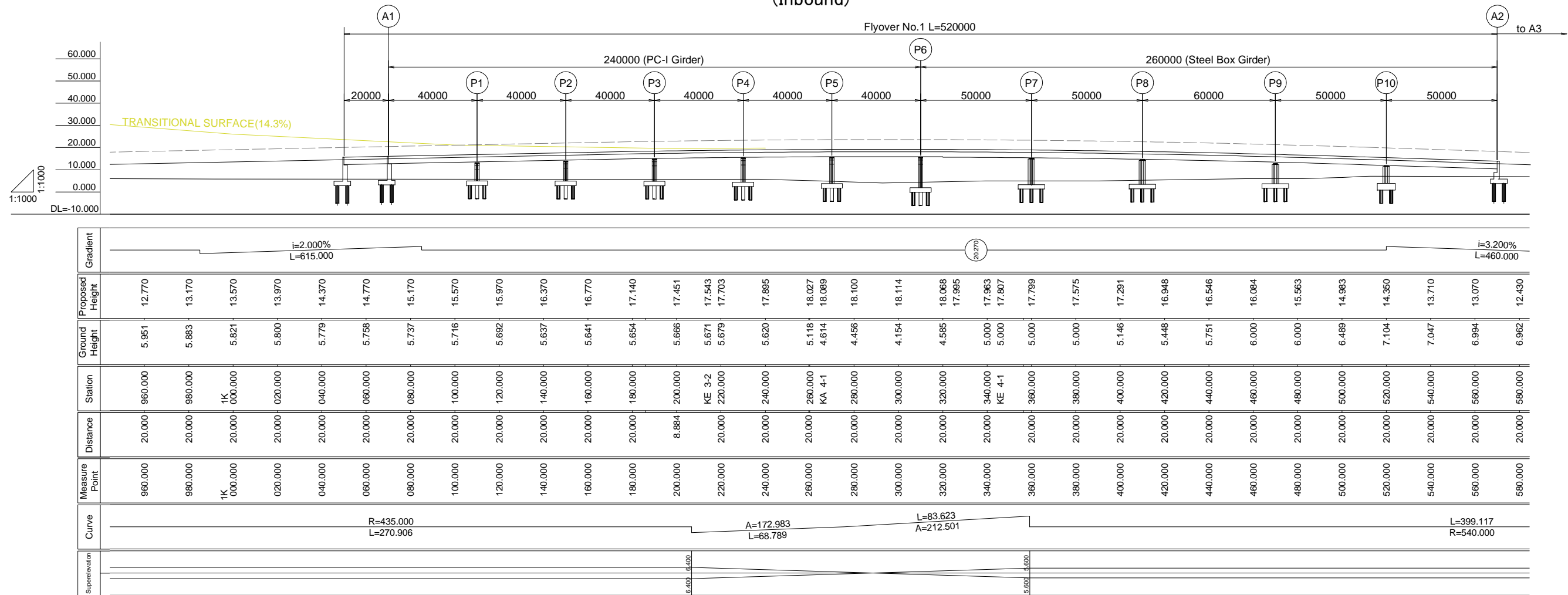


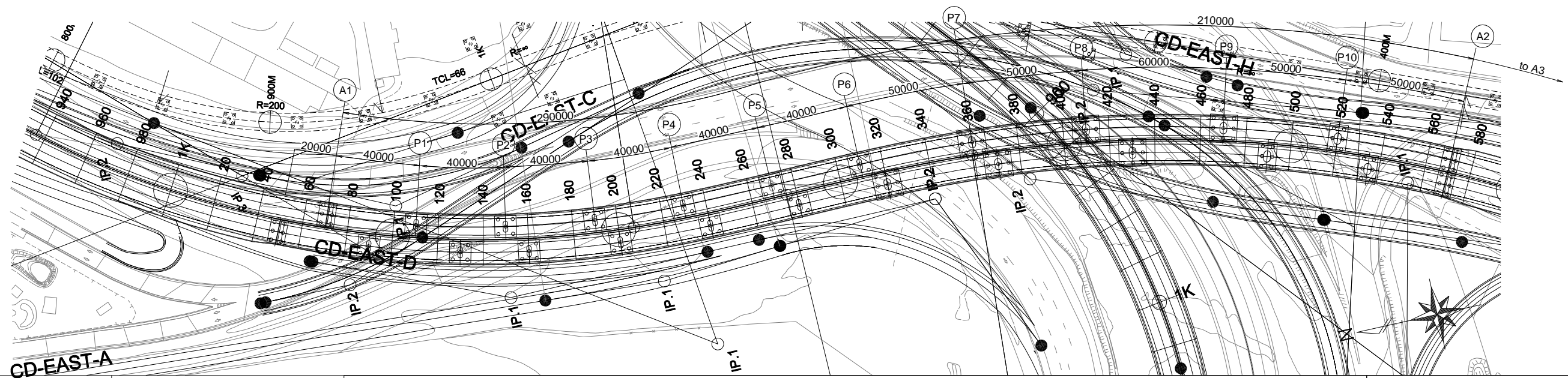
Appendix 5-1-3: Bridge Drawings

Flyover No.1 (1 of 4) (KM1+050.000 ~ KM1+570.000)

Profile
(Inbound) S=1:1000

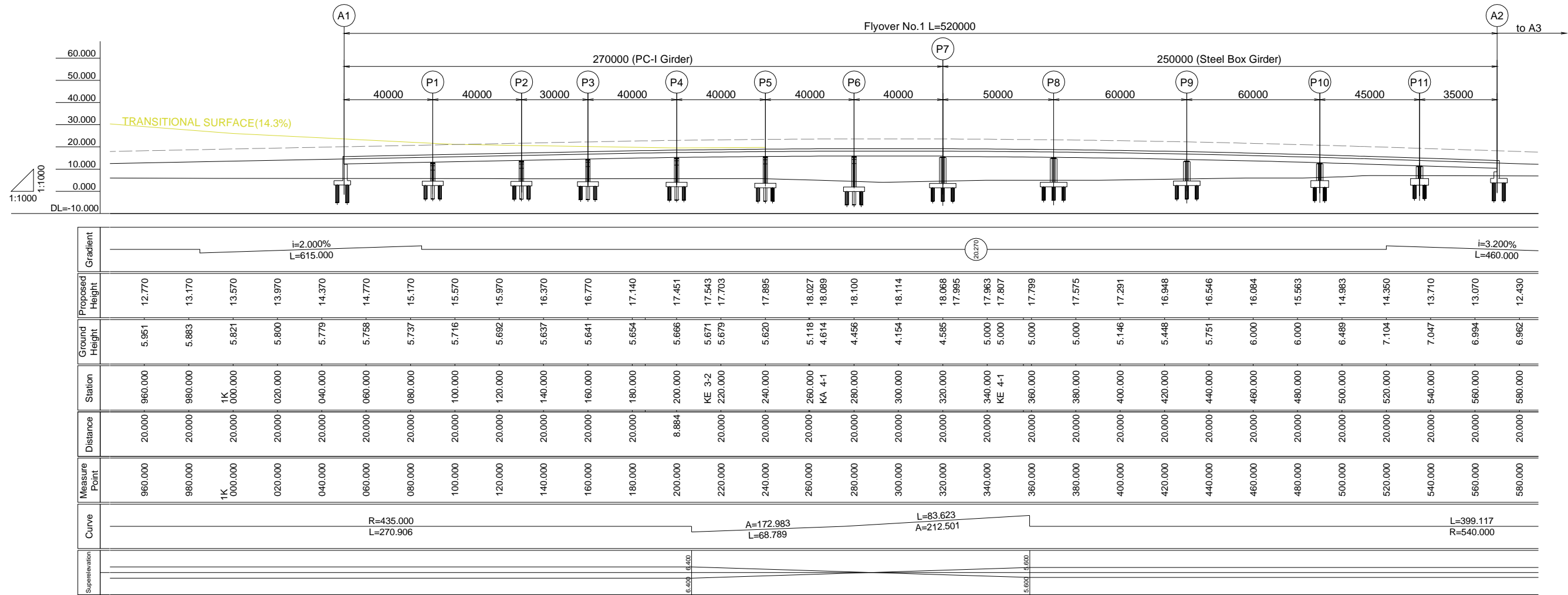


Plan S=1:1000

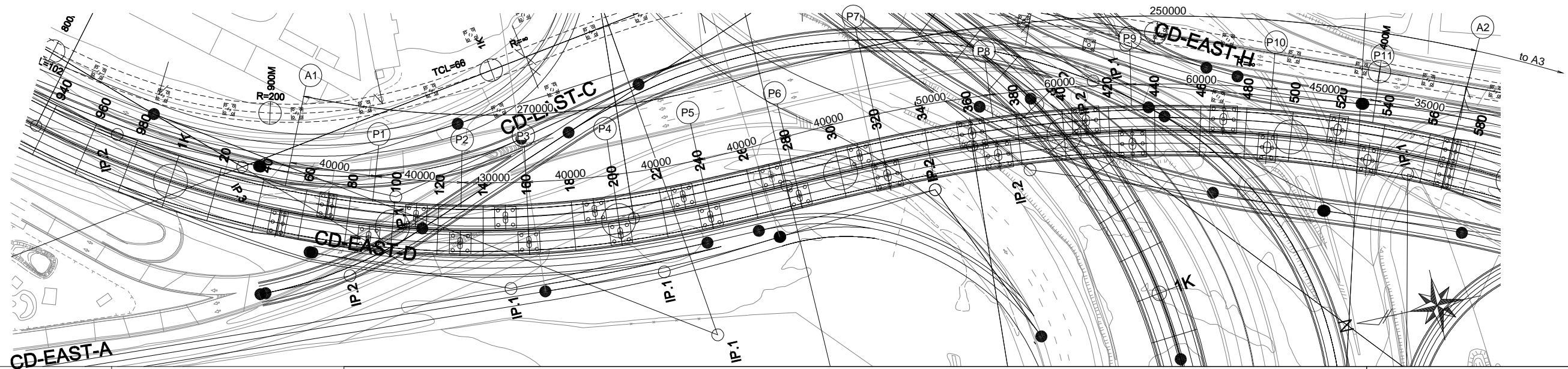


Flyover No.1 (2 of 4) (KM1+050.000 ~ KM1+570.000)

