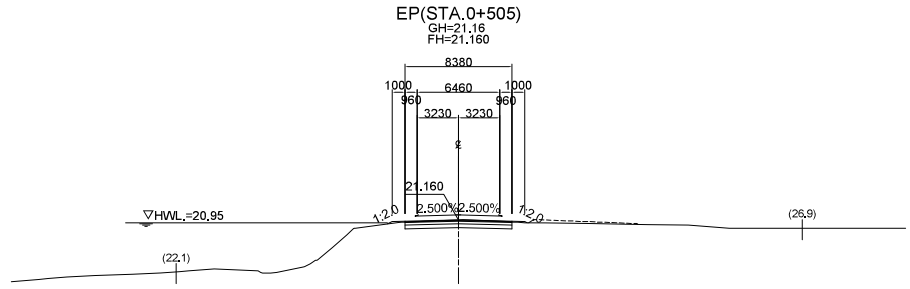
JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
4\_PreK Rus Bridge  
CROSS SECTION OF APPROACH ROAD (4)

SCALE(A1 SIZE)	DRAWING NO.
1/200	PR-12

AP7-75



MINISTRY OF PUBLIC WORKS  
 AND TRANSPORT  
 KINGDOM OF CAMBODIA

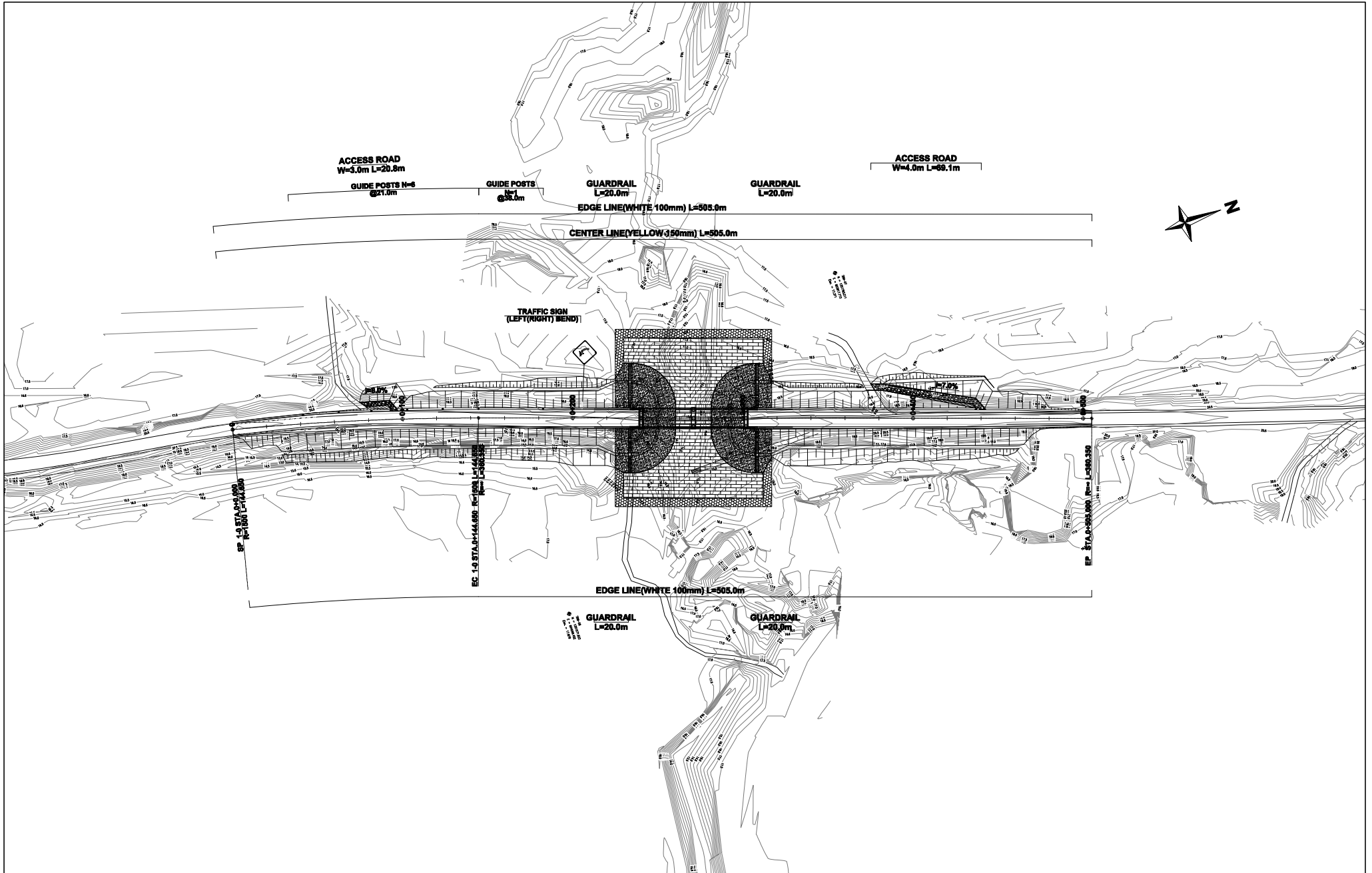
JAPAN INTERNATIONAL COOPERATION AGENCY  
 CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
 PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
 OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
 4\_Prek Rus Bridge  
 CROSS SECTION OF APPROACH ROAD (5)

SCALE(A1 SIZE)	DRAWING NO.
1/200	PR-13

AP7-76



MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

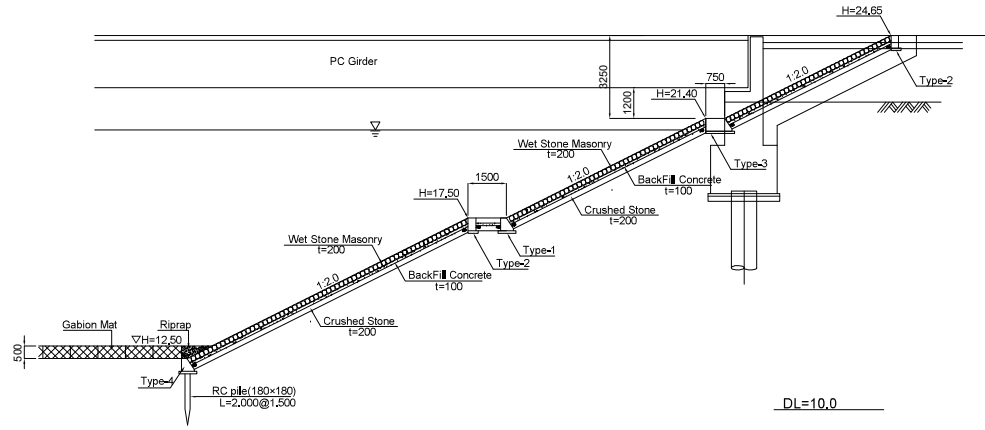
JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

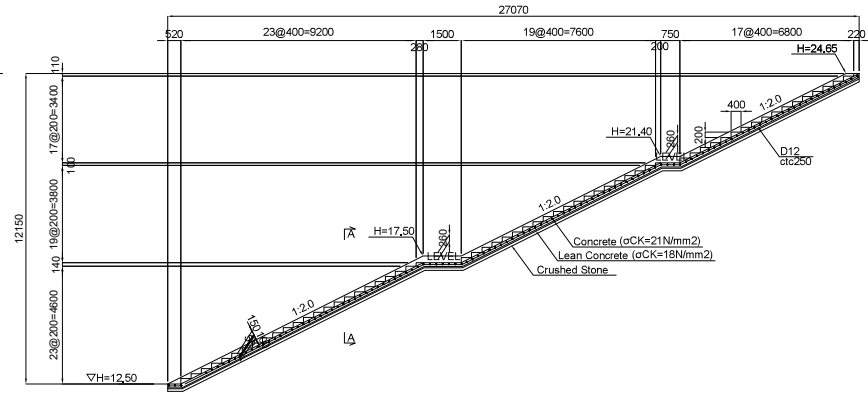
DRAWING TITLE:  
**4\_Prek Rus Bridge  
PLAN OF APPROACH ROAD  
(ANCILLARY)**

SCALE(AT SIZE)	DRAWING NO.
1/2,000 (1/1,000)	PR-14

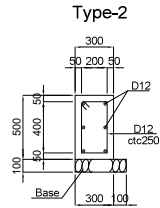
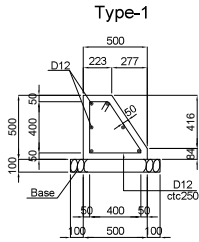




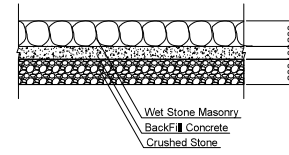
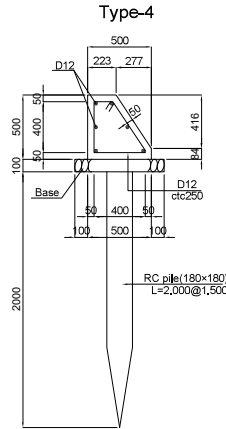
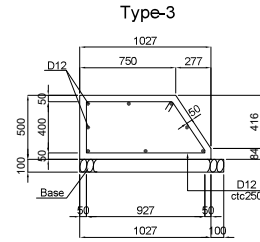
PROFILE s= 1/100



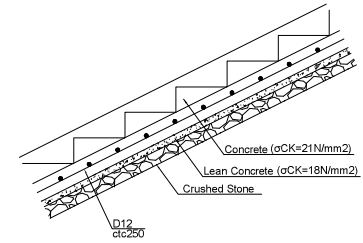
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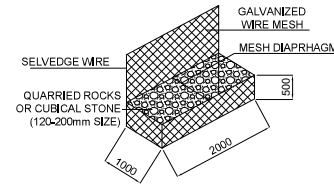
DETAILS s= 1/20



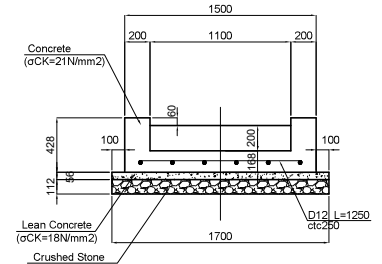
DETAILS s= 1/20



DETAILS s= 1/20



GABION MAT DETAIL  
S = None Scale



SECTION A-A s= 1/20

MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

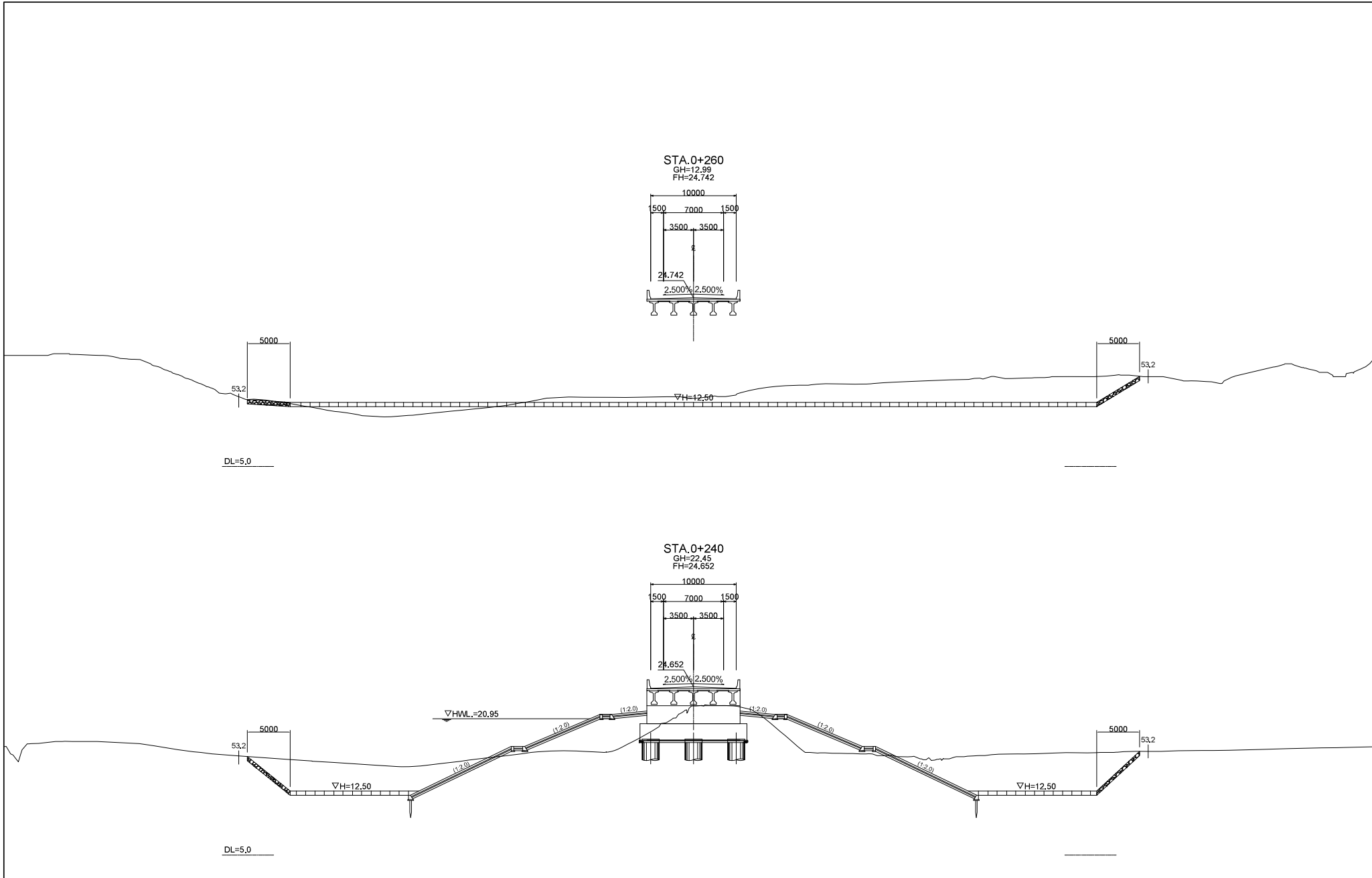
PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
4\_Prek Rus Bridge  
REVTMENT AND RIVER BED PROTECTION(2)

SCALE(A1 SIZE) DRAWING NO.  
AS SHOWN PR-16

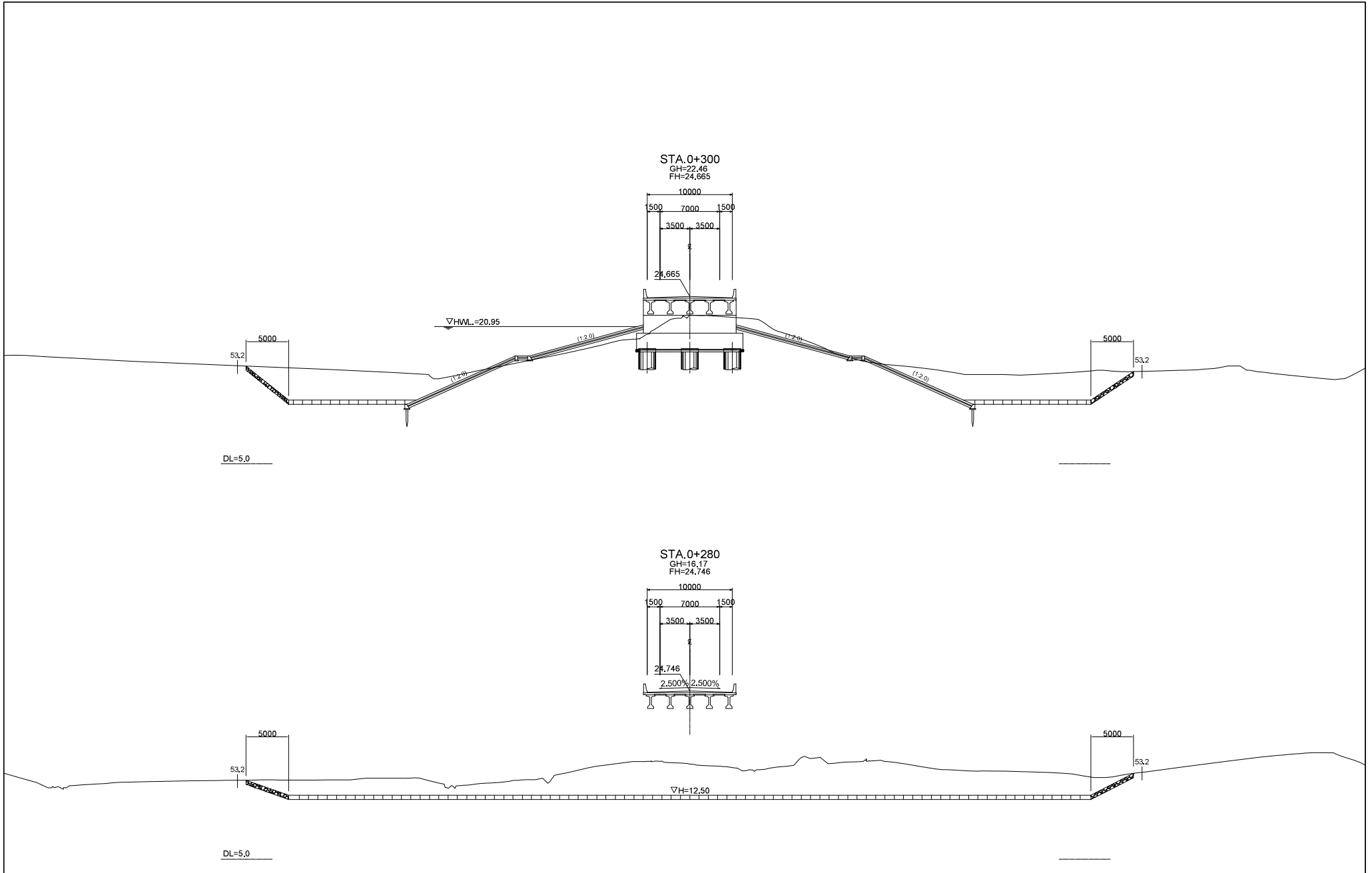


AP7-79



MINISTRY OF PUBLIC WORKS AND TRANSPORT KINGDOM OF CAMBODIA	JAPAN INTERNATIONAL COOPERATION AGENCY CTI ENGINEERING INTERNATIONAL CO., LTD.	PROJECT TITLE: PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT OF BRIDGES IN FLOOD-PRONE AREAS	DRAWING TITLE: 4_Prek Rus Bridge REVETMENT AND RIVER BED PROTECTION(3)	SCALE(A1 SIZE) 1/200	DRAWING NO. PR-17
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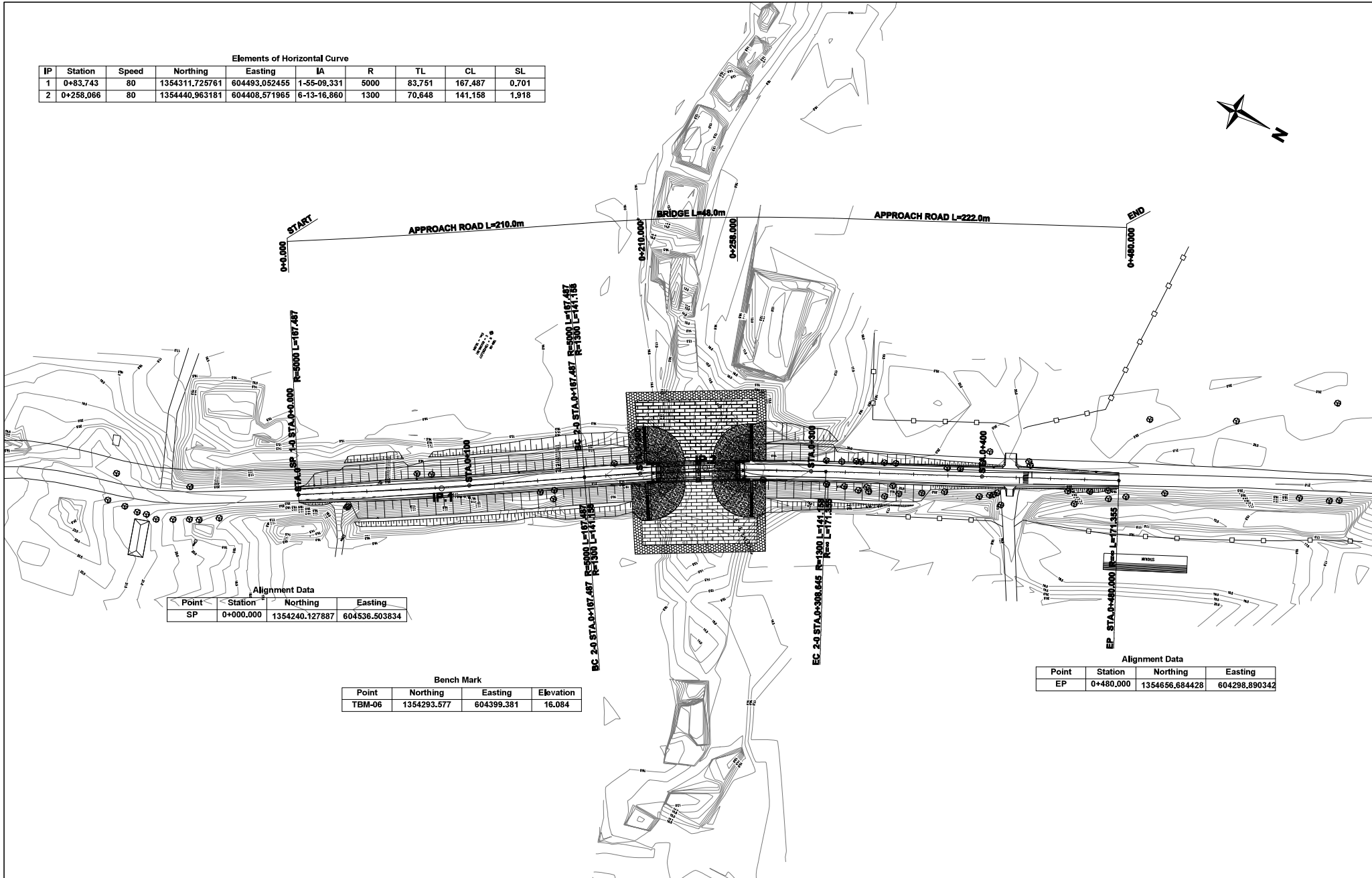
AP7-80



<p>MINISTRY OF PUBLIC WORKS AND TRANSPORT KINGDOM OF CAMBODIA</p>	<p>JAPAN INTERNATIONAL COOPERATION AGENCY CTI ENGINEERING INTERNATIONAL CO., LTD.</p>	<p>PROJECT TITLE: PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT OF BRIDGES IN FLOOD-PRONE AREAS</p>	<p>DRAWING TITLE: 4_Prek Rus Bridge REVETMENT AND RIVER BED PROTECTION(4)</p>	<p>SCALE(A1 SIZE) 1/200</p>	<p>DRAWING NO. PR-18</p>
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# Prek Anlong Khle Bridge

Elements of Horizontal Curve									
IP	Station	Speed	Northing	Easting	IA	R	TL	CL	SL
1	0+83.743	80	1354311.725761	604493.052455	1-55-09.331	5000	83.751	167.487	0.701
2	0+258.066	80	1354440.963181	604408.571965	6-13-16.860	1300	70.848	141.158	1.918



Alignment Data			
Point	Station	Northing	Easting
SP	0+000.000	1354240.127887	604536.503834

Bench Mark			
Point	Northing	Easting	Elevation
TBM-06	1354293.577	604399.381	16.084

Alignment Data			
Point	Station	Northing	Easting
EP	0+480.000	1354656.684428	604298.890342

AP7-82

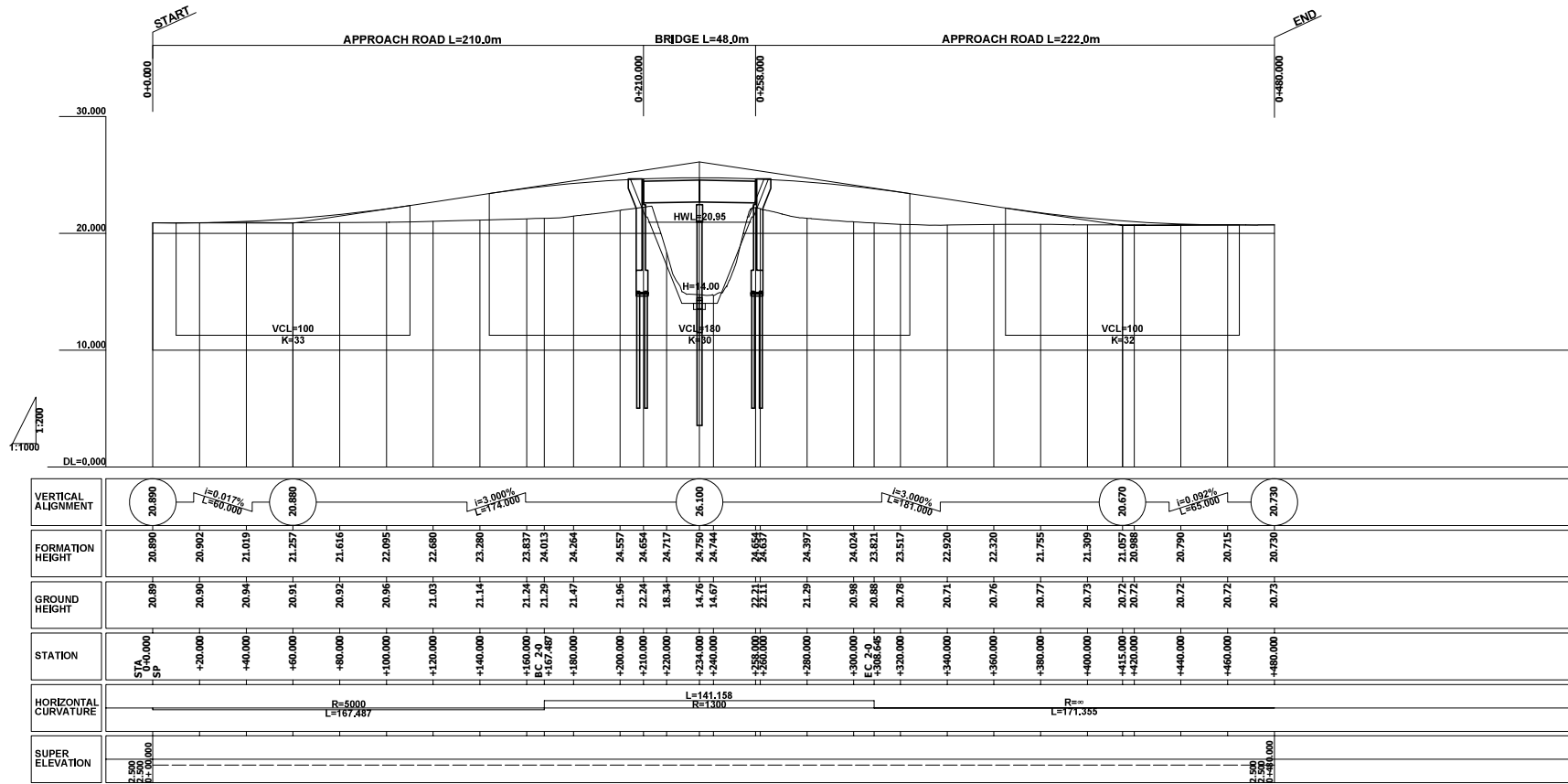
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
5\_Prek Along Khle Bridge  
GENERAL PLAN

SCALE(AT SITE)	DRAWING NO.
1/2,000 (1/1,000)	AK-01



Profile H = 1/1000  
V = 1/200

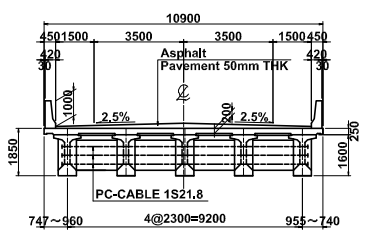
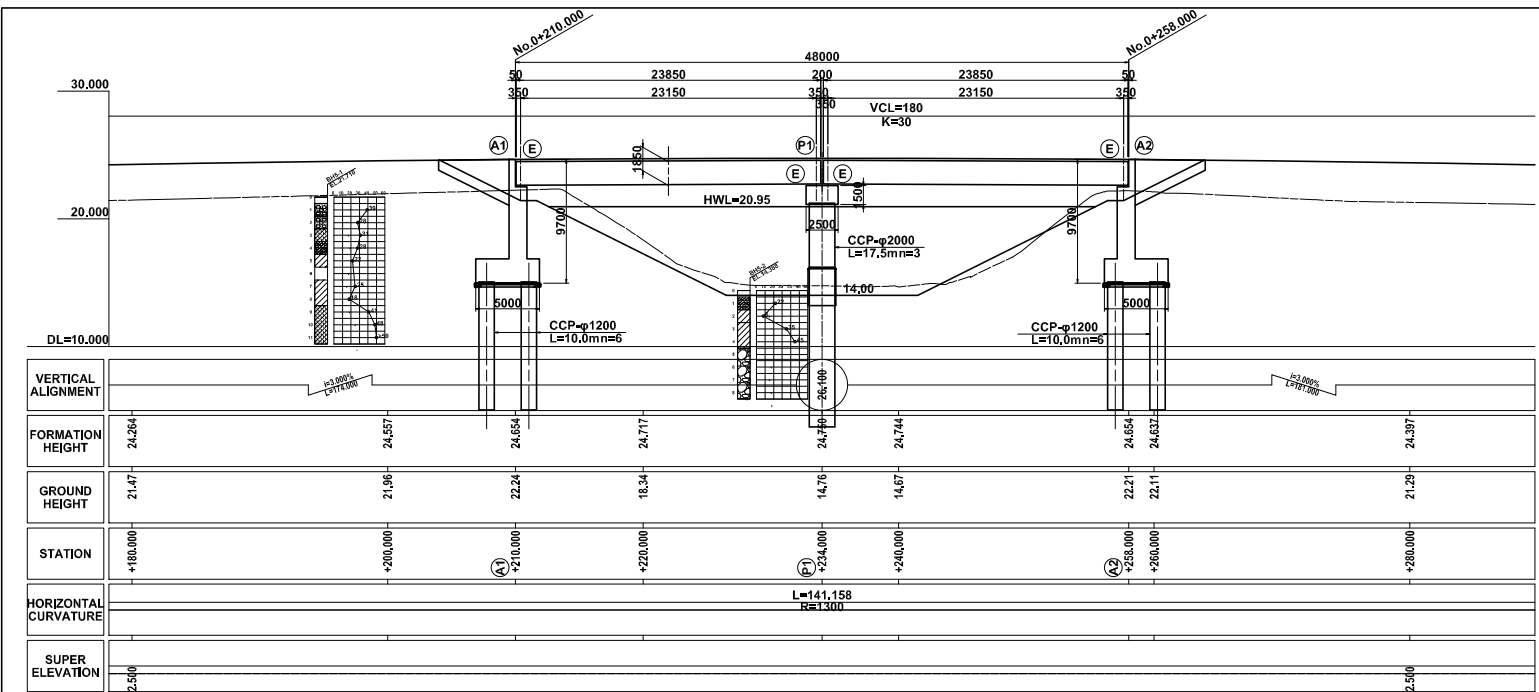
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

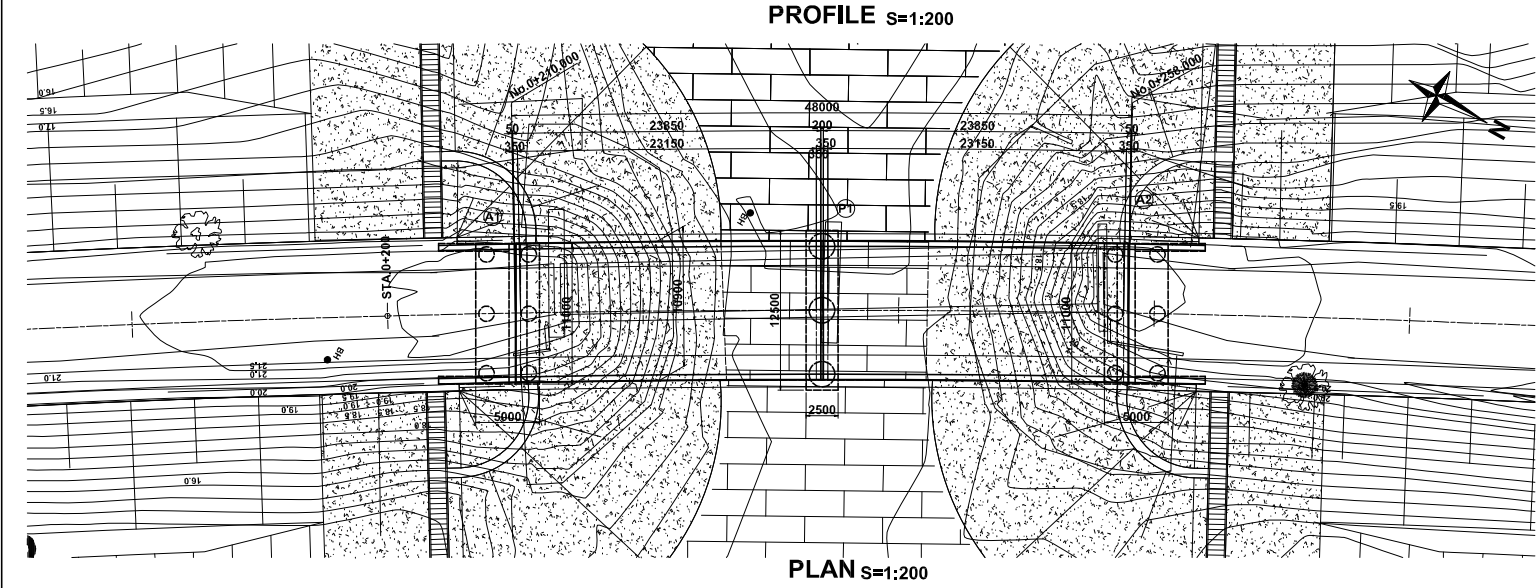
PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
5\_Prek Anlong Khle Bridge  
GENERAL PROFILE

SCALE(A1 SIZE)	DRAWING NO.
AS SHOWN	AK-02



CROSS SECTION S=1:100

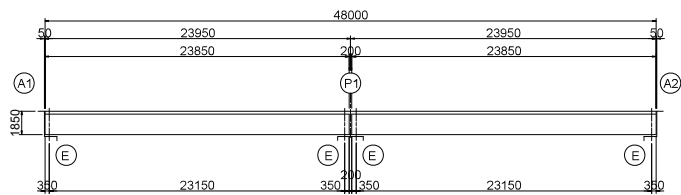


PLAN S=1:200

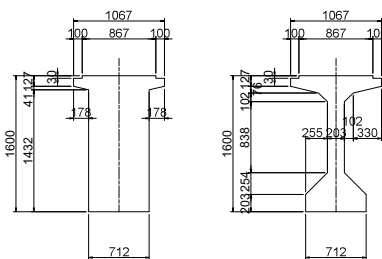
DESIGN CRITERIA

ROAD CLASS	SECONDARY PRINCIPAL ROAD
DESIGN SPEED	80km/h
LIVE LOAD	AASHTO HS20-44x125% OR EQUIVALENT
BRIDGE LENGTH	48.000m
SPAN LENGTH	23.150+23.150m
TOTAL WIDTH	2x3.5m(Carrlage Way)+2x1.5m(Shoulder)
SEISMIC COEFFICIENT	kh=0.05(L1)
SUPER STRUCTURE TYPE	PC I-Girder
SUBSTRUCTURE TYPE	REVERSED T-ABUTMENT, PILE BENT PIRE
FOUNDATION TYPE	CAST-IN PLACE CONCRETE PILE(A1,P1,A2)
SPECIFICATION CRITERIA	Bridge Design Standard (CAM.PW.04.102.99), 2003 DESIGN SPECIFICATIONS OF HIGHWAY BRIDGES (JAPAN ROAD ASSOCIATION)

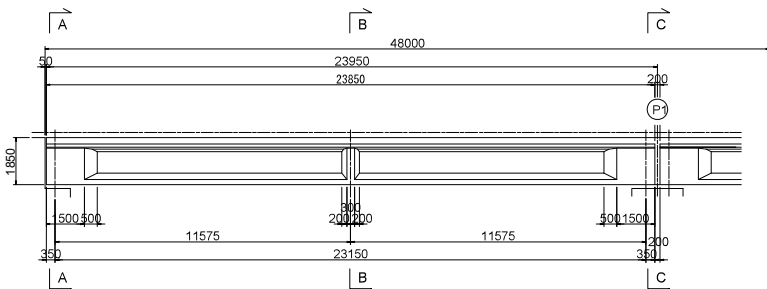
MINISTRY OF PUBLIC WORKS AND TRANSPORT KINGDOM OF CAMBODIA	JAPAN INTERNATIONAL COOPERATION AGENCY CTI ENGINEERING INTERNATIONAL CO., LTD.	PROJECT TITLE: PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT OF BRIDGES IN FLOOD-PRONE AREAS	DRAWING TITLE: 5_Anglong Khle Bridge GENERAL VIEW OF BRIDGE	SCALE(A1 SIZE)	DRAWING NO.
				AS SHOWN	AK-03



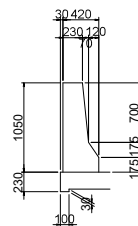
SIDE ELEVATION S=1/200



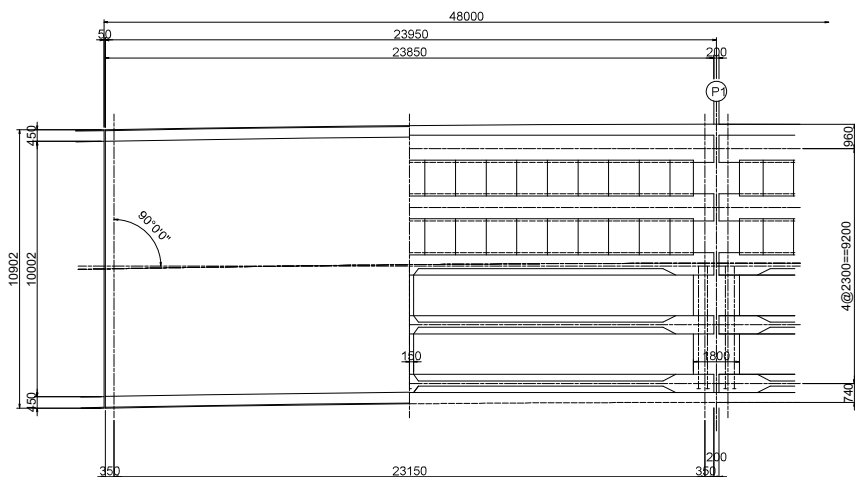
PC GIRDER S=1/30



SIDE ELEVATION S=1/100



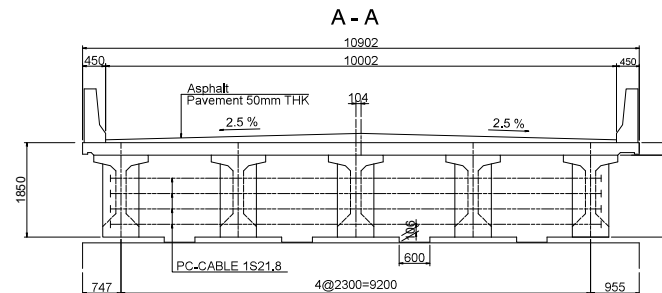
DETAILS OF RAILING S=1/30



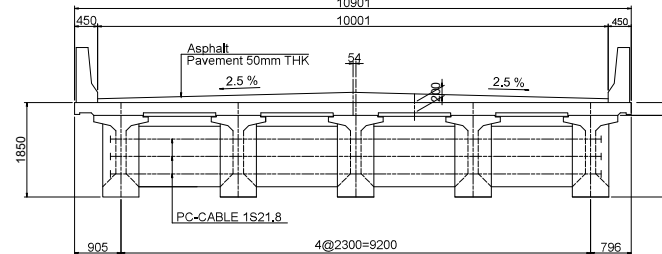
PLAN S=1/100

DESIGN CRITERIA	
CATEGORY	PRESTRESSED CONCRETE ROAD BRIDGE
BRIDGE LENGTH	68,000 m
WIDTH	10,900 m
LIVE-LOAD	HS20-44x1.25
ANGLE OF SKEW	90°00'00"