Profile (Outbound) S=1:1000

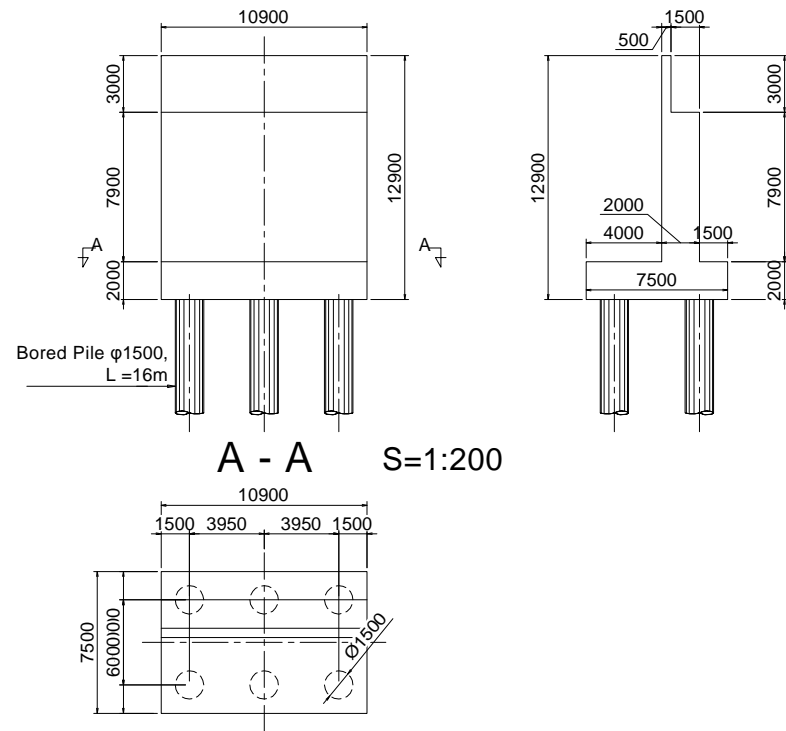


Plan S=1:1000



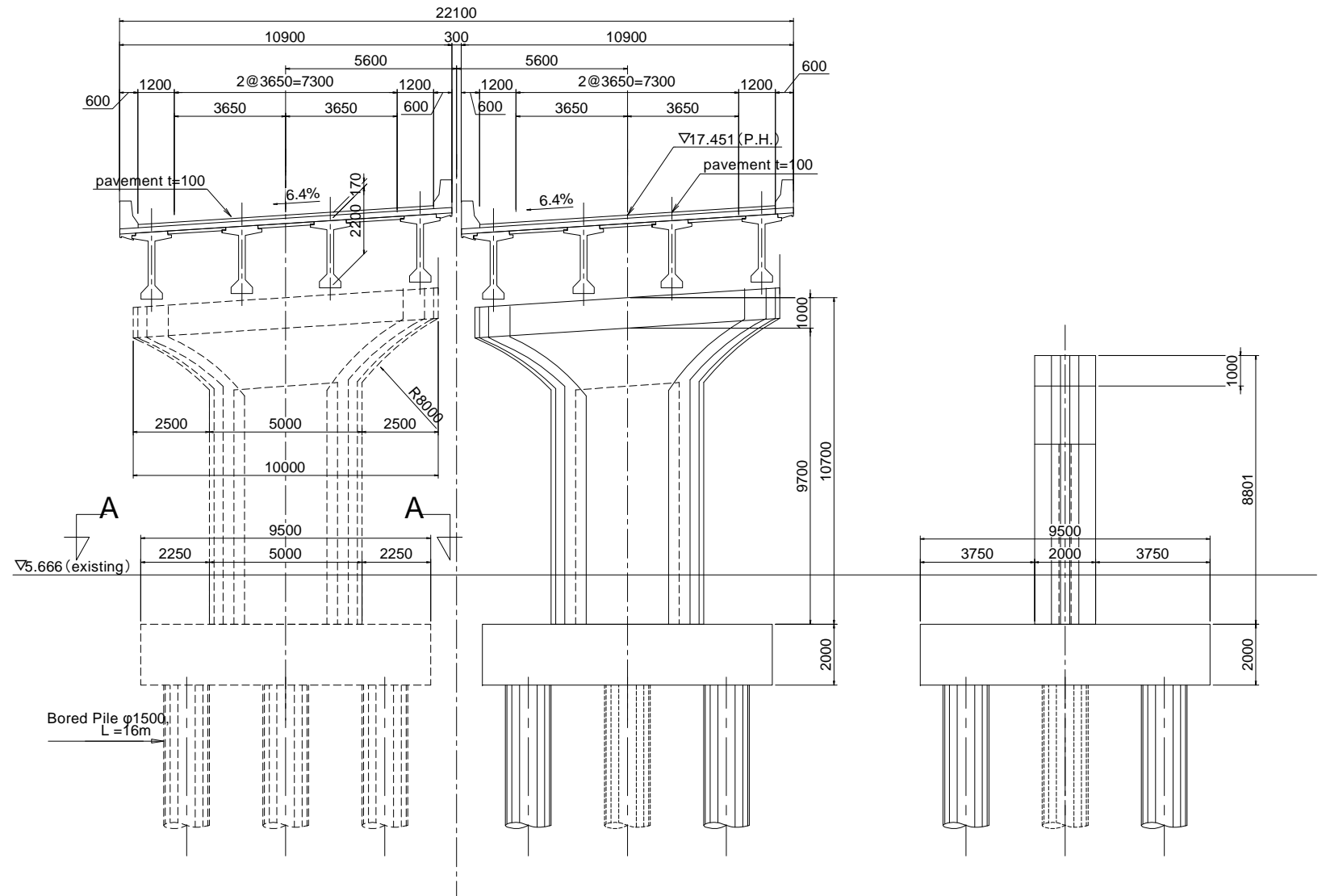
Flyover No.1 (3 of 4)
(KM1+050.000~KM1+570.000)

Ⓐ Cross Section S=1:200

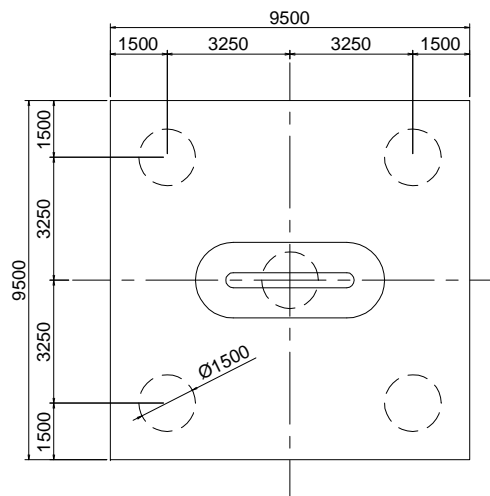


A - A S=1:200

Ⓐ Cross Section S=1:100



A - A S=1:100



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S=1:100
S=1:200

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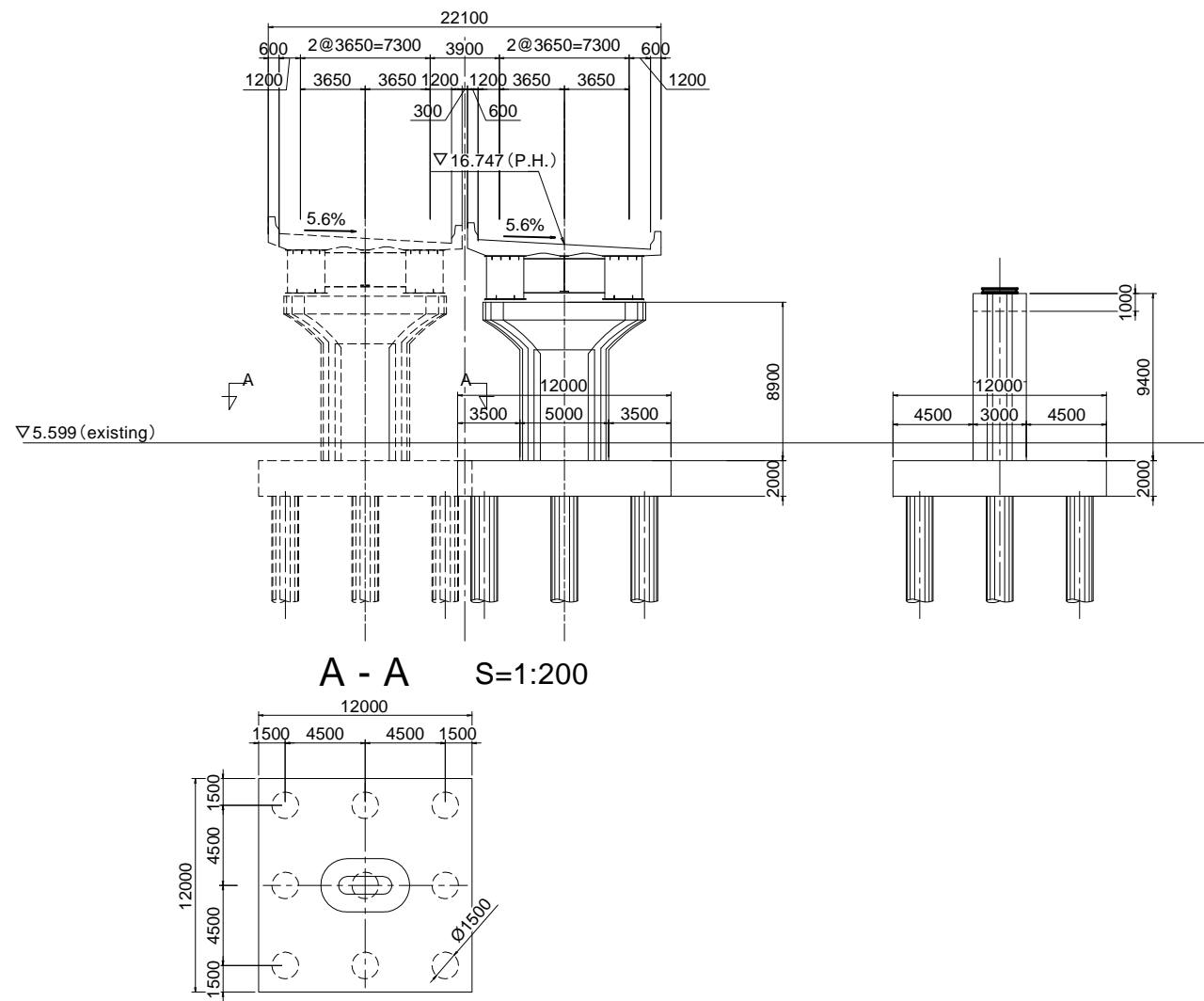
REMARKS:

Flyover No.1 (3 of 4)
(KM1+050.000~KM1+570.000)

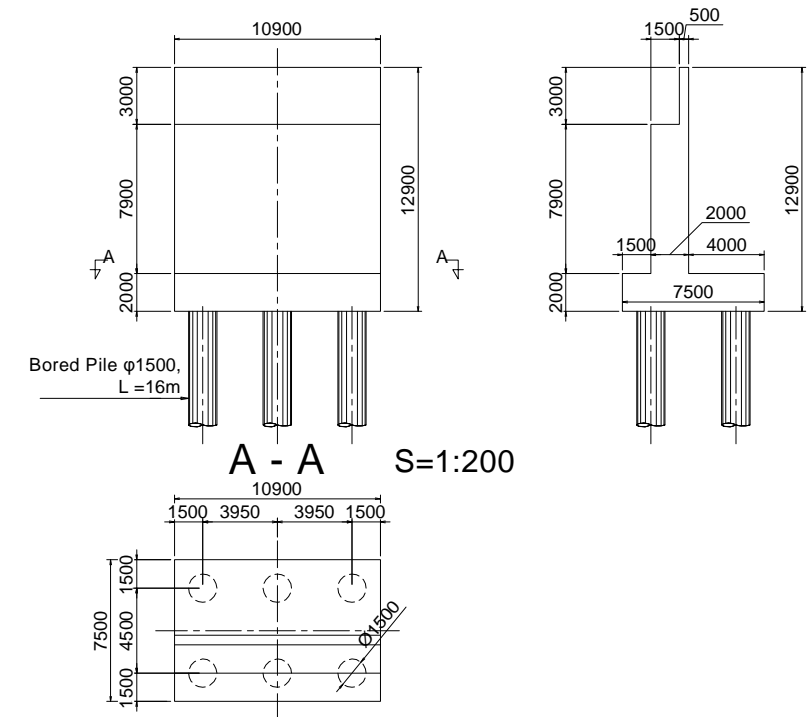
25

Flyover No.1 (4 of 4)
(KM1+050.000 ~ KM1+570.000)

P9 Cross Section S=1:200



A2 Cross Section S=1:200



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SCALE: S=1:200

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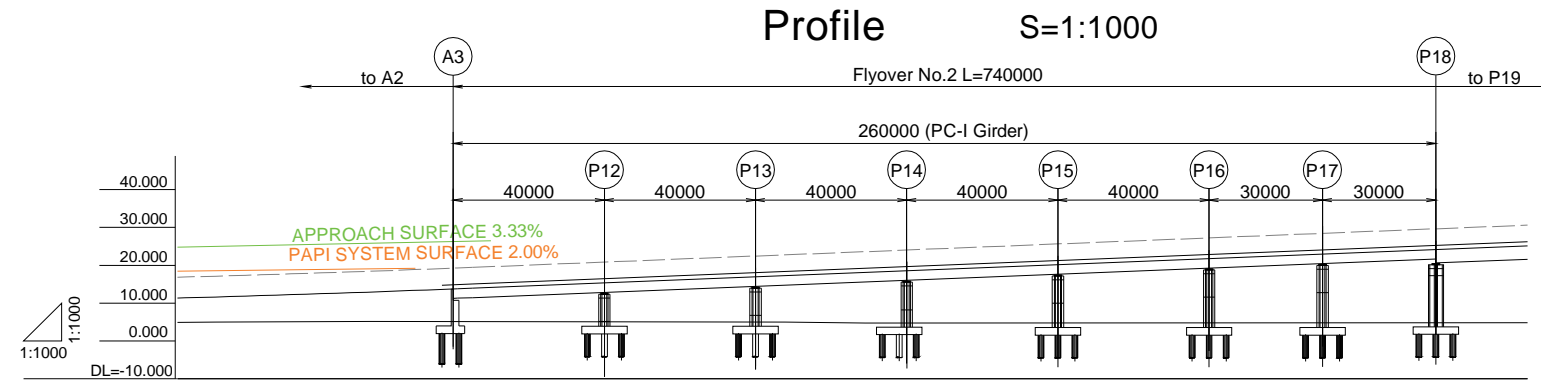
4
25

REMARKS:

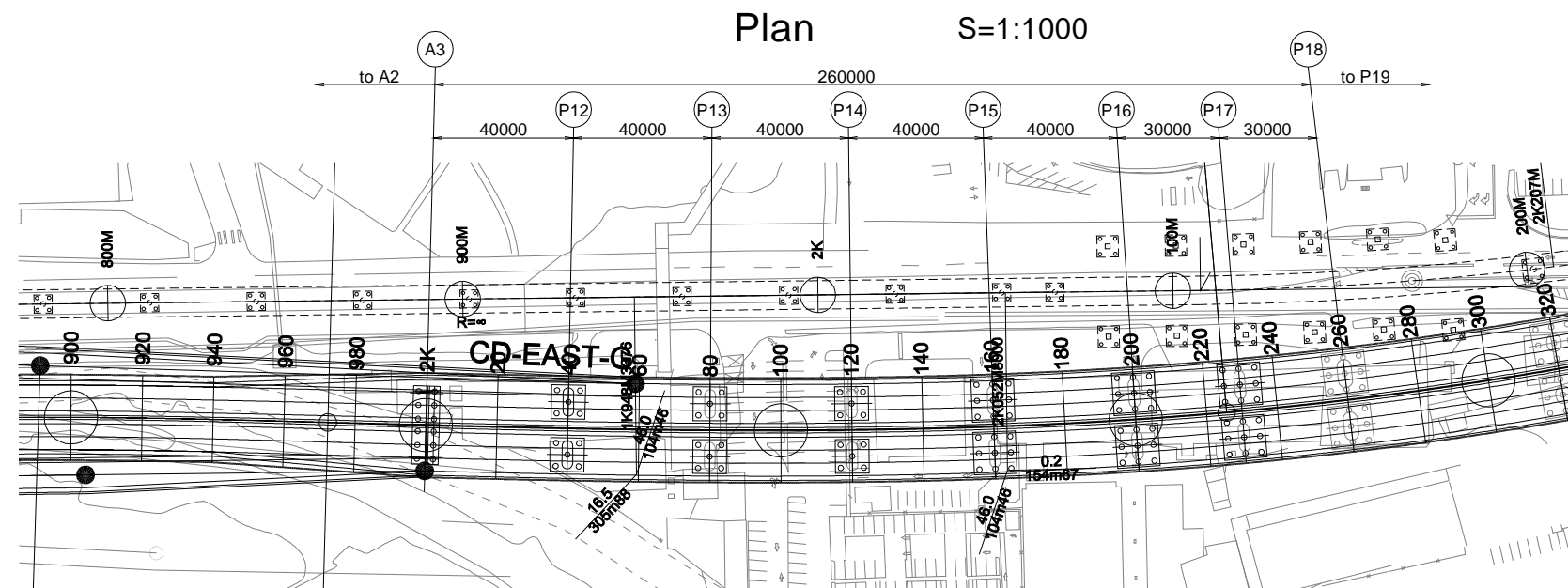
Flyover No.1 (4 of 4)
(KM1+050.000~KM1+570.000)

Flyover No.2 (1 of 5)

(KM2+000.000~KM2+740.000)



Station	Distance	Measure Point	Curve	Superelevation	Ground Height	Proposed Height	Gradient
940.000	20.000	940.000			5.012	11.712	
960.000	20.000	960.000			5.095	12.324	
KA 5-1	20.000	980.000			5.146	12.735	
980.000	20.000	980.000			5.167	13.004	
2K 000.000	20.000	2K 000.000			2K 5.136	13.752	
020.000	20.000	020.000			5.105	14.550	
040.000	20.000	040.000			5.074	15.350	
060.000	20.000	060.000			5.043	16.150	
080.000	20.000	080.000			5.012	16.950	
100.000	20.000	100.000	A=527.861 L=253.307		4.844	17.750	
120.000	20.000	120.000			4.736	18.550	
140.000	20.000	140.000			4.746	19.350	
160.000	20.000	160.000			4.757	20.150	
180.000	20.000	180.000			4.767	20.950	
200.000	20.000	200.000			4.778	21.750	
220.000	20.000	220.000			4.788	22.550	
KE 5-1	20.000	240.000			4.791	22.776	
240.000	20.000	240.000			4.799	23.350	
260.000	20.000	260.000			4.809	24.150	
280.000	20.000	280.000			4.820	24.950	



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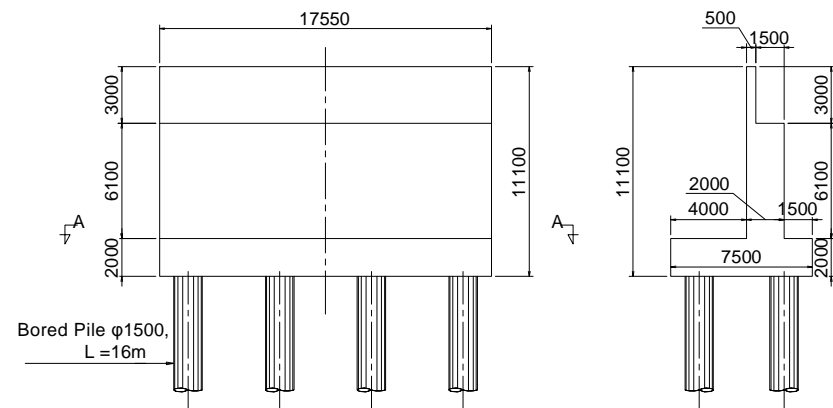
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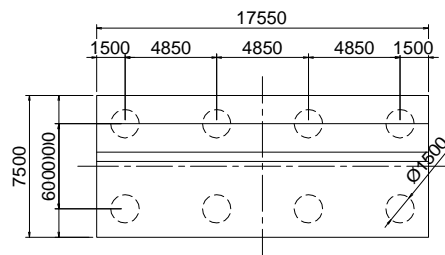
REMARKS:
Flyover No.2 (1 of 5)
(KM2+000.000~KM2+740.000)

Flyover No.2 (2 of 5)
(KM2+000.000~KM2+740.000)