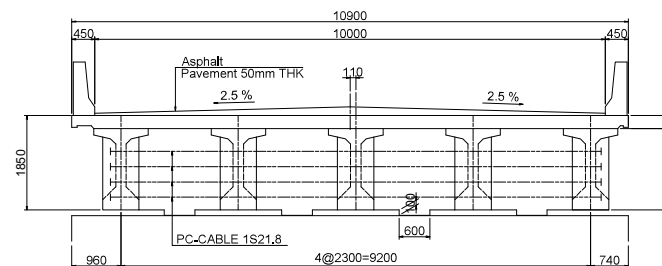
MATERIALS		
CONCRETE	GIRDER	σ <sub>ck</sub> =45,0 N/mm <sup>2</sup>
	CROSS BEAM	σ <sub>ck</sub> =45,0 N/mm <sup>2</sup>
	DECK SLAB	σ <sub>ck</sub> =40,0 N/mm <sup>2</sup>
PC STEEL	GIRDER	7S12,7(SWPR7BL)
	CROSS BEAM	1S21,8 (SWPR19)
DEFORMED BAR	Grad 400	



A - A



B - B



CROSS SECTION S=1/50

AP7-85

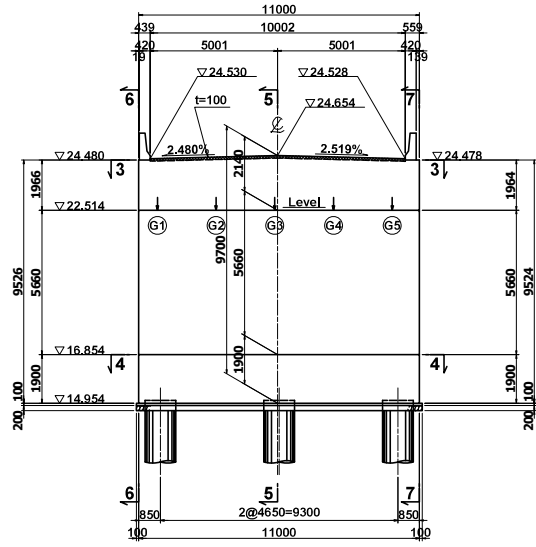
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AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

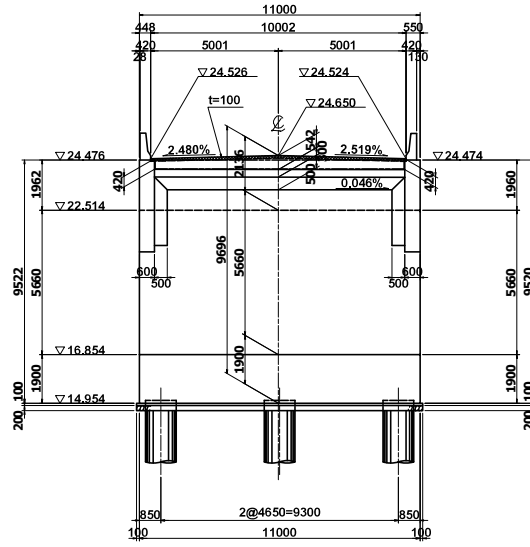
PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
5\_Prek Along Khle Bridge  
STRUCTURE DRAWING(1)

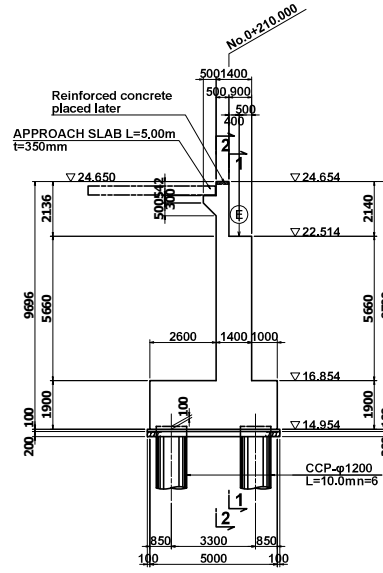
SCALE(A1 SIZE) DRAWING NO.  
AS SHOWN AK-04



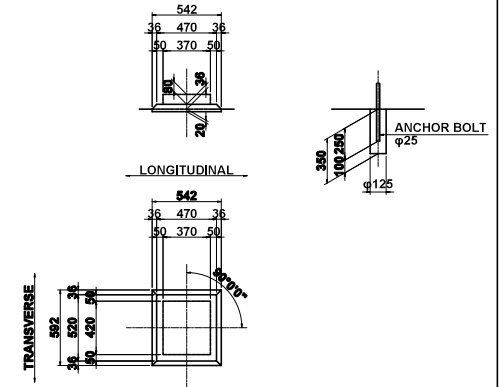
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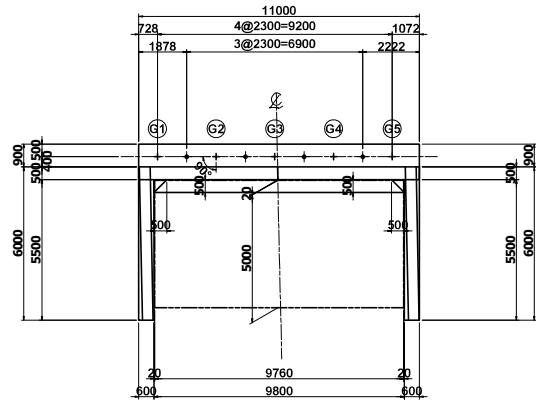
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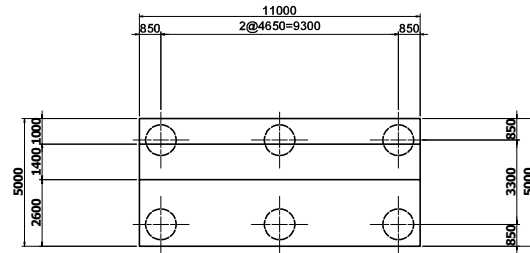
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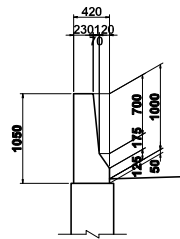
DETAIL S=1/20



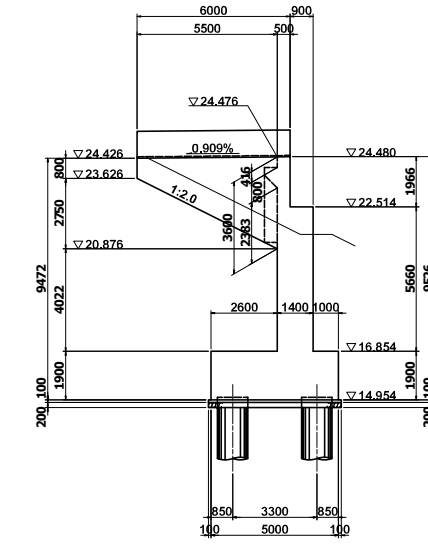
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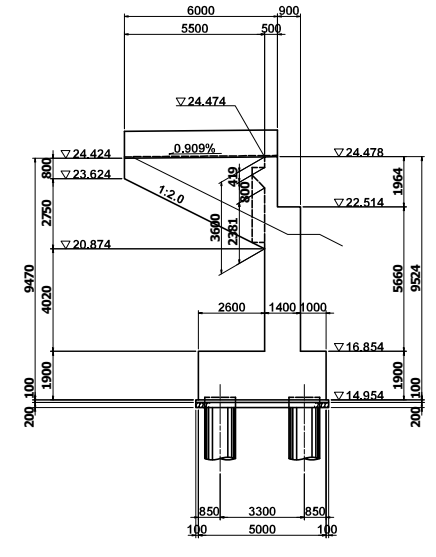
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DETAIL S=1/30



6-6



7-7

MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

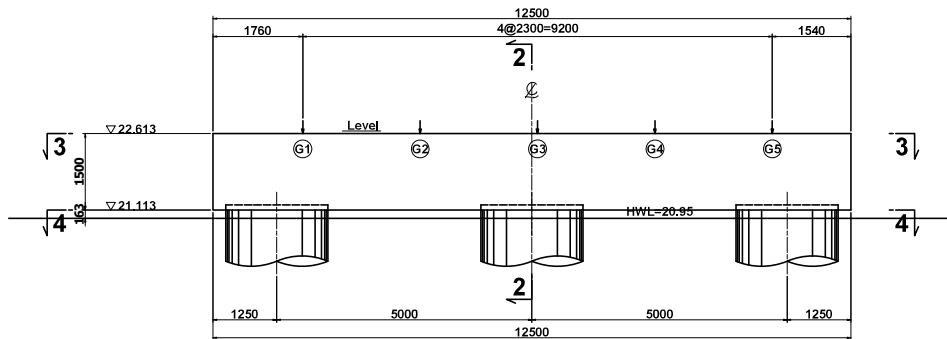
JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

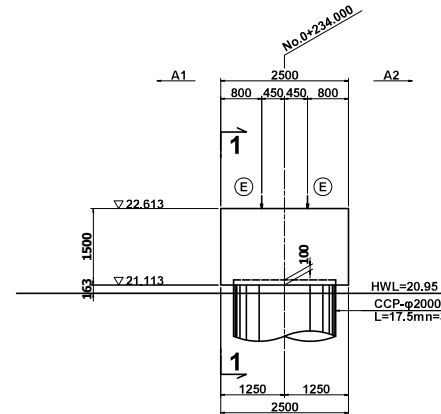
DRAWING TITLE:  
5\_Prek Anlong Khle Bridge  
STRUCTURAL DRAWING OF A1 ABUTMENT

SCALE(A1 SIZE)	DRAWING NO.
1/100	AK-05

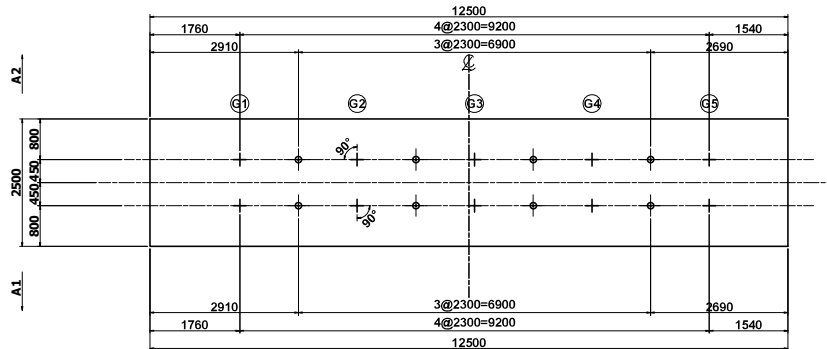




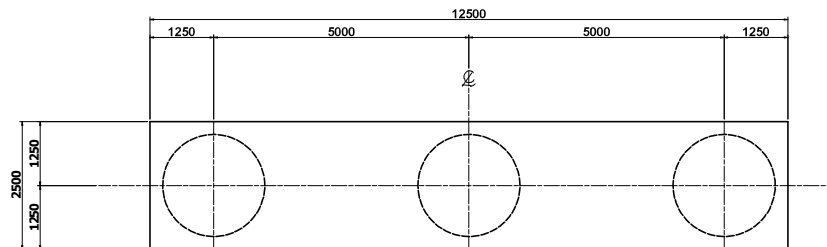
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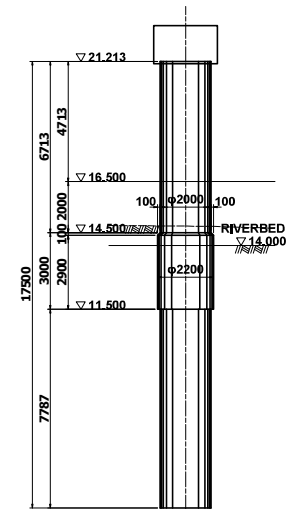
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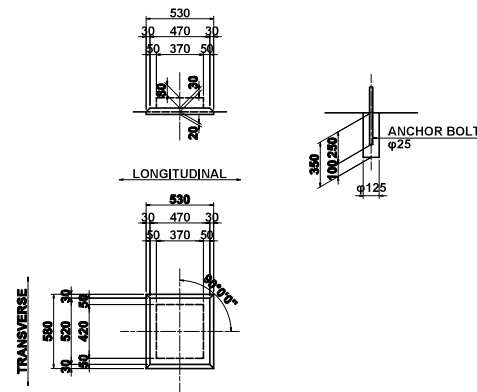
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4-4



PROFILE S=1/100



DETAIL S=1/20

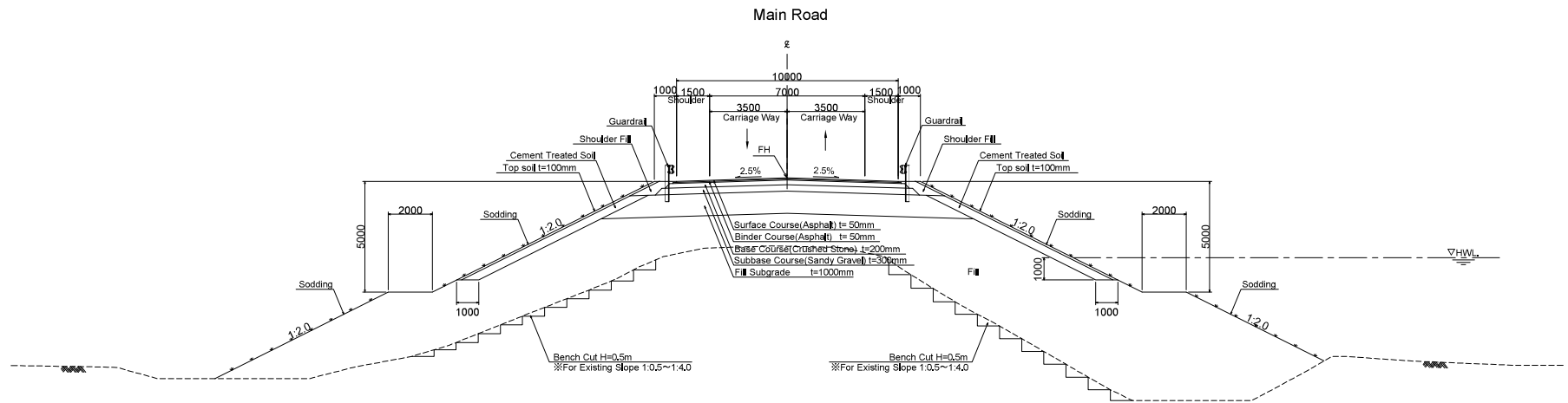
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
5\_Prek Anlong Khle Bridge  
STRUCTURAL DRAWING OF P1 BRIDGE PIER

SCALE(A1 SIZE)	DRAWING NO.
1/50	AK-06



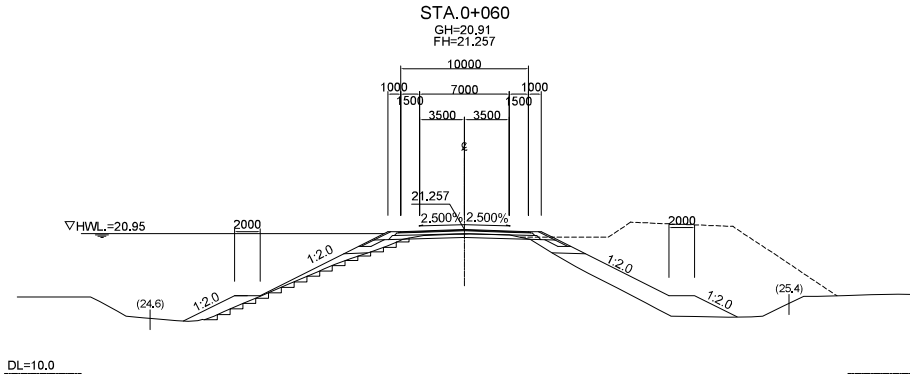
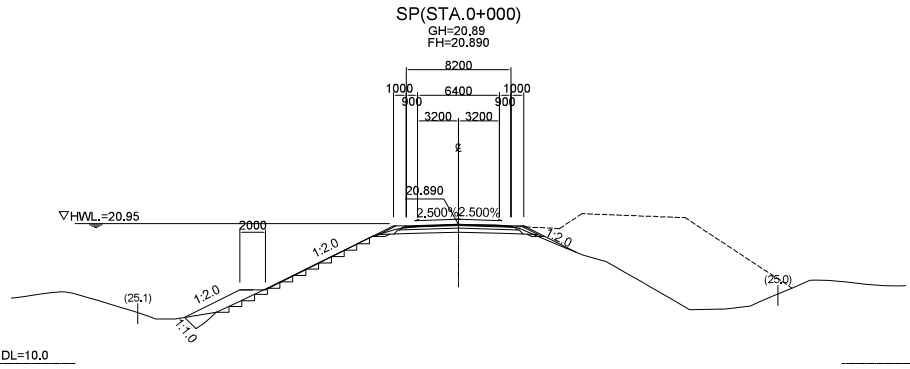
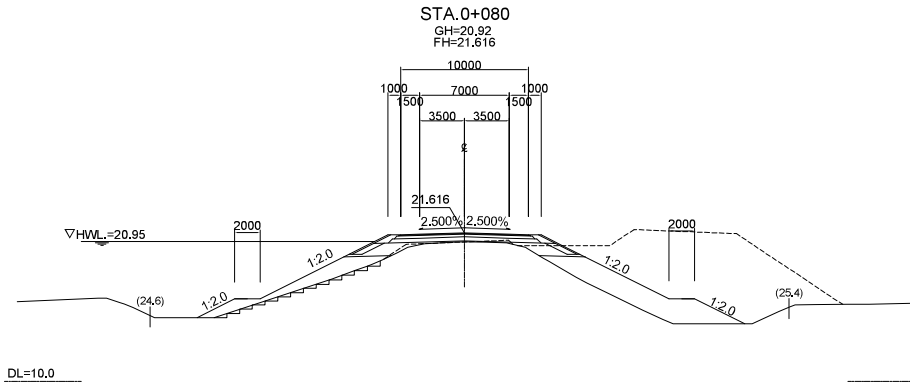
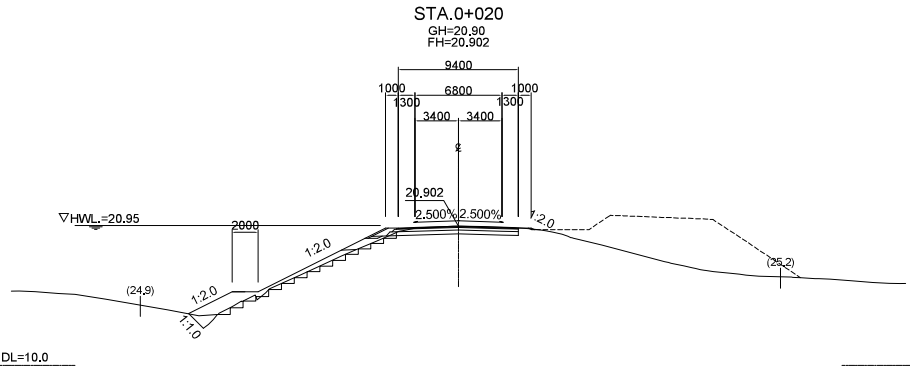
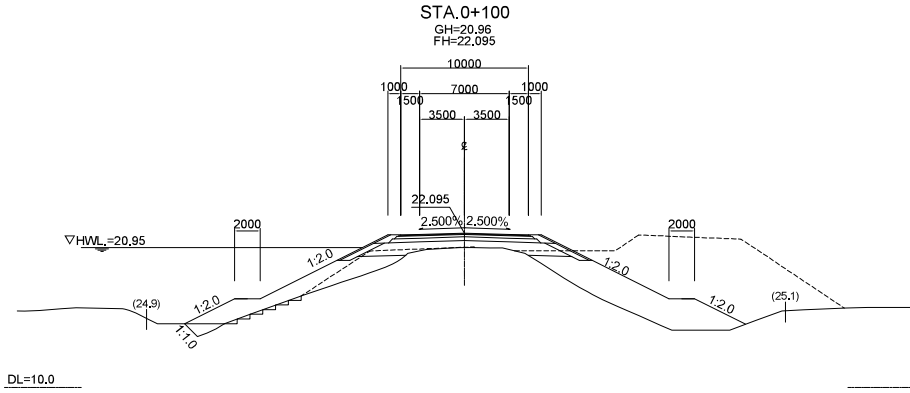
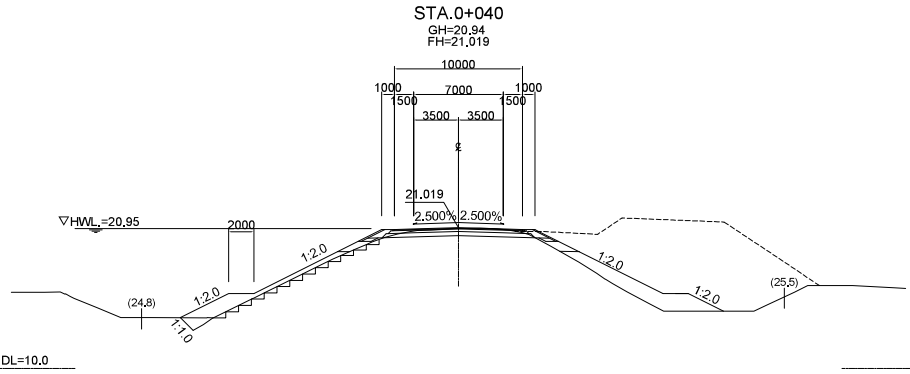
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
5\_PreK Anlong Khle Bridge  
TYPICAL CROSS SECTION OF APPROACH ROAD

SCALE(A1 SIZE)	DRAWING NO.
1/100	AK-07



MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

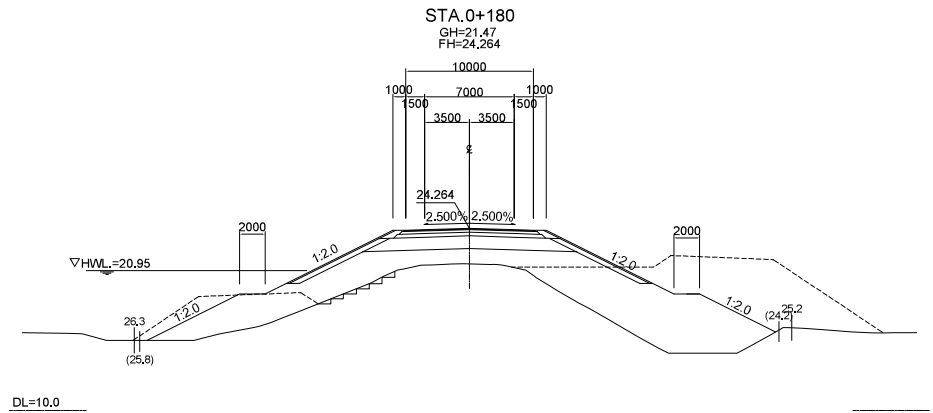
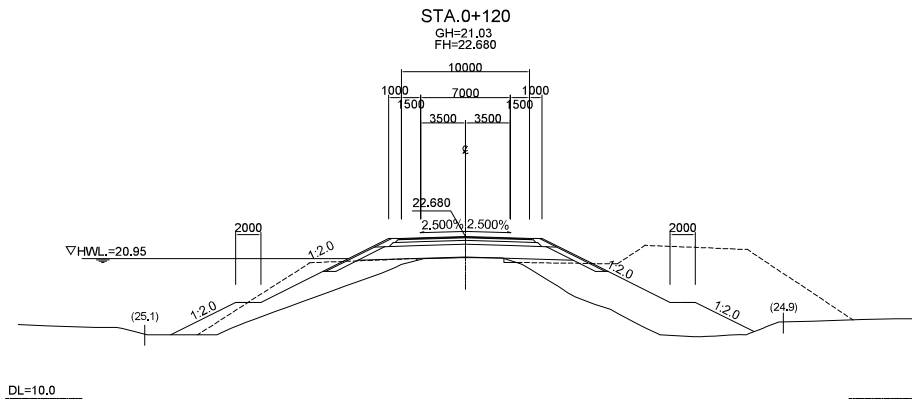
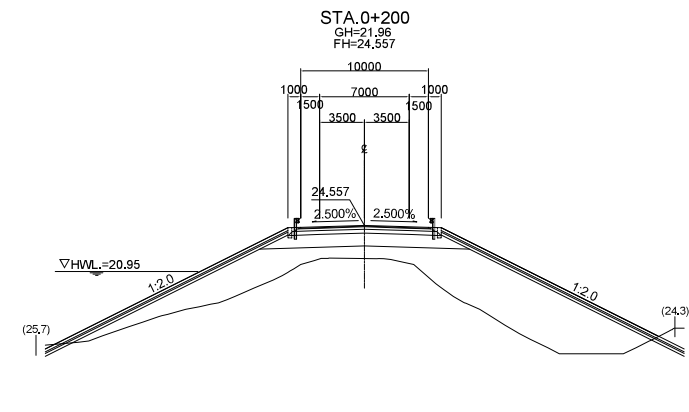
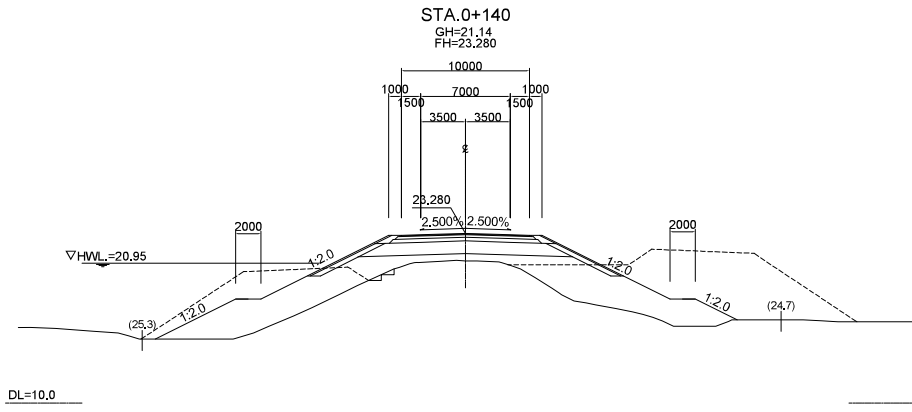
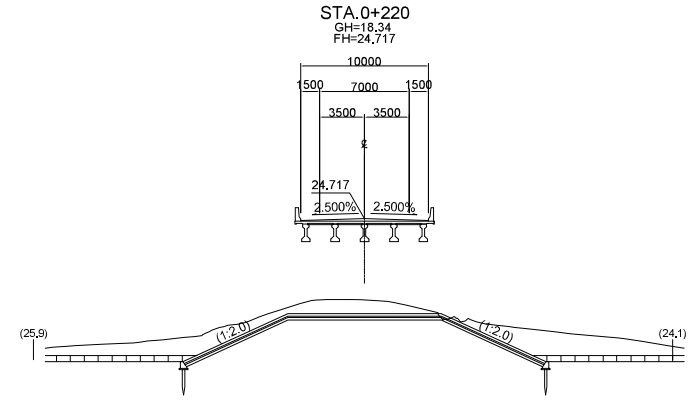
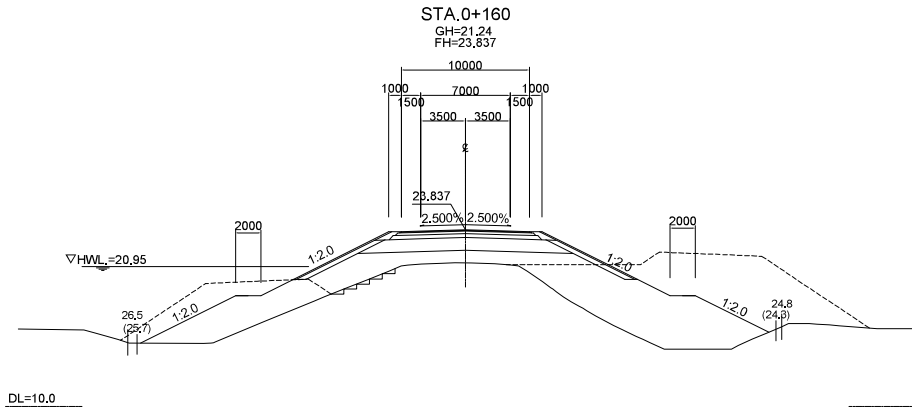
JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
5\_Prek Anlong Khle Bridge  
CROSS SECTION OF APPROACH ROAD(1)

SCALE(A1 SIZE)	DRAWING NO.
1/200	AK-08

AP7-90



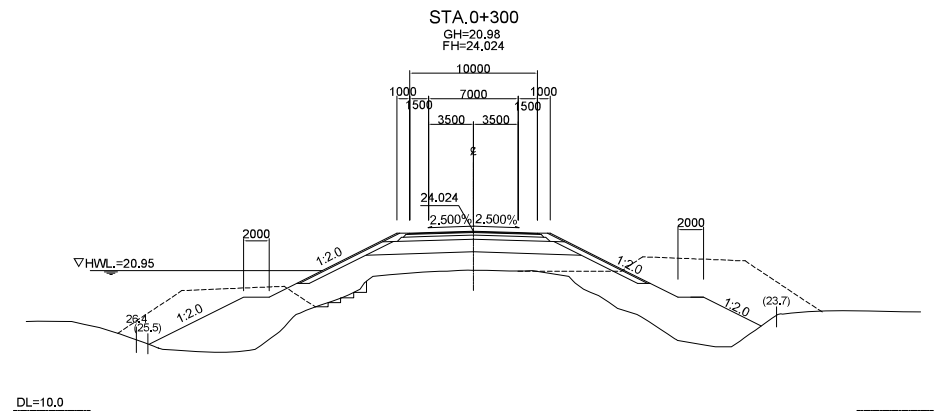
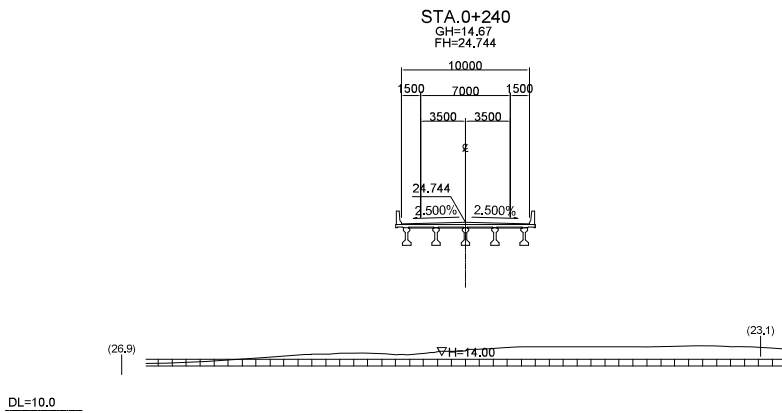
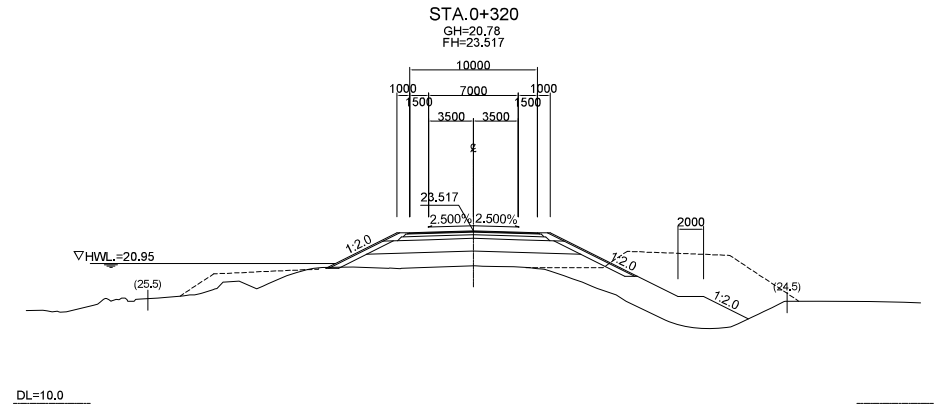
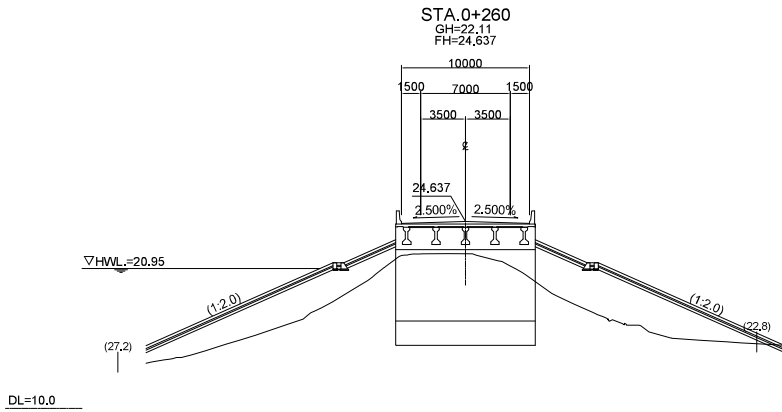
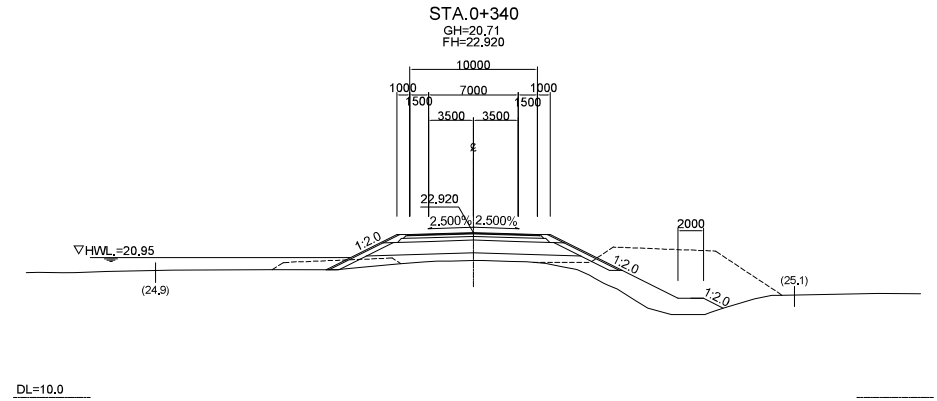
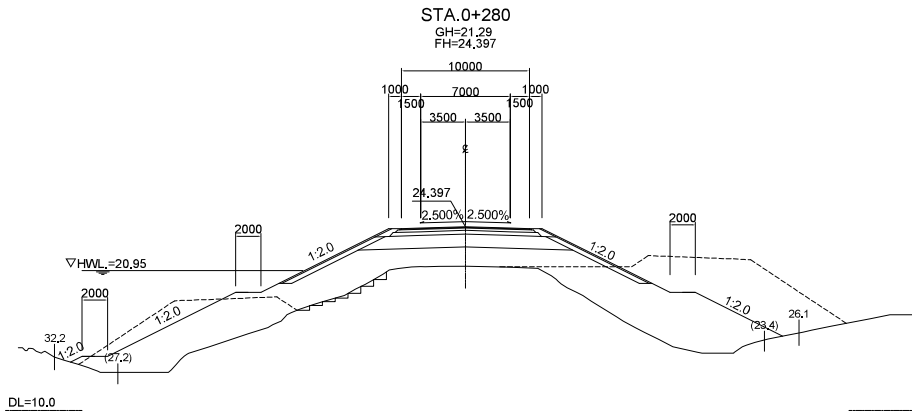
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
5\_Prek Anlong Khle Bridge  
CROSS SECTION OF APPROACH ROAD(2)

SCALE(A1 SIZE) DRAWING NO.  
1/200 AK-09



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AND TRANSPORT  
KINGDOM OF CAMBODIA

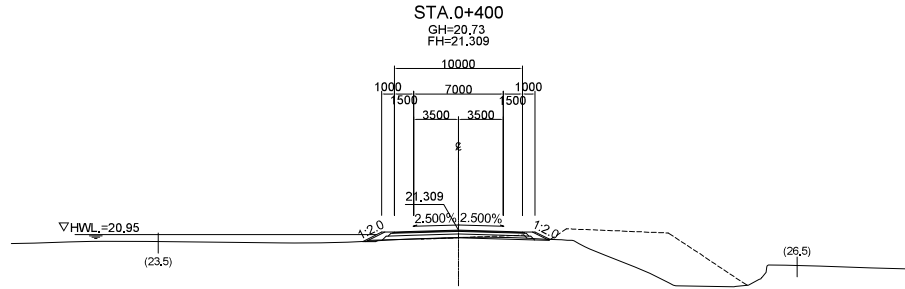
JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

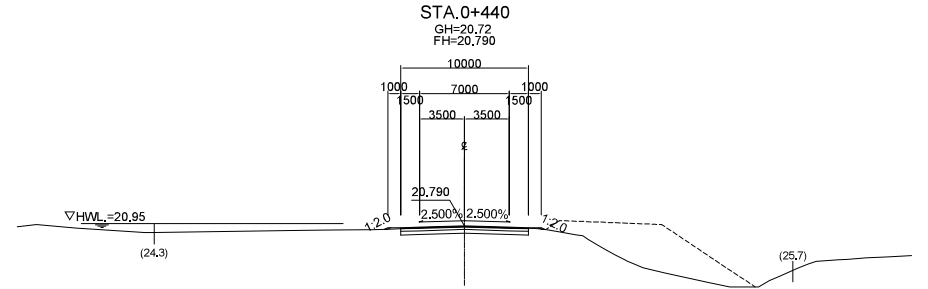
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CROSS SECTION OF APPROACH ROAD(3)