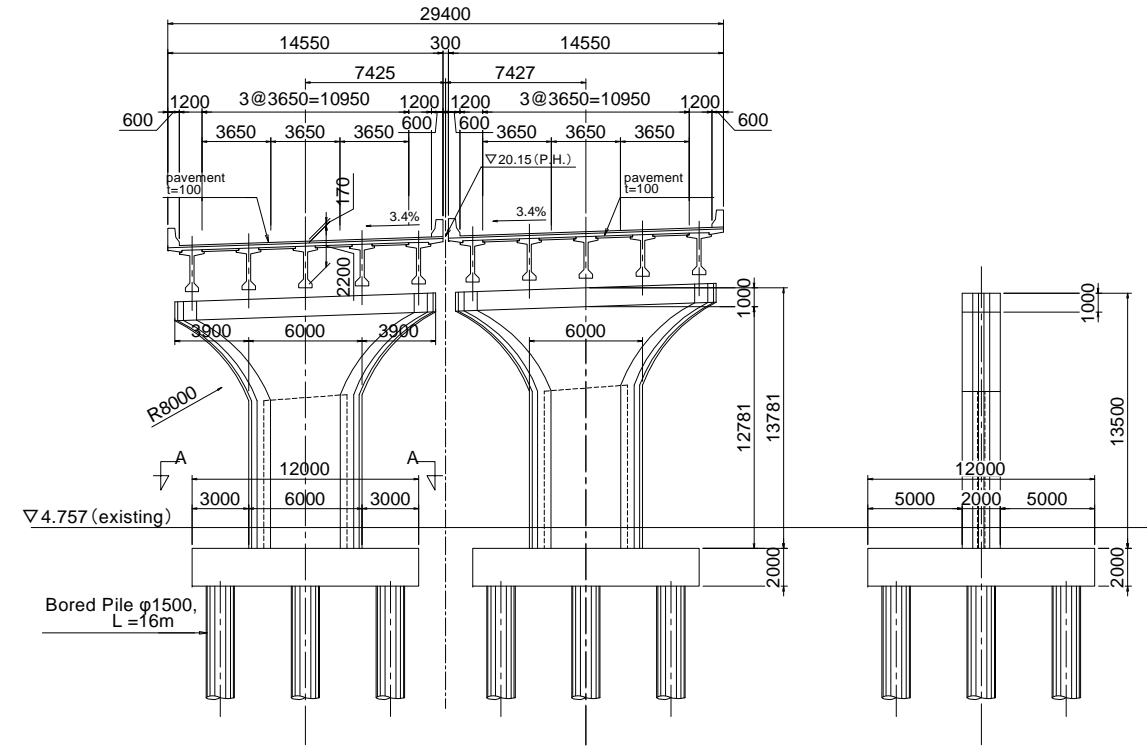
A3 Cross Section S=1:200



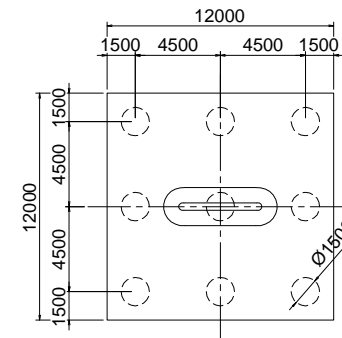
A - A S=1:200



P15 Cross Section S=1:200



A - A S=1:200



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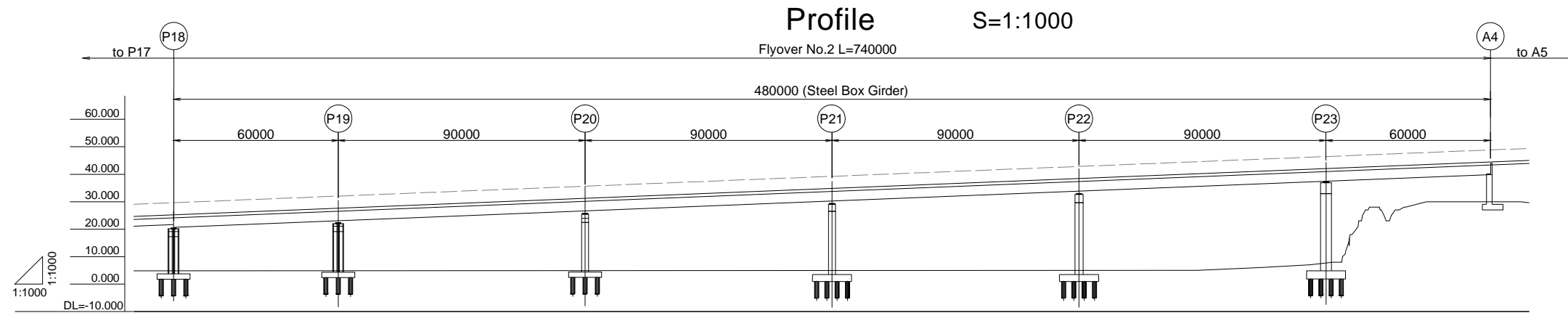
PAGE:
6/25

REMARKS:

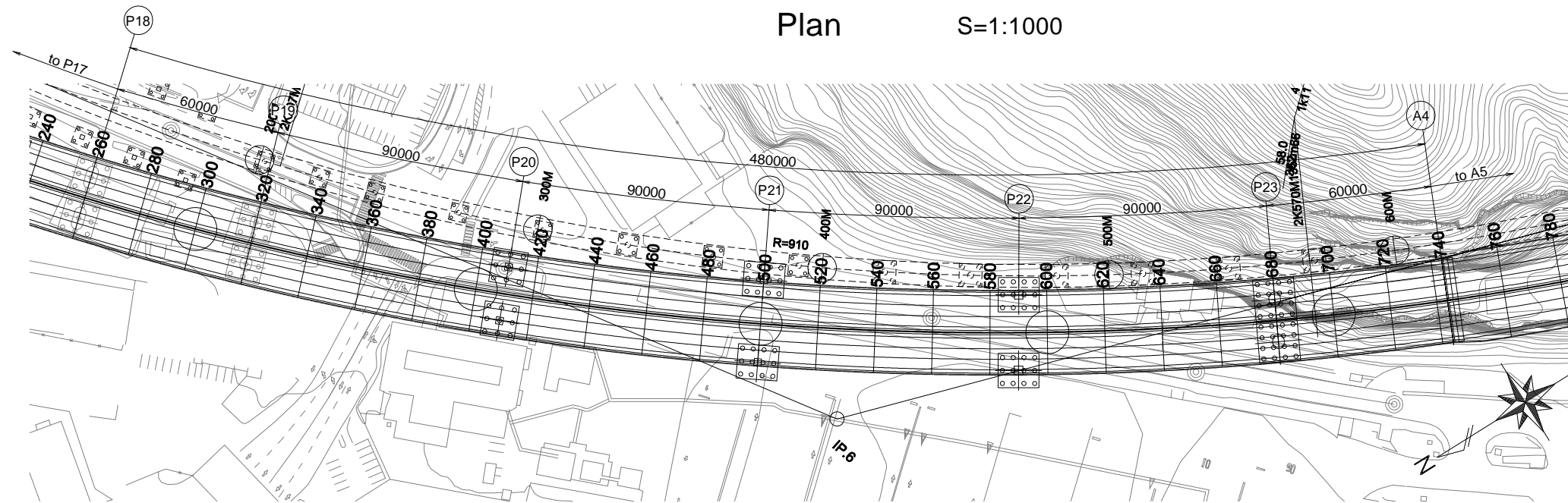
Flyover No.2 (2 of 5)
(KM2+000.000~KM2+740.000)

Flyover No.2 (3 of 5)

(KM2+000.000 ~ KM2+740.000)



Station	Distance	Measure Point	Ground Height	Proposed Height	Gradient	Curve	Superelevation
260.000	20.000	260.000	4.809	24.150	i=4.000% L=2005.000	R=1100.000 L=646.362	
280.000	20.000	280.000	4.820	24.950			
300.000	20.000	300.000	4.830	25.750			
320.000	20.000	320.000	4.841	26.550			
340.000	20.000	340.000	4.851	27.350			
360.000	20.000	360.000	4.862	28.150			
380.000	20.000	380.000	4.872	28.950			
400.000	20.000	400.000	4.883	29.750			
420.000	20.000	420.000	4.893	30.550			
440.000	20.000	440.000	4.903	31.350			
460.000	20.000	460.000	4.914	32.150			
480.000	20.000	480.000	4.924	32.950			
500.000	20.000	500.000	4.935	33.750			
520.000	20.000	520.000	4.945	34.550			
540.000	20.000	540.000	4.956	35.350			
560.000	20.000	560.000	4.966	36.150			
580.000	20.000	580.000	4.977	36.950			
600.000	20.000	600.000	4.987	37.750			
620.000	20.000	620.000	4.998	38.550			
640.000	20.000	640.000	5.313	39.350			
660.000	20.000	660.000	6.223	40.150			
680.000	20.000	680.000	7.706	40.950			
700.000	20.000	700.000	27.000	41.750			
720.000	20.000	720.000	30.000	42.550			
740.000	20.000	740.000	30.000	43.350			



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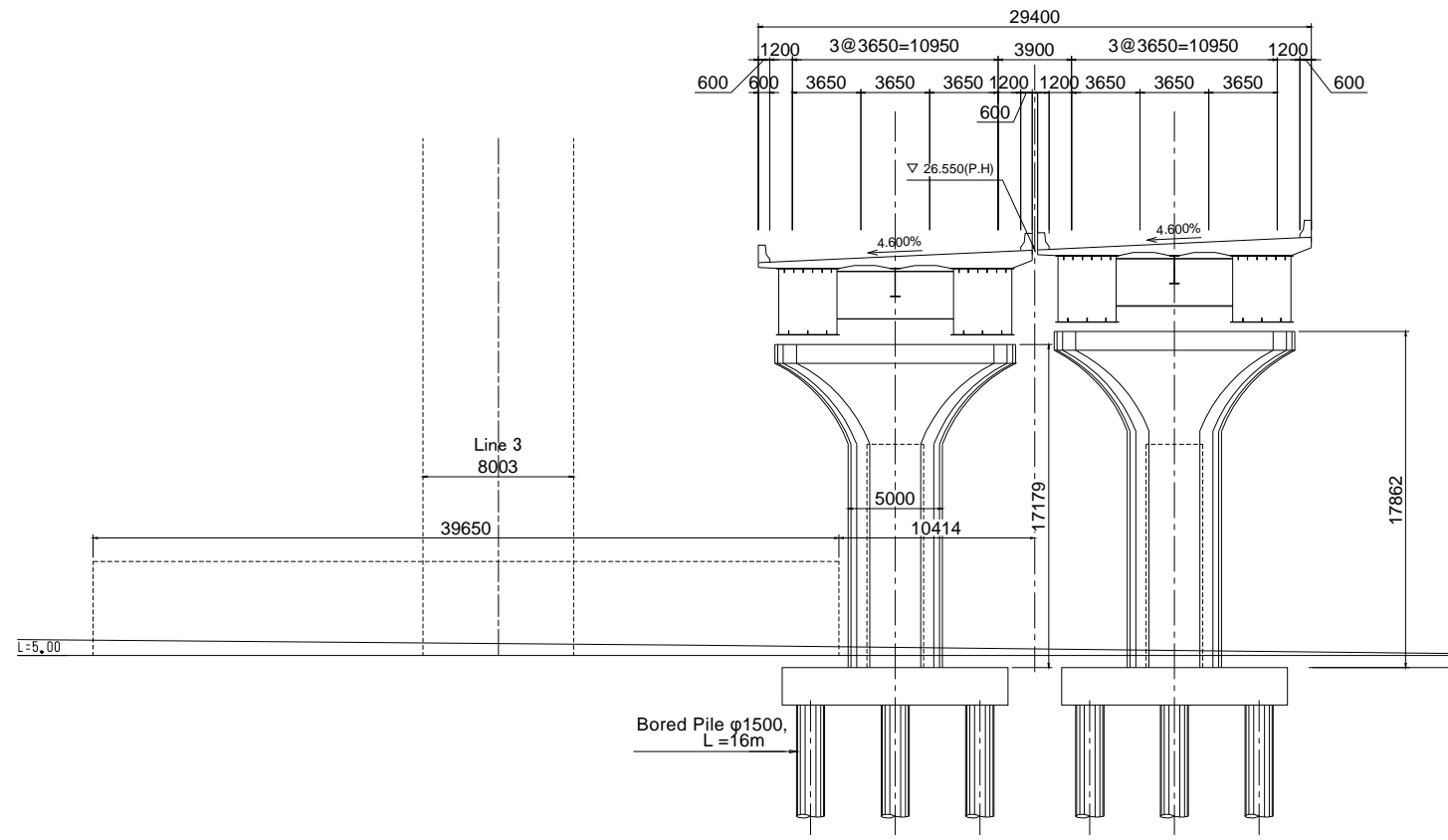
7/25

REMARKS:

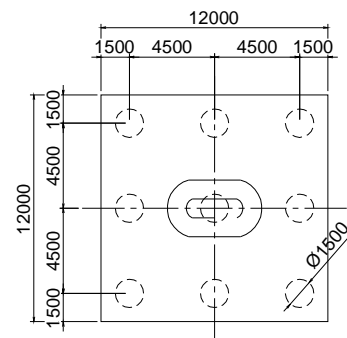
Flyover No.2 (3 of 5)
(KM2+000.000~KM2+740.000)

Flyover No.2 (4 of 5)
(KM2+000.000 ~ KM2+740.000)