SCALE(A1 SIZE)	DRAWING NO.
1/200	AK-10

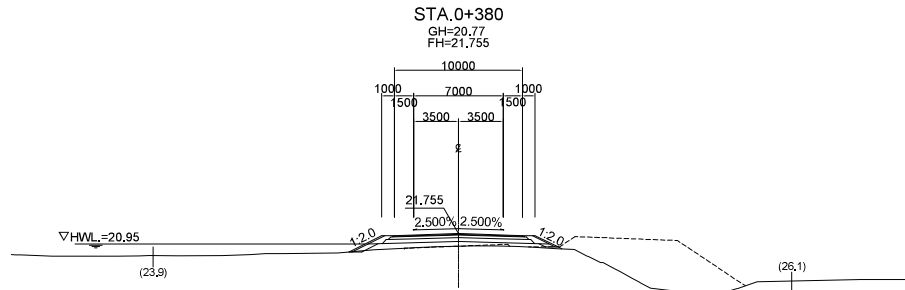
AP7-92



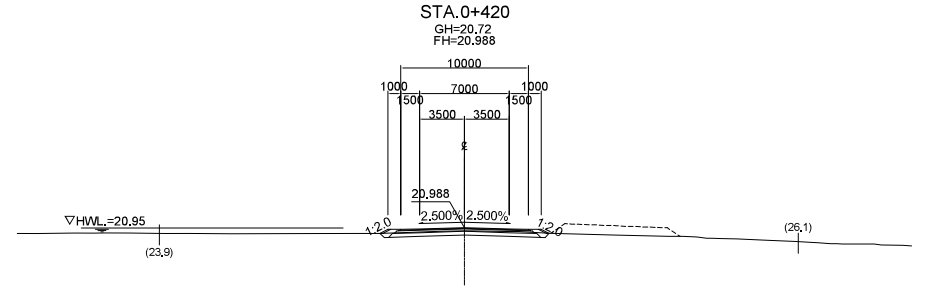
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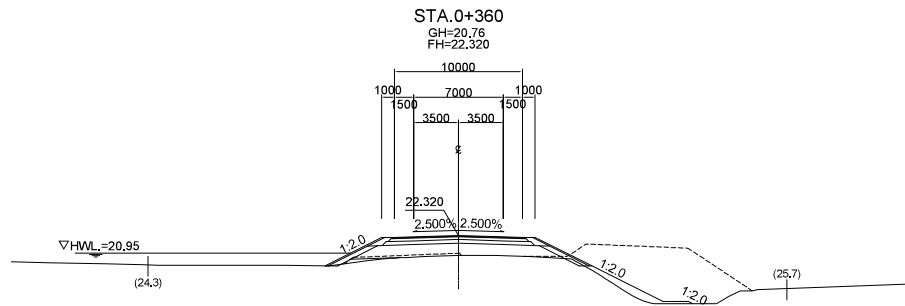
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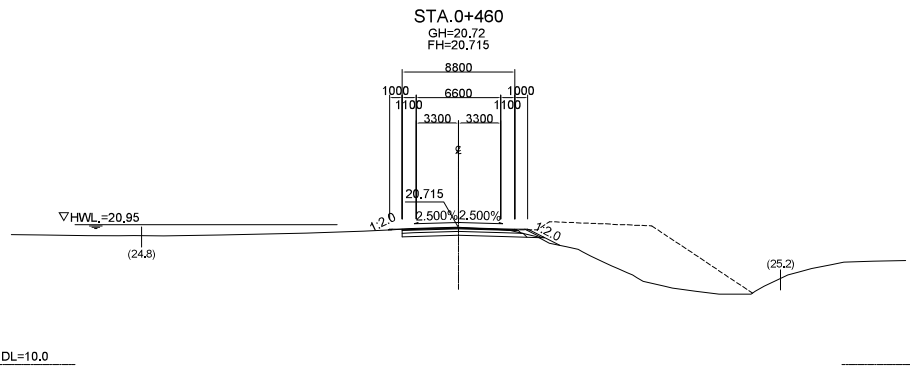
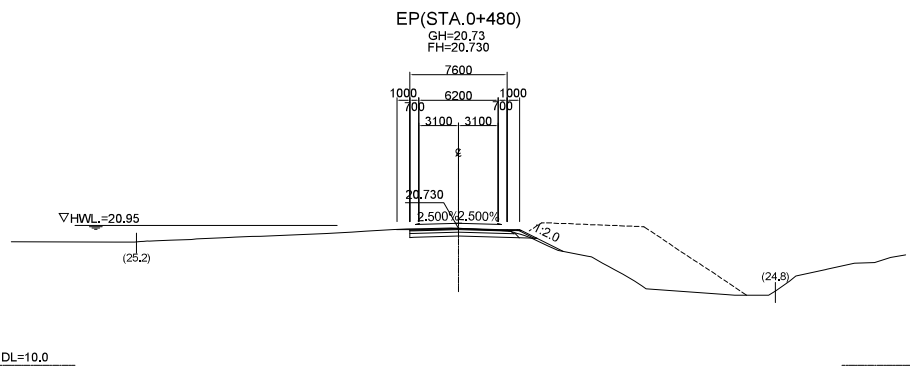
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

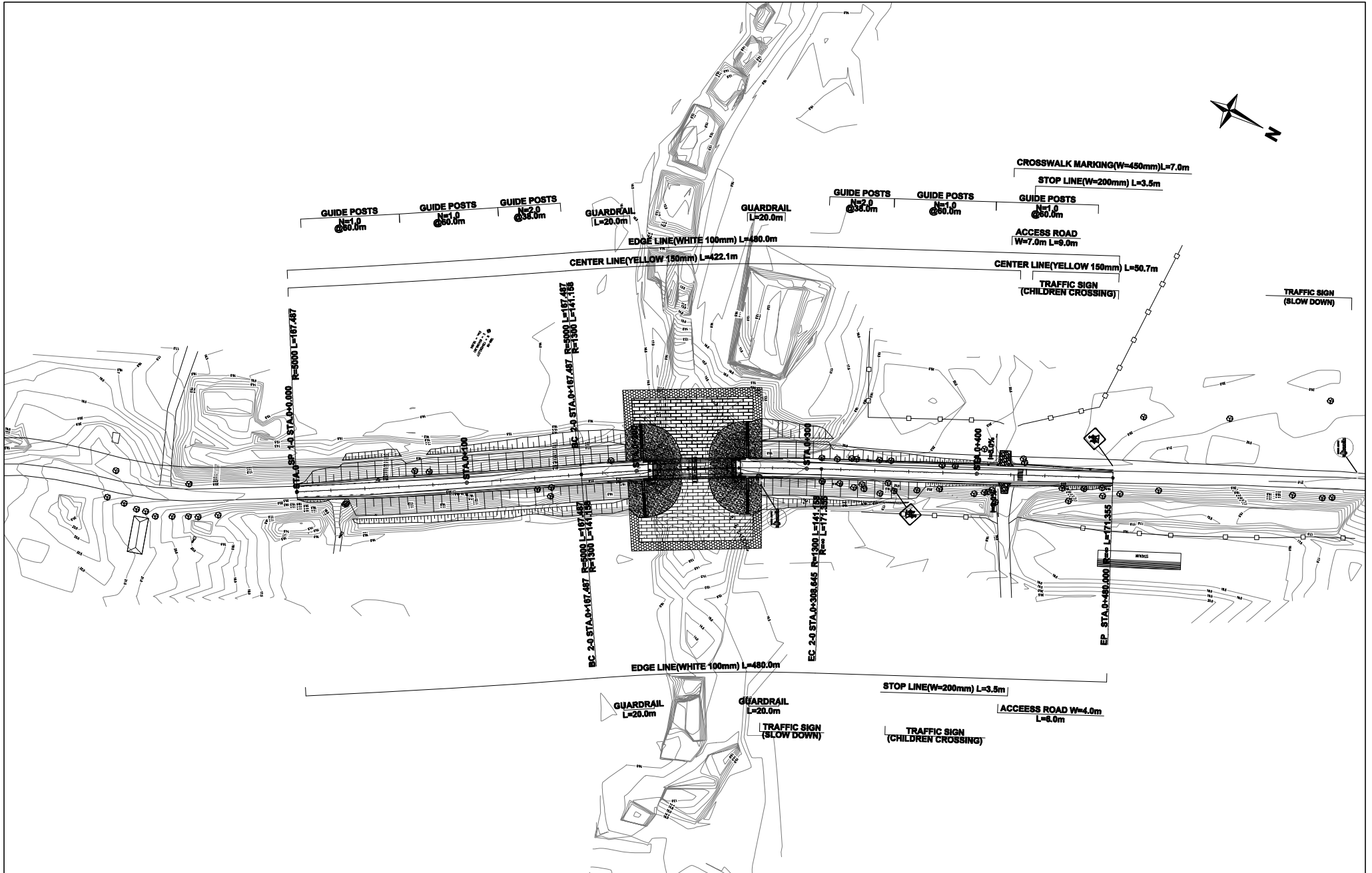
PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
5\_Prek Anlong Khle Bridge  
CROSS SECTION OF APPROACH ROAD(4)

SCALE(A1 SIZE)	DRAWING NO.
1/200	AK-11

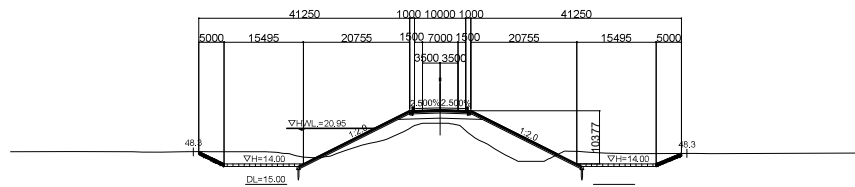
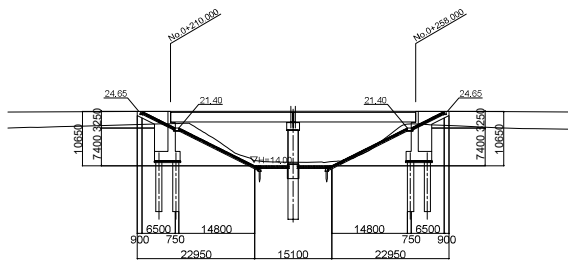
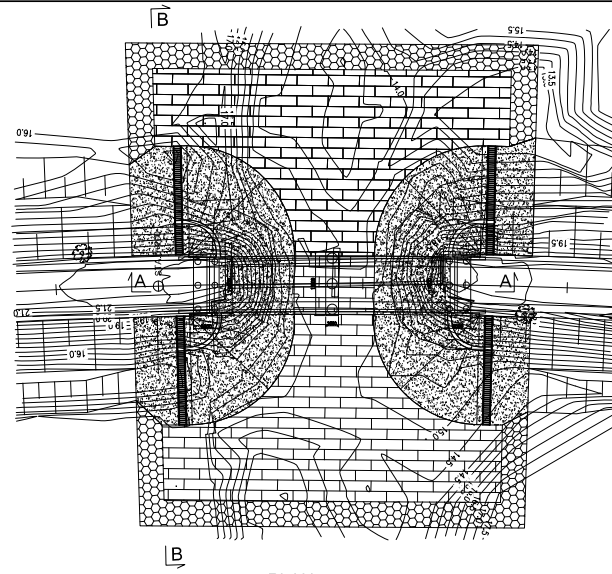


MINISTRY OF PUBLIC WORKS AND TRANSPORT KINGDOM OF CAMBODIA	JAPAN INTERNATIONAL COOPERATION AGENCY CTI ENGINEERING INTERNATIONAL CO., LTD.	PROJECT TITLE: PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT OF BRIDGES IN FLOOD-PRONE AREAS	DRAWING TITLE: 5_Prek Anlong Khle Bridge CROSS SECTION OF APPROACH ROAD(5)	SCALE(A1 SIZE)	DRAWING NO.
				1/200	AK-12



<p>MINISTRY OF PUBLIC WORKS AND TRANSPORT KINGDOM OF CAMBODIA</p>	<p>JAPAN INTERNATIONAL COOPERATION AGENCY CTI ENGINEERING INTERNATIONAL CO., LTD.</p>	<p>PROJECT TITLE: PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT OF BRIDGES IN FLOOD-PRONE AREAS</p>	<p>DRAWING TITLE: 5-Prek Anlong Khle Bridge PLAN OF APPROACH ROAD (ANCILLARY)</p>	<p>SCALE(AT SITE) 1/2,000 (1/1,000)</p>	<p>DRAWING NO. AK-13</p>
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MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

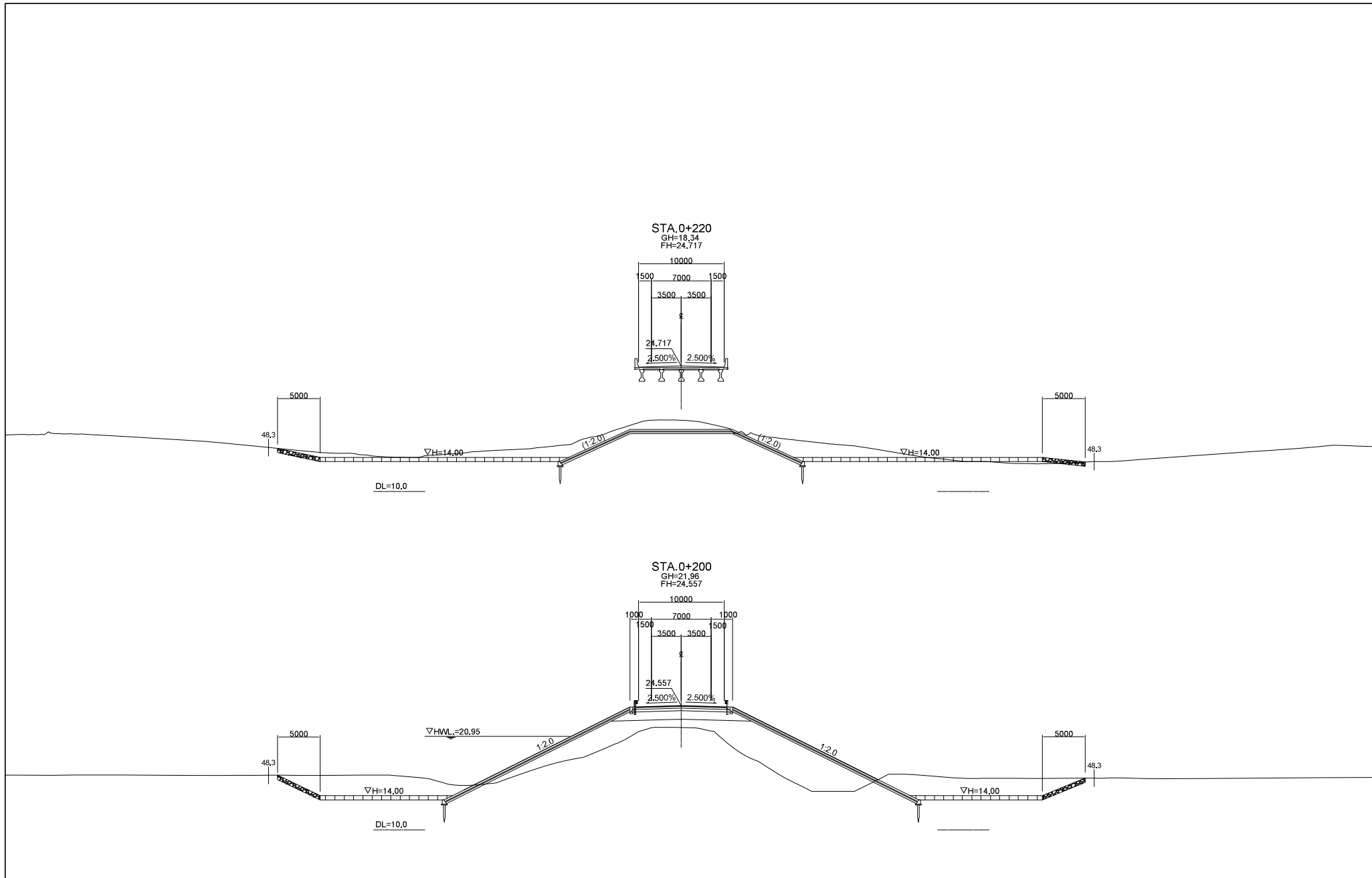
PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
5\_Prek Anlong Khle Bridge  
REVTMENT AND RIVER BED PROTECTION(1)

SCALE(AT SIZE)	DRAWING NO.
AS SHOWN	AK-14

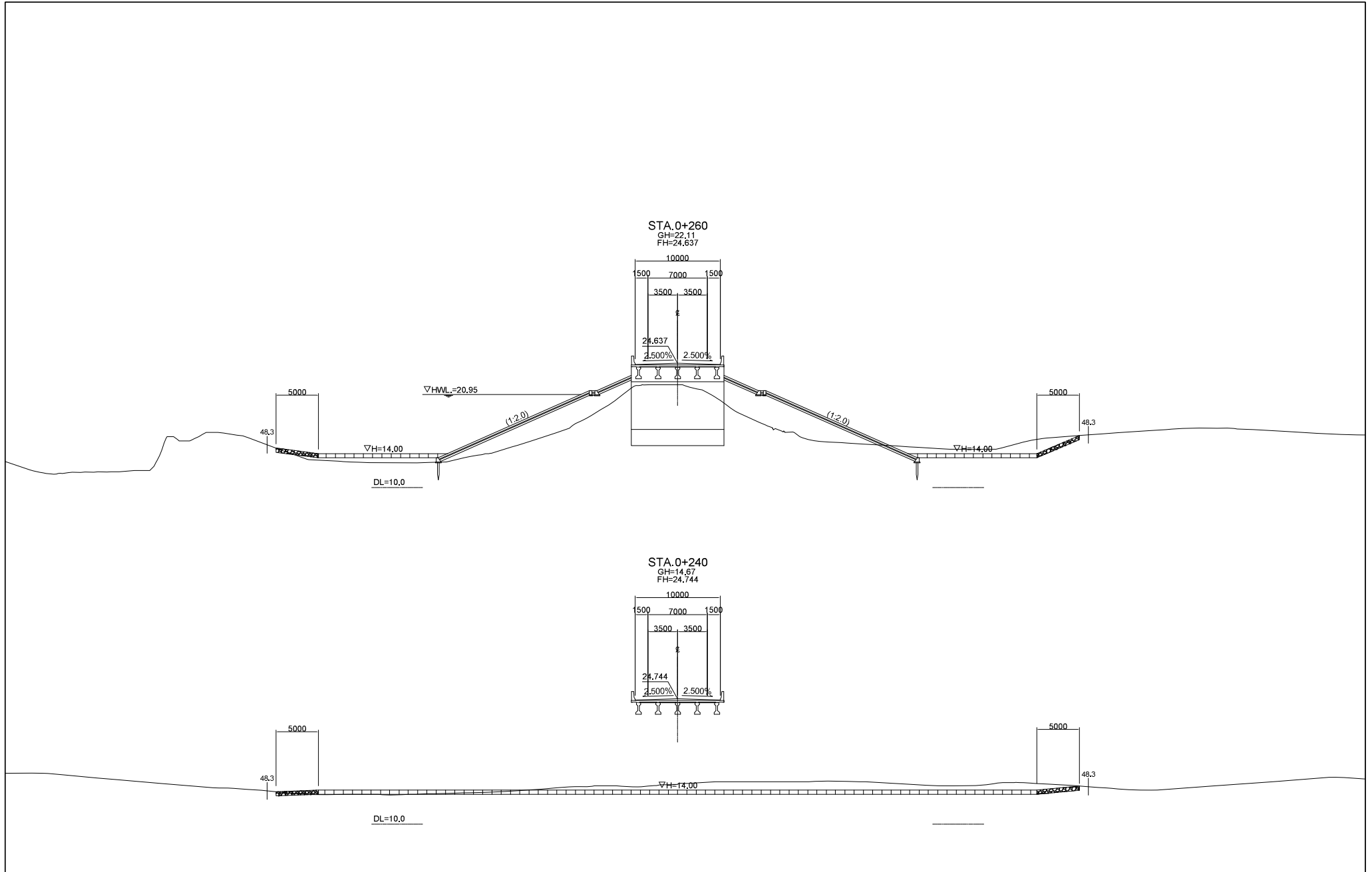


AP7-97



<p>MINISTRY OF PUBLIC WORKS AND TRANSPORT KINGDOM OF CAMBODIA</p>	<p>JAPAN INTERNATIONAL COOPERATION AGENCY CTI ENGINEERING INTERNATIONAL CO., LTD.</p>	<p>PROJECT TITLE: PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT OF BRIDGES IN FLOOD-PRONE AREAS</p>	<p>DRAWING TITLE: 5_Prek Anlong Khle Bridge REVETMENT AND RIVER BED PROTECTION(2)</p>	<p>SCALE(A1 SIZE) 1/200</p>	<p>DRAWING NO. AK-16</p>
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AP7-98



<p>MINISTRY OF PUBLIC WORKS AND TRANSPORT KINGDOM OF CAMBODIA</p>	<p>JAPAN INTERNATIONAL COOPERATION AGENCY CTI ENGINEERING INTERNATIONAL CO., LTD.</p>	<p>PROJECT TITLE: PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT OF BRIDGES IN FLOOD-PRONE AREAS</p>	<p>DRAWING TITLE: 5_PreK Anlong Khle Bridge REVETMENT AND RIVER BED PROTECTION(3)</p>	<p>SCALE(A1 SIZE) 1/200</p>	<p>DRAWING NO. AK-17</p>
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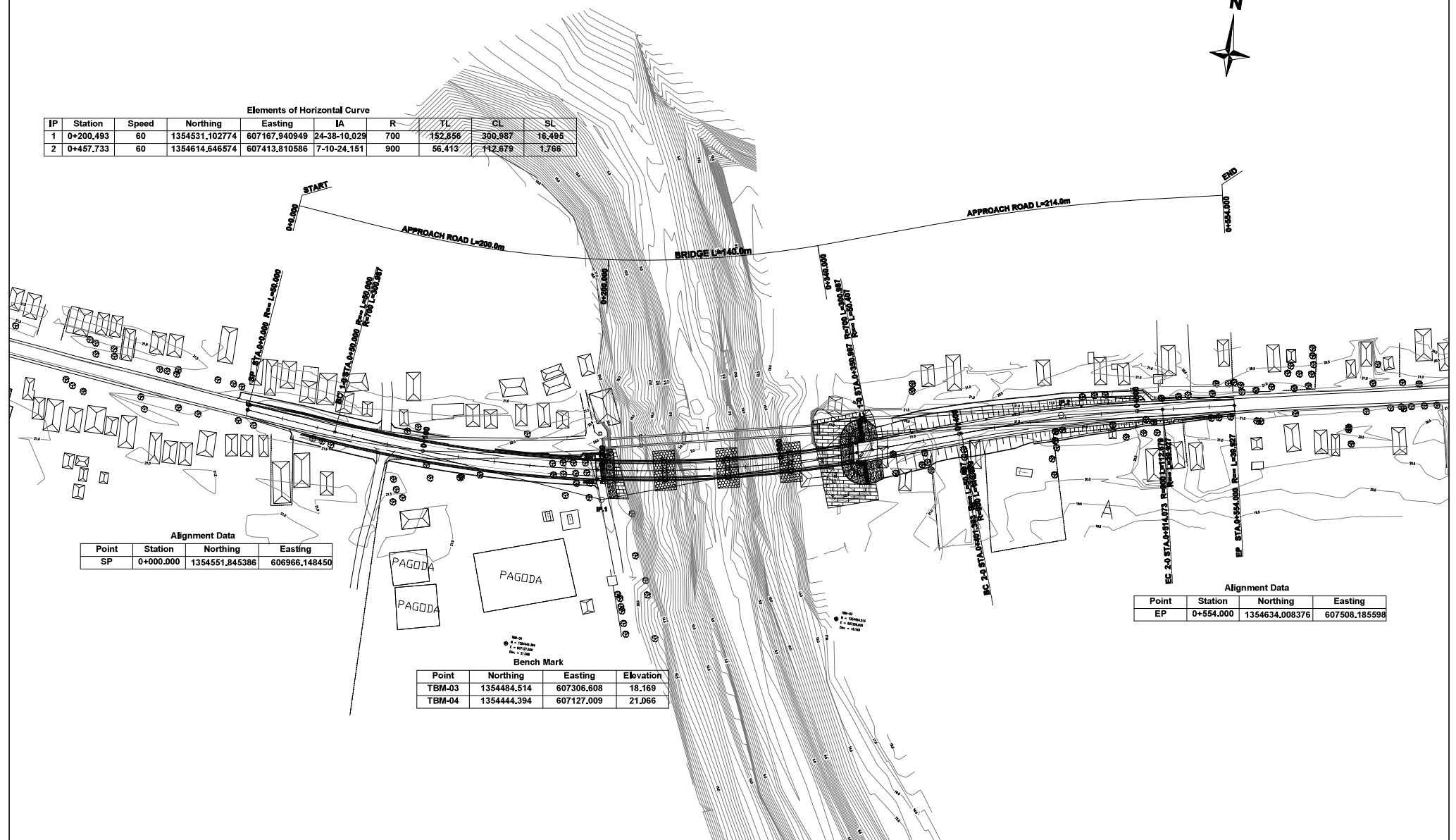
# Prek Chhloung Bridge



Elements of Horizontal Curve

IP	Station	Speed	Northing	Easting	IA	R	TL	CL	SL
1	0+200.493	60	1354531.102774	607167.940949	24-38-10.029	700	152.856	300.987	16.495
2	0+457.733	60	1354614.646574	607413.810586	7-10-24.151	900	56.413	142.879	1.766

AP7-100



Alignment Data

Point	Station	Northing	Easting
SP	0+000.000	1354551.845386	606966.148450

Alignment Data

Point	Station	Northing	Easting
EP	0+554.000	1354634.008376	607508.185598

Bench Mark

Point	Northing	Easting	Elevation
TBM-03	1354484.514	607306.608	18.169
TBM-04	1354444.394	607127.009	21.066

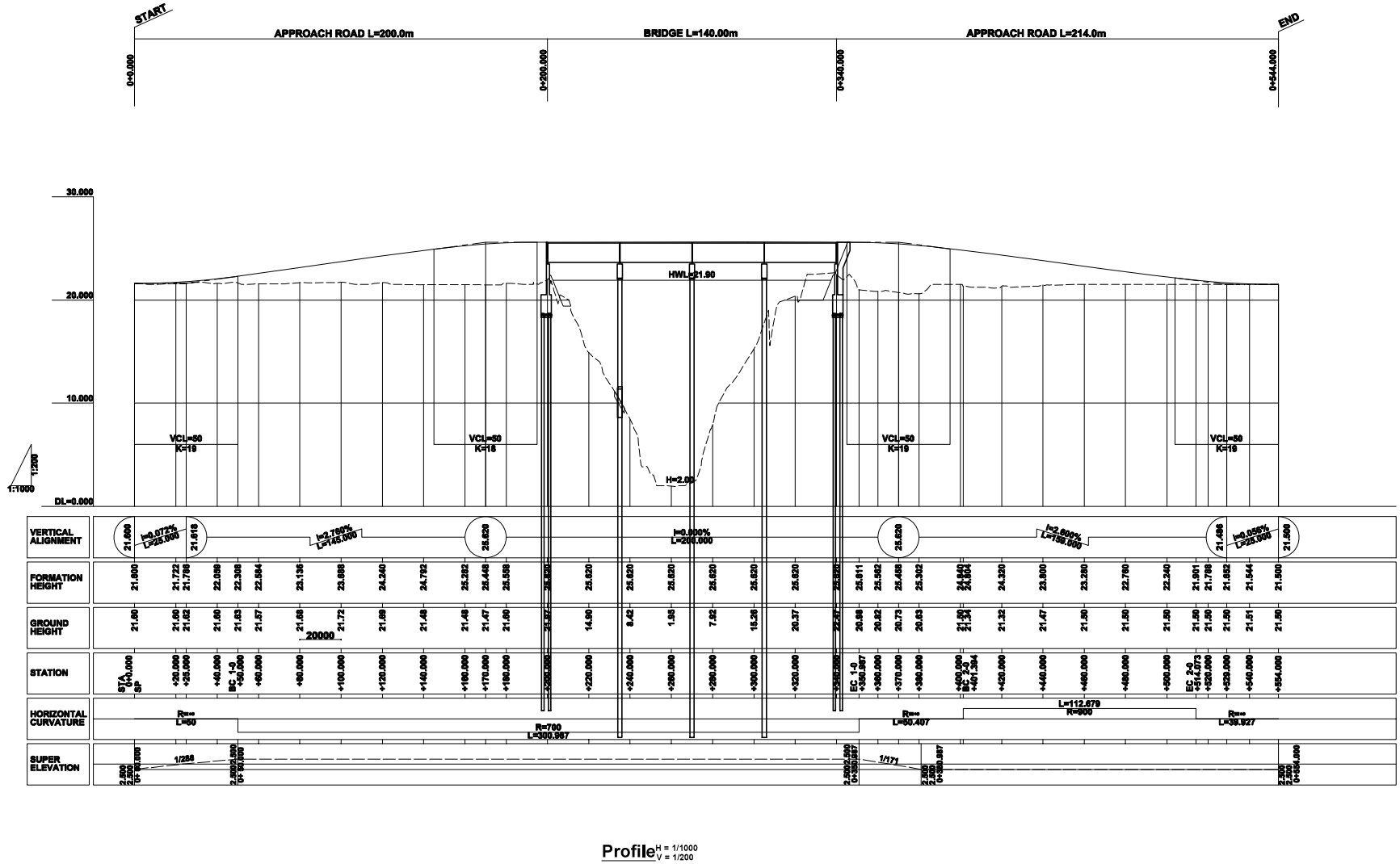
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
**6\_Prek Chhlong Bridge**  
**GENERAL PLAN**

SCALE(AT SIZE)	DRAWING NO.
1/2,000 (1/1,000)	PC-01



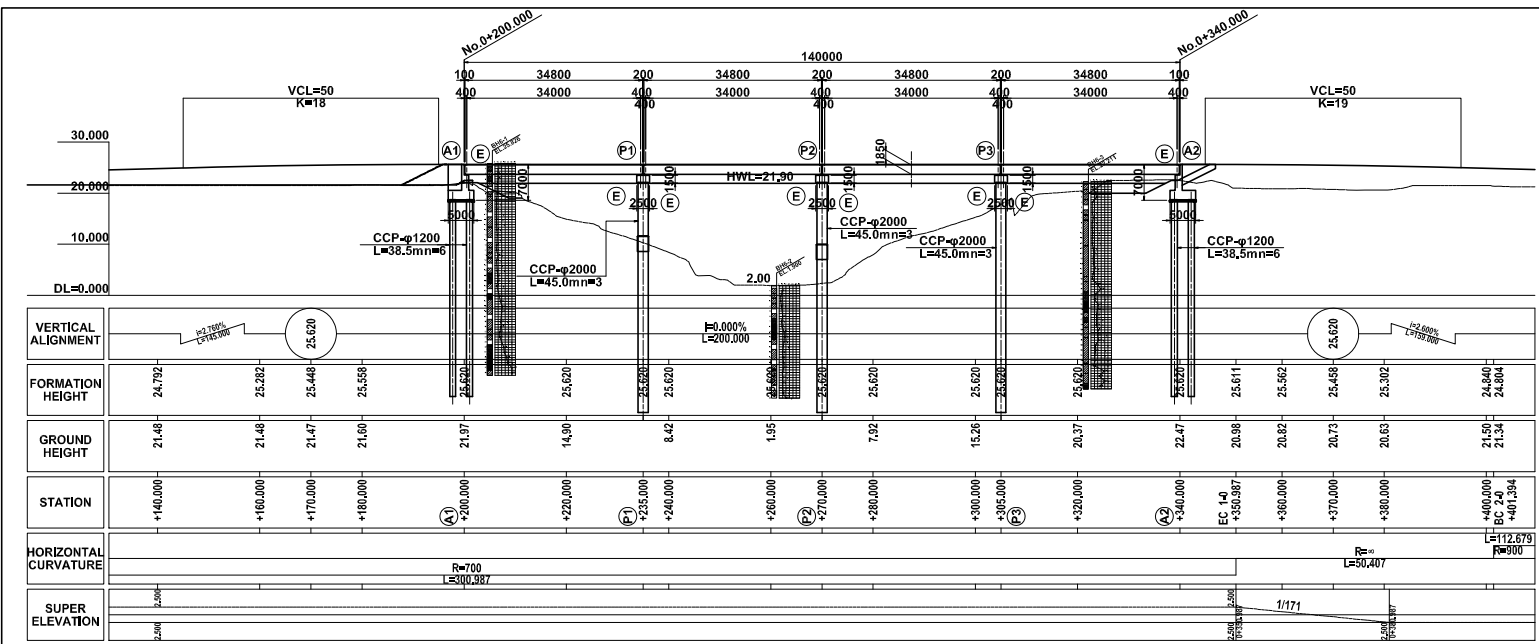
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

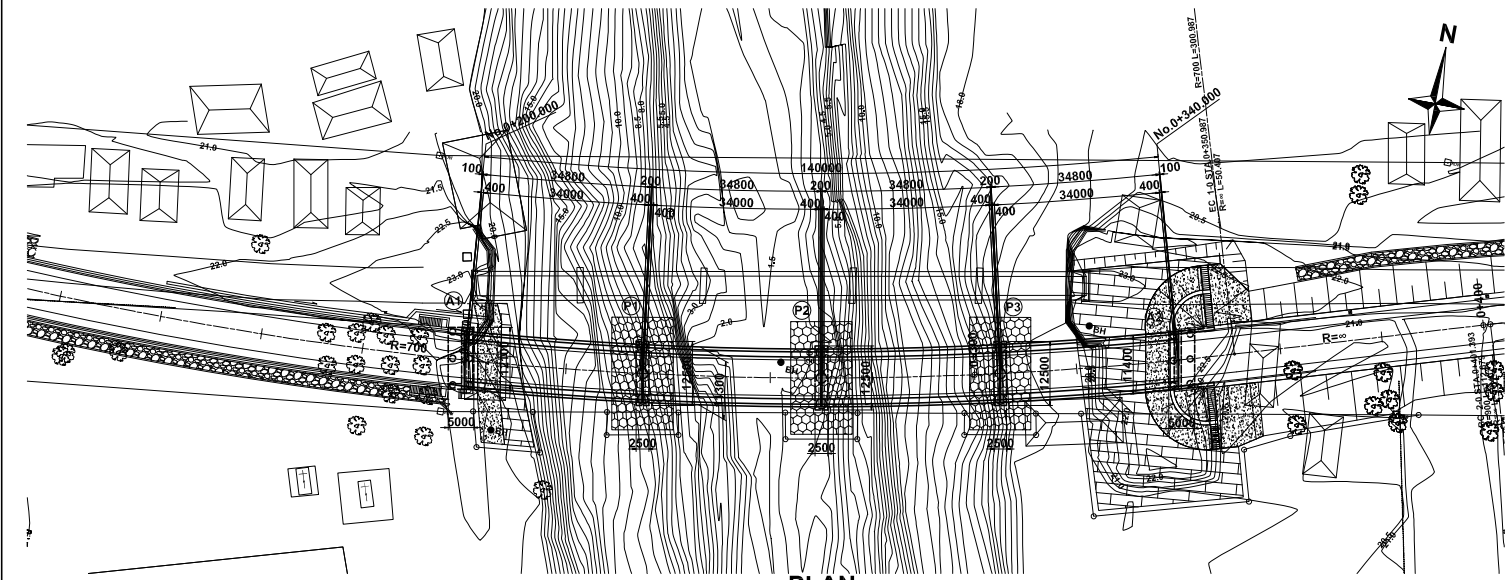
PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
**6\_Prek Chhlong Bridge**  
**GENERAL PROFILE**

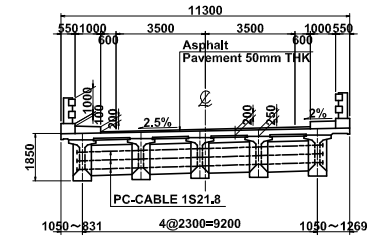
SCALE(A1 SIZE) DRAWING NO.  
AS SHOWN PC-02



PROFILE S=1:500



PLAN S=1:500



CROSS SECTION S=1:100

DESIGN CRITERIA

ROAD CLASS	SECONDARY PRINCIPAL ROAD
DESIGN SPEED	60km/h
LIVE LOAD	AASHTO HS20-44x125% OR EQUIVALENT
BRIDGE LENGTH	140,000m
SPAN LENGTH	34,000+34,000+34,000+34,000m
TOTAL WIDTH	2x3.5m(Carriage Way)+2x0.6m(Shoulder) +2x1.0m(Side Walk)
SEISMIC COEFFICIENT	kt=0.05(L1)
SUPER STRUCTURE TYPE	PC I-Girder
SUBSTRUCTURE TYPE	REVERSED T-ABUTMENT, PILE BENT PIRE
FOUNDATION TYPE	CAST-IN PLACE CONCRETE PILE(A1,P1,P2,P3,A2)
SPECIFICATION CRITERIA	Bridge Design Standard (CAM,PW,04,102,99), 2003 DESIGN SPECIFICATIONS OF HIGHWAY BRIDGES (JAPAN ROAD ASSOCIATION)

MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

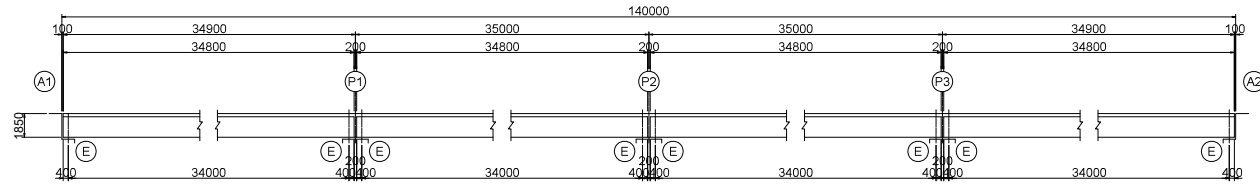
JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

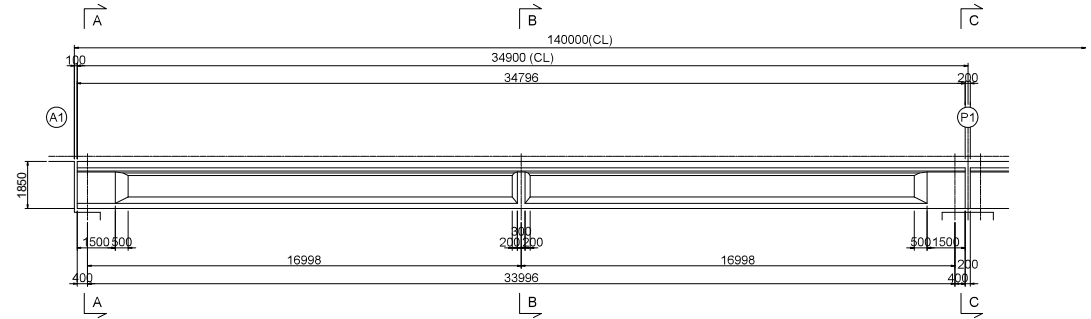
DRAWING TITLE:  
**6\_Prek Chhloung Bridge**  
GENERAL VIEW OF BRIDGE

SCALE(A1 SIZE)	DRAWING NO.
AS SHOWN	PC-03

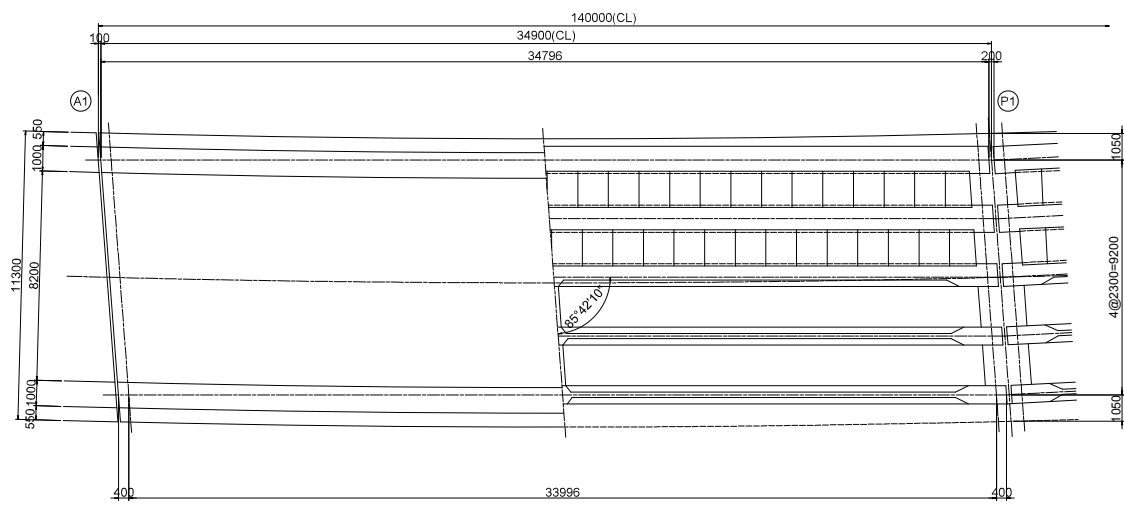




SIDE ELEVATION S=1/200



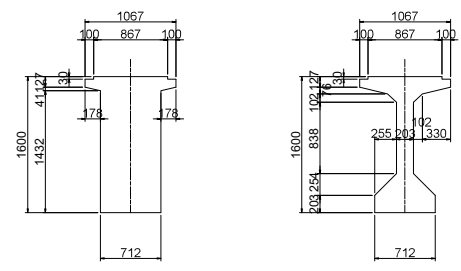
SIDE ELEVATION S=1/100



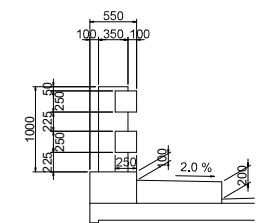
PLAN S=1/100

DESIGN CRITERIA	
CATEGORY	PRESTRESSED CONCRETE ROAD BRIDGE
BRIDGE LENGTH	140,000 m
WIDTH	11,300 m
LIVE-LOAD	HS20-44x1.25
ANGLE OF SKEW	85°42'10" 88°34'03"

MATERIALS		
CONCRETE	GIRDER	σ <sub>ck</sub> =45,0 N/mm <sup>2</sup>
	CROSS BEAM	σ <sub>ck</sub> =45,0 N/mm <sup>2</sup>
	DECK SLAB	σ <sub>ck</sub> =40,0 N/mm <sup>2</sup>
PC STEEL	GIRDER	12S12,7(SWPR7BL)
	CROSS BEAM	1S21,8(SWPR19)
DEFORMED BAR	Grade 400	



PC GIRDER S=1/30



DETAILS OF RAILING S=1/30

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KINGDOM OF CAMBODIA

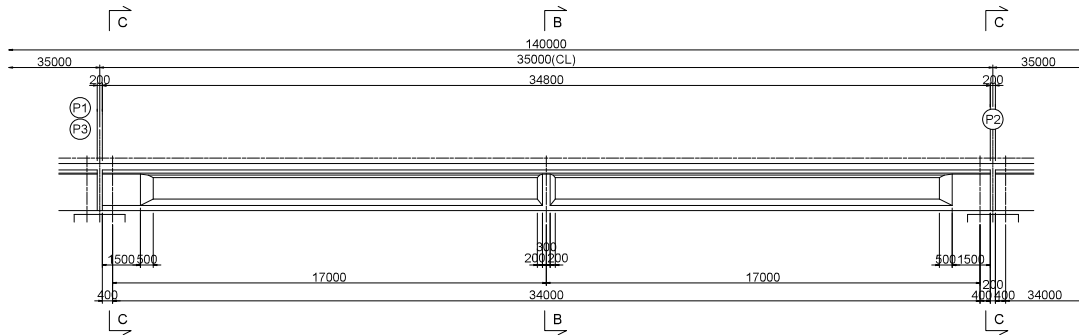
JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

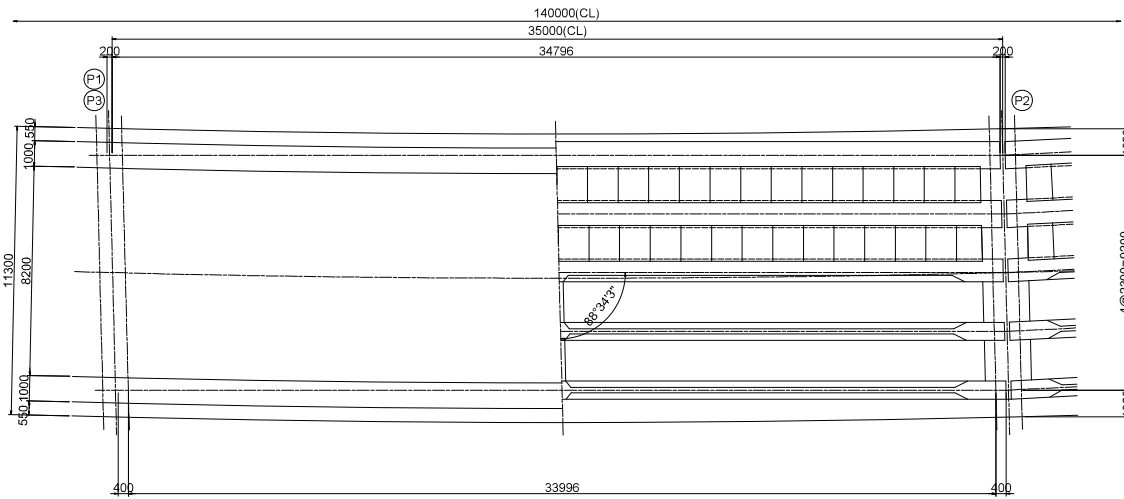
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STRUCTURE DRAWING(1)

SCALE(A1 SIZE)	DRAWING NO.
AS SHOWN	PC-04

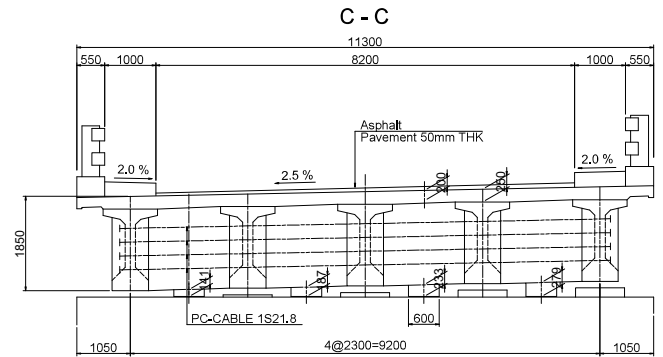
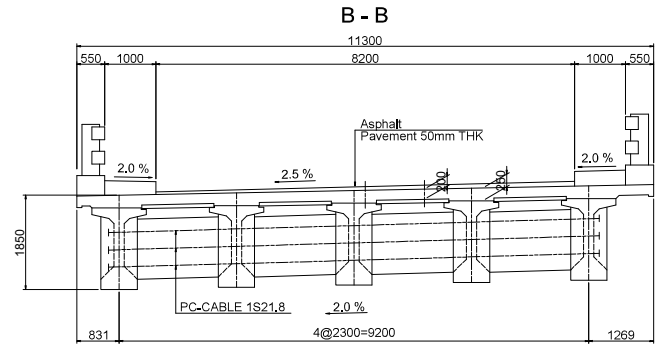
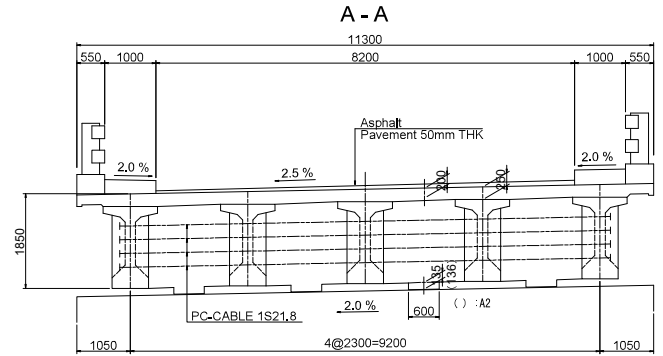
AP7-104



SIDE ELEVATION S=1/100



PLAN S=1/100



CROSS SECTION S=1/50

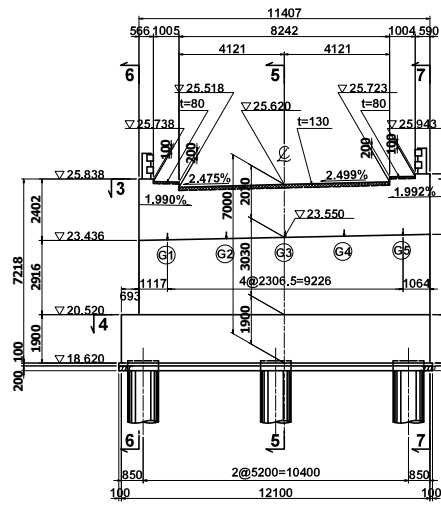
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

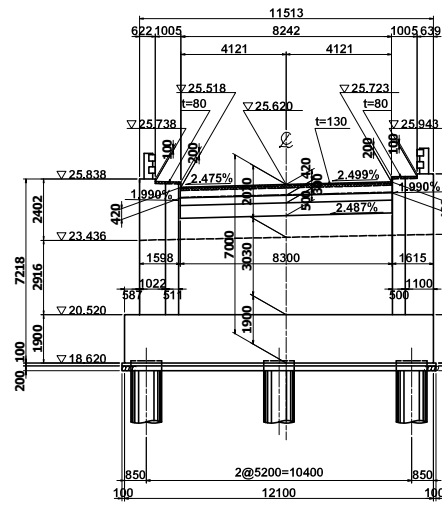
PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
6\_ Prek Chhlong Bridge  
STRUCTURE DRAWING(2)

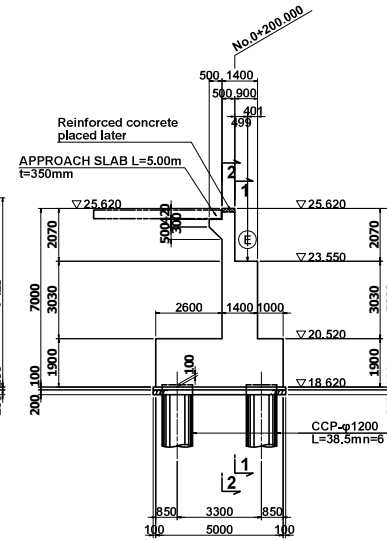
SCALE(A1 SIZE)	DRAWING NO.
AS SHOWN	PC-05



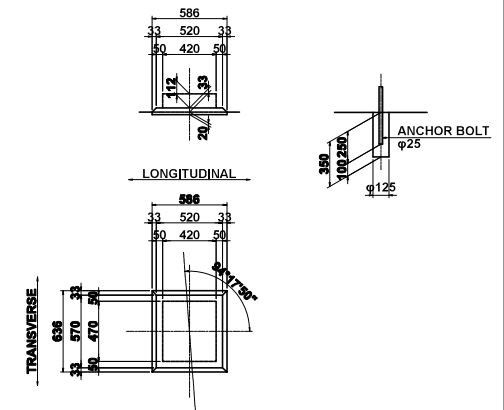
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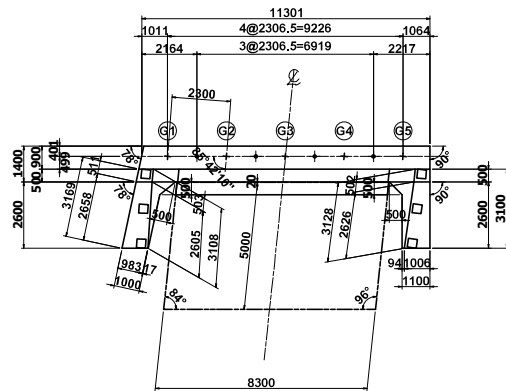
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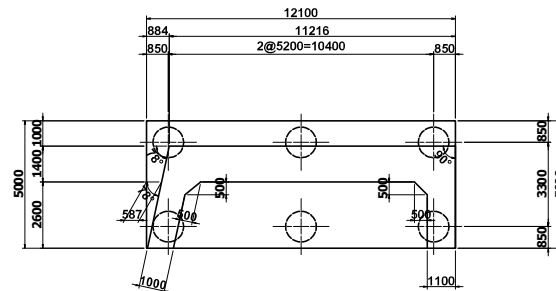
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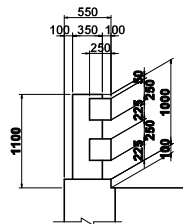
DETAIL S=1/20



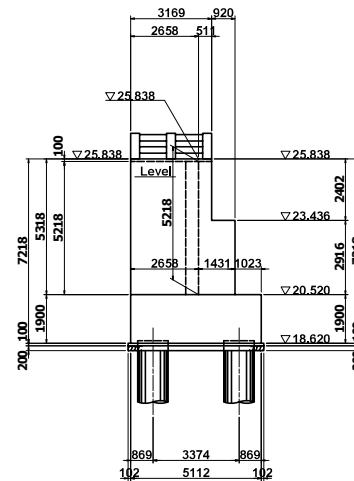
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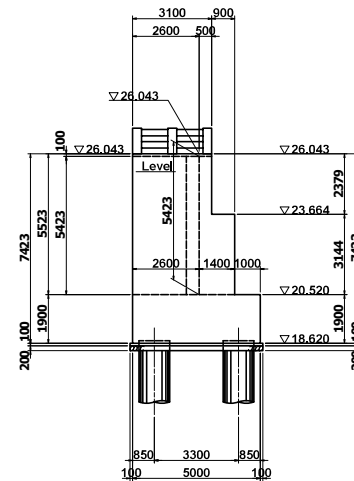
4-4



DETAIL S=1/30



6-6



7-7

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AND TRANSPORT  
KINGDOM OF CAMBODIA

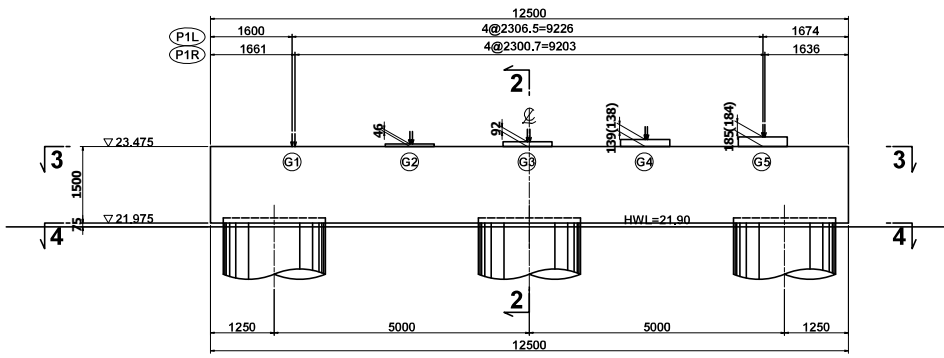
JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

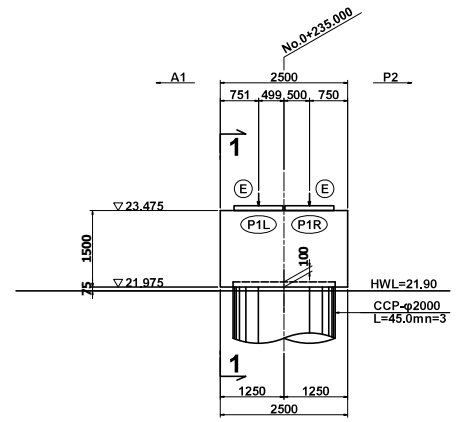
DRAWING TITLE:  
**6\_ Prek Chhlong Bridge**  
STRUCTURAL DRAWING OF A1 ABUTMENT

SCALE(A1 SIZE)	DRAWING NO.
1/100	PC-06

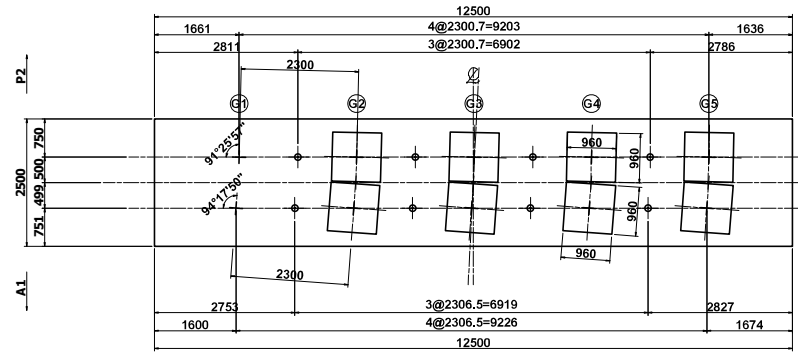
AP7-106



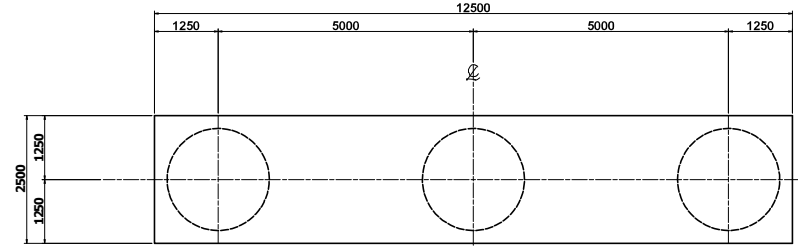
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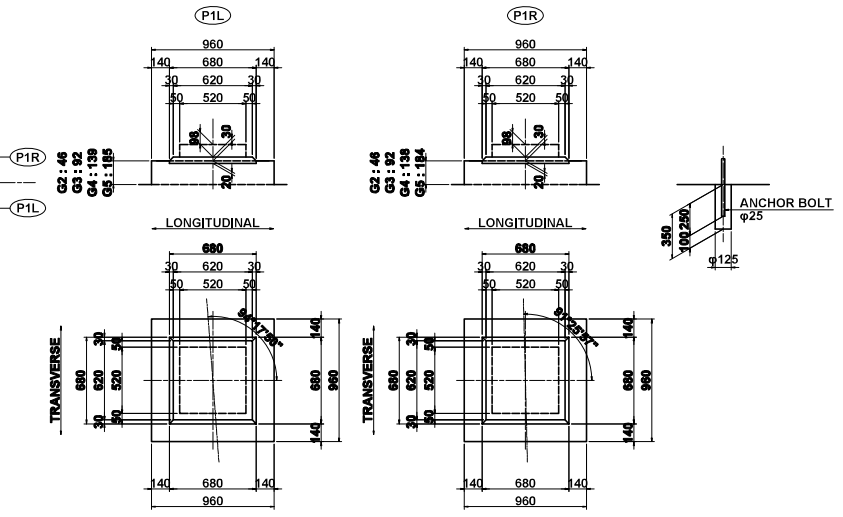
2-2



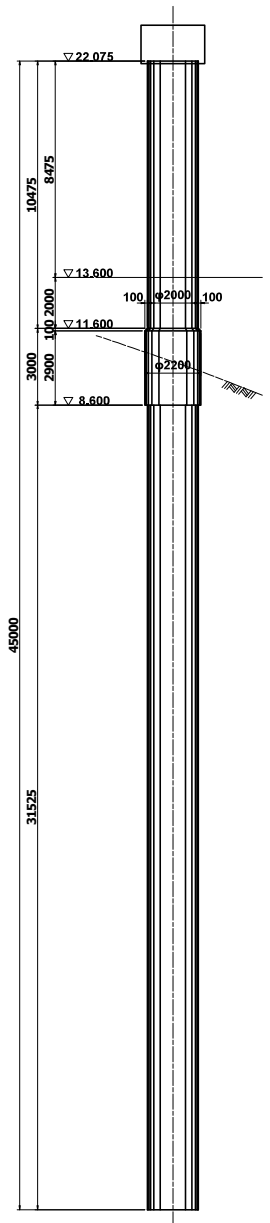
3-3



4-4



DETAIL S=1/20



PROFILE S=1/100

MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

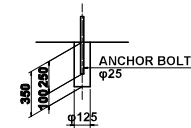
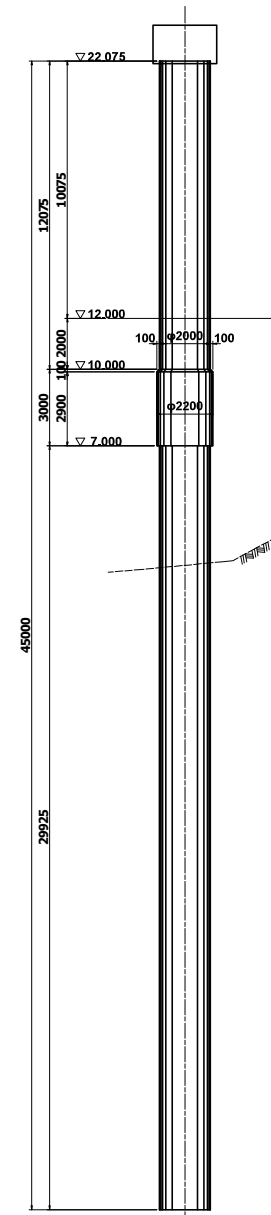
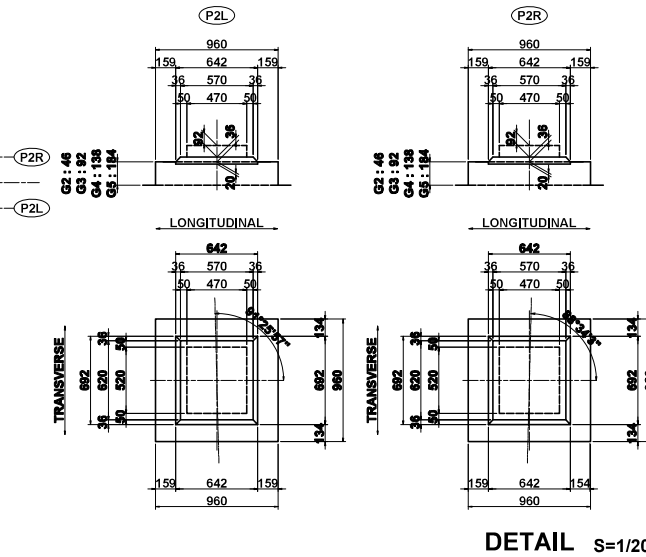
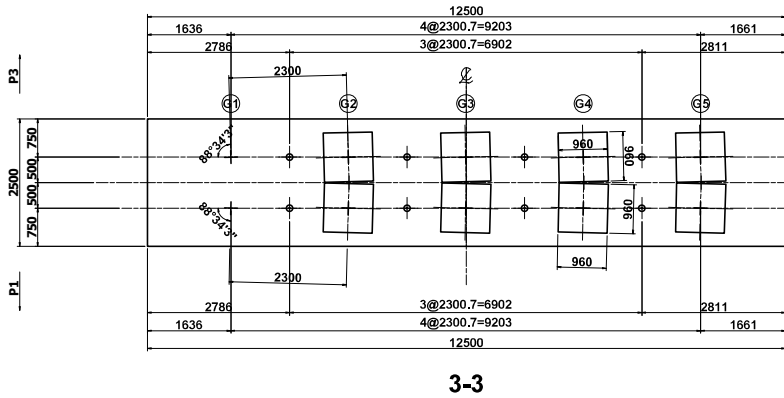
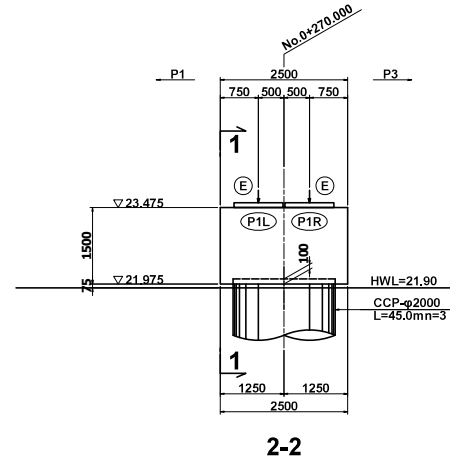
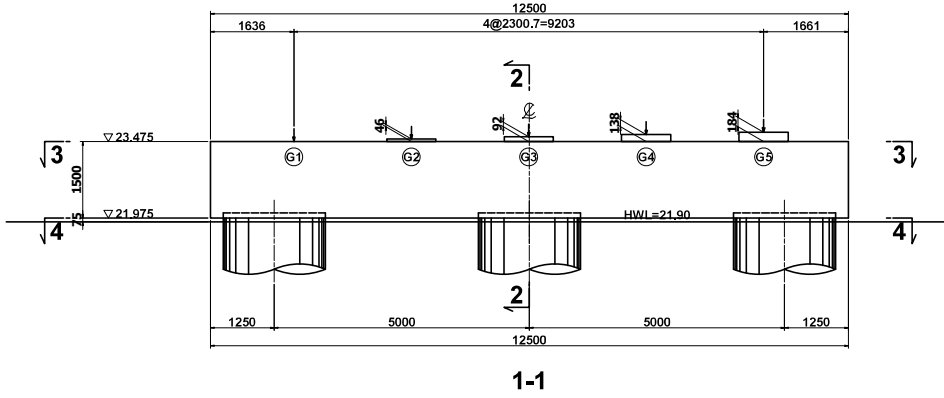
JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
**6\_ Prek Chhloung Bridge**  
STRUCTURAL DRAWING OF P1 BRIDGE PIER

SCALE(A1 SIZE)	DRAWING NO.
1/50	PC-07

AP7-107



DETAIL S=1/20

PROFILE S=1/100

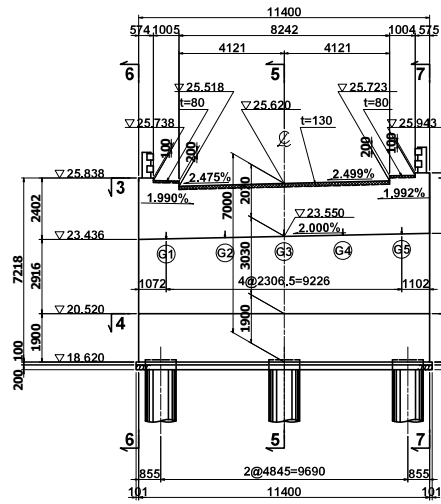
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

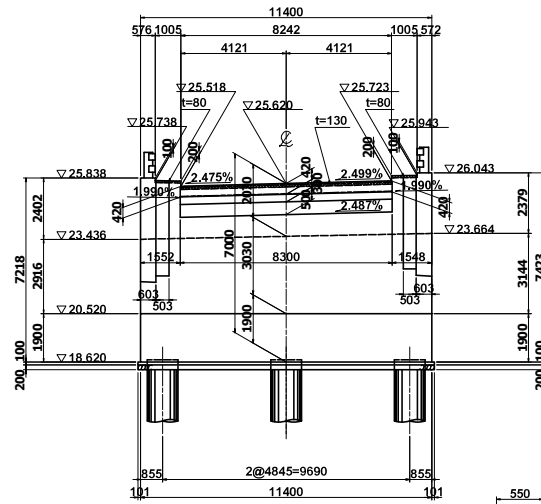
PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
**6\_ Prek Chhloung Bridge**  
**STRUCTURAL DRAWING OF P2 BRIDGE PIER**

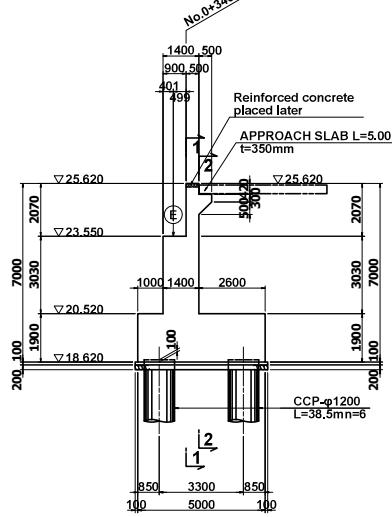
SCALE(A1 SIZE)	DRAWING NO.
1/50	PC-08



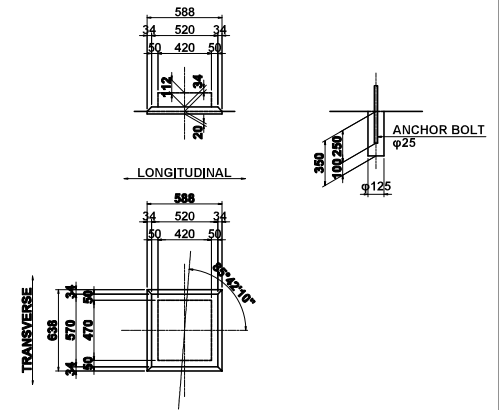
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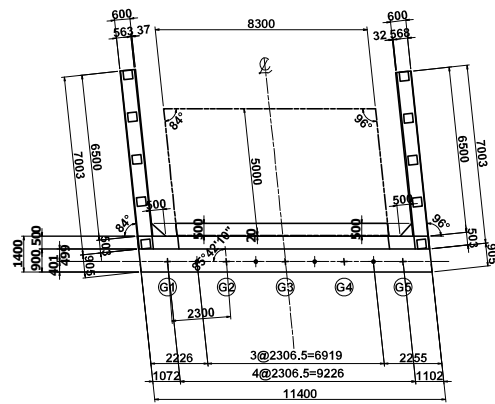
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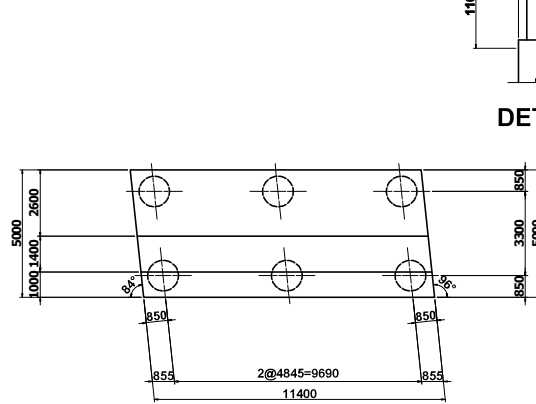
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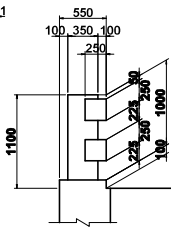
DETAIL S=1/20



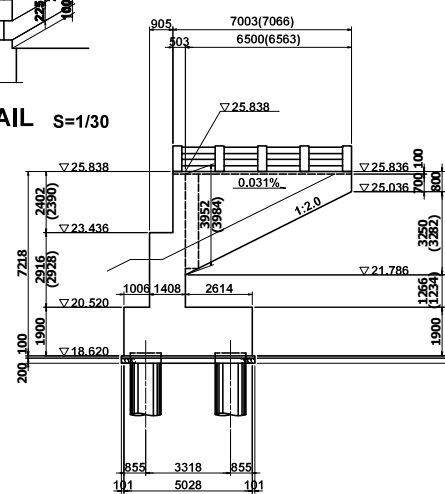
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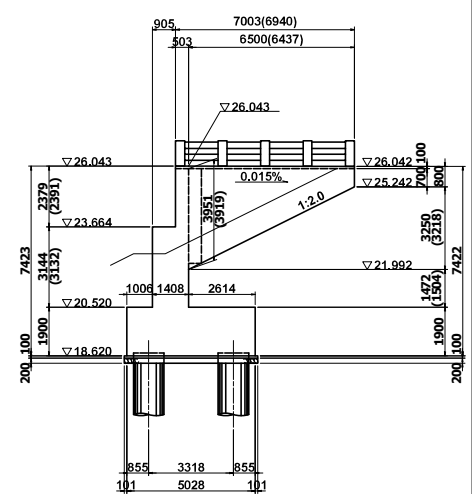
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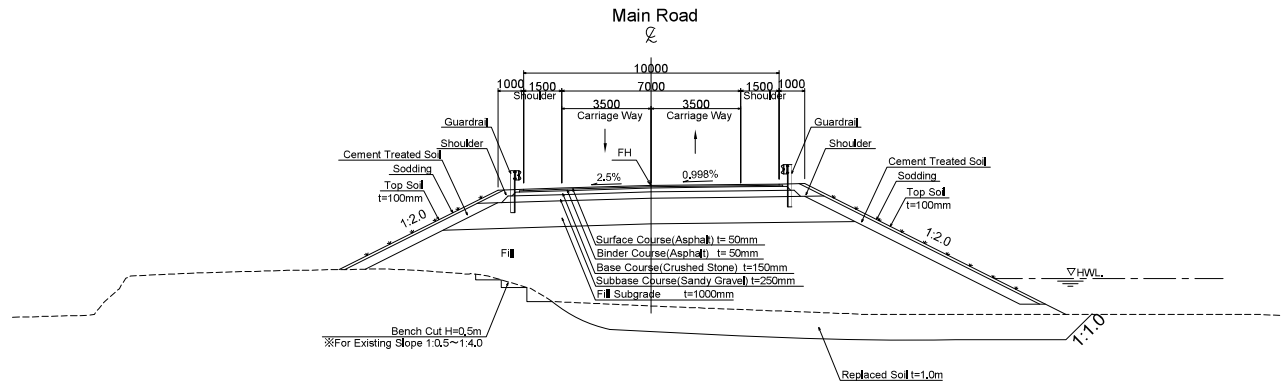
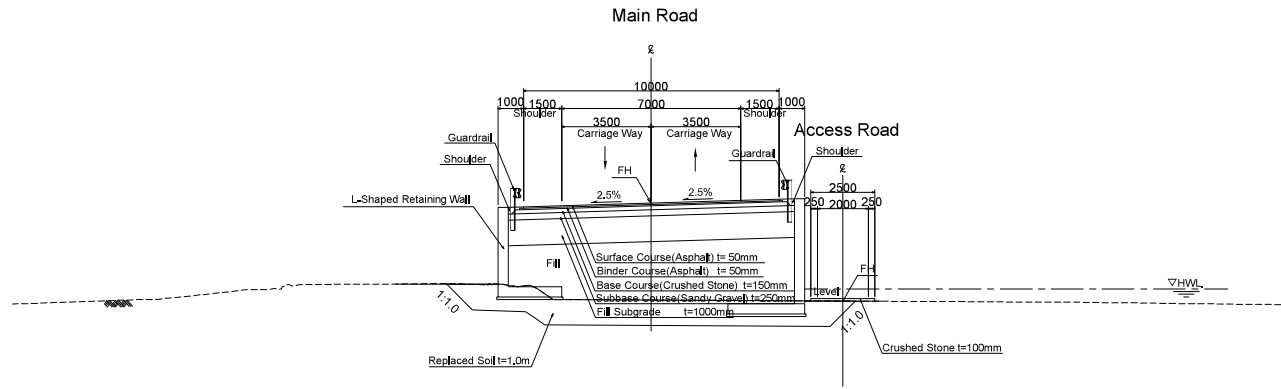
DETAIL S=1/30



6-6



7-7



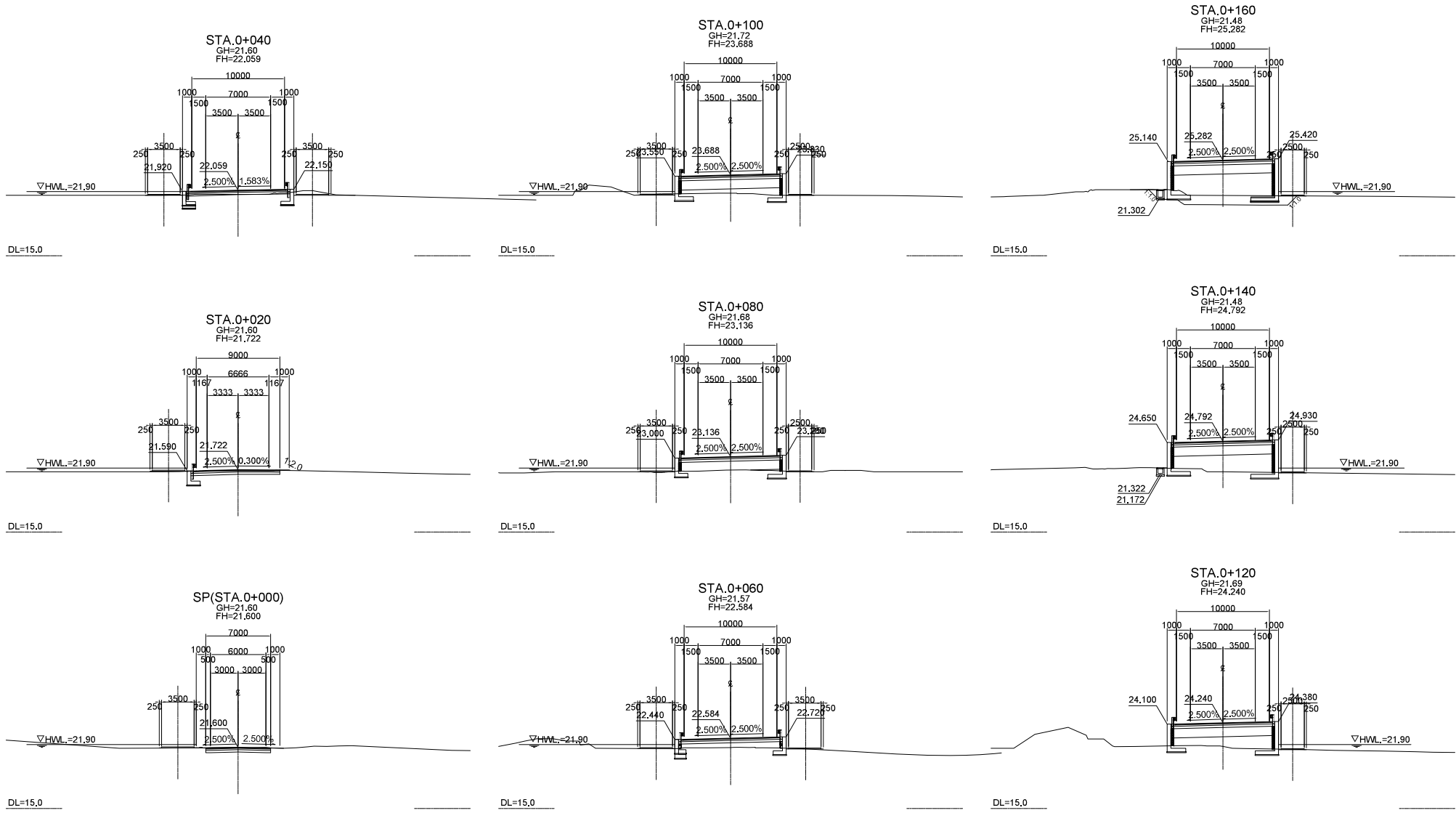
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
6\_PreK Chhloung Bridge  
TYPICAL CROSS SECTION OF APPROACH ROAD