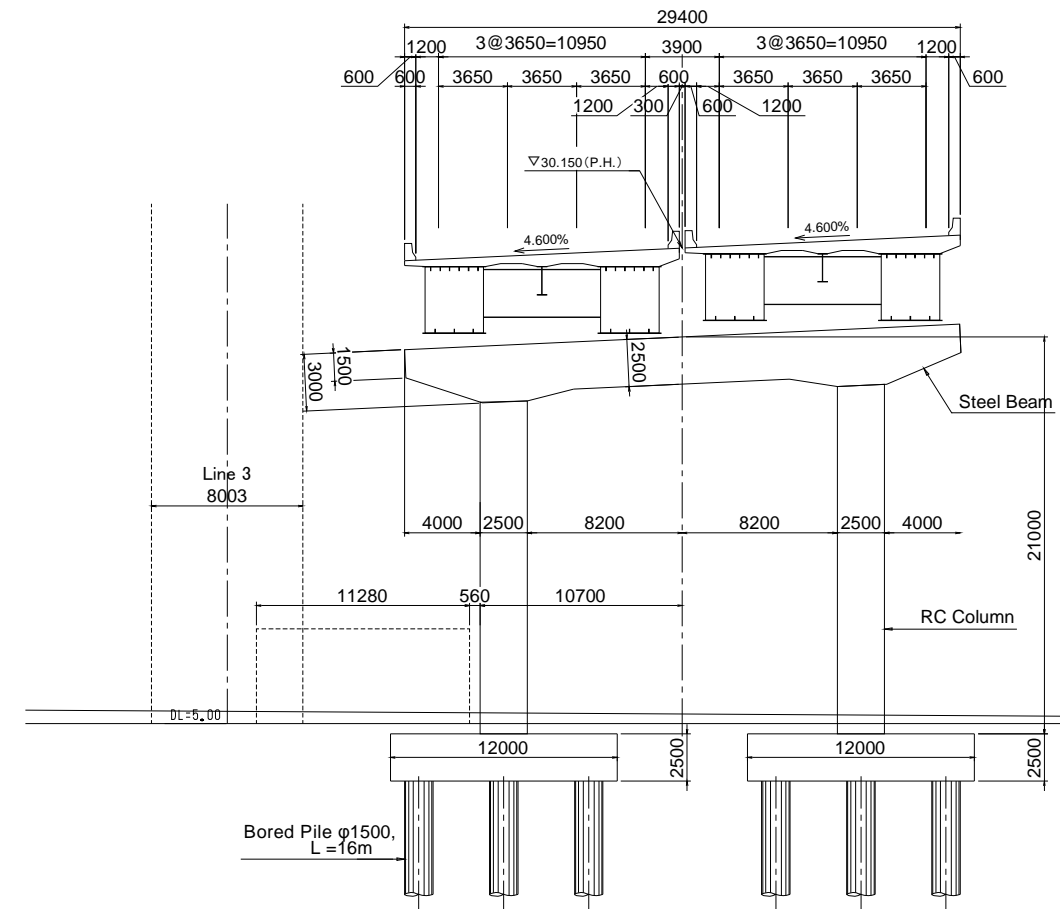
P19 Cross Section S=1:200



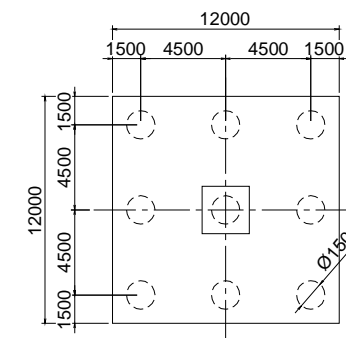
A - A S=1:200



P20 Cross Section S=1:200



A - A S=1:200



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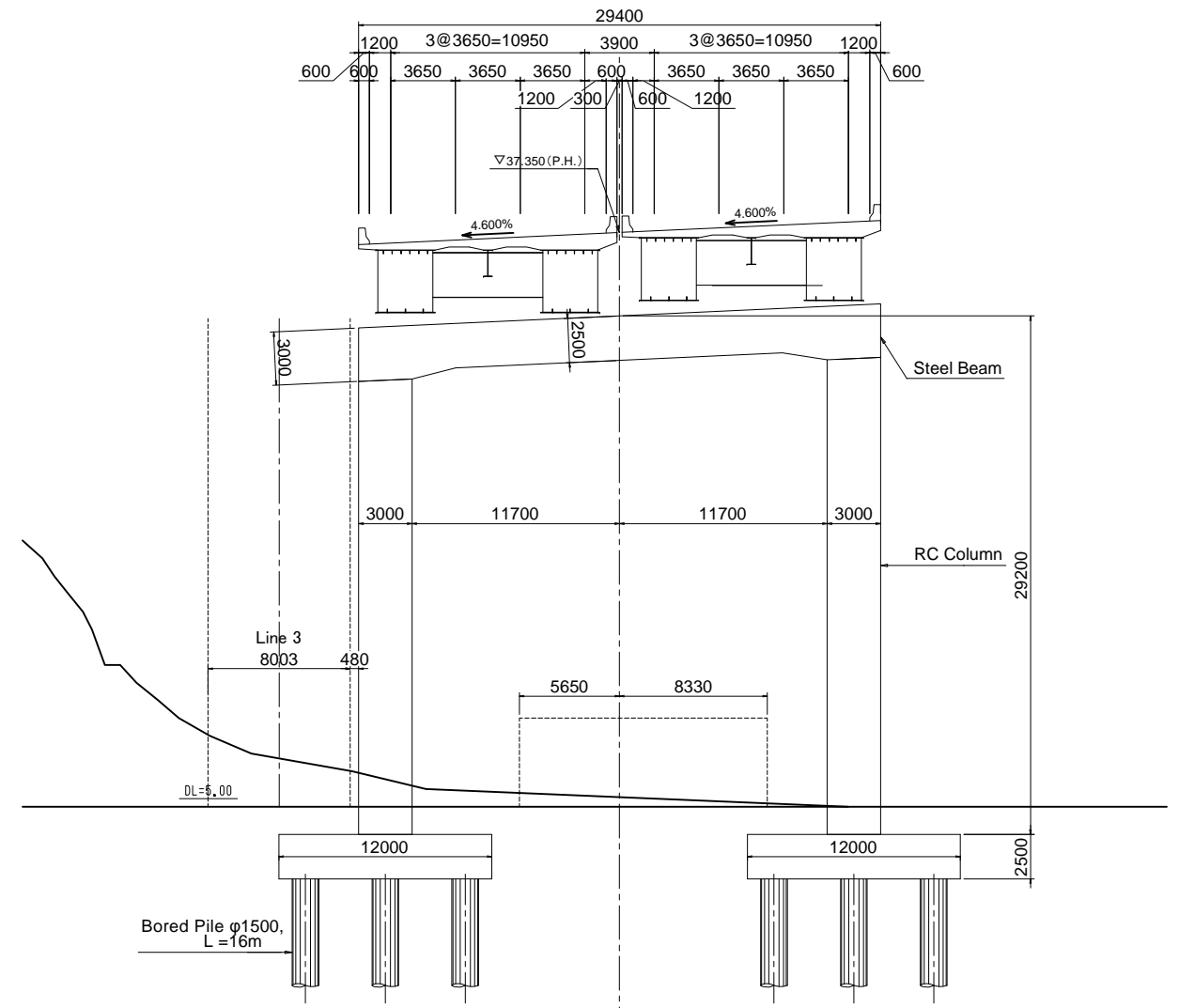
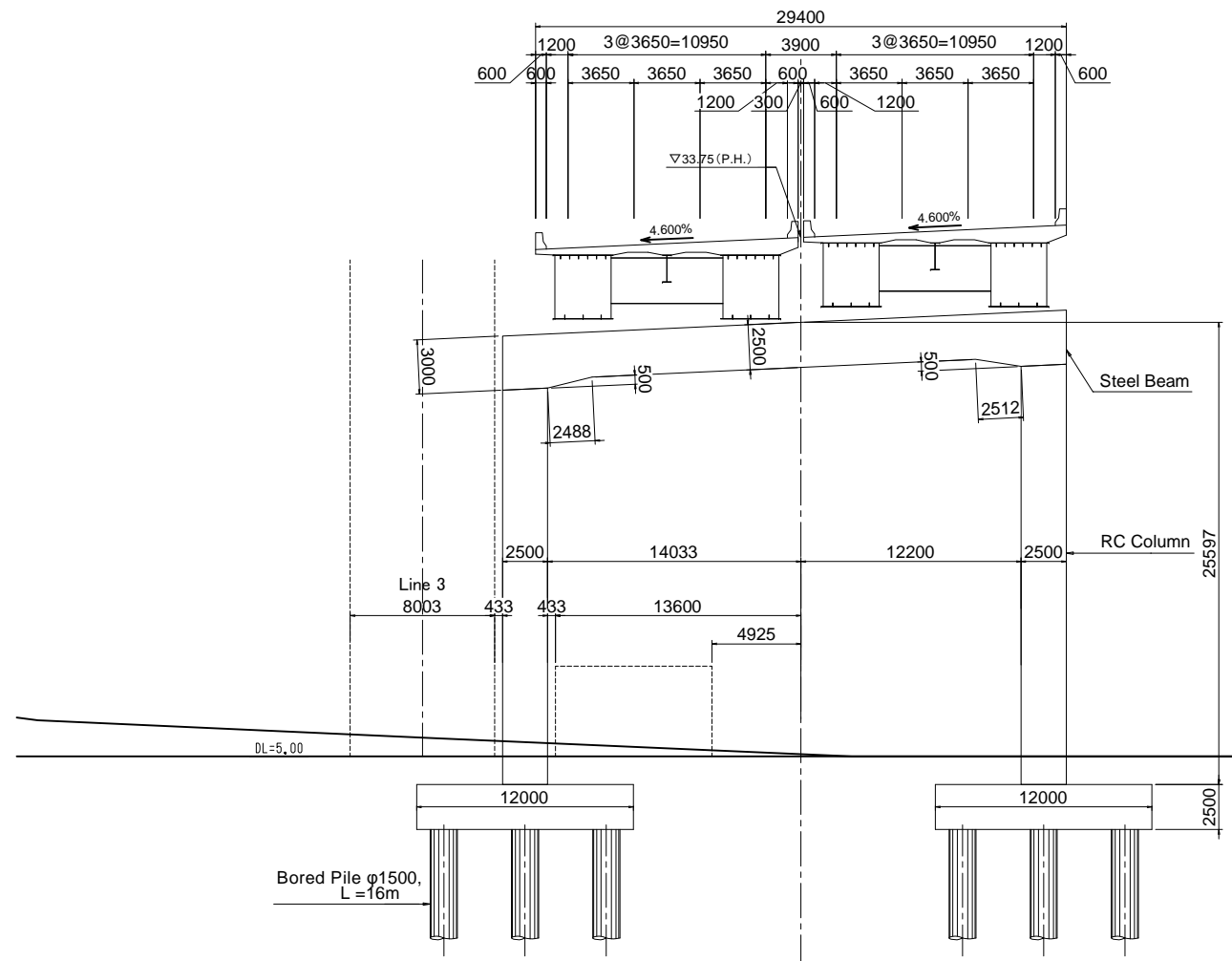
REMARKS:

Flyover No.2 (4 of 5)
(KM2+000.000 ~ KM2+740.000)

Flyover No.2 (5 of 5)
(KM2+000.000~KM2+740.000)

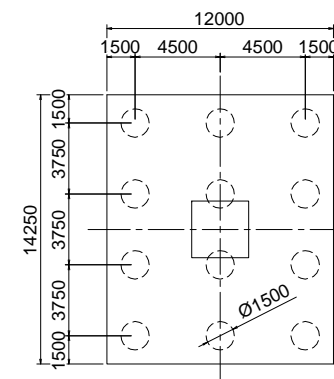
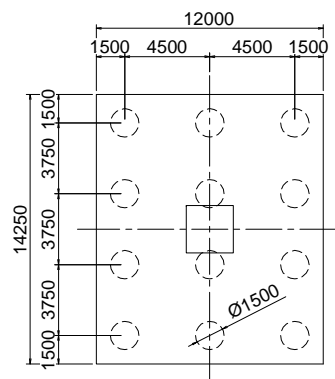
P21 Cross Section S=1:200