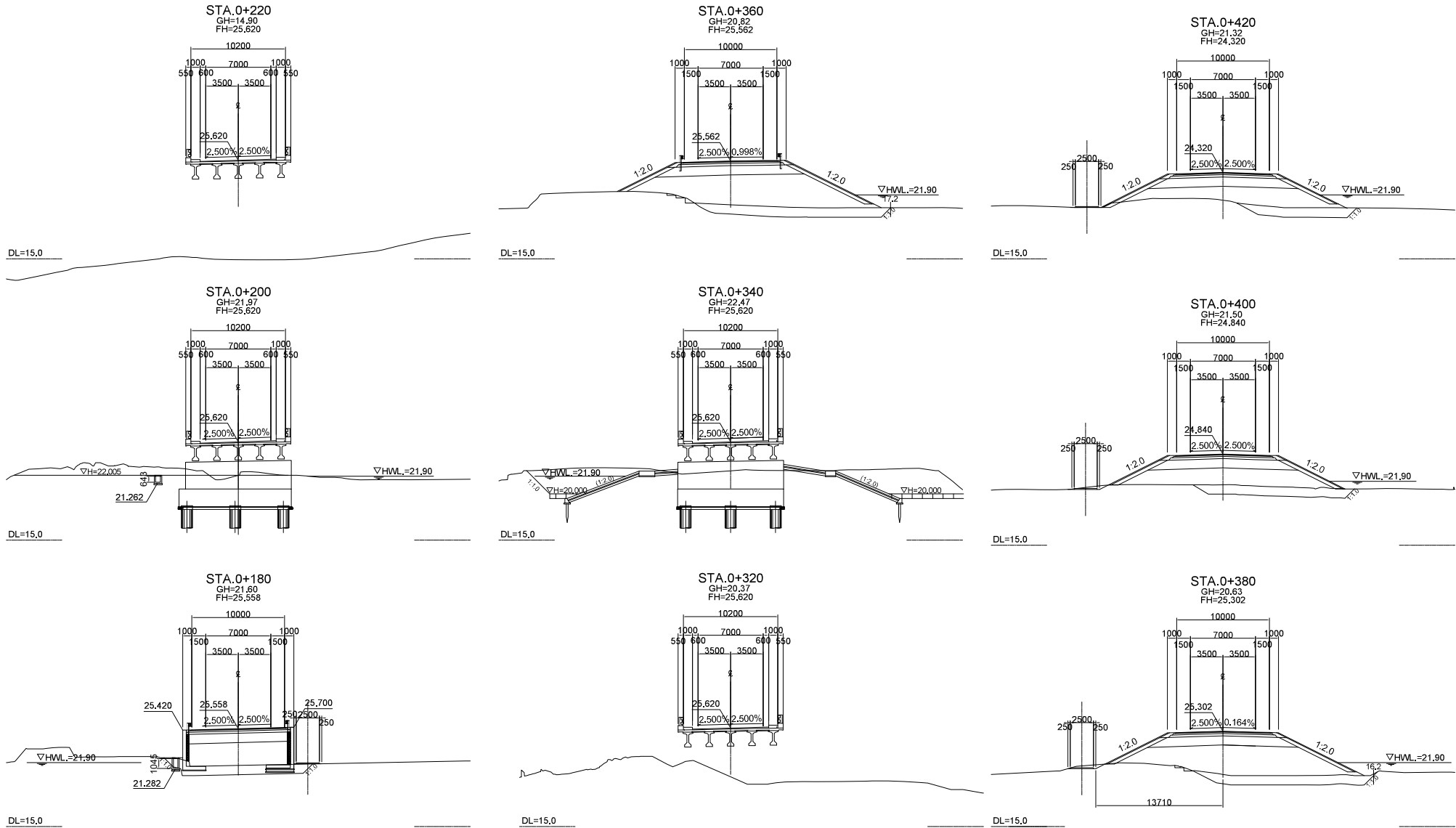
SCALE(AT SIZE)	DRAWING NO.
1/100	PC-10



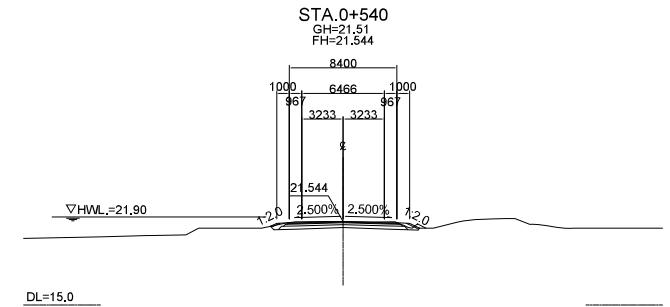
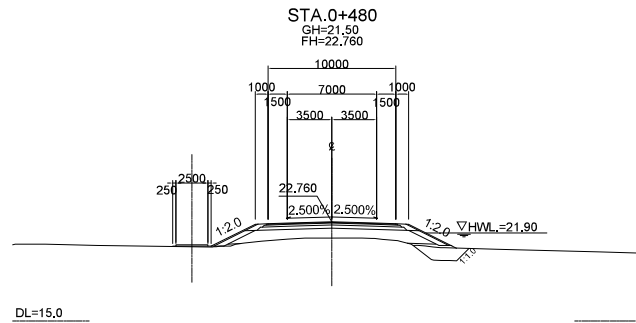
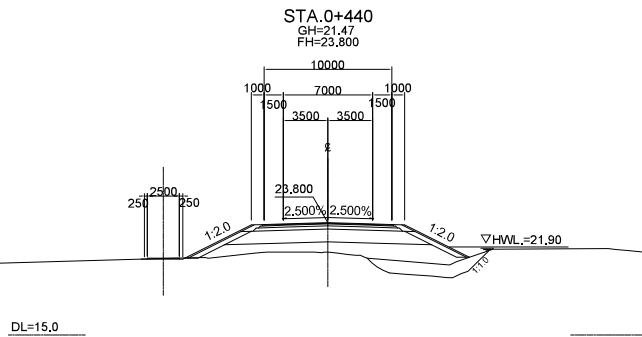
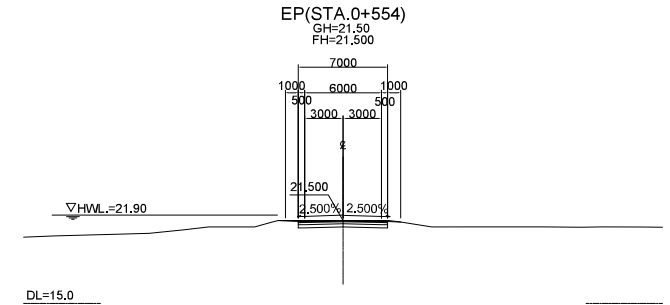
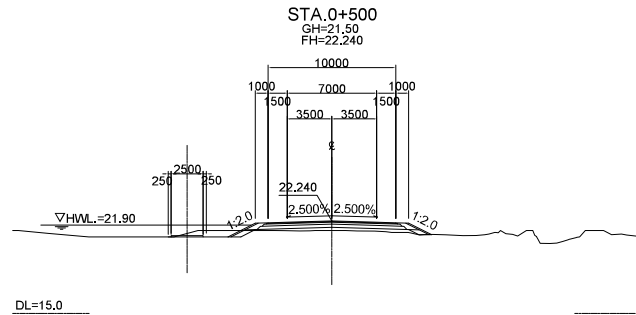
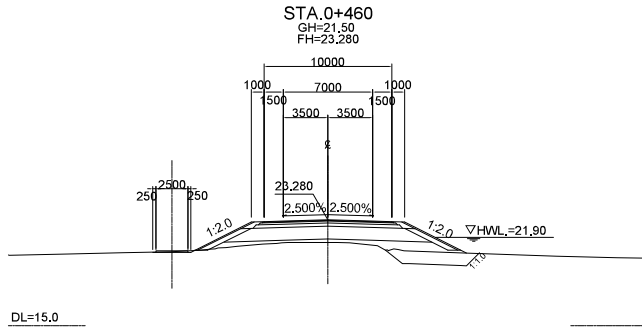
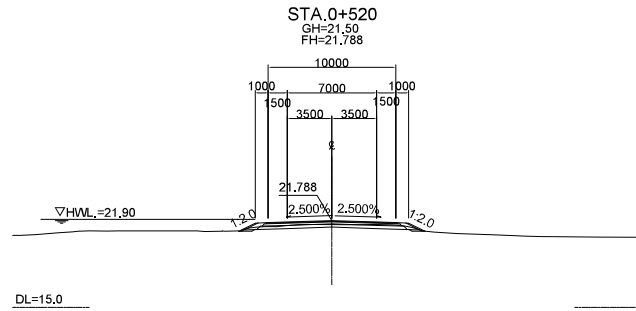
<p>MINISTRY OF PUBLIC WORKS AND TRANSPORT KINGDOM OF CAMBODIA</p>	<p>JAPAN INTERNATIONAL COOPERATION AGENCY CTI ENGINEERING INTERNATIONAL CO., LTD.</p>	<p>PROJECT TITLE: PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT OF BRIDGES IN FLOOD-PRONE AREAS</p>	<p>DRAWING TITLE: 6_Prek Chhloung Bridge CROSS SECTION OF APPROACH ROAD (1)</p>	<p>SCALE(A1 SIZE) 1/200</p>	<p>DRAWING NO. PC-11</p>
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AP7-111



<p>MINISTRY OF PUBLIC WORKS AND TRANSPORT KINGDOM OF CAMBODIA</p>	<p>JAPAN INTERNATIONAL COOPERATION AGENCY CTI ENGINEERING INTERNATIONAL CO., LTD.</p>	<p>PROJECT TITLE: PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT OF BRIDGES IN FLOOD-PRONE AREAS</p>	<p>DRAWING TITLE: 6_Prek Chhloung Bridge CROSS SECTION OF APPROACH ROAD (2)</p>	<p>SCALE(A1 SIZE) 1/200</p>	<p>DRAWING NO. PC-12</p>
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MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

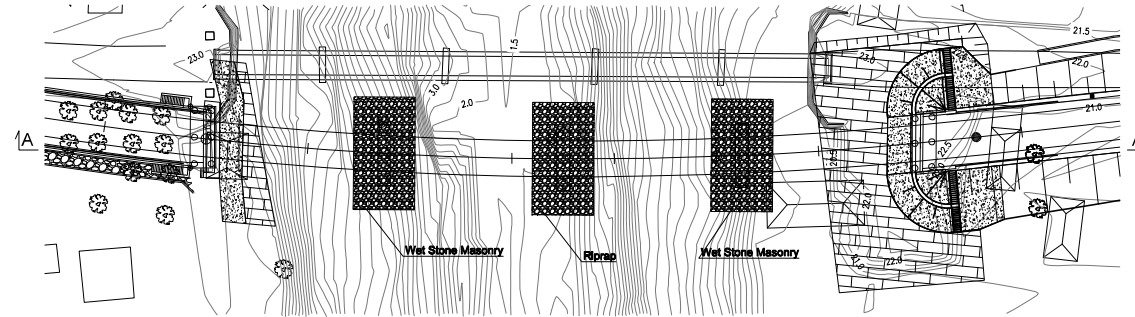
JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

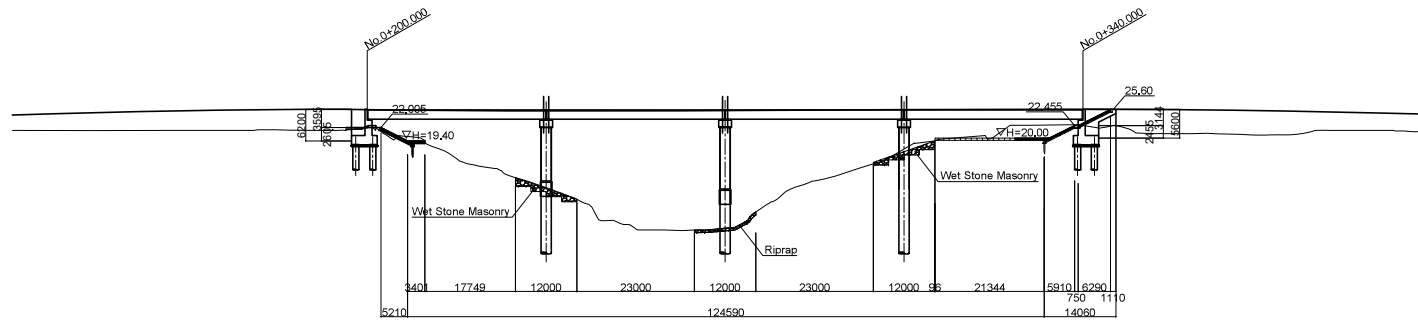
DRAWING TITLE:  
6\_PreK Chhloung Bridge  
CROSS SECTION OF APPROACH ROAD (3)

SCALE(A1 SIZE)	DRAWING NO.
1/200	PC-13





PLAN S= 1/500



SECTION A-A S= 1/500

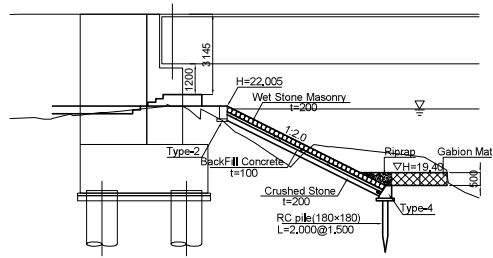
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

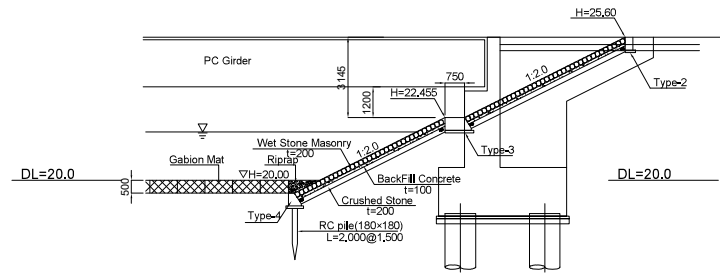
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6\_PreK Chhloung Bridge  
REVETMENT AND RIVER BED PROTECTION(1)

SCALE(A1 SIZE)	DRAWING NO.
1/500	PC-15

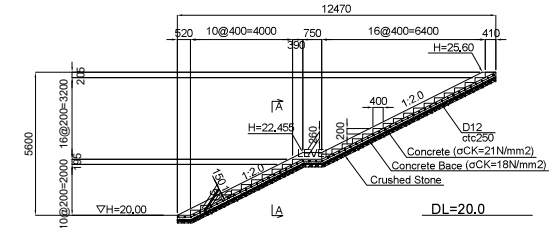


A1 abutment

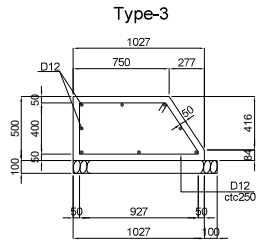
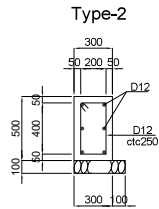
PROFILE s= 1/100



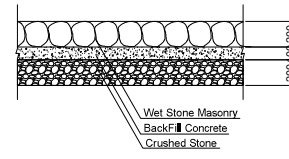
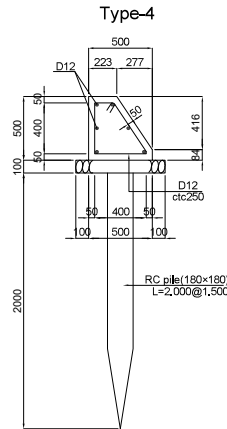
A2 abutment



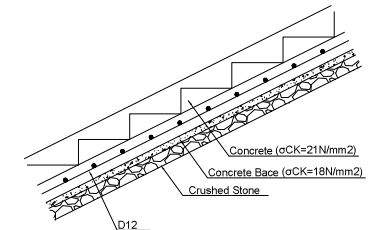
STAIRS s= 1/100



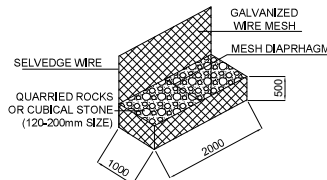
DETAILS s= 1/20



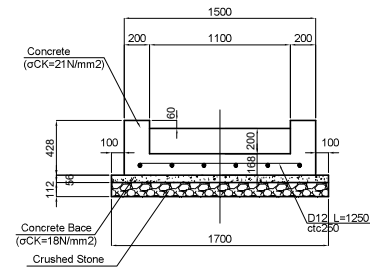
DETAILS s= 1/20



DETAILS s= 1/20



GABION MAT DETAIL  
S = None Scale



SECTION A-A s= 1/20

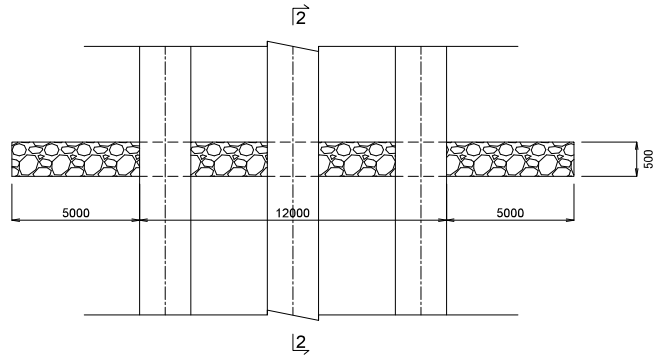
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

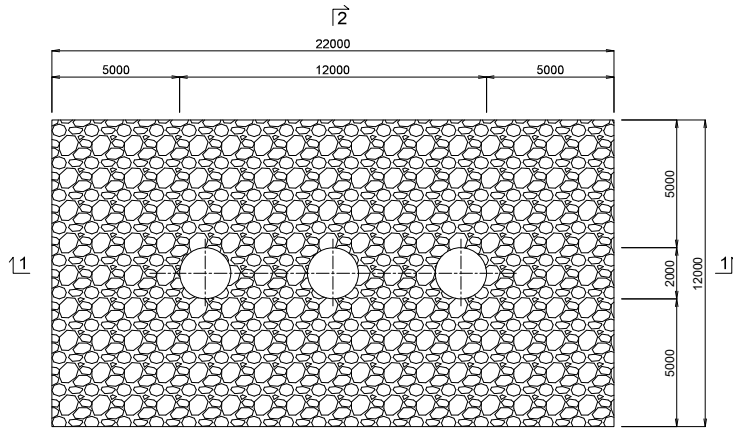
PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
6\_Prek Chhlong Bridge  
REVETMENT AND RIVER BED PROTECTION(2)

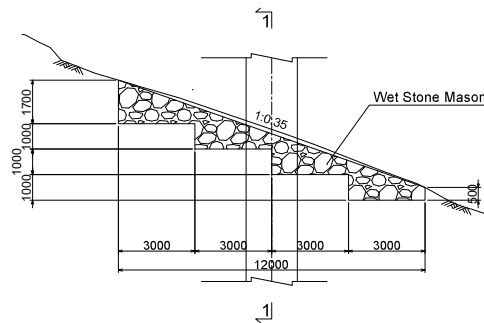
SCALE(A1 SIZE)	DRAWING NO.
AS SHOWN	PC-16



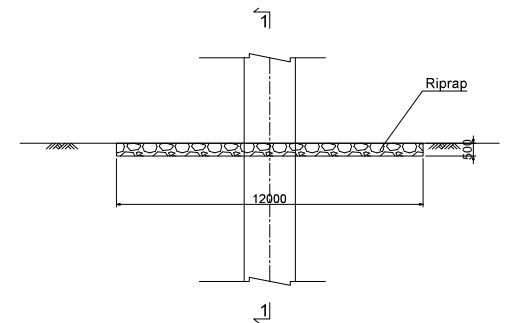
Section 1-1



Plan



A + P1, P3



A + P2

Section 2-2

RIVER BED

MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

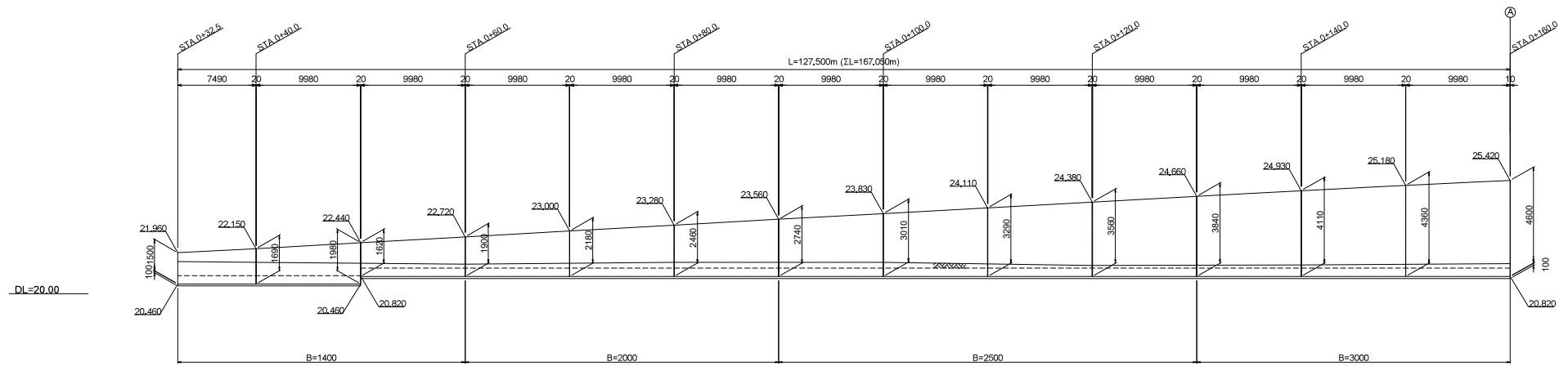
JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

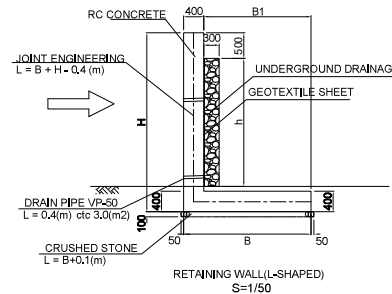
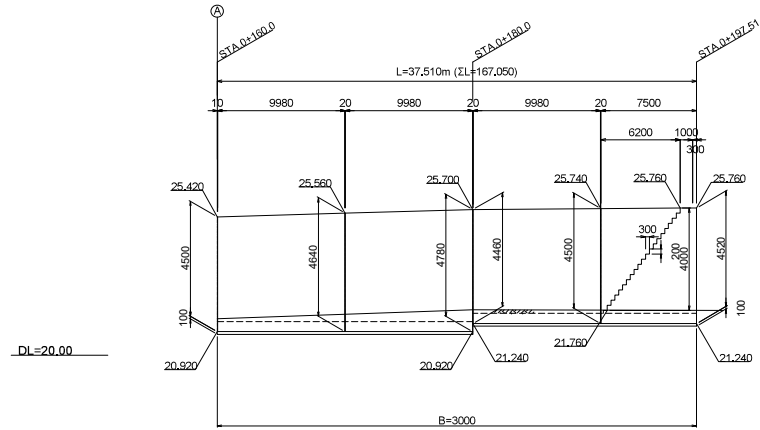
DRAWING TITLE:  
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REVTMENT AND RIVER BED PROTECTION (3)

SCALE(A1 SIZE)	DRAWING NO.
1/100	PC-17

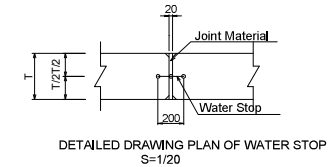




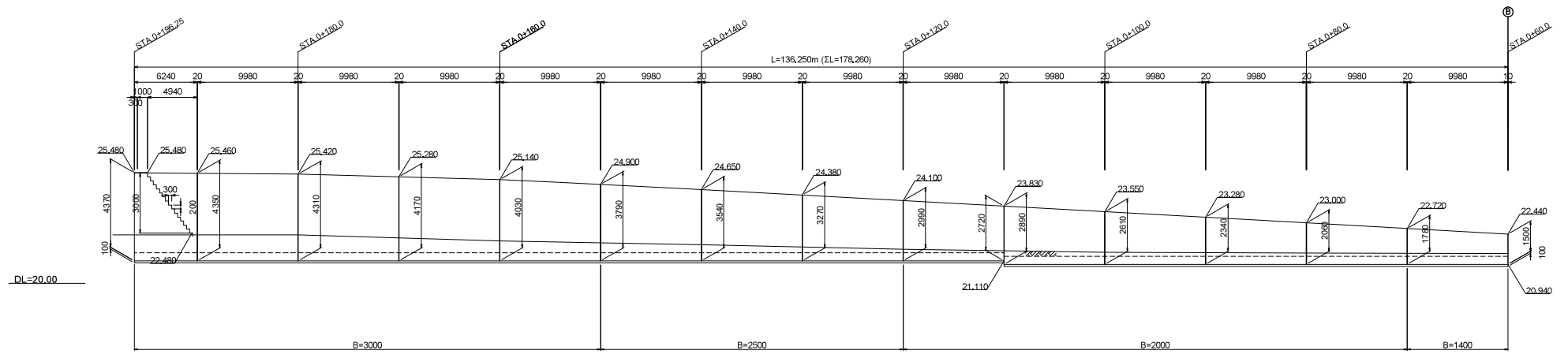
LONGITUDINAL VIEW  
STR. 0+32.5~STR. 0+197.51 (RIGHTSIDE) V=1/100  
H=1/200



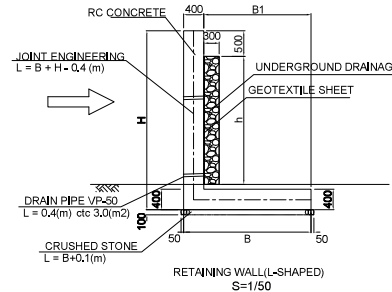
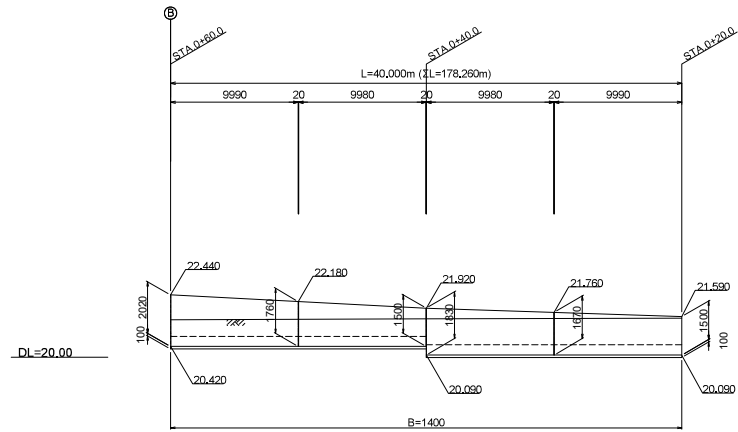
HEIGHT H(m)	LENGTH B(m)
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2.00	1.40
2.50	2.00
3.00	2.00
3.50	2.50
4.00	2.50
4.50	3.00



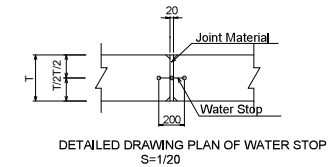




LONGITUDINAL VIEW  
STR. 0+20.0~STR. 0+196.25 (LEFTSIDE) V=1/100 H=1/200



HEIGHT H(m)	LENGTH B(m)
1.50	1.40
2.00	1.40
2.50	2.00
3.00	2.00
3.50	2.50
4.00	2.50
4.50	3.00



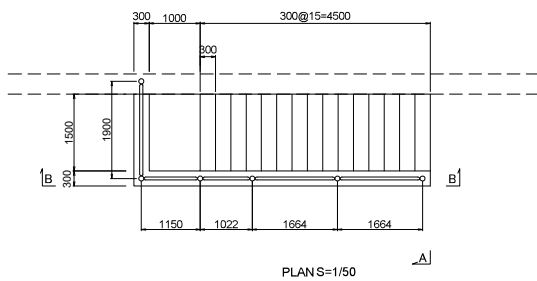
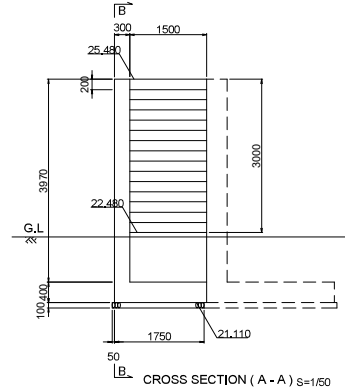
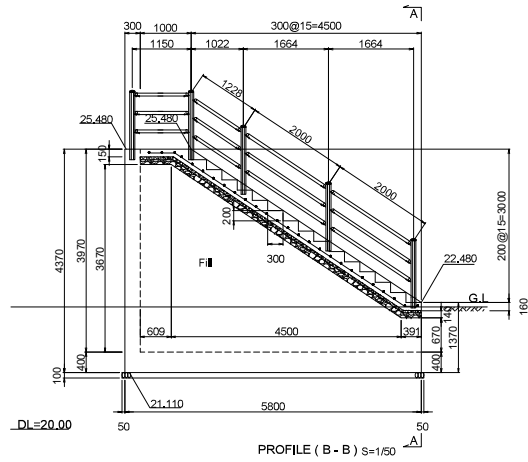
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

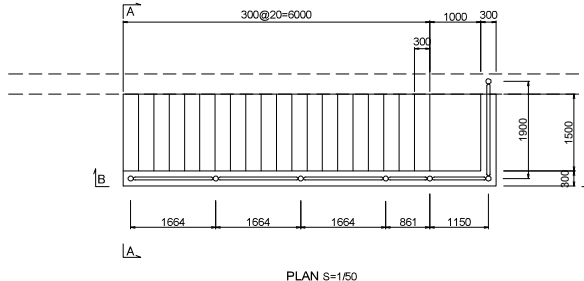
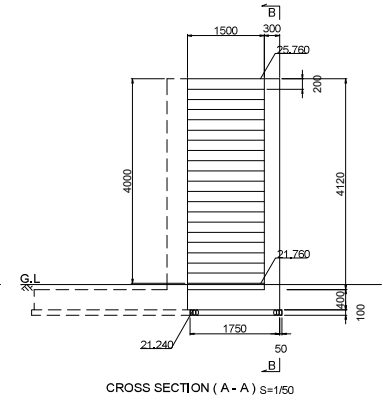
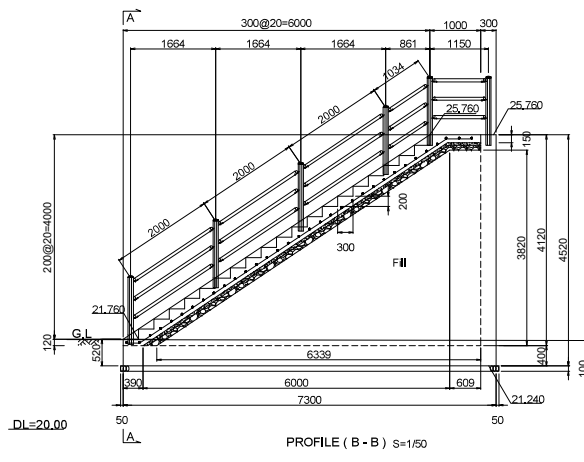
PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
6\_Prek Chhlong Bridge  
L-SHAPED RETAINING WALL (2)

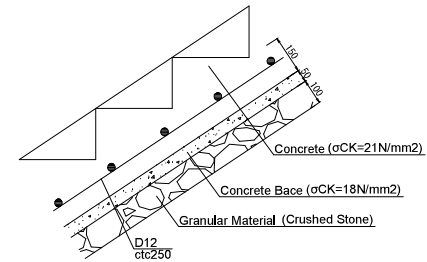
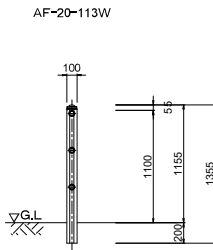
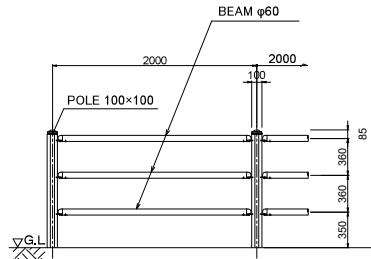
SCALE(A1 SIZE) DRAWING NO.  
V=1/100 H=1/200 PC-20



STAIRS AND HANDRAIL ( LEFT SIDE )



STAIRS AND HANDRAIL ( RIGHT SIDE )



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CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
6\_Prek Chhloung Bridge  
L-SHAPED RETAINING WALL (3)

SCALE(A1 SIZE)	DRAWING NO.
AS SHOWN	PC-21

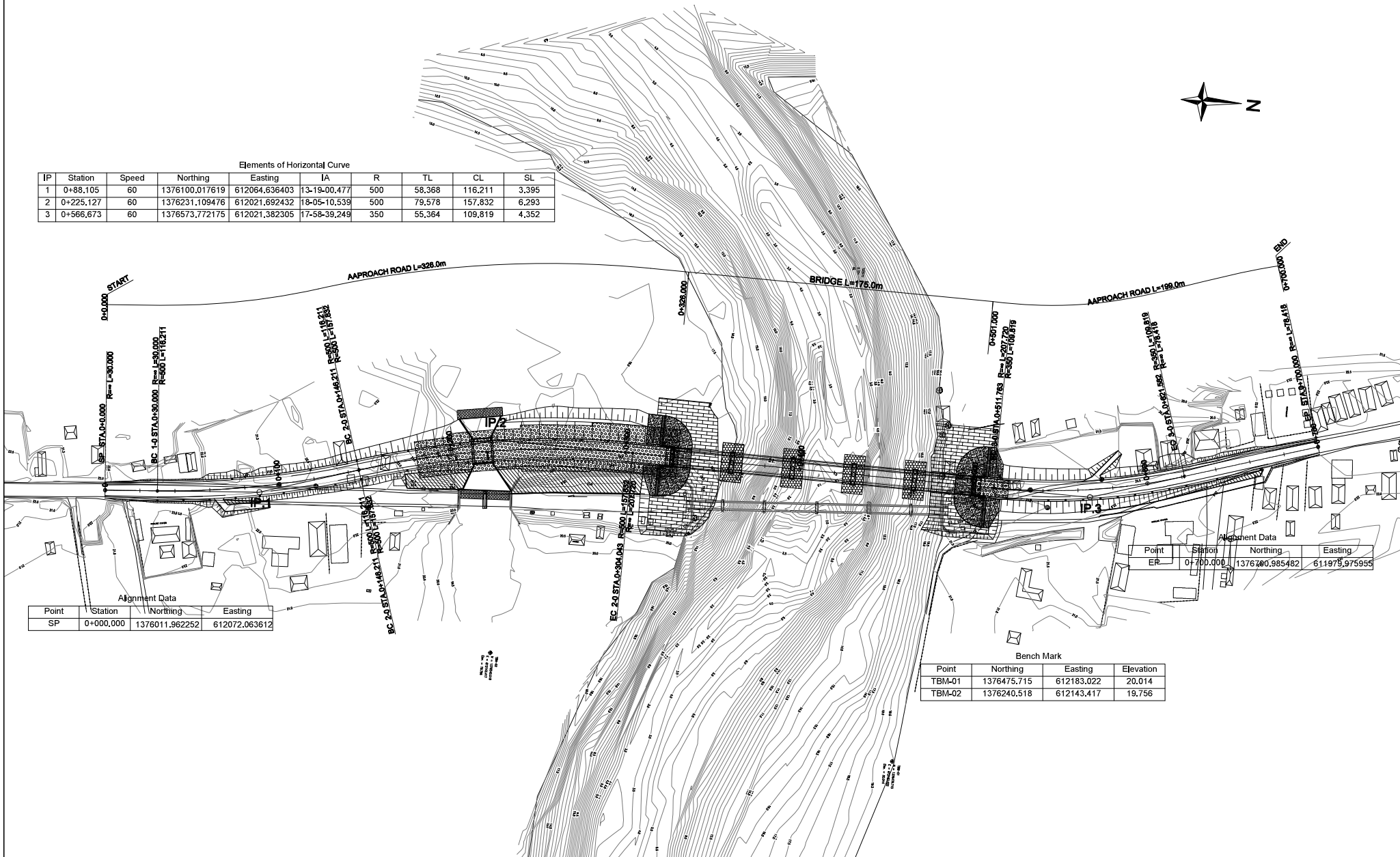
# Peam Te Bridge

AP7-122



Elements of Horizontal Curve

IP	Station	Speed	Northing	Easting	IA	R	TL	CL	SL
1	0+88.105	60	1376100.017619	612064.636403	13-19-00.477	500	58,368	116,211	3,395
2	0+225.127	60	1376231.109476	612021.692432	18-05-10.539	500	79,578	157,832	6,293
3	0+566.673	60	1376573.772175	612021.382305	17-58-39.249	350	55,364	109,819	4,352



Alignment Data

Point	Station	Northing	Easting
SP	0+000.000	1376011.962252	612072.063612

Alignment Data

Point	Station	Northing	Easting
EP	0+700.000	1376460.985482	611979.975955

Bench Mark

Point	Northing	Easting	Elevation
TBM-01	1376475.715	612183.022	20.014
TBM-02	1376240.518	612143.417	19.756

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JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:

PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:

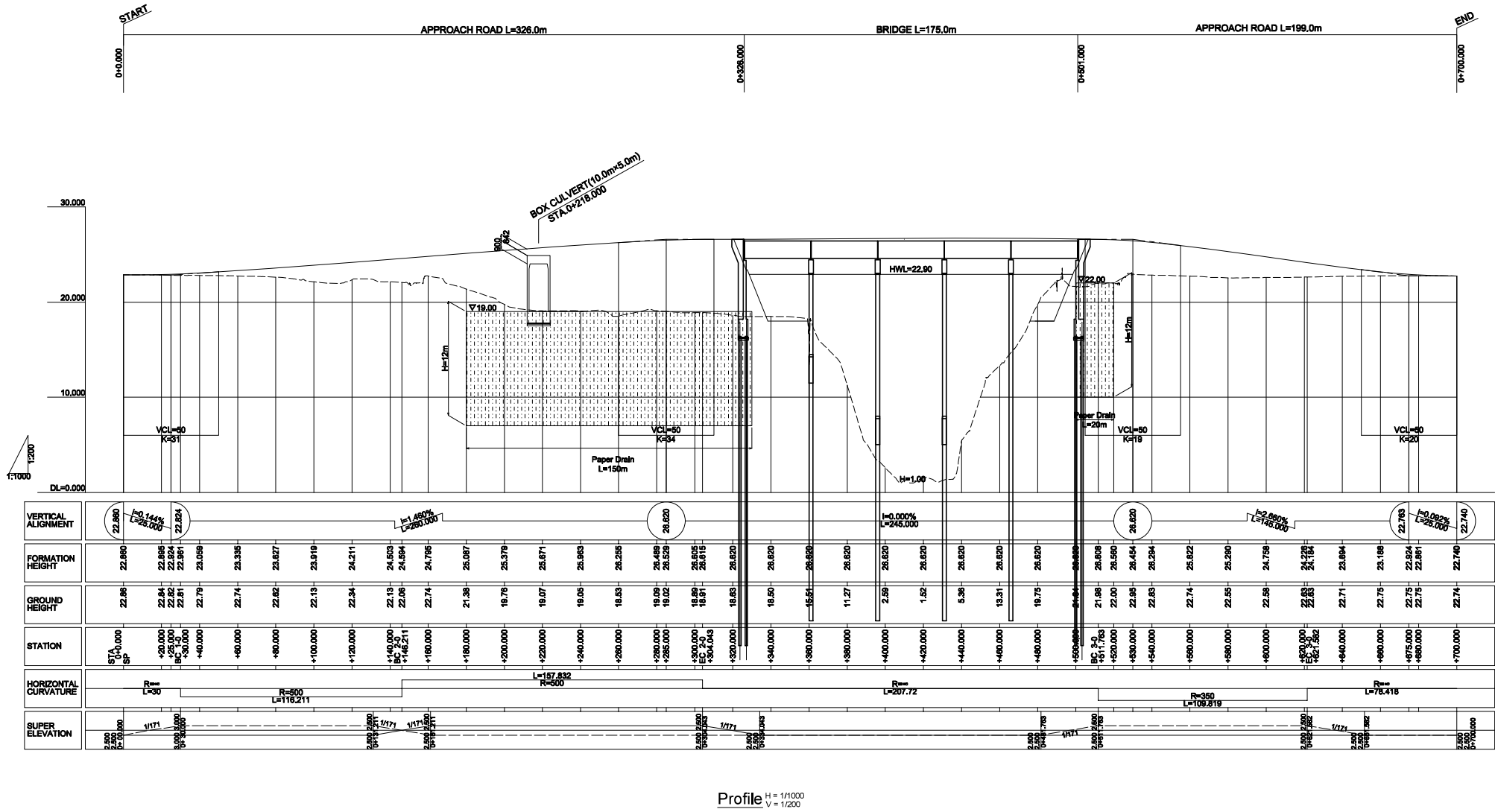
7\_Peam Te Bridge  
GENERAL PLAN

SCALE(A1 SIZE) DRAWING NO.