P22 Cross Section S=1:200



A - A S=1:200

A - A S=1:200



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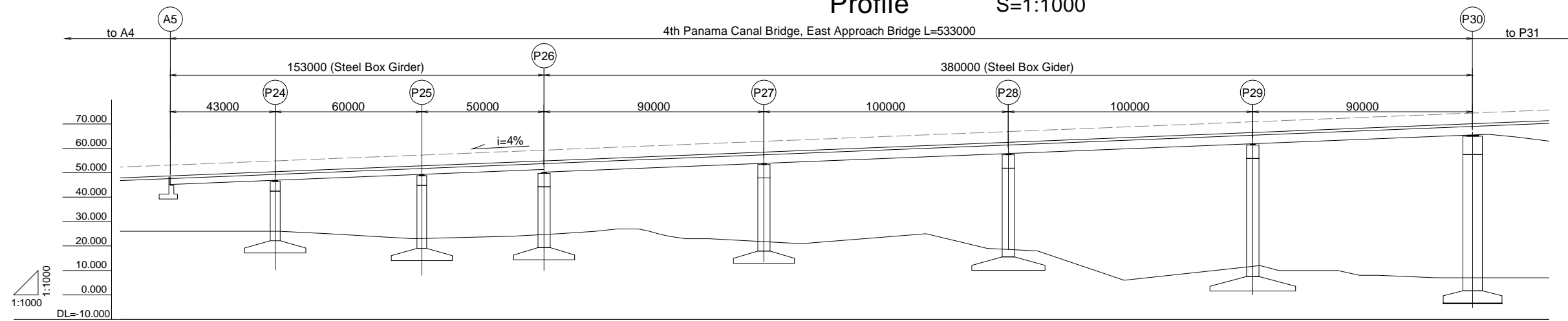
REMARKS:

Flyover No.2 (5 of 5)
(KM2+000.000~KM2+740.000)

4th Panama Canal Bridge, East Approach Bridge (1 of 2)

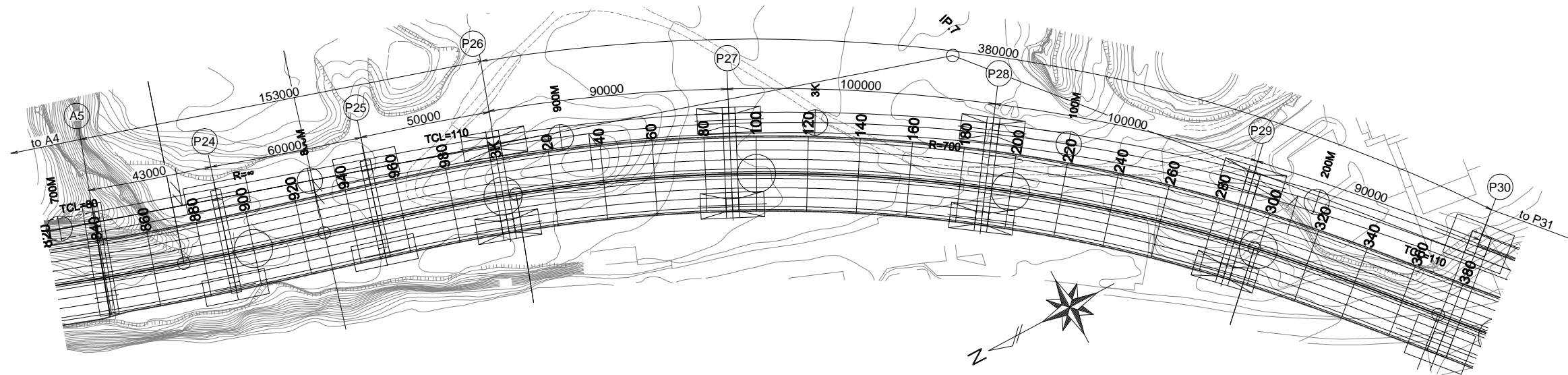
(KM2+847.000~KM3+380.000)

Profile S=1:1000



Station	Distance	Measure Point	Curve	Superelevation	Ground Height	Proposed Height	Gradient
840.000	20.000	840.000			26.000	47.350	
860.000	20.000	860.000			26.000	48.150	
880.000	20.000	880.000			26.000	48.631	
900.000	20.000	900.000			25.584	48.950	
920.000	20.000	920.000			24.526	50.550	
940.000	20.000	940.000			24.041	50.886	
960.000	20.000	960.000			23.371	51.350	
980.000	20.000	980.000			23.828	52.150	
1000.000	20.000	1000.000			24.690	53.750	
1020.000	20.000	1020.000			24.966	53.959	
1040.000	20.000	1040.000			25.821	54.550	
1060.000	20.000	1060.000			26.698	55.350	
1080.000	20.000	1080.000			23.000	56.150	
1100.000	20.000	1100.000			22.334	56.950	
1120.000	20.000	1120.000			21.280	57.750	
1140.000	20.000	1140.000			22.153	58.550	
1160.000	20.000	1160.000			23.722	59.350	
1180.000	20.000	1180.000			24.110	60.150	
1200.000	20.000	1200.000			19.320	60.950	
1220.000	20.000	1220.000			18.089	61.750	
1240.000	20.000	1240.000			11.852	62.550	
1260.000	20.000	1260.000			6.290	63.350	
1280.000	20.000	1280.000			8.450	64.150	
1300.000	20.000	1300.000			10.609	64.950	
1320.000	20.000	1320.000			10.624	65.681	
1340.000	20.000	1340.000			10.175	65.750	
1360.000	20.000	1360.000			10.000	66.550	
1380.000	20.000	1380.000			8.000	67.350	
1400.000	20.000	1400.000			7.216	68.150	
1420.000	20.000	1420.000			7.000	68.754	
1440.000	20.000	1440.000			7.000	68.950	
1460.000	20.000	1460.000			7.000	69.750	

Plan S=1:1000



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REMARKS:

4th Panama Canal Bridge East Approach Bridge (1 of 2) (KM2+847.000~KM3+380.000)

4th Panama Canal Bridge, East Approach Bridge (2 of 2)

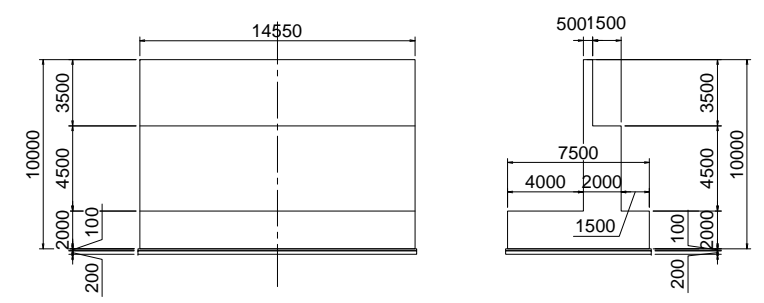
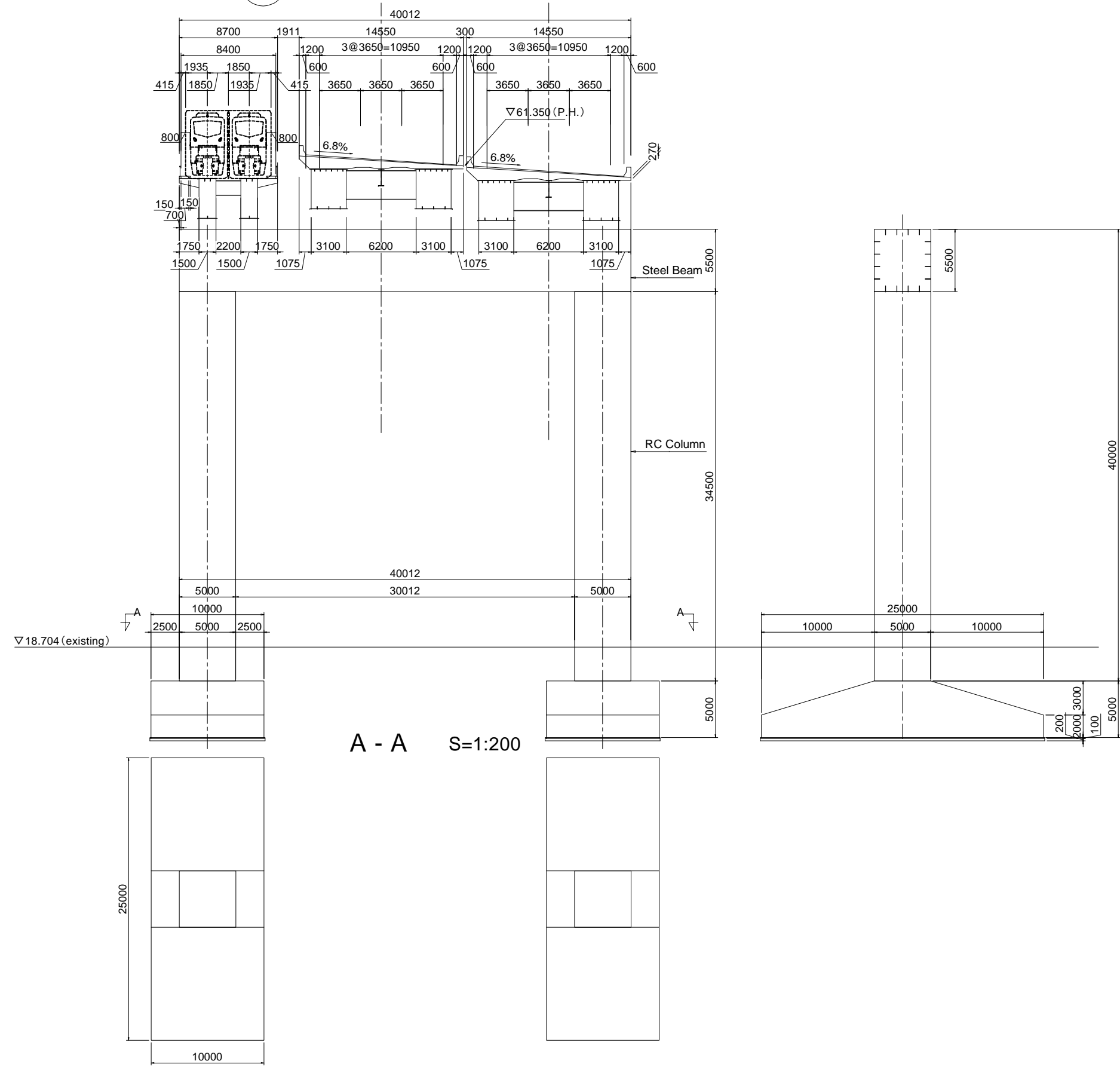
P28 Cross Section

S=1:200

(KM2+847.000~KM3+380.000)