1/2,000  
(1/1,000)

PT-01

AP7-123



Profile H = 1/1000  
V = 1/200

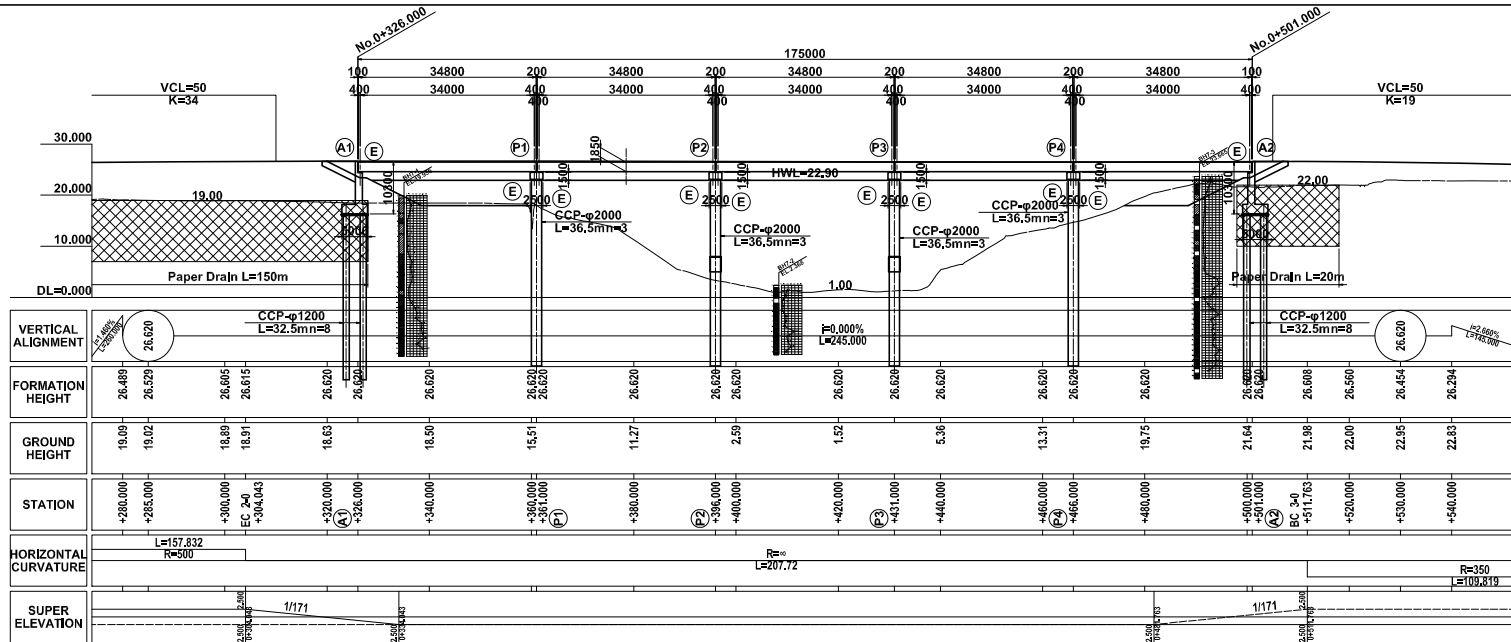
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

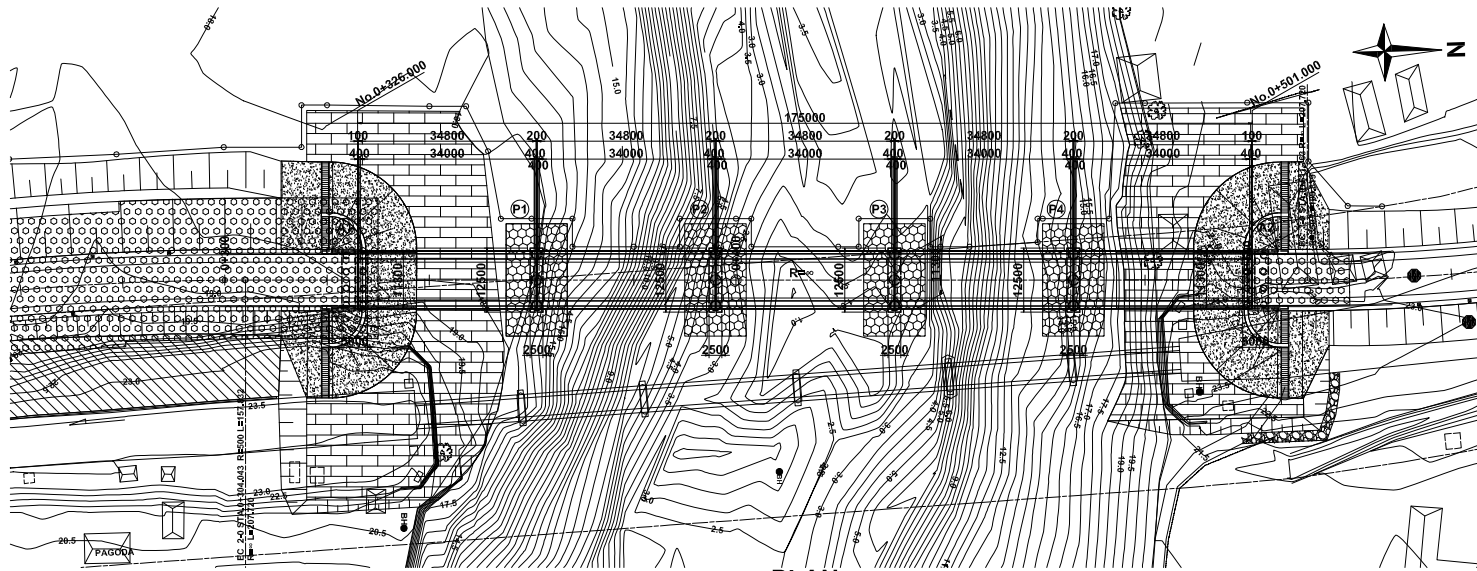
PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
7\_Peam Te Bridge  
GENERAL PROFILE

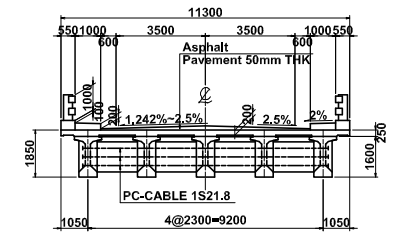
SCALE(A1 SIZE) DRAWING NO.  
AS SHOWN PT-02



PROFILE S=1:500



PLAN S=1:500



CROSS SECTION S=1:100

DESIGN CRITERIA

ROAD CLASS	SECONDARY PRINCIPAL ROAD
DESIGN SPEED	60km/h
LIVE LOAD	AASHTO HS20-44x125% OR EQUIVALENT
BRIDGE LENGTH	175,000m
SPAN LENGTH	34,000+34,000+34,000+34,000+34,000m
TOTAL WIDTH	2x3.5m(Carriage Way)+2x0.6m(Shoulder) +2x1.0m(Side Walk)
SEISMIC COEFFICIENT	kt=0.25(L1)
SUPER STRUCTURE TYPE	PC I-Girder
SUBSTRUCTURE TYPE	REVERSED T-ABUTMENT, PILE BENT PIRE
FOUNDATION TYPE	CAST-IN PLACE CONCRETE PILE(A1,P1,P2,P3,P4,A2) Bridge Design Standard (CAM,PW,04,102,99), 2003
SPECIFICATION CRITERIA	DESIGN SPECIFICATIONS OF HIGHWAY BRIDGES (JAPAN ROAD ASSOCIATION)

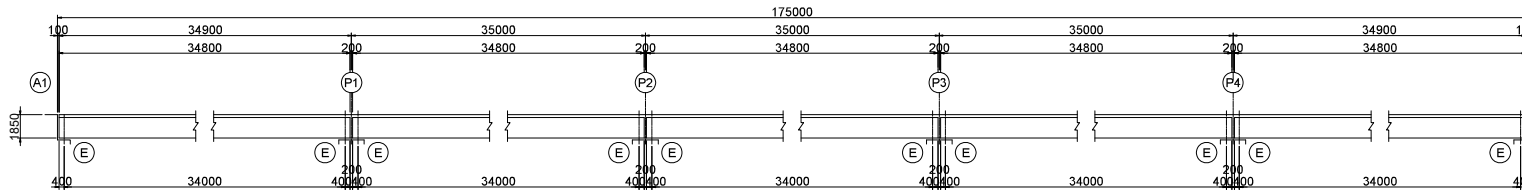
MINISTRY OF PUBLIC WORKS  
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KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
7\_Peam Te Bridge  
GENERAL VIEW OF BRIDGE

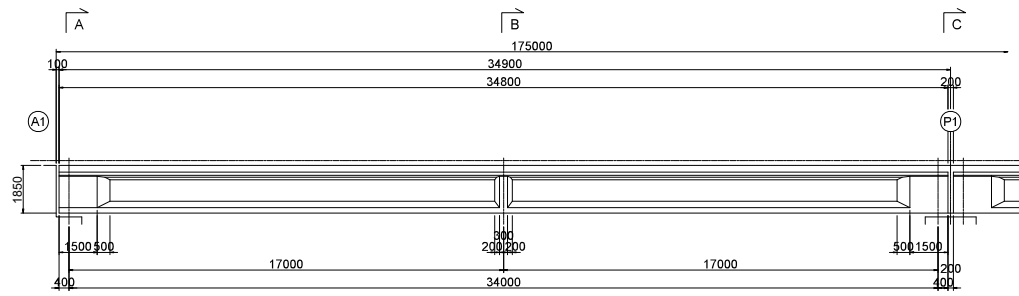
SCALE(A1 SIZE) DRAWING NO.  
AS SHOWN PT-03



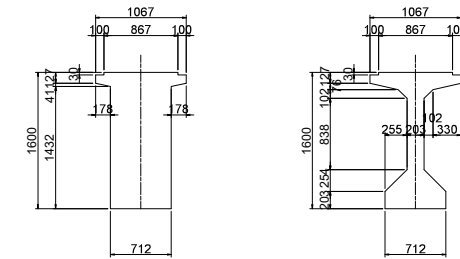
SIDE ELEVATION S=1/200

DESIGN CRITERIA	
CATEGORY	PRESTRESSED CONCRETE ROAD BRIDGE
BRIDGE LENGTH	175,000 m
WIDTH	11,300 m
LIVE-LOAD	HS20-44×1.25
ANGLE OF SKEW	90°00'00"

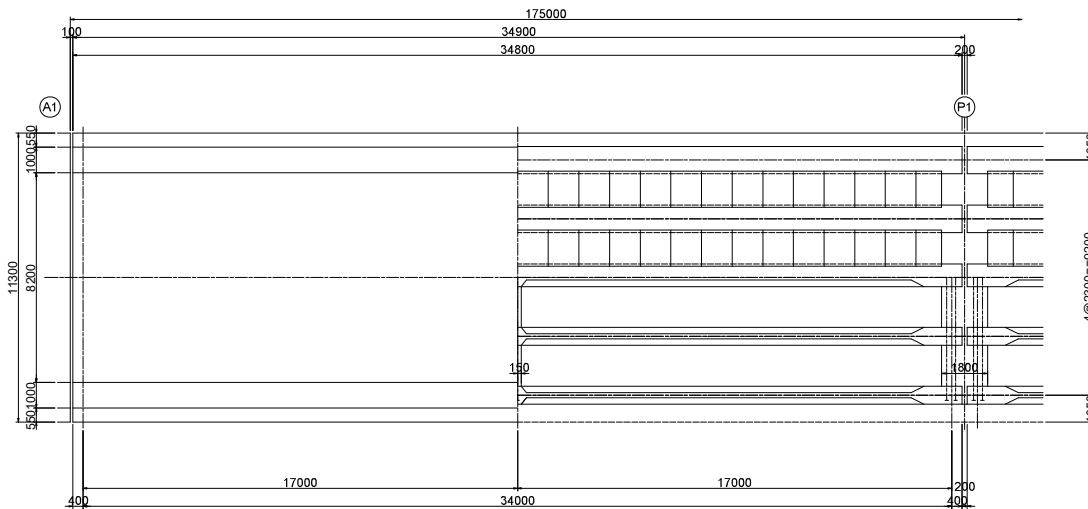
MATERIALS		
CONCRETE	GIRDER	$\sigma_{ck}=45.0$ N/mm <sup>2</sup>
	CROSS BEAM	$\sigma_{ck}=45.0$ N/mm <sup>2</sup>
	DECK SLAB	$\sigma_{ck}=40.0$ N/mm <sup>2</sup>
PC STEEL	GIRDER	12S12.7(SWPR7BL)
	CROSS BEAM	1S21.8 (SWPR19)
DEFORMED BAR	Grade 400	



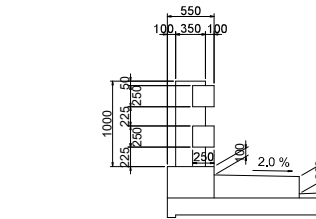
SIDE ELEVATION S=1/100



PC GIRDER S=1/30



PLAN S=1/100



DETAILS OF RAILING S=1/30

AP7-125

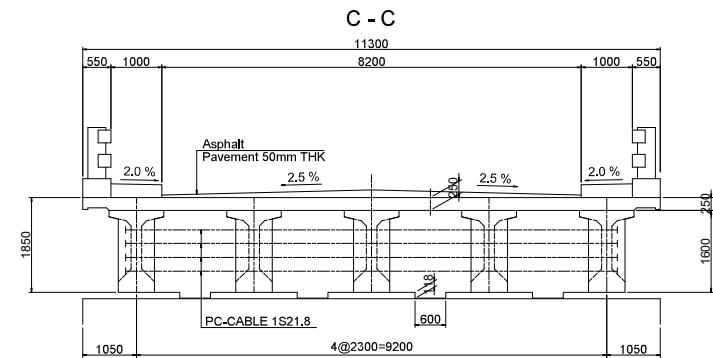
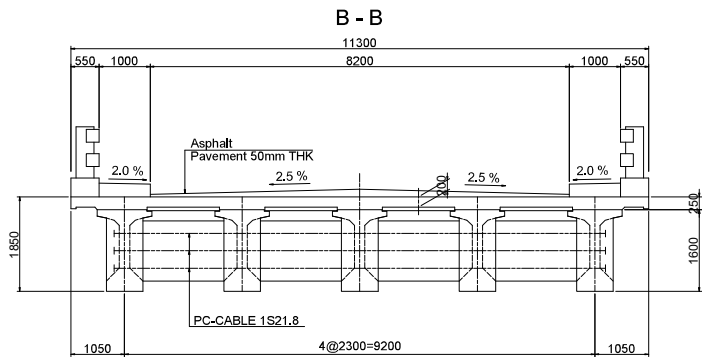
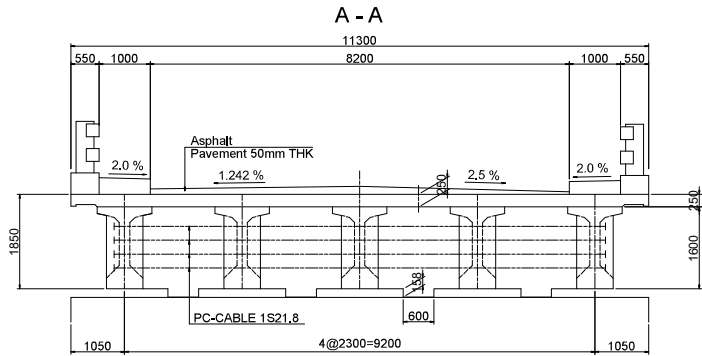
MINISTRY OF PUBLIC WORKS  
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KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
7\_Peam Te Bridge  
STRUCTURE DRAWING(1)

SCALE(A1 SIZE)	DRAWING NO.
AS SHOWN	PT-04



CROSS SECTION S=1/50

MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

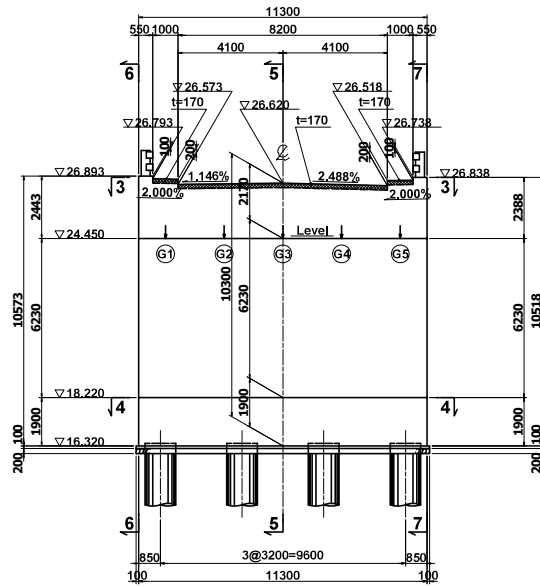
JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

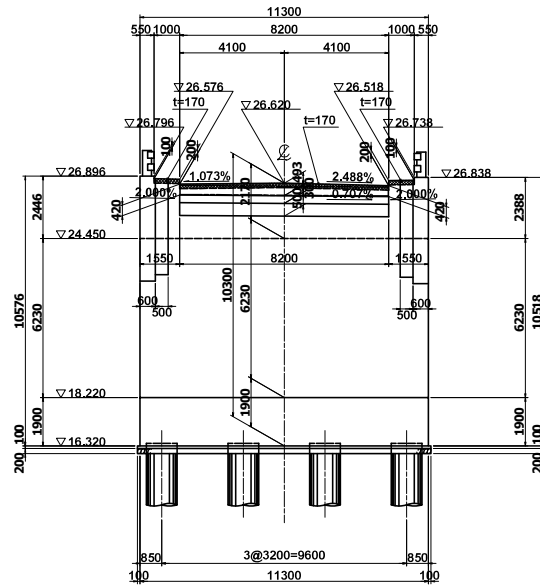
DRAWING TITLE:  
7\_Peam Te Bridge  
STRUCTURE DRAWING(2)

SCALE(AT SIZE)	DRAWING NO.
AS SHOWN	PT-05

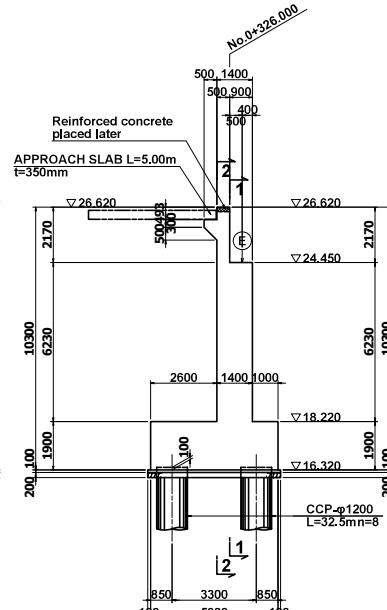




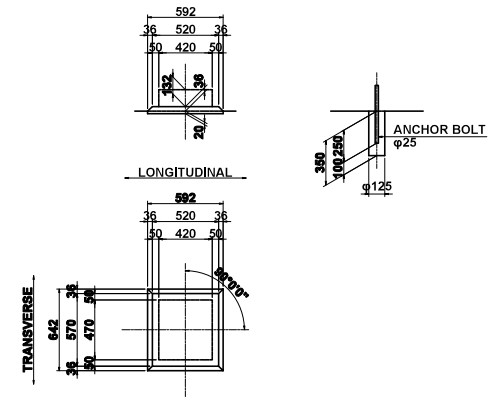
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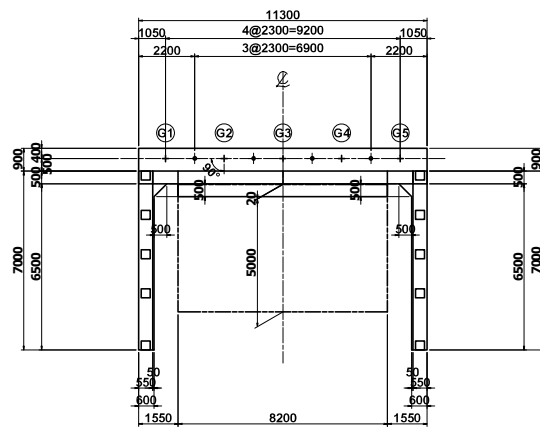
2-2



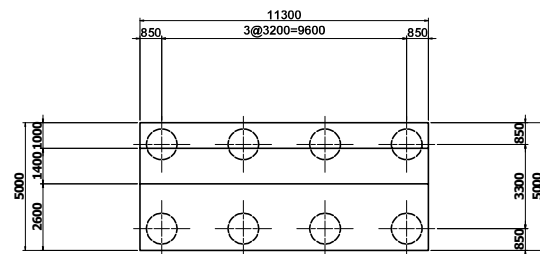
5-5



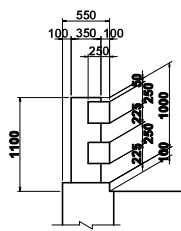
DETAIL S=1/20



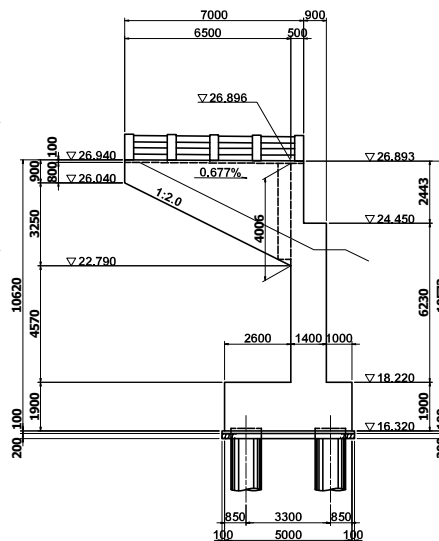
3-3



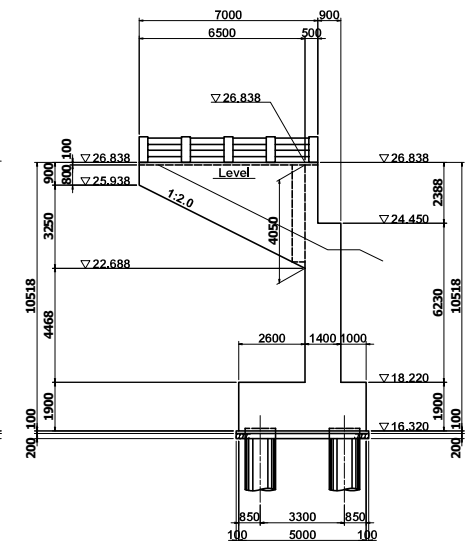
4-4



DETAIL S=1/30



6-6



7-7

MINISTRY OF PUBLIC WORKS  
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KINGDOM OF CAMBODIA

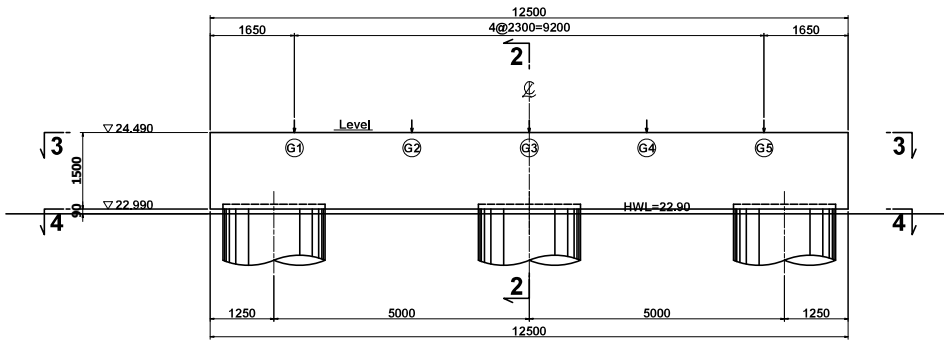
JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

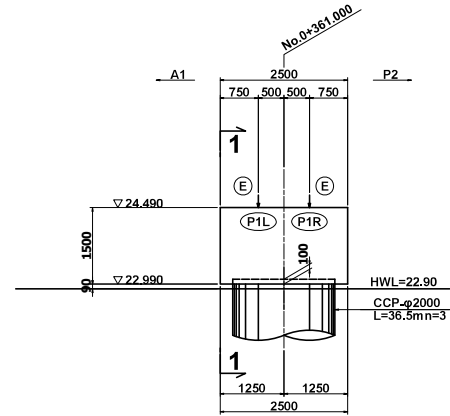
DRAWING TITLE:  
**7\_Peam Te Bridge**  
**STRUCTURAL DRAWING OF A1 ABUTMENT**

SCALE(A1 SIZE)	DRAWING NO.
1/100	PT-06

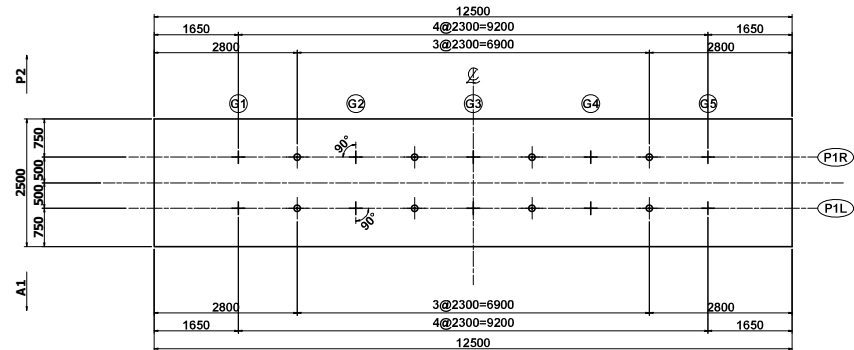
AP7-128



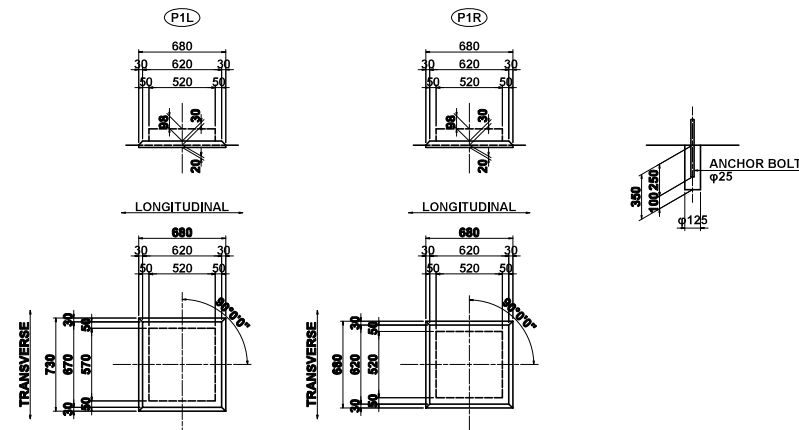
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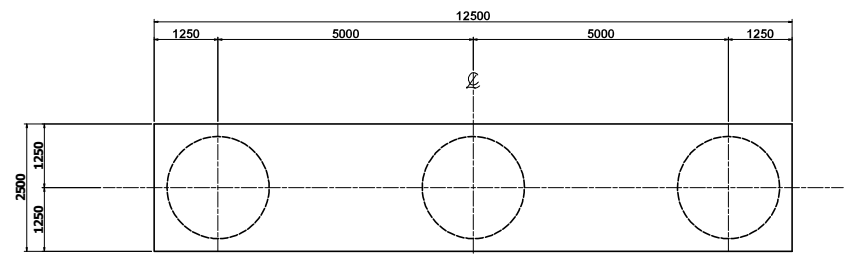
2-2



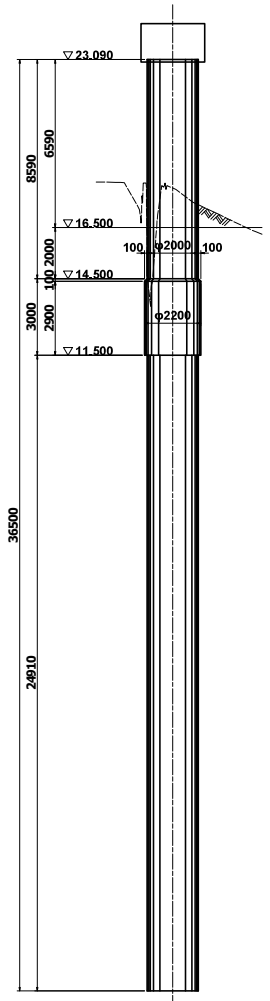
3-3



DETAIL S=1/20



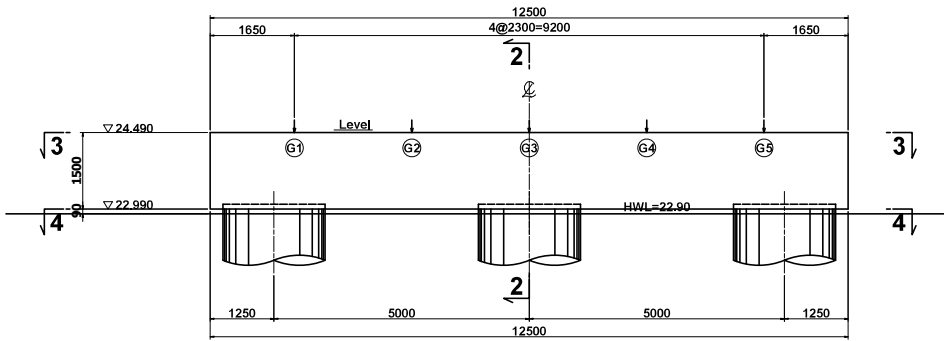
4-4



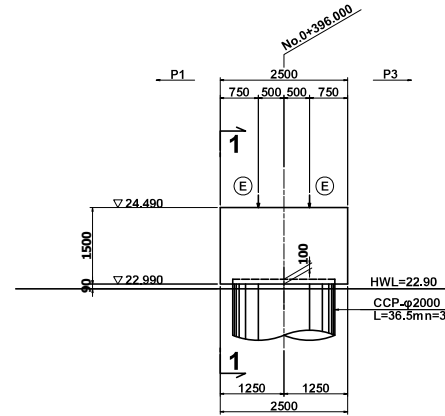
PROFILE S=1/100

MINISTRY OF PUBLIC WORKS AND TRANSPORT KINGDOM OF CAMBODIA	JAPAN INTERNATIONAL COOPERATION AGENCY CTI ENGINEERING INTERNATIONAL CO., LTD.	PROJECT TITLE: PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT OF BRIDGES IN FLOOD-PRONE AREAS	DRAWING TITLE: <b>7_Peam Te Bridge</b> <b>STRUCTURAL DRAWING OF P1 BRIDGE PIER</b>	SCALE(A1 SIZE)	DRAWING NO.
				1/50	PT-07

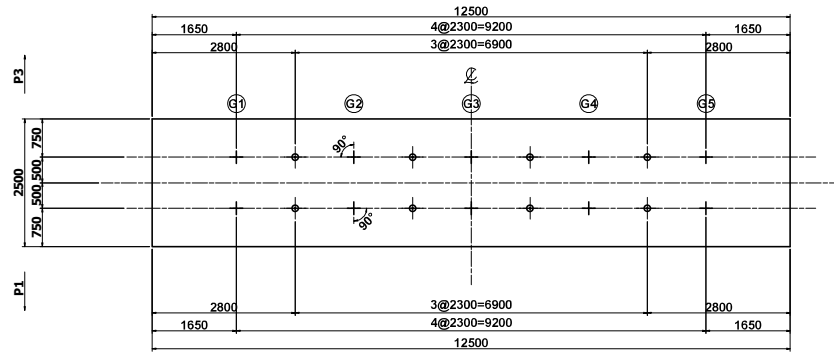
AP7-129



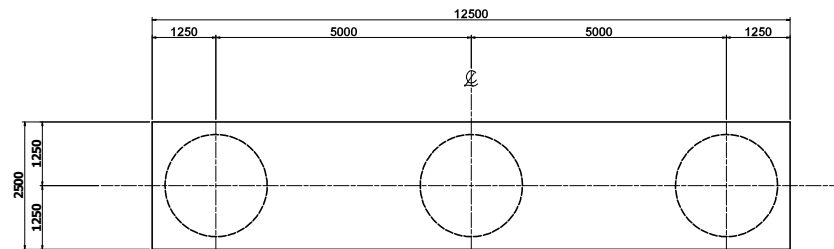
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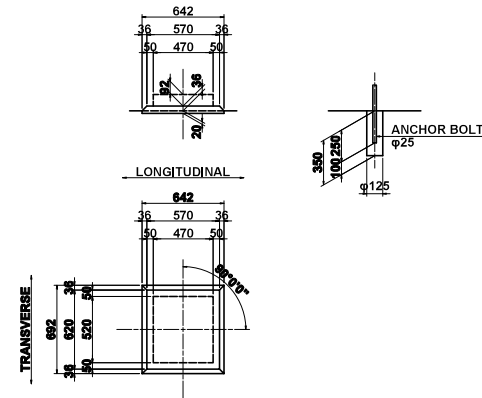
2-2



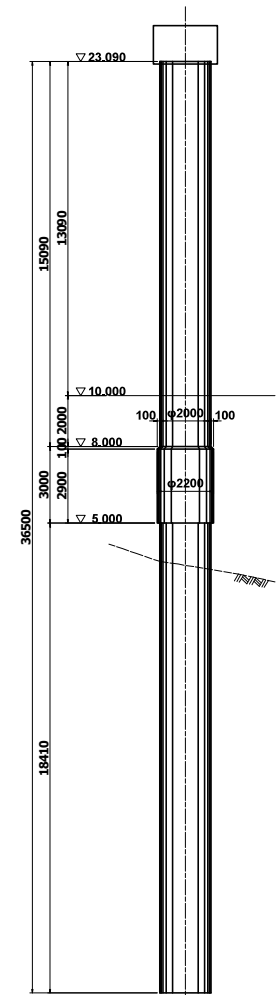
3-3



4-4



DETAIL S=1/20



PROFILE S=1/100

MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

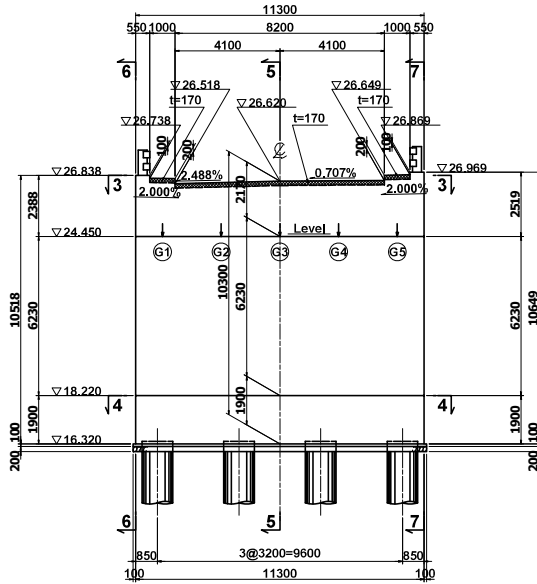
JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

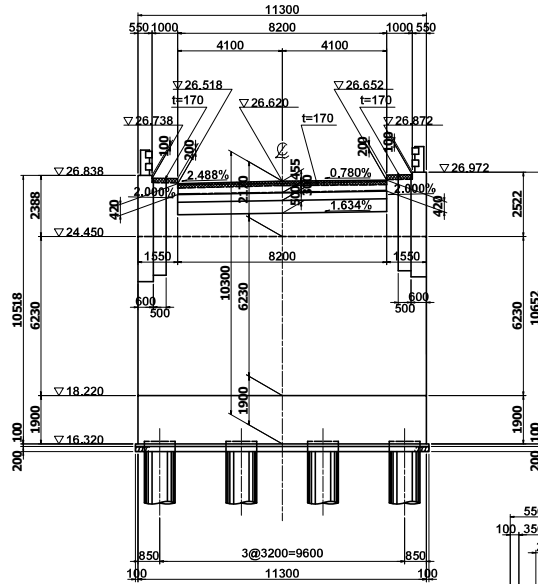
DRAWING TITLE:  
**7\_Peam Te Bridge**  
**STRUCTURAL DRAWING OF P2 BRIDGE PIER**

SCALE(A1 SIZE)	DRAWING NO.
1/50	PT-08

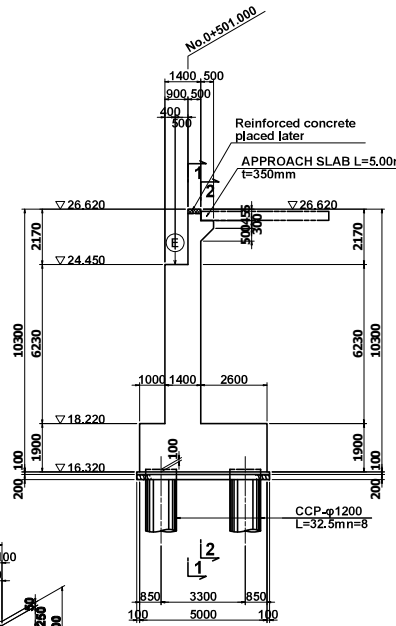
AP7-130



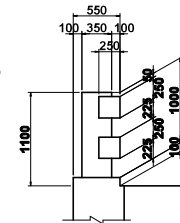
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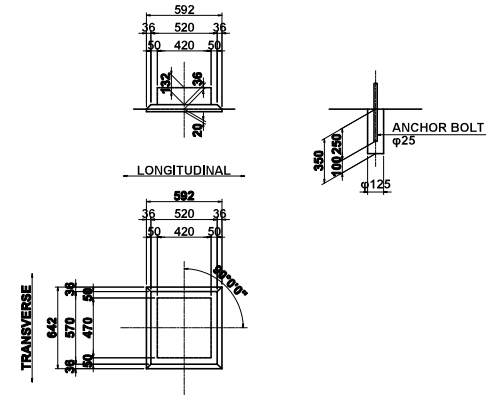
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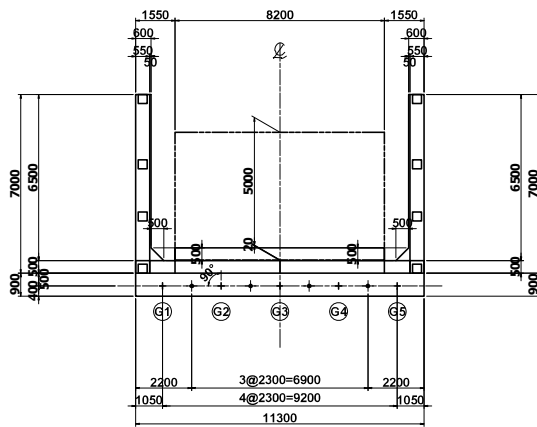
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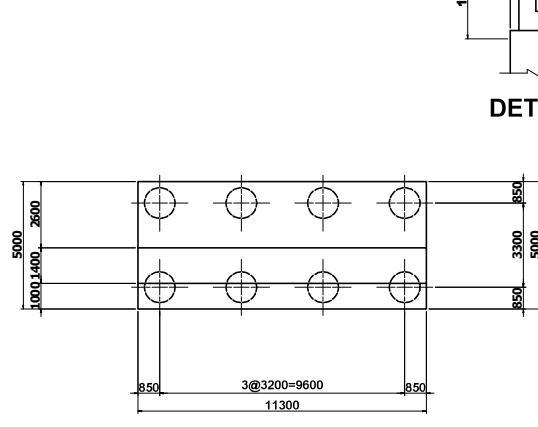
DETAIL S=1/30



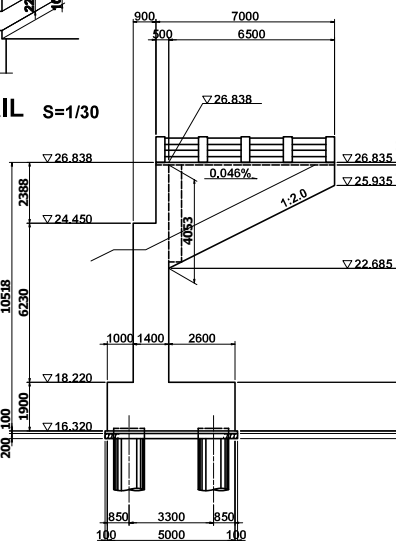
DETAIL S=1/20



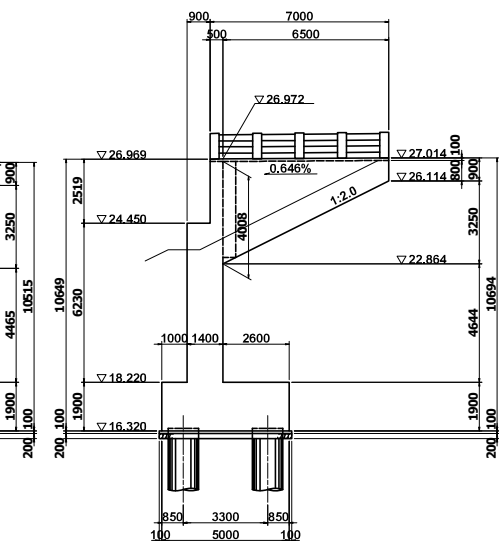
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4-4



6-6



7-7

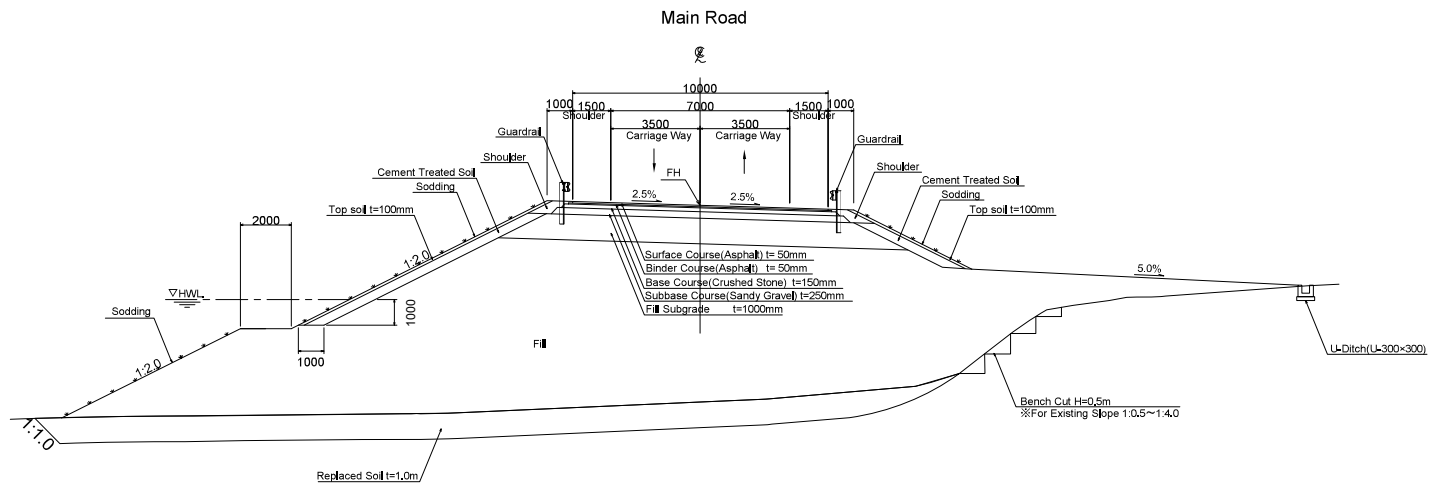
MINISTRY OF PUBLIC WORKS AND TRANSPORT KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY CTI ENGINEERING INTERNATIONAL CO., LTD.

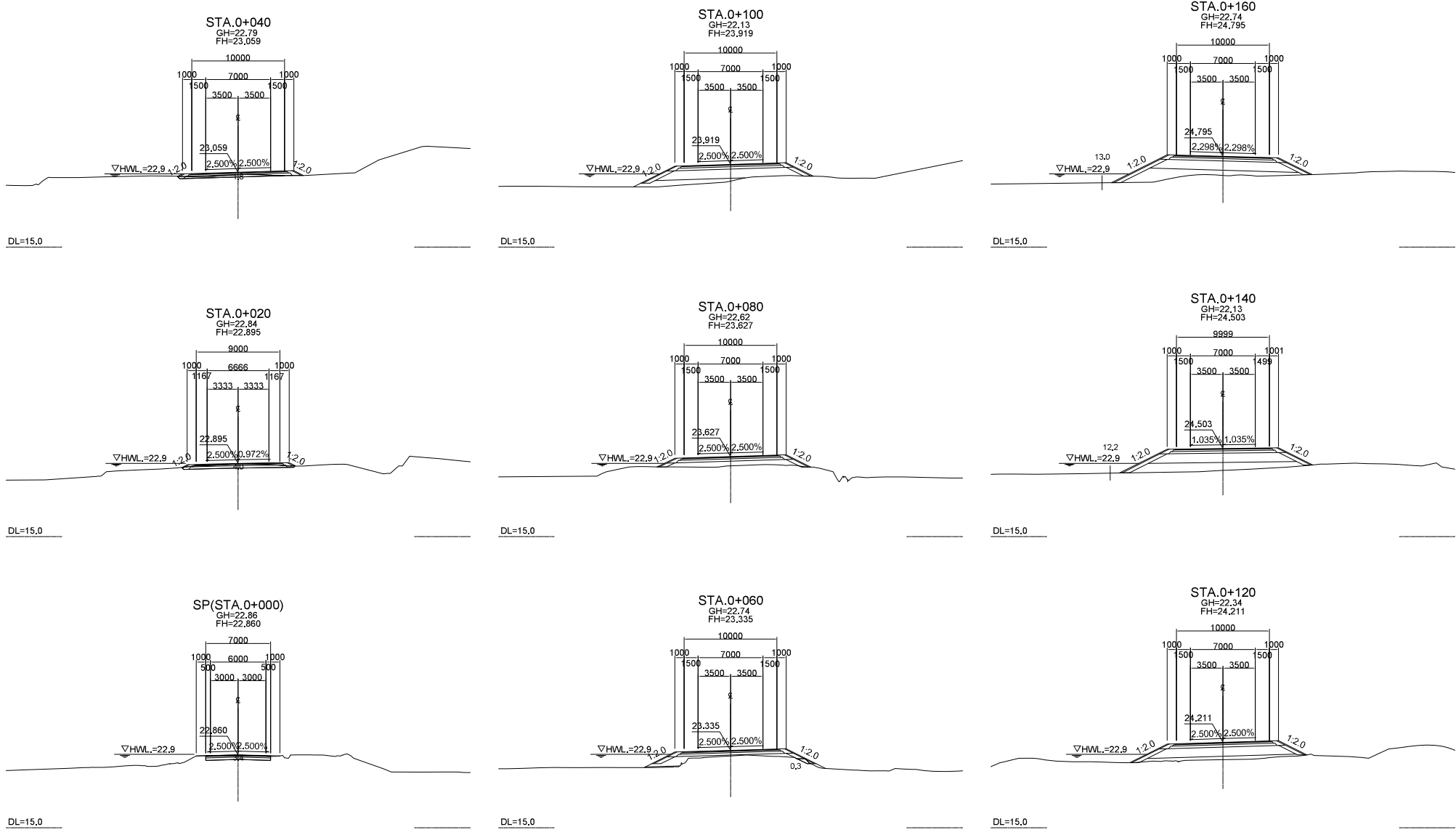
PROJECT TITLE: PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE: 7\_Peam Te Bridge STRUCTURAL DRAWING OF A2 BRIDGE PIER

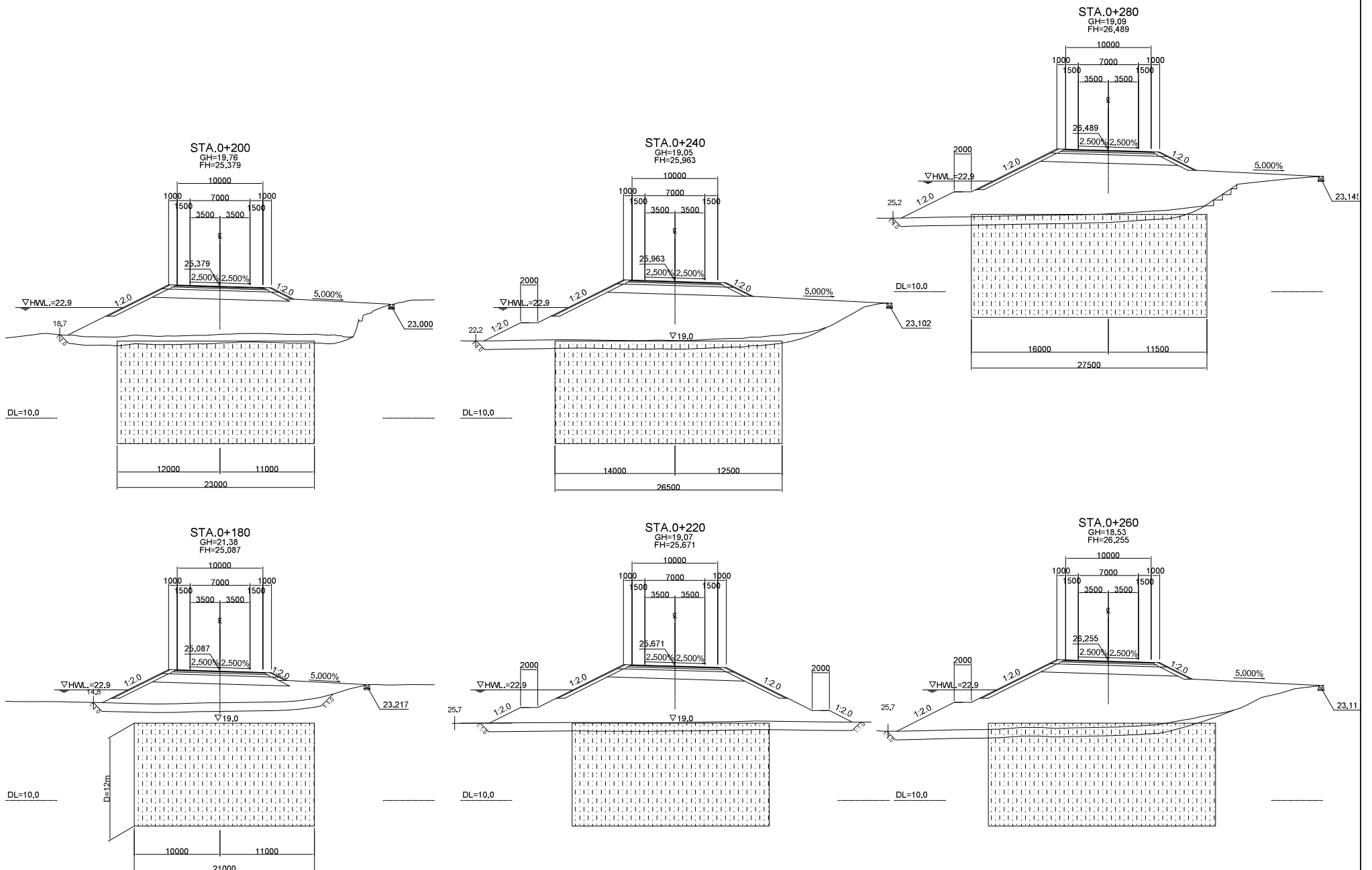
SCALE(A1 SIZE) 1/100 DRAWING NO. PT-09



<p>MINISTRY OF PUBLIC WORKS AND TRANSPORT KINGDOM OF CAMBODIA</p>	<p>JAPAN INTERNATIONAL COOPERATION AGENCY CTI ENGINEERING INTERNATIONAL CO., LTD.</p>	<p>PROJECT TITLE: PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT OF BRIDGES IN FLOOD-PRONE AREAS</p>	<p>DRAWING TITLE: 7_Peam Te Bridge TYPICAL CROSS SECTION OF APPROACH ROAD</p>	<p>SCALE(A1 SIZE) 1/100</p>	<p>DRAWING NO. PT-10</p>
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MINISTRY OF PUBLIC WORKS AND TRANSPORT KINGDOM OF CAMBODIA	JAPAN INTERNATIONAL COOPERATION AGENCY CTI ENGINEERING INTERNATIONAL CO., LTD.	PROJECT TITLE: PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT OF BRIDGES IN FLOOD-PRONE AREAS	DRAWING TITLE: 7_Peam Te Bridge CROSS SECTION OF APPROACH ROAD (1)	SCALE(A1 SIZE)	DRAWING NO.
				1/200	PT-11



MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

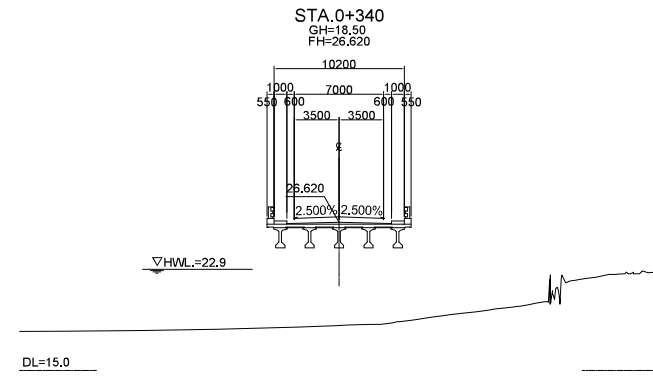
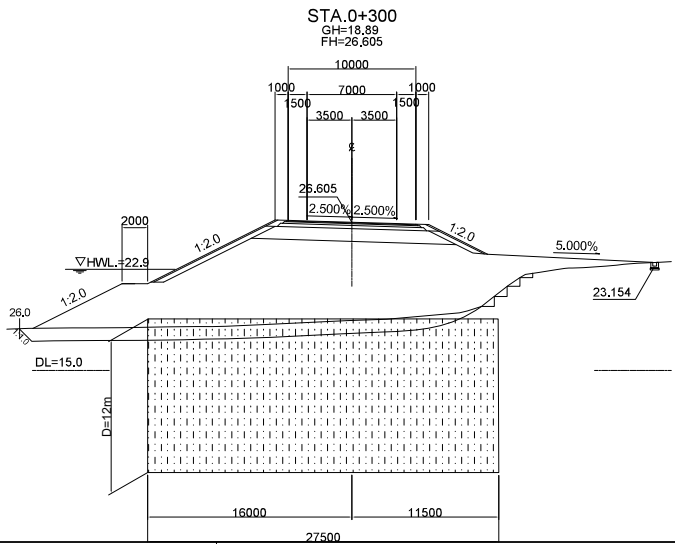
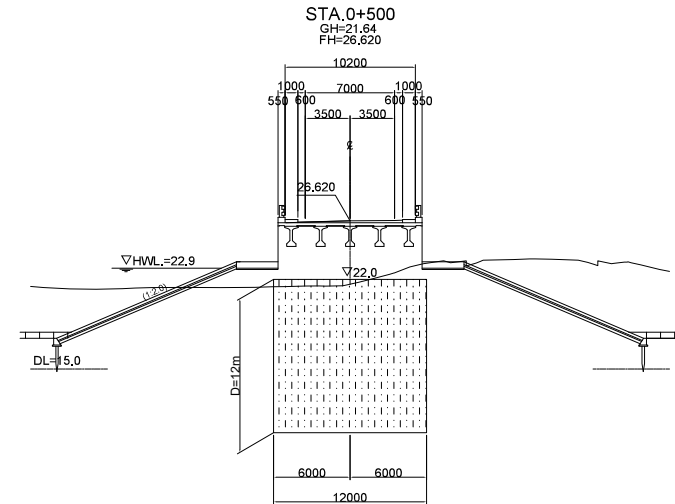
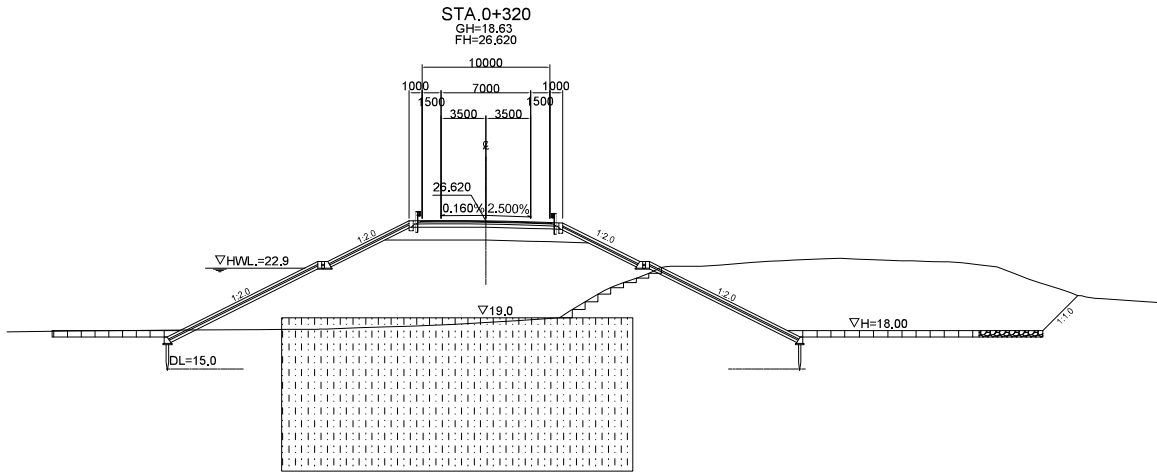
JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
7\_Peam Te Bridge  
CROSS SECTION OF APPROACH ROAD (2)

SCALE(A1 SIZE)	DRAWING NO.
1/200	PT-12

AP7-134



MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

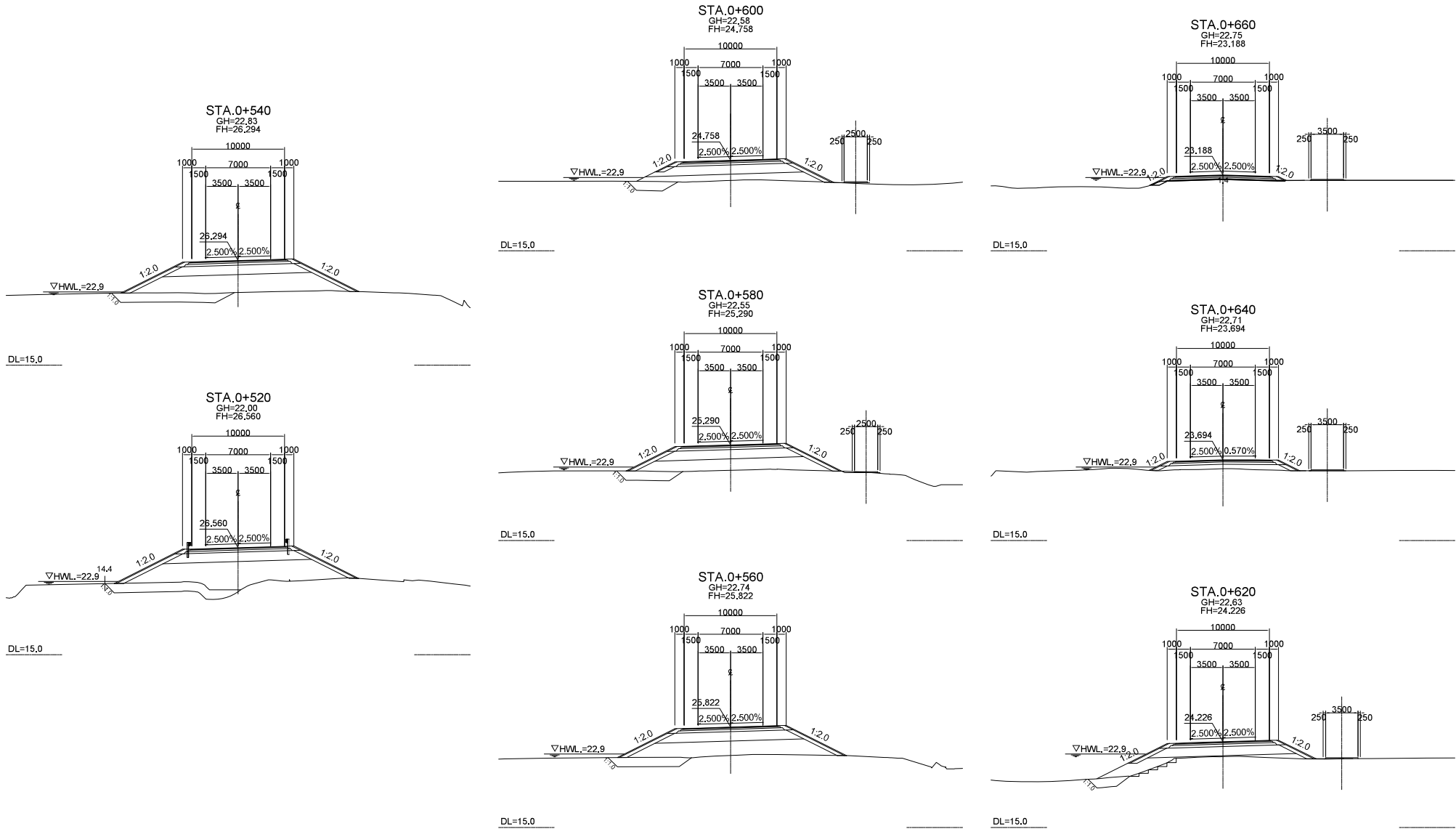
JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
7\_Peam Te Bridge  
CROSS SECTION OF APPROACH ROAD (3)

SCALE(AT SITE)	DRAWING NO.
1/200	PT-13





MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

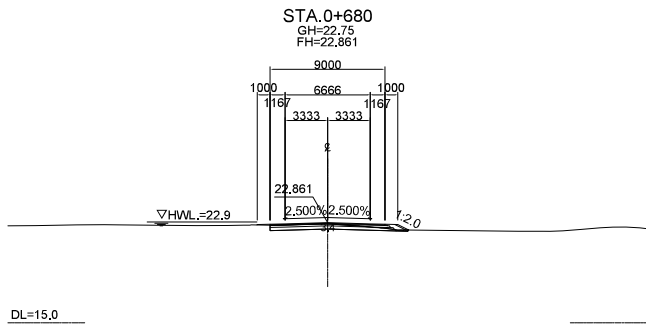
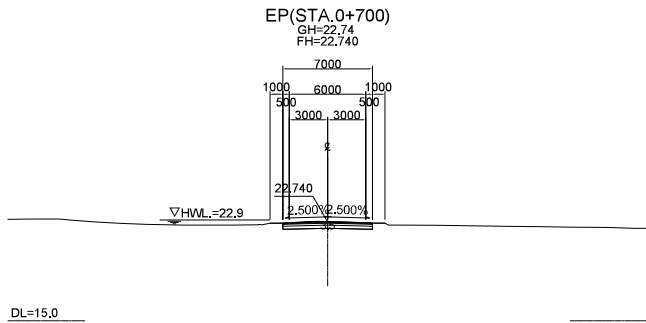
JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
7\_Peam Te Bridge  
CROSS SECTION OF APPROACH ROAD (4)

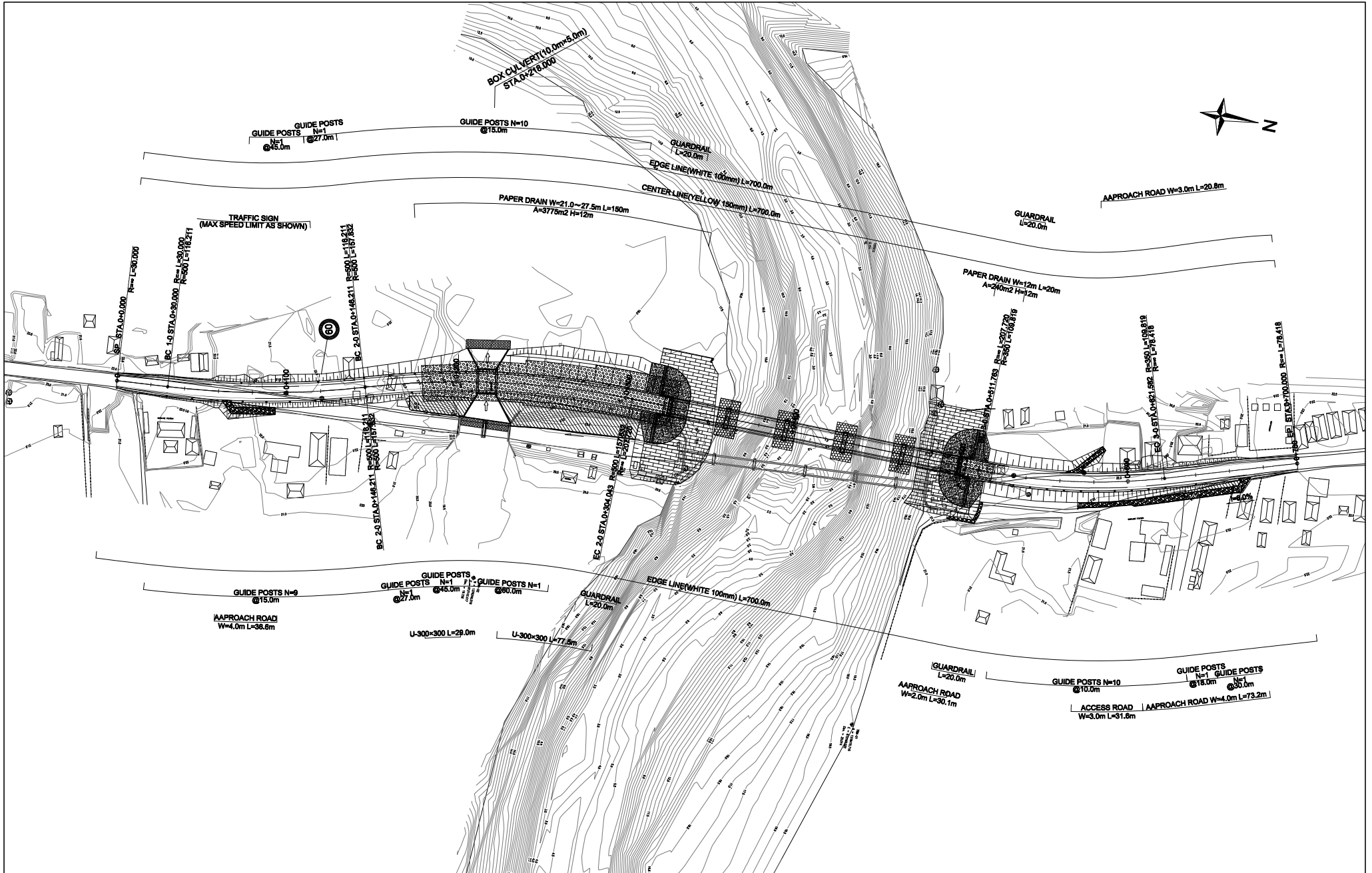
SCALE(A1 SIZE)	DRAWING NO.
1/200	PT-14

AP7-136



MINISTRY OF PUBLIC WORKS AND TRANSPORT KINGDOM OF CAMBODIA	JAPAN INTERNATIONAL COOPERATION AGENCY CTI ENGINEERING INTERNATIONAL CO., LTD.	PROJECT TITLE: PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT OF BRIDGES IN FLOOD-PRONE AREAS	DRAWING TITLE: 7_Peam Te Bridge CROSS SECTION OF APPROACH ROAD (5)	SCALE(A1 SIZE)	DRAWING NO.
				1/200	PT-15

AP7-137



MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:

PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

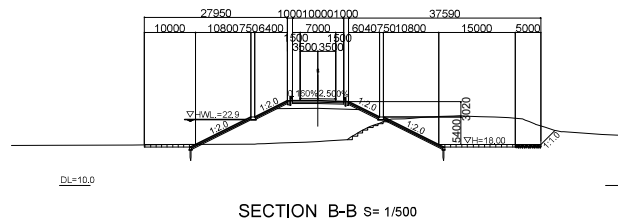
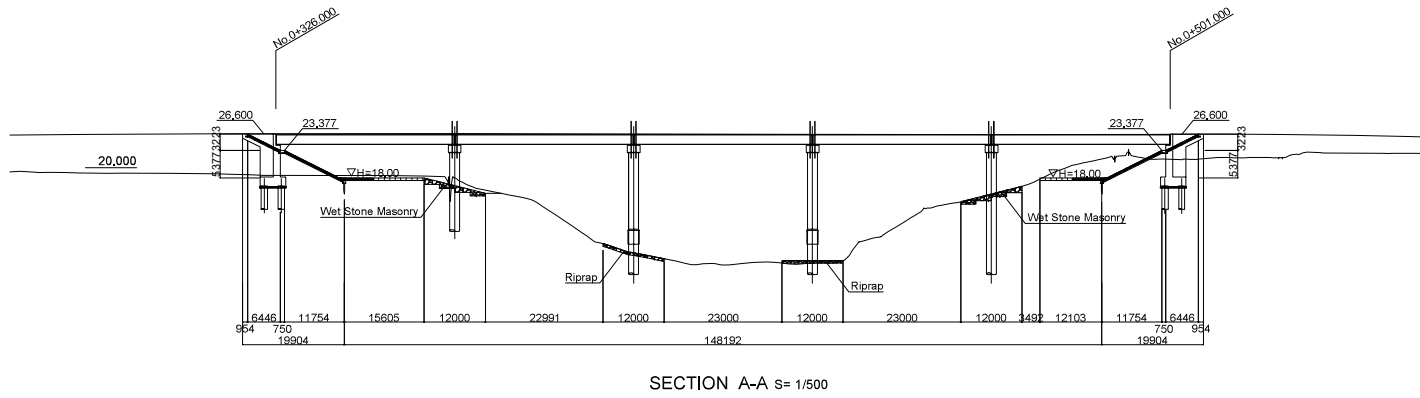
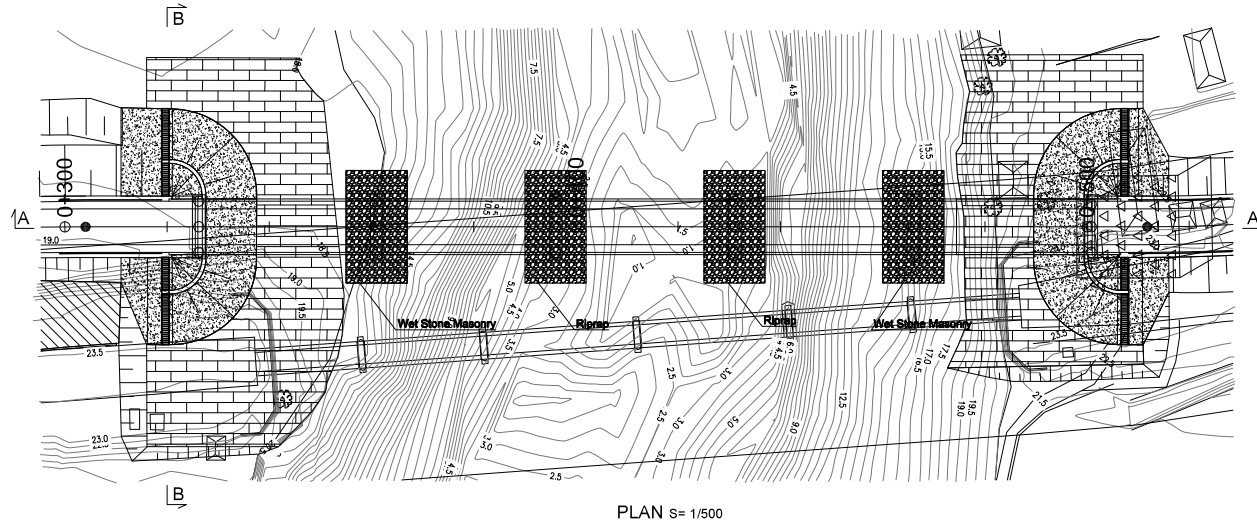
DRAWING TITLE:

7\_Peam Te Bridge  
PLAN OF APPROACH ROAD  
(ANCILLARY)

SCALE(AT SITE) DRAWING NO.

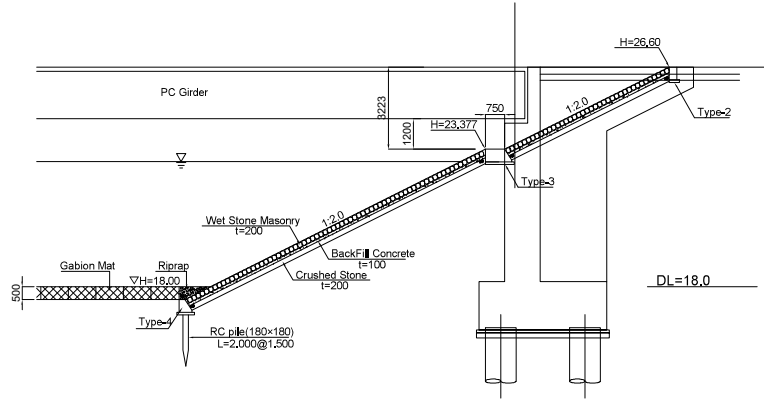
1/2,000  
(1/1,000)

PT-16

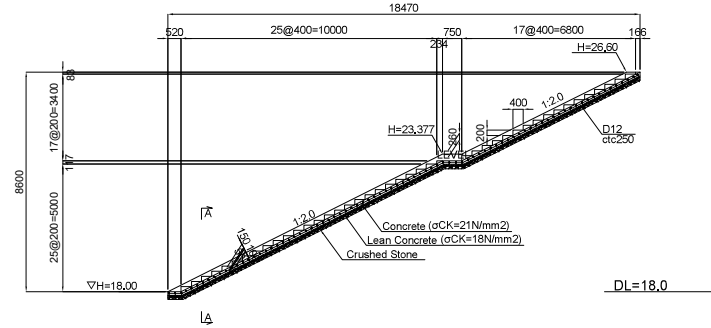


AP7-138

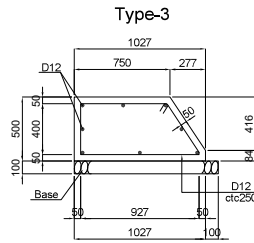
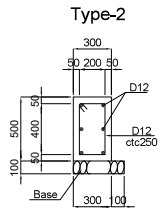
MINISTRY OF PUBLIC WORKS AND TRANSPORT KINGDOM OF CAMBODIA	JAPAN INTERNATIONAL COOPERATION AGENCY CTI ENGINEERING INTERNATIONAL CO., LTD.	PROJECT TITLE: PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT OF BRIDGES IN FLOOD-PRONE AREAS	DRAWING TITLE: 7_Peam Te Bridge REVTMENT AND RIVER BED PROTECTION(1)	SCALE(A1 SIZE) AS SHOWN	DRAWING NO. PT-17
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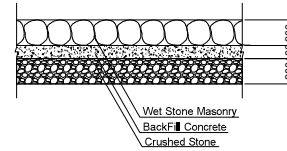
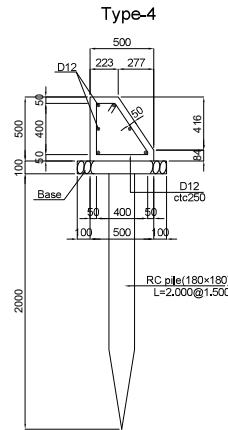
PROFILE s= 1/100



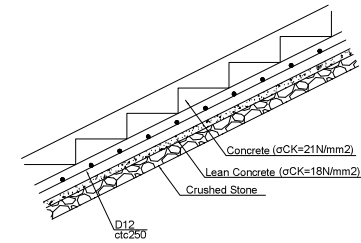
STAIRS s= 1/100



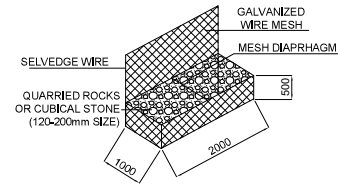
DETAILS s= 1/20



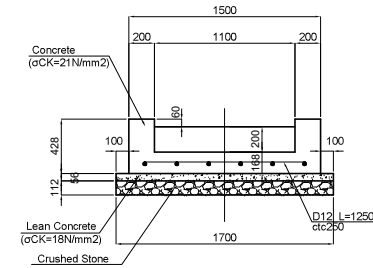
DETAILS s= 1/20



DETAILS s= 1/20



GABION MAT DETAIL  
S = None Scale



SECTION A-A s= 1/20

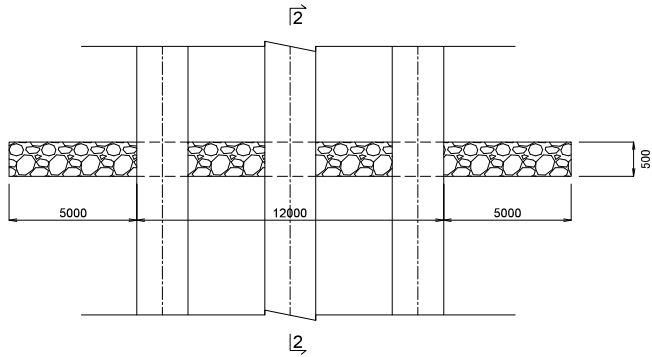
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

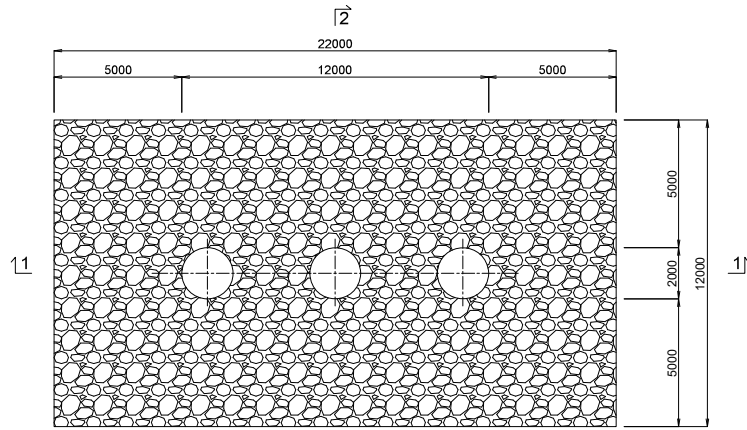
PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
7\_Peam Te Bridge  
REVETMENT AND RIVER BED PROTECTION(2)

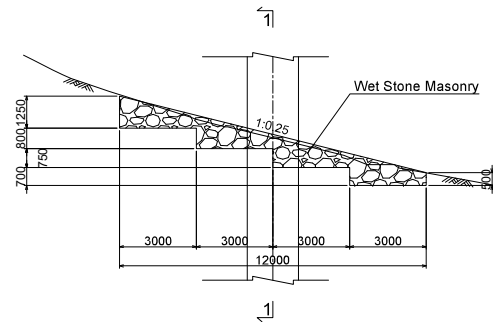
SCALE(A1 SIZE)	DRAWING NO.
AS SHOWN	PT-18



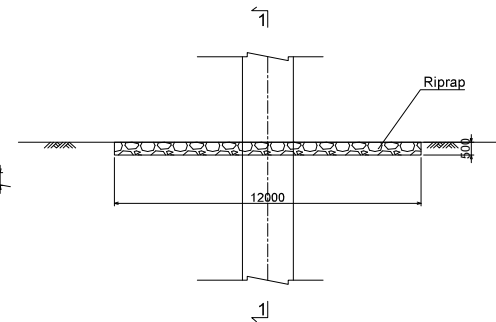
Section 1-1



Plan



A + P1, P4



A + P2, P3

Section 2-2

RIVER BED

MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

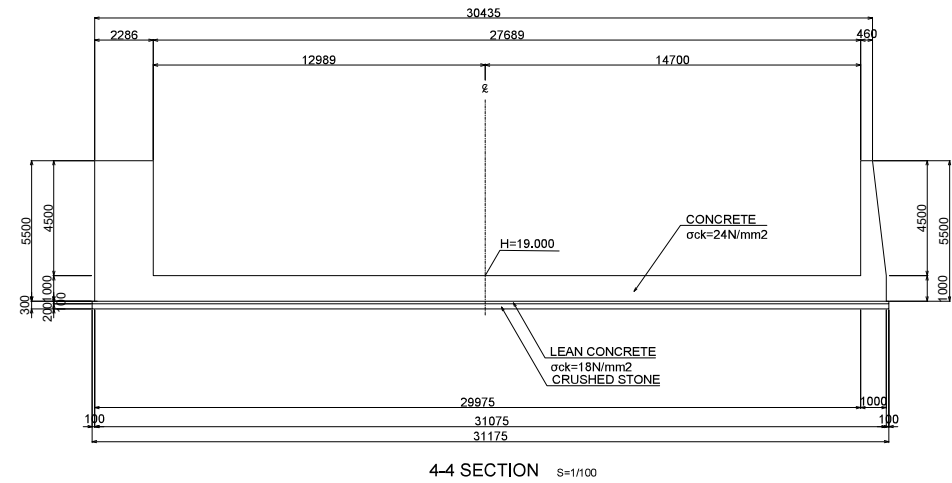
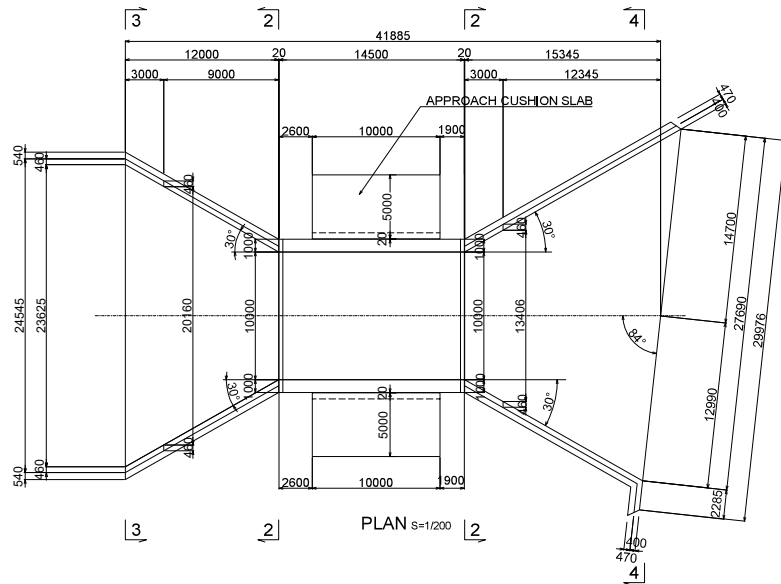
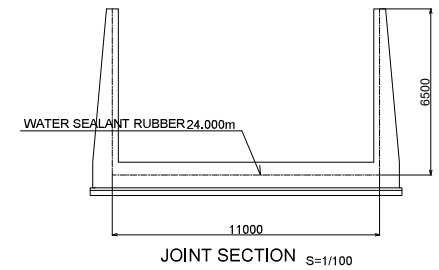
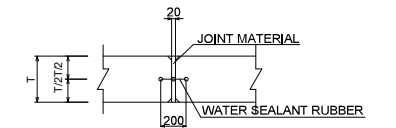
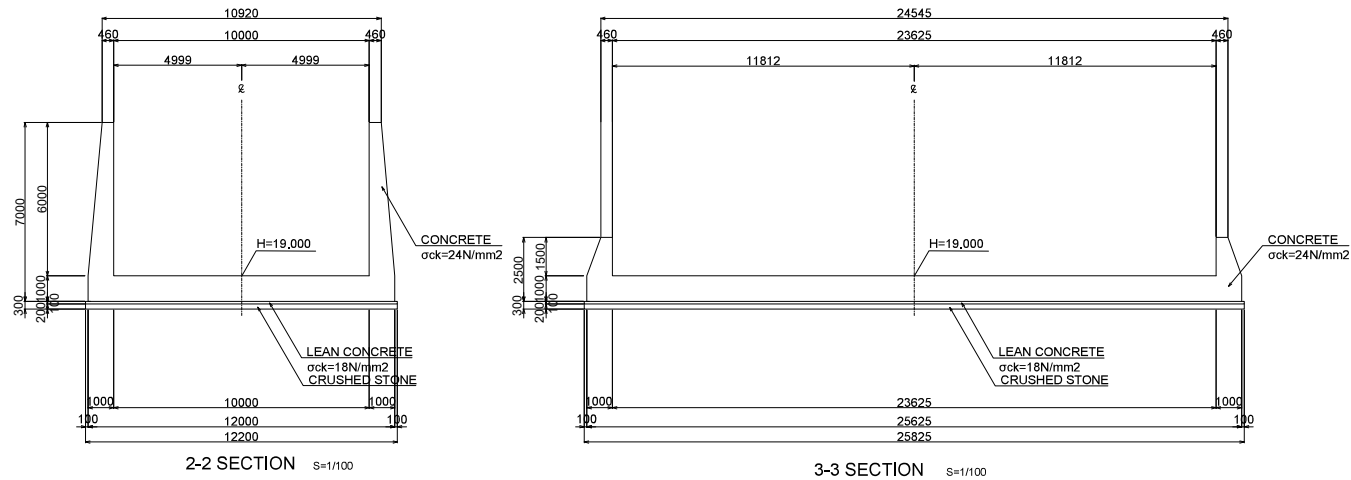
PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
7\_Peam Te Bridge  
REVETMENT AND RIVER BED PROTECTION (3)

SCALE(A1 SIZE)	DRAWING NO.
1/100	PT-19



# GENERAL VIEW OF CULVERT 10.0×5.0 (2) (NO.0+218.000)



AP7-142

MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

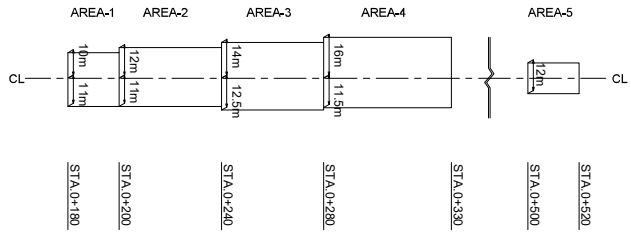
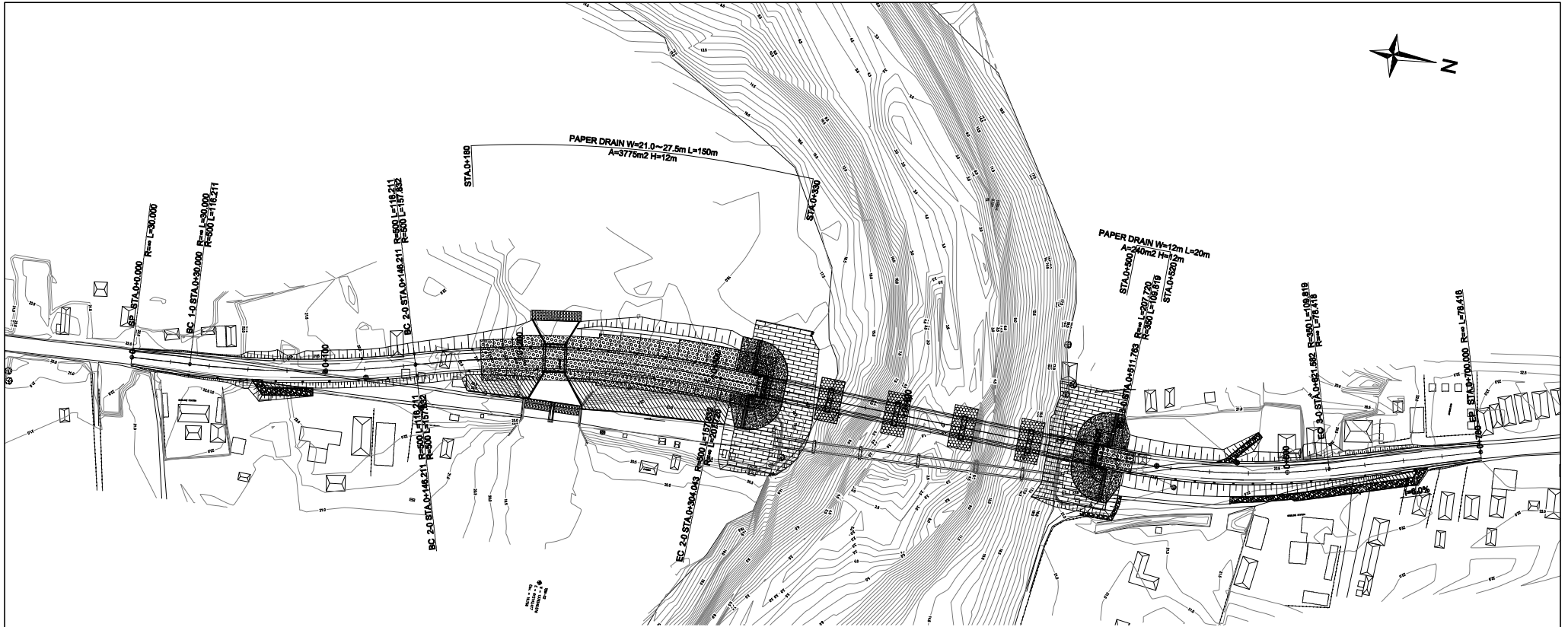
JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

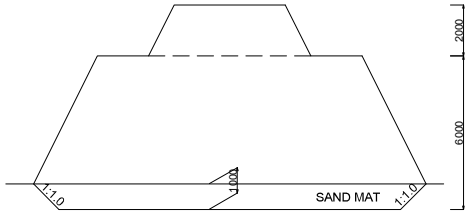
DRAWING TITLE:  
7\_Peam Te Bridge  
GENERAL VIEW OF CULVERT 10.0×5.0 (2)  
(STA.0+218.000)

SCALE(A1 SIZE)	DRAWING NO.
AS SHOWN	PT-21

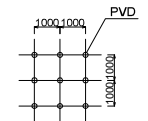




PLAN OF AREA AND WIDTH



TARGET SETTLEMENT  
EMBANKMENT H=6.0m: 61days 53cm  
H=8.0m:109days 75cm



ARRANGEMENT OF  
PREFABRICATED VERTICAL DRAIN

CALCULATE				
	AREA (m <sup>2</sup> )	PVD LENGTH (m)	PVD Q'ty (Nos)	TOTAL LENGTH (m)
AREA-1	420	12	440	5280
AREA-2	920	12	960	11520
AREA-3	1060	12	1080	12960
AREA-4	1375	12	1400	16800
AREA-5	240	12	273	3276
TOTAL	4015	-	4153	49836

MINISTRY OF PUBLIC WORKS  
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KINGDOM OF CAMBODIA

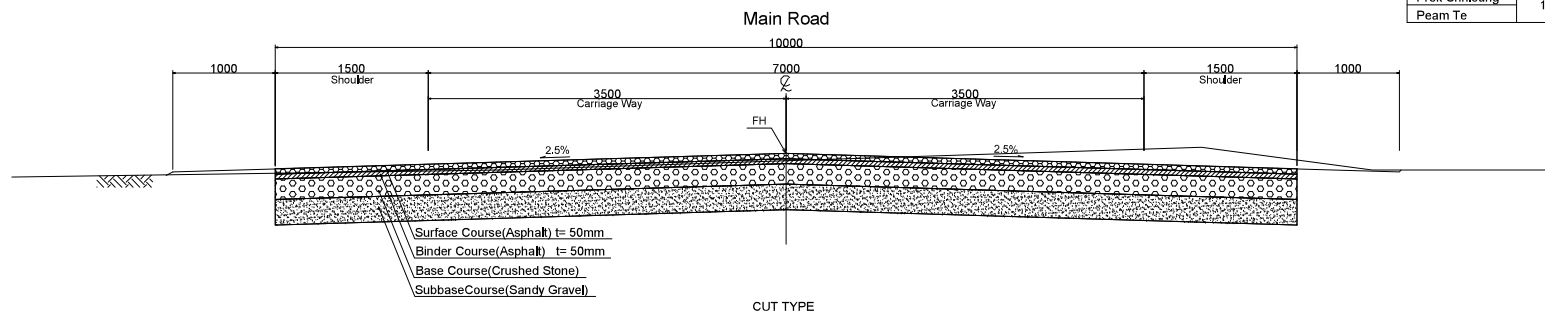
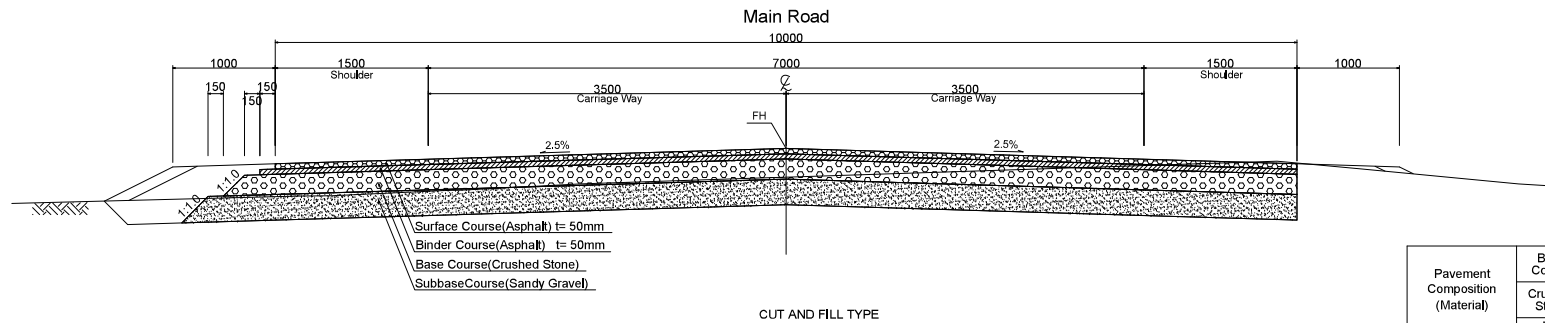
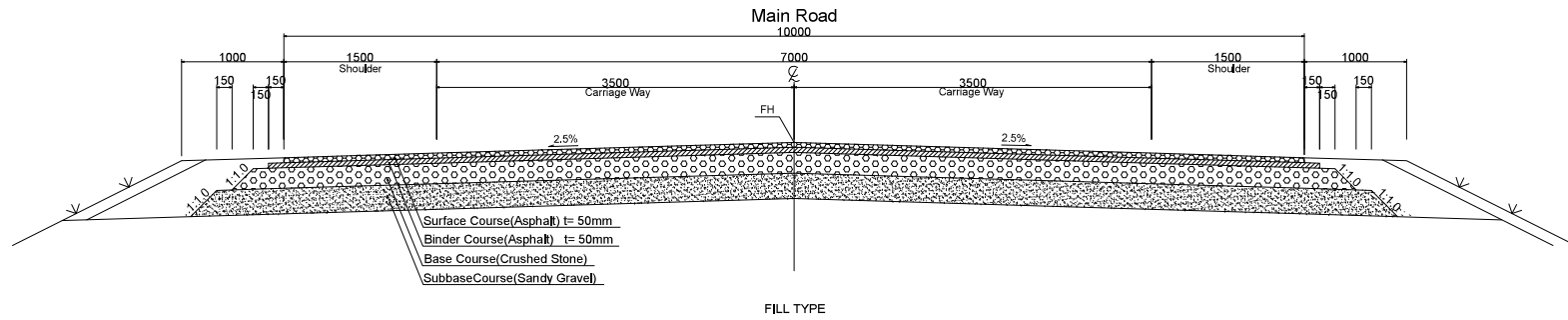
JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
7\_Peam Te Bridge  
PLAN OF PAPER DRAIN

SCALE(AT SITE) DRAWING NO.  
1/2,000 (1/1,000) PT-22

# Outline of Ancillaries



Pavement Composition (Material)	Base Course	Subbase Course
	Crushed Stone	Sandy Gravel
Thickness(mm)		
Ba Baong No.2	200	250
Ba Baong No.1		300
Prek Sandan		
Prek Rus		
Anglong Khle	150	250
Prek Chhloung		
Peam Te		

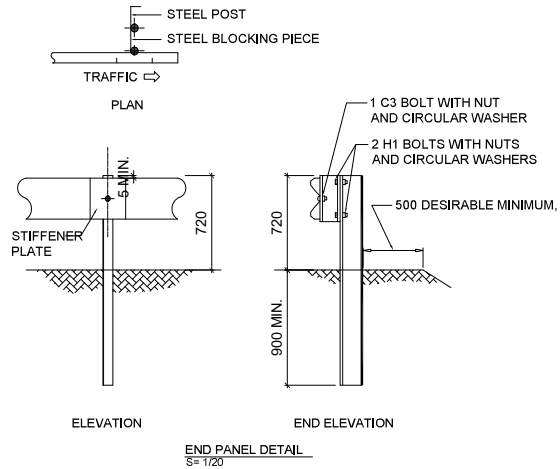
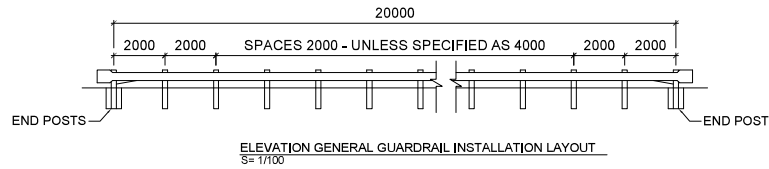
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
OUTLINE OF ANCILLARIES  
DETAIL OF ASPHALT PAVEMENT

SCALE(A1 SIZE)	DRAWING NO.
1/25	RA-01



**SCHEDULE OF GUARDRAIL**

GUARDRAIL CALCULATE	LEFT SIDE			RIGHT SIDE					
	No.	STARTING STATION	ENDING STATION	LENGTH (m)	No.	STARTING STATION	ENDING STATION	LENGTH (m)	
1_Ba Baong Bridge No.2	1	0 + 300,8	0 + 320,8	20,0	1	0 + 300,8	0 + 320,8	20,0	
	2	0 + 440,2	0 + 460,2	20,0	2	0 + 440,2	0 + 460,2	20,0	
	SUB TOTAL				40,0	SUB TOTAL			
				TOTAL	TOTAL				80,0
2_Ba Baong Bridge No.1	1	0 + 261,9	0 + 281,9	20,0	1	0 + 261,9	0 + 281,9	20,0	
	2	0 + 401,2	0 + 421,2	20,0	2	0 + 401,2	0 + 421,2	20,0	
	SUB TOTAL				40,0	SUB TOTAL			
				TOTAL	TOTAL				80,0
3_PreK Sandan Bridge	1	0 + 185,8	0 + 205,8	20,0	1	0 + 185,8	0 + 205,8	20,0	
	2	0 + 255,2	0 + 275,2	20,0	2	0 + 255,2	0 + 275,2	20,0	
	SUB TOTAL				40,0	SUB TOTAL			
				TOTAL	TOTAL				80,0
4_PreK Rus Bridge	1	0 + 212,8	0 + 232,8	20,0	1	0 + 212,8	0 + 232,8	20,0	
	2	0 + 308,2	0 + 329,2	20,0	2	0 + 308,2	0 + 329,2	20,0	
	SUB TOTAL				40,0	SUB TOTAL			
				TOTAL	TOTAL				80,0
5_Anglong Khle Bridge	1	0 + 183,5	0 + 203,5	20,0	1	0 + 183,5	0 + 203,5	20,0	
	2	0 + 265,5	0 + 285,5	20,0	2	0 + 265,5	0 + 285,5	20,0	
	SUB TOTAL				40,0	SUB TOTAL			
				TOTAL	TOTAL				80,0
6_PreK Chhlong Bridge	1	0 + 20,1	0 + 198,0	176,8	1	0 + 32,5	0 + 199,5	166,2	
	2	0 + 347,6	0 + 367,6	20,0	2	0 + 346,4	0 + 366,4	20,0	
	SUB TOTAL				196,8	SUB TOTAL			
				TOTAL	TOTAL				385,0
7_Peam Te Bridge	1	0 + 298,9	0 + 318,9	20,0	1	0 + 298,9	0 + 318,9	20,0	
	2	0 + 508,1	0 + 528,1	20,0	2	0 + 508,1	0 + 528,1	20,0	
	SUB TOTAL				40,0	SUB TOTAL			
				TOTAL	TOTAL				80,0
								ROAD TOTAL	865,0

**NOTE:**

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED

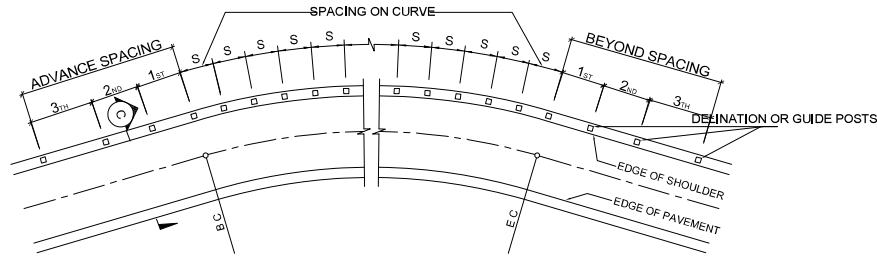
MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

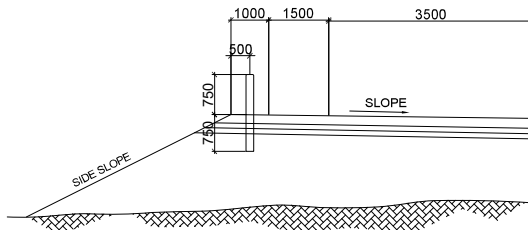
PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
GUARDRAIL LAYOUT AT BRIDGE

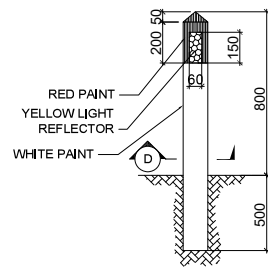
SCALE(A1 SIZE)	DRAWING NO.
AS SHOWN	RA-02



PLAN  
S= None Scale



SECTION C-C

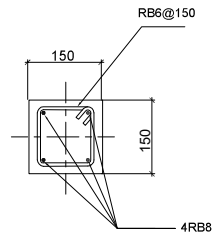


GUIDE POSTS (AT DANGEROUS CURVE)  
S= None Scale

DELINEATION OR GUIDE POSTS INSTALLATION  
S= None Scale

**SPACING FOR DELINEATION AND GUIDE POSTS**

RADIUS IN m	SPACING ON CURVE	SPACING IN ADVANCE & BEYOND CURVE		
		1st SPACE	2nd SPACE	3th SPACE
15-74	4m	7m	12m	24m
75-99	6m	11m	18m	36m
100-149	7m	13m	21m	42m
150-199	8m	14m	24m	48m
200-299	9m	16m	27m	54m
300-499	10m	18m	30m	60m
500-999	15m	27m	45m	60m
1000-1500	21m	38m	60m	60m



SECTION D-D

GUIDE POST  
S= None Scale

**SCHEDULE OF GUIDE POSTS**

GUIDE POSTS CALCULATE	LEFT SIDE			RIGHT SIDE				
	No.	STARTING STATION	ENDING STATION	QUANTITY (NUMBER)	No.	STARTING STATION	ENDING STATION	QUANTITY (NUMBER)
1_Ba Baong Bridge No.2	1	0 + 120,2	-	1,0	1	0 + 116,4	0 + 158,2	3,0
	2	0 + 158,2	0 + 281,0	7,0	2	0 + 196,2	-	1,0
	3	0 + 478,9	0 + 578,6	6,0	3	0 + 256,2	-	1,0
	4	0 + 616,6	-	1,0	4	0 + 480,6	-	1,0
	5	0 + 676,6	-	1,0	5	0 + 540,6	-	1,0
					6	0 + 578,6	0 + 641,3	4,0
			16,0				11,0	
							27,0	
2_Ba Baong Bridge No.1	1	0 + 42,5	-	1,0	1	0 + 21,7	0 + 140,5	9,0
	2	0 + 102,5	-	1,0	2	0 + 167,5	-	1,0
	3	0 + 140,5	0 + 243,0	6,0	3	0 + 212,5	-	1,0
	4	0 + 422,3	0 + 542,0	7,0	4	0 + 444,0	-	1,0
	5	0 + 580,0	-	1,0	5	0 + 504,0	-	1,0
	6	0 + 604,0	-	1,0	6	0 + 542,0	0 + 583,8	3,0
			17,0				16,0	
							33,0	
3_PreK Sandan Bridge					1	0 + 23,0	-	1,0
					2	0 + 50,0	0 + 180,4	10,0
							11,0	
							11,0	
4_PreK Rus Bridge	1	0 + 41,8	0 + 144,6	6,0				
	2	0 + 182,6	-	1,0				
			7,0					
							7,0	
5_Anglong Khle Bridge	1	0 + 9,5	0 + 69,5	1,0				
	2	0 + 69,5	0 + 129,5	1,0				
	3	0 + 129,5	0 + 167,5	2,0				
	4	0 + 308,6	0 + 346,6	2,0				
	5	0 + 346,6	0 + 406,6	1,0				
	6	0 + 406,6	0 + 466,6	1,0				
			8,0					
							8,0	
6_PreK Chhloung Bridge	1	0 + 374,4	-	1,0				
	2	0 + 401,4	0 + 514,1	9,0				
			10,0					
							10,0	
7_Peam Te Bridge	1	0 + 74,2	-	1,0	1	0 + 30,0	0 + 146,2	9,0
	2	0 + 119,2	-	1,0	2	0 + 173,2	-	1,0
	3	0 + 146,2	0 + 289,2	10,0	3	0 + 218,2	-	1,0
					4	0 + 278,2	-	1,0
					5	0 + 533,2	0 + 621,6	10,0
					6	0 + 639,6	-	1,0
					7	0 + 668,6	-	1,0
			12,0				24,0	
							36,0	
							132,0	

**NOTE:**

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED
2. DELINEATION POST, GUIDE POST CONCRETE SHALL BE CLASS D. NO POST SHALL BE INSTALLED AND PAINTED UNLESS THE CONCRETE IS 20 DAYS OLD.
3. CONCRETE COVER SHALL BE 20 MM.
4. GUIDE POST (AT DANGEROUS CURVE) SHALL BE INSTALLED WHEN HEIGHT IS MORE THAN 5M OR CURVE RADIUS IS LESS THAN 200M

MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
DELINEATIONS AND GUIDE POSTS

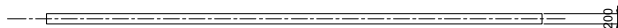
SCALE(A1 SIZE)	DRAWING NO.
AS SHOWN	RA-03



SOLID YELLOW CENTERLINE WITH ROAD STUD REFLECTOR

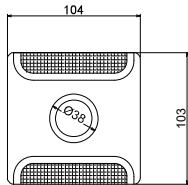


SOLID WHITE EDGE LINE

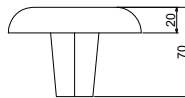


SOLID WHITE STOP LINE

LANE MARKINGS s=1/50



REFLECTOR STUD FRONT VIEW s=1/2



REFLECTOR STUD LATERAL VIEW s=1/2

SCHEDULE OF LANE MARKINGS

LANE MARKING CALCULATE	100mm SOLID WHITE EDGE LINE						150mm SOLID YELLOW CENTER LINE			ROAD STUD REFLECTOR QUANTITY (NUMBER) (AT 25m INTERVAL)				
	LEFT SIDE			RIGHT SIDE			CENTER LINE							
	No.	STARTING STATION	ENDING STATION	LENGTH (m)	No.	STARTING STATION	ENDING STATION	LENGTH (m)	No.		STARTING STATION	ENDING STATION	LENGTH (m)	
1_Ba Baong Bridge No.2	1	0 + 0.0	0 + 720.0	720.0	1	0 + 0.0	0 + 720.0	720.0	1	0 + 0.0	0 + 720.0	720.0	30	
			SUB TOTAL	720.0			SUB TOTAL	720.0			SUB TOTAL	720.0		
			TOTAL	1440.0			TOTAL	1440.0			TOTAL	1440.0		
2_Ba Baong Bridge No.1	1	0 + 0.0	0 + 685.0	685.0	1	0 + 0.0	0 + 685.0	685.0	1	0 + 0.0	0 + 685.0	685.0	28	
			SUB TOTAL	685.0			SUB TOTAL	685.0			SUB TOTAL	685.0		
			TOTAL	1370.0			TOTAL	1370.0			TOTAL	1370.0		
3_Prek Sandan Bridge	1	0 + 0.0	0 + 450.0	450.0	1	0 + 0.0	0 + 450.0	450.0	1	0 + 0.0	0 + 450.0	450.0	19	
			SUB TOTAL	450.0			SUB TOTAL	450.0			SUB TOTAL	450.0		
			TOTAL	900.0			TOTAL	900.0			TOTAL	900.0		
4_Prek Rus Bridge	1	0 + 0.0	0 + 505.0	505.0	1	0 + 0.0	0 + 505.0	505.0	1	0 + 0.0	0 + 505.0	505.0	21	
			SUB TOTAL	505.0			SUB TOTAL	505.0			SUB TOTAL	505.0		
			TOTAL	1010.0			TOTAL	1010.0			TOTAL	1010.0		
5_Anglong Khle Bridge	1	0 + 0.0	0 + 480.0	480.0	1	0 + 0.0	0 + 480.0	480.0	1	0 + 0.0	0 + 480.0	473.0	20	
			SUB TOTAL	480.0			SUB TOTAL	480.0			SUB TOTAL	473.0		
			TOTAL	960.0			TOTAL	960.0			TOTAL	473.0		
6_Prek Chhloung Bridge	1	0 + 0.0	0 + 554.0	554.0	1	0 + 0.0	0 + 554.0	554.0	1	0 + 0.0	0 + 554.0	554.0	23	
			SUB TOTAL	554.0			SUB TOTAL	554.0			SUB TOTAL	554.0		
			TOTAL	1108.0			TOTAL	1108.0			TOTAL	1108.0		
7_Peam Te Bridge	1	0 + 0.0	0 + 700.0	700.0	1	0 + 0.0	0 + 700.0	700.0	1	0 + 0.0	0 + 700.0	700.0	29	
			SUB TOTAL	700.0			SUB TOTAL	700.0			SUB TOTAL	700.0		
			TOTAL	1400.0			TOTAL	1400.0			TOTAL	1400.0		
			ROAD TOTAL	8188.0			ROAD TOTAL	8188.0			ROAD TOTAL	4087.0	171	

SCHEDULE OF LANE MARKINGS

LANE MARKING CALCULATE	200mm SOLID WHITE STOP LINE							
	LEFT SIDE			RIGHT SIDE				
	No.	STARTING STATION	ENDING STATION	LENGTH (m)	No.	STARTING STATION	ENDING STATION	LENGTH (m)
5_Anglong Khle Bridge	1	0 + 422.1	-	3.5	1	0 + 429.3	-	3.5
			SUB TOTAL	3.5			SUB TOTAL	3.5
			TOTAL	7.0			TOTAL	7.0
			ROAD TOTAL	7.0			ROAD TOTAL	7.0

**NOTE:**

THE MATERIALS, DIMENSION, SHAPES, COLOR, SIZE OF NUMERALS, LETTERS AND INSTALLATION LOCATION SHALL CONFORM WITH THE SPECIFICATION OF MINISTRY OF PUBLIC WORKS AND TRANSPORT

MINISTRY OF PUBLIC WORKS AND TRANSPORT  
KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:

PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT OF BRIDGES IN FLOOD-PRONE AREAS

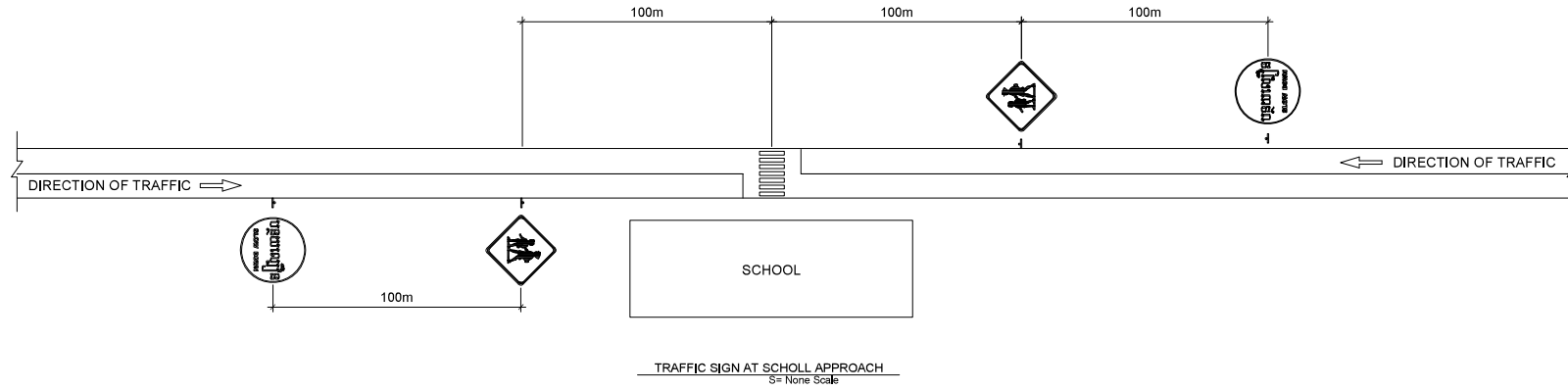
DRAWING TITLE:

LANE MARKINGS AND ROAD STUD REFLECTOR

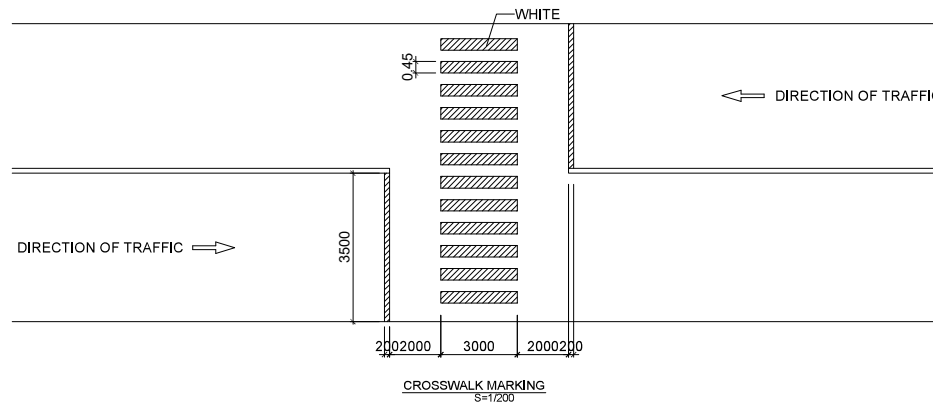
SCALE(AT SIZE) DRAWING NO.

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RA-04

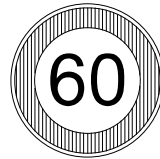


LANE MARKING CALCULATE	450mm CROSSWALK MARKING WHITE			
	No.	STARTING STATION	ENDING STATION	LENGTH (m)
S_Anglong Khe Bridge	1	0 + 416.5	-	7,0
	SUB TOTAL			7,0
	TOTAL			7,0



**NOTE:**  
THE MATERIALS, DIMENSION, SHAPES, COLOR, SIZE OF NUMERALS, LETTERS AND INSTALLATION LOCATION SHALL CONFORM WITH THE SPECIFICATION OF MINISTRY OF PUBLIC WORKS AND TRANSPORT

MINISTRY OF PUBLIC WORKS AND TRANSPORT KINGDOM OF CAMBODIA	JAPAN INTERNATIONAL COOPERATION AGENCY CTI ENGINEERING INTERNATIONAL CO., LTD.	PROJECT TITLE: PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT OF BRIDGES IN FLOOD-PRONE AREAS	DRAWING TITLE: TRAFFIC SIGN AT SCHOOL APPROACH AND CROSSWALK MARKING	SCALE(A1 SIZE)	DRAWING NO.
				-	RA-05



MAX SPEED LIMIT AS SHOWN



SLOW DOWN  
R-2-24



RIGHT BEND  
W\*03

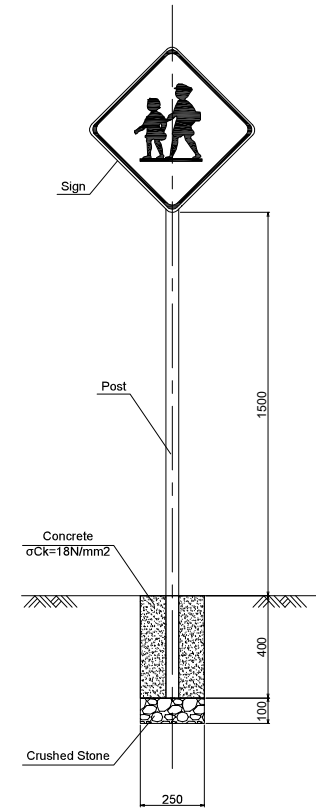


LEFT BEND  
W\*03



CHILDREN CROSSING  
W1-33

REGULATORY PROHIBITORY ROADSIGNS



SIGN POST S=1/10

SCHEDULE OF TRAFFIC SIGNS

TRAFFIC SIGNS CALCULATE	POINT	SIDE	MAX SPEED LIMIT AS SHOWN (NUMBER)	LEFT(RIGHT) BEND (NUMBER)	CHILDREN CROSSING (NUMBER)	SLOW DOWN (NUMBER)	TOTAL (NUMBER)
2_Ba Baong Bridge No.1	0 + 662	RIGHT	1	-	-	-	1
3_Prek Sandan Bridge	0 + 256	LEFT	-	1	-	-	1
4_Prek Rus Bridge	0 + 185	LEFT	-	1	-	-	1
5_Anglong Khle Bridge	0 + 273	RIGHT	-	-	-	1	3
	0 + 351	RIGHT	-	-	1	-	
	0 + 480	LEFT	-	-	1	-	
6_Prek Chhloung Bridge	0 + 391	LEFT	1	-	-	-	1
7_Peam Te Bridge	0 + 120	LEFT	1	-	-	-	1
ROAD TOTAL							8

NOTE:

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MINISTRY OF PUBLIC WORKS  
AND TRANSPORT  
KINGDOM OF CAMBODIA

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CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:

PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:

TRAFFIC SIGNS

SCALE(AT SIZE) DRAWING NO.

-

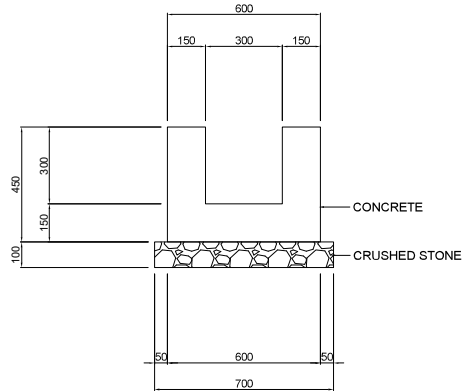
RA-06



# SIDE DITCH

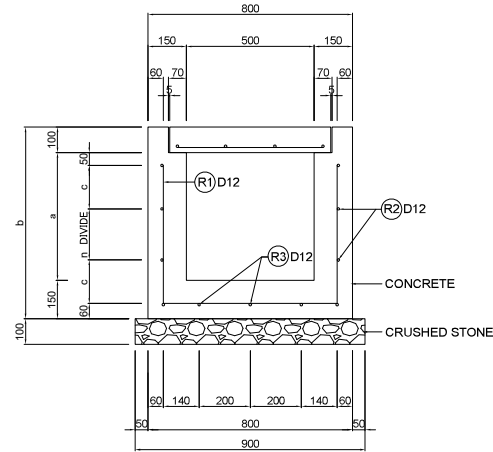
**U-DITCH**  
U-300×300

S=1/10

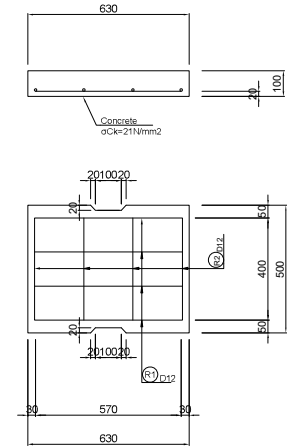


**U-DITCH**  
U-500×500~1000(CV)

S=1/10



**COVER**



DIMENSION TABLE (mm)				
Type	a	b	c	REMARKS
U-500×500~1000(CV)	500~1000	750~1250	170~120	

LIST OF REINFORCEMENT (mm) (PER 10.0m)						
Type	n	L	Ⓐ	Ⓑ	Ⓒ	REMARKS
U-500×500~1000(CV)	1~4	540~1040	5C-D12×1760~2760	3~6-D12×10000	5-D12×10000	Ⓐ etc,200

LIST OF REINFORCEMENT (mm) (PER 10.0m)			
Type	Ⓐ	Ⓑ	REMARKS
U-500×500~1000(CV)	80-D12×570	80-D12×400	etc,200

**SCHEDULE OF DRAINAGE**

DRAINAGE CALCULATE	U-300×300			
	RIGHT SIDE			
	No.	STARTING STATION	ENDING STATION	LENGTH (m)
1_Ba Baong Bridge No.2	1	0 + 163.2	0 + 320.0	168.2
	SUB TOTAL			168.2
7_Peam Te Bridge	1	0 + 172.5	0 + 202.1	29.0
	2	0 + 232.6	0 + 310.1	77.5
SUB TOTAL			106.5	
ROAD TOTAL				274.7

**SCHEDULE OF DRAINAGE**

DRAINAGE CALCULATE	U-500×500~1000(CV)			
	LEFT SIDE			
	No.	STARTING STATION	ENDING STATION	LENGTH (m)
7_Prek Chihoung Bridge	1	0 + 140.0	0 + 204.0	64.3
	SUB TOTAL			64.3
ROAD TOTAL				64.3

AP7-151

MINISTRY OF PUBLIC WORKS  
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KINGDOM OF CAMBODIA

JAPAN INTERNATIONAL COOPERATION AGENCY  
CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT TITLE:  
PREPARATORY SURVEY FOR THE PROJECT FOR THE URGENT REPLACEMENT  
OF BRIDGES IN FLOOD-PRONE AREAS

DRAWING TITLE:  
OUTLINE OF DRAINAGE STRUTURE

SCALE(A1 SIZE) DRAWING NO.  
1/10 RA-07