A5 Cross Section

S=1:200



A - A S=1:200



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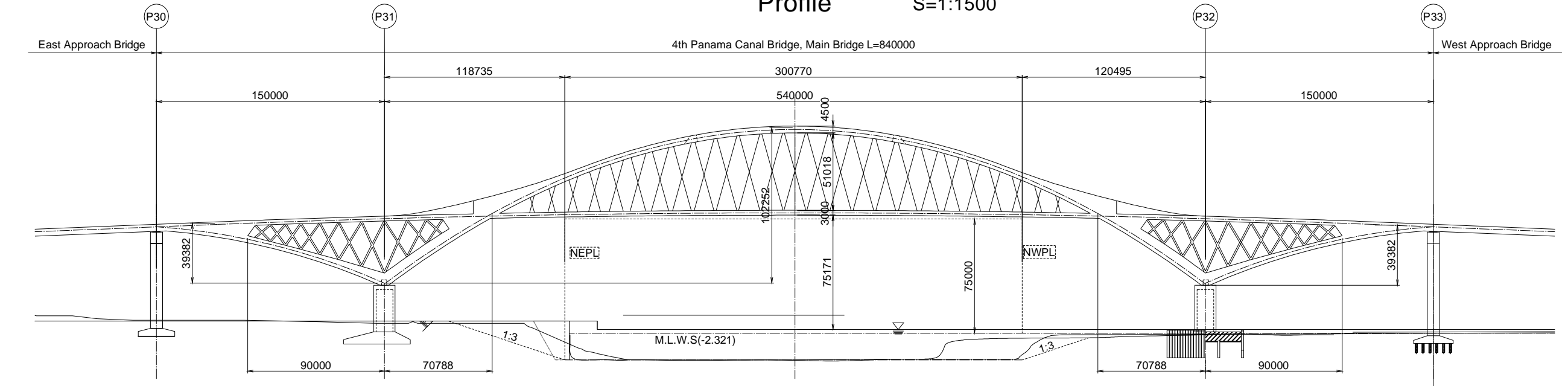
PAGE: 11/25

REMARKS:
4th Panama Canal Bridge
East Approach Bridge (2 of 2)
(KM2+847.000~KM3+380.000)

4th Panama Canal Bridge, Main Bridge (1 of 4)

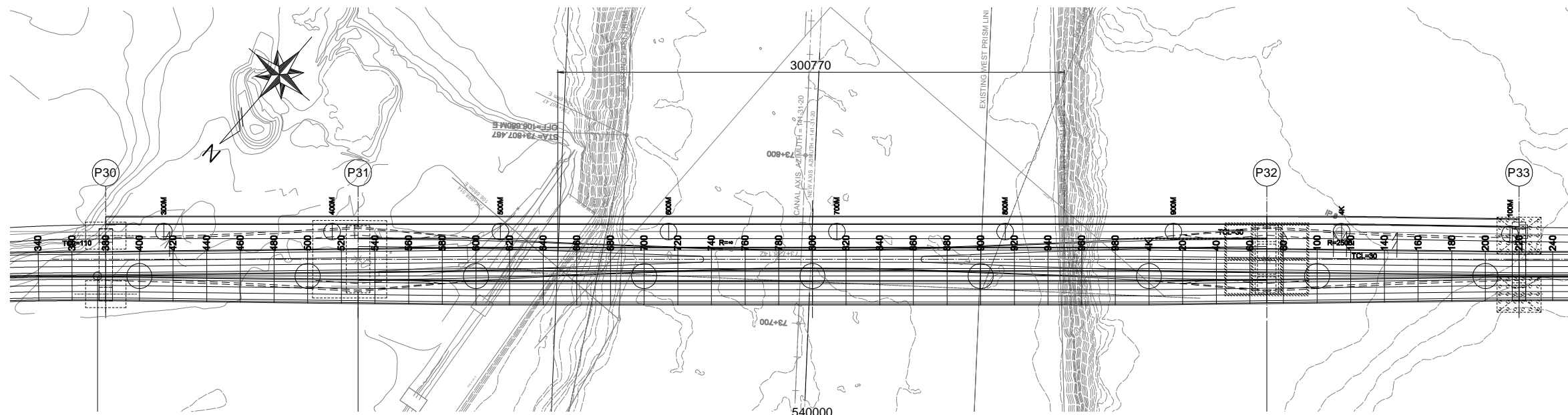
(KM3+380.000 ~ KM4+220.000)

Profile S=1:1500



Station	Distance	Measure Point	Ground Height	Proposed Height	Gradient
300.000	20.000	300.000	10.175	65.750	i=-4.000% L=2006.000
320.000	20.000	320.000	10.000	66.550	
340.000	20.000	340.000	8.000	67.350	i=-4.000% L=1680.000
360.000	20.000	360.000	7.216	68.150	
380.000	20.000	380.000	7.000	68.754	
400.000	20.000	400.000	7.000	68.950	
420.000	20.000	420.000	7.000	69.750	
440.000	20.000	440.000	6.966	71.329	
460.000	20.000	460.000	6.570	72.086	
480.000	20.000	480.000	6.173	72.761	
500.000	20.000	500.000	5.694	73.413	
520.000	20.000	520.000	5.151	74.024	
540.000	20.000	540.000	5.000	74.592	
560.000	20.000	560.000	5.000	75.118	
580.000	20.000	580.000	5.000	75.603	
600.000	20.000	600.000	5.000	76.045	
620.000	20.000	620.000	5.000	76.445	
640.000	20.000	640.000	-3.221	76.803	
660.000	20.000	660.000	-11.724	77.118	
680.000	20.000	680.000	-16.918	77.392	
700.000	20.000	700.000	-19.000	77.624	
720.000	20.000	720.000	-19.000	77.813	
740.000	20.000	740.000	-19.000	77.961	
760.000	20.000	760.000	-19.000	78.066	
780.000	20.000	780.000	-19.000	78.129	
800.000	20.000	800.000	-18.995	78.150	
820.000	20.000	820.000	-18.861	78.129	
840.000	20.000	840.000	-18.726	78.066	
860.000	20.000	860.000	-18.591	77.961	
880.000	20.000	880.000	-18.500	77.813	
900.000	20.000	900.000	-18.500	77.624	
920.000	20.000	920.000	-18.500	77.392	
940.000	20.000	940.000	-18.167	77.118	
960.000	20.000	960.000	-7.117	76.803	
980.000	20.000	980.000	-2.489	76.445	
1000.000	20.000	1000.000	-2.429	76.045	
1020.000	20.000	1020.000	-2.368	75.603	
1040.000	20.000	1040.000	-2.308	75.118	
1060.000	20.000	1060.000	-2.248	74.592	
1080.000	20.000	1080.000	-2.187	74.024	
1100.000	20.000	1100.000	-2.127	73.413	
1120.000	20.000	1120.000	-2.067	72.761	
1140.000	20.000	1140.000	-2.006	72.066	
1160.000	20.000	1160.000	-1.865	71.329	
1180.000	20.000	1180.000	-1.779	70.550	
1200.000	20.000	1200.000	-1.662	69.750	
1220.000	20.000	1220.000	-1.546	68.950	
1240.000	20.000	1240.000	-1.426	68.150	
1260.000	20.000	1260.000	-1.303	67.350	
1280.000	20.000	1280.000	-1.181	66.550	
1300.000	20.000	1300.000	-1.059	65.750	

Plan S=1:1500



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THE FEASIBILITY STUDY ON PANAMA CITY URBAN TRANSPORTATION LINE-3 PROJECT

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TEAM LEADER/URBAN RAILWAY PLANNING

CIVIL AND FACILITY PLANNING

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12
25

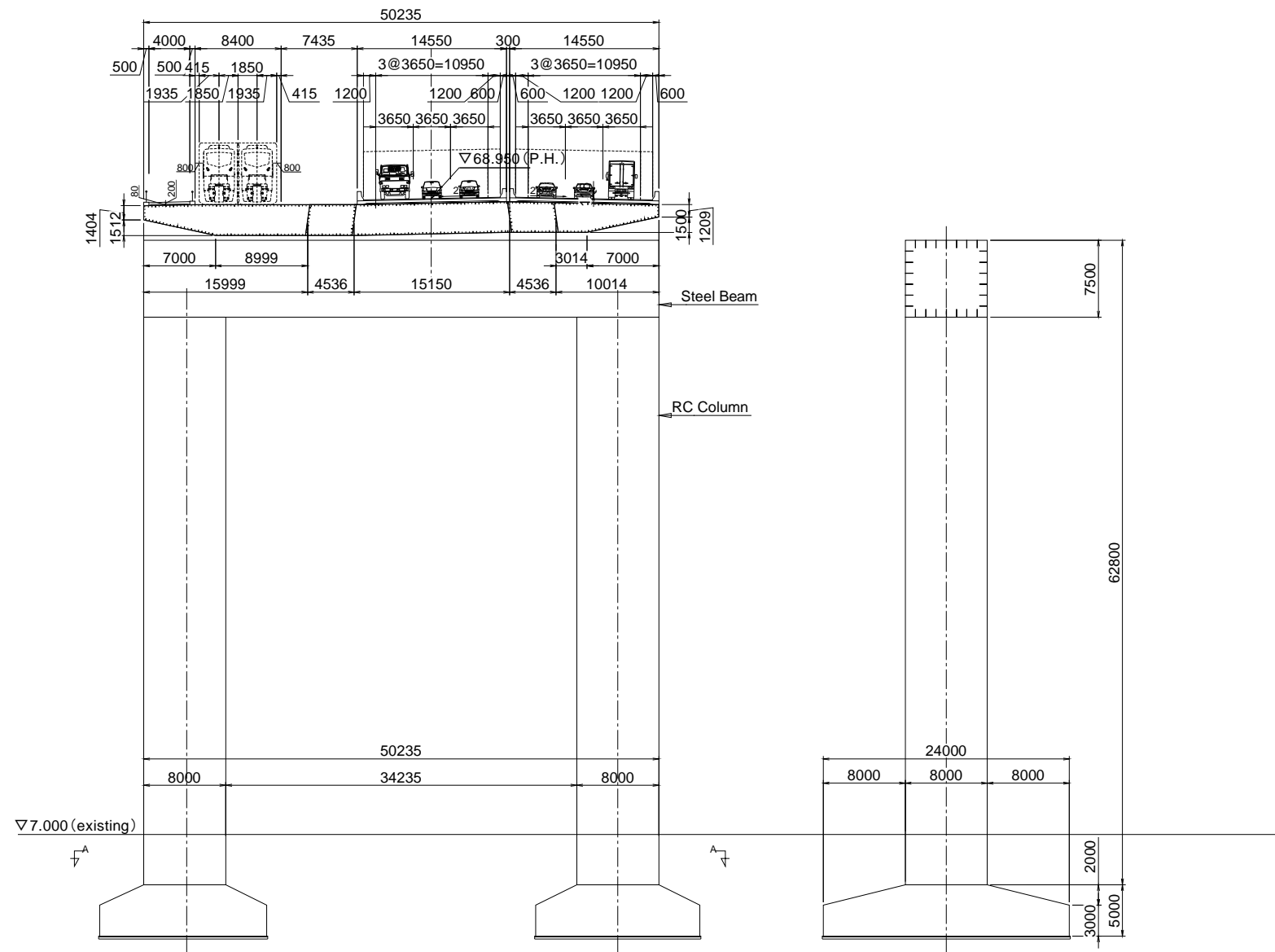
REMARKS:

4th Panama Canal Bridge
Main Bridge (1 of 4)
(KM3+380.000~KM4+220.000)

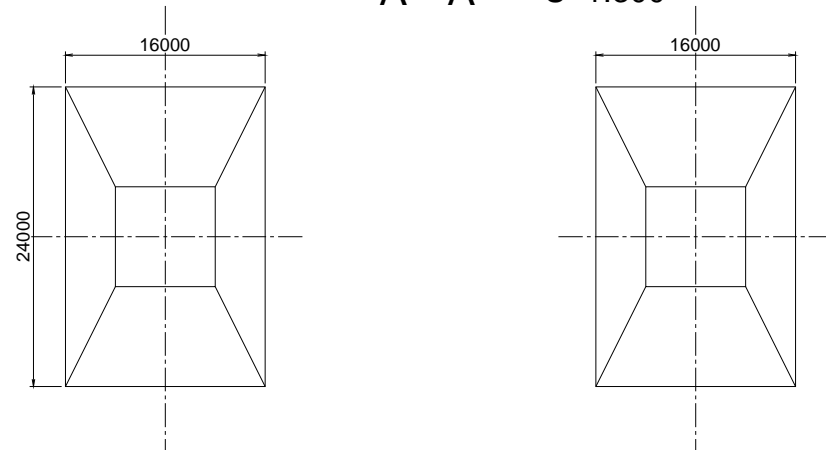
4th Panama Canal Bridge, Main Bridge (2 of 4)

(KM3+380.000 ~ KM4+220.000)

P30 Cross Section S=1:300



A - A S=1:300



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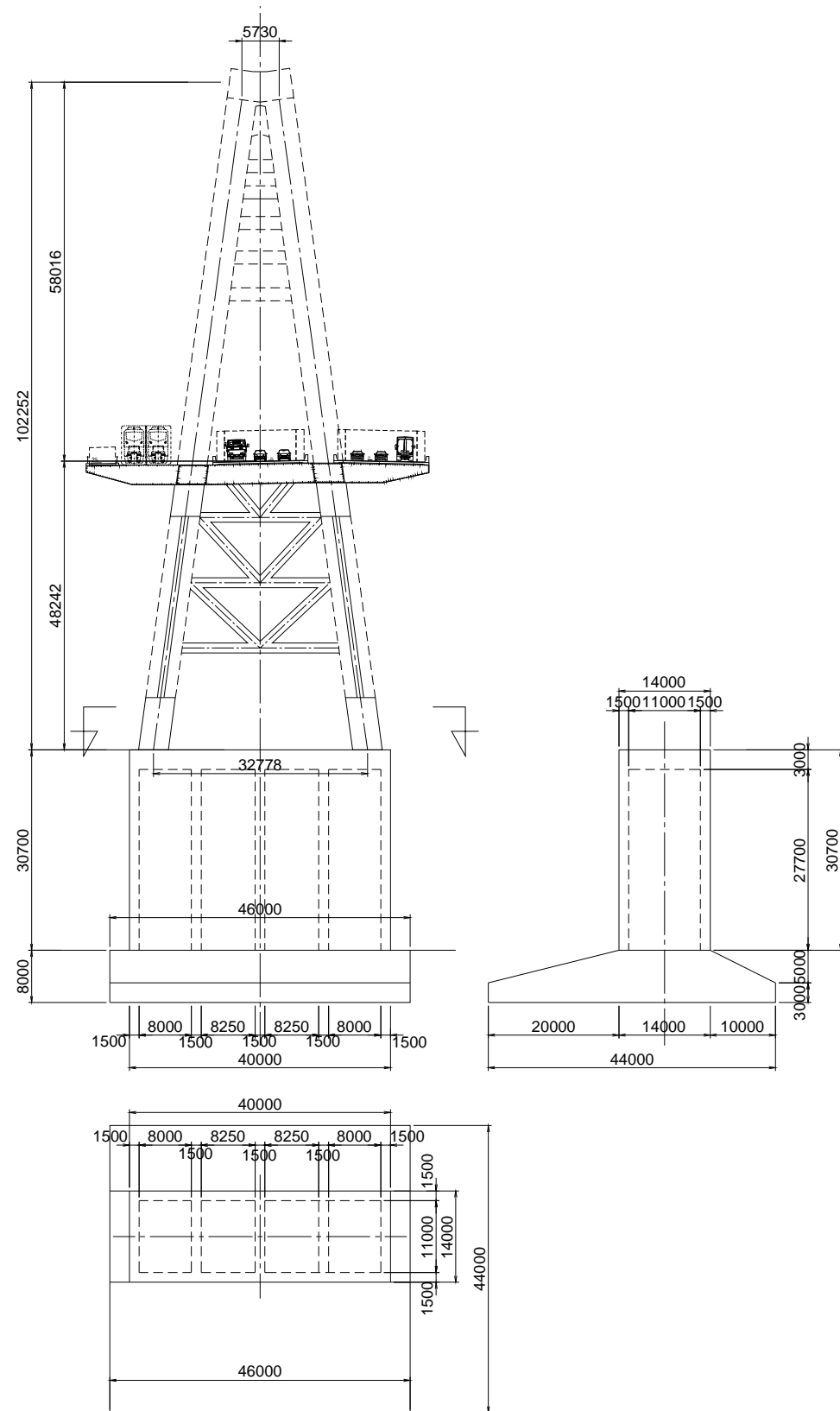
THE FEASIBILITY STUDY ON PANAMA CITY URBAN TRANSPORTATION LINE-3 PROJECT

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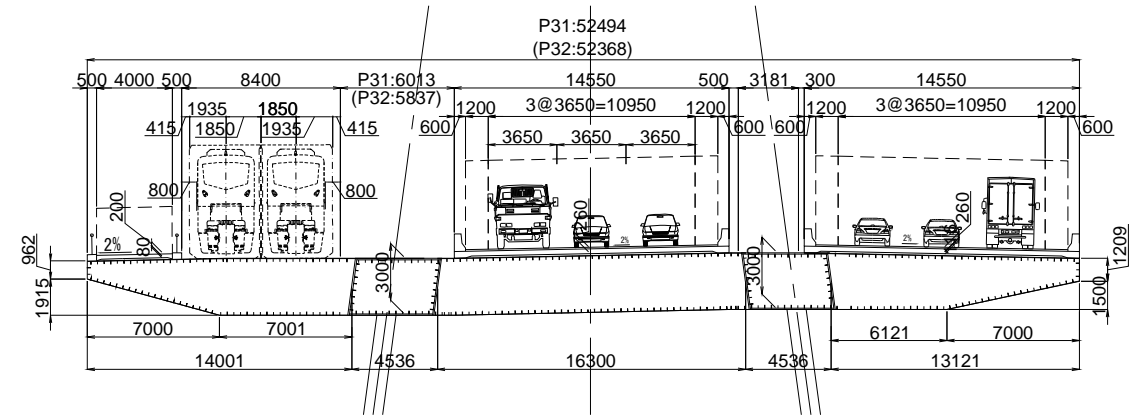
REMARKS:
4th Panama Canal Bridge Main Bridge (2 of 4) (KM3+380.000~KM4+220.000)

4th Panama Canal Bridge, Main Bridge (3 of 4)
(KM3+380.000 ~ KM4+220.000)

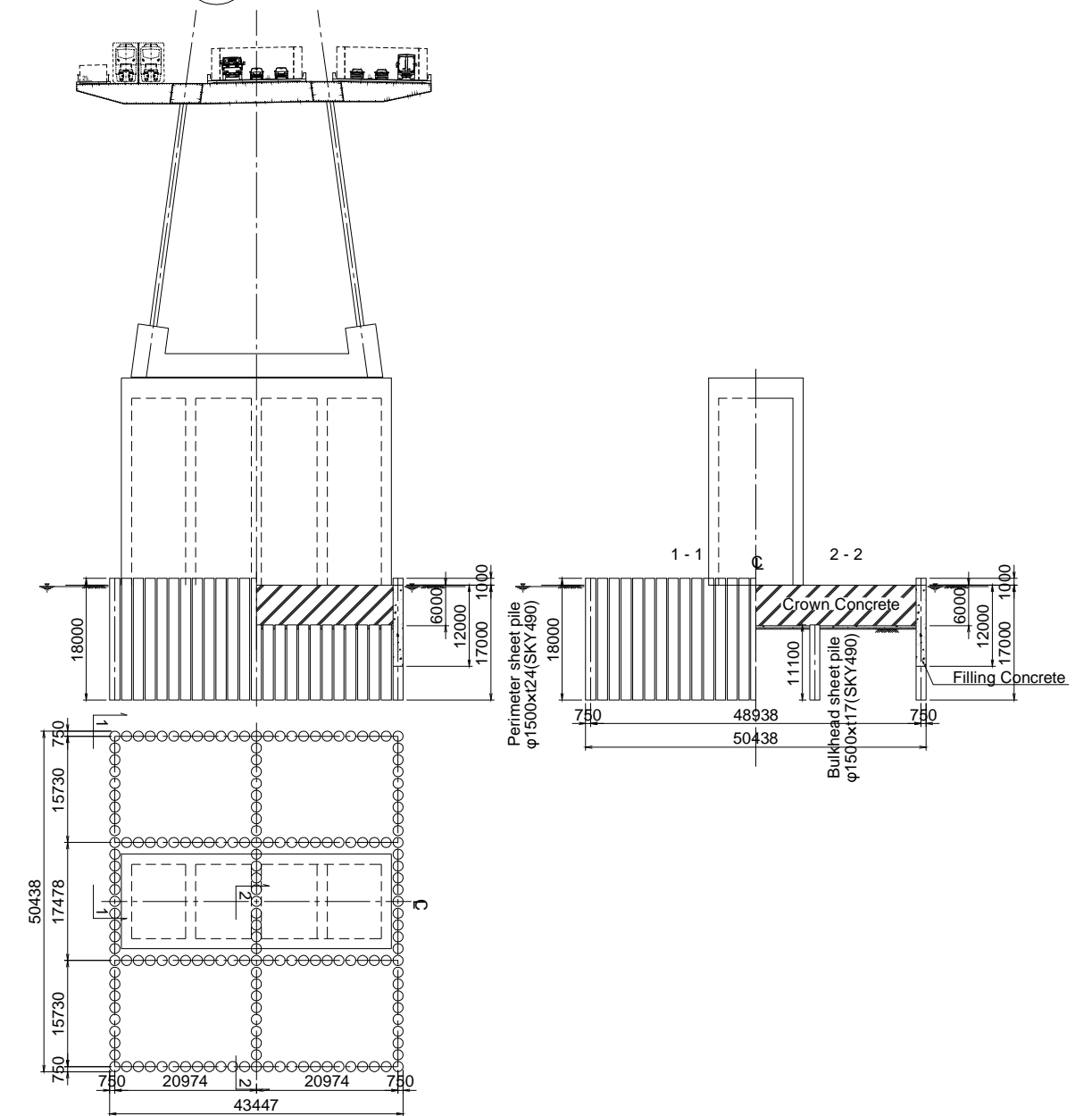
P31 Cross Section S=1:500



P31 P32 Superstructure Cross Section S=1:200



P32 Substructure Cross Section S=1:500



THE FEASIBILITY STUDY ON PANAMA CITY URBAN TRANSPORTATION LINE-3 PROJECT



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SCALE: S=1:200
S=1:500

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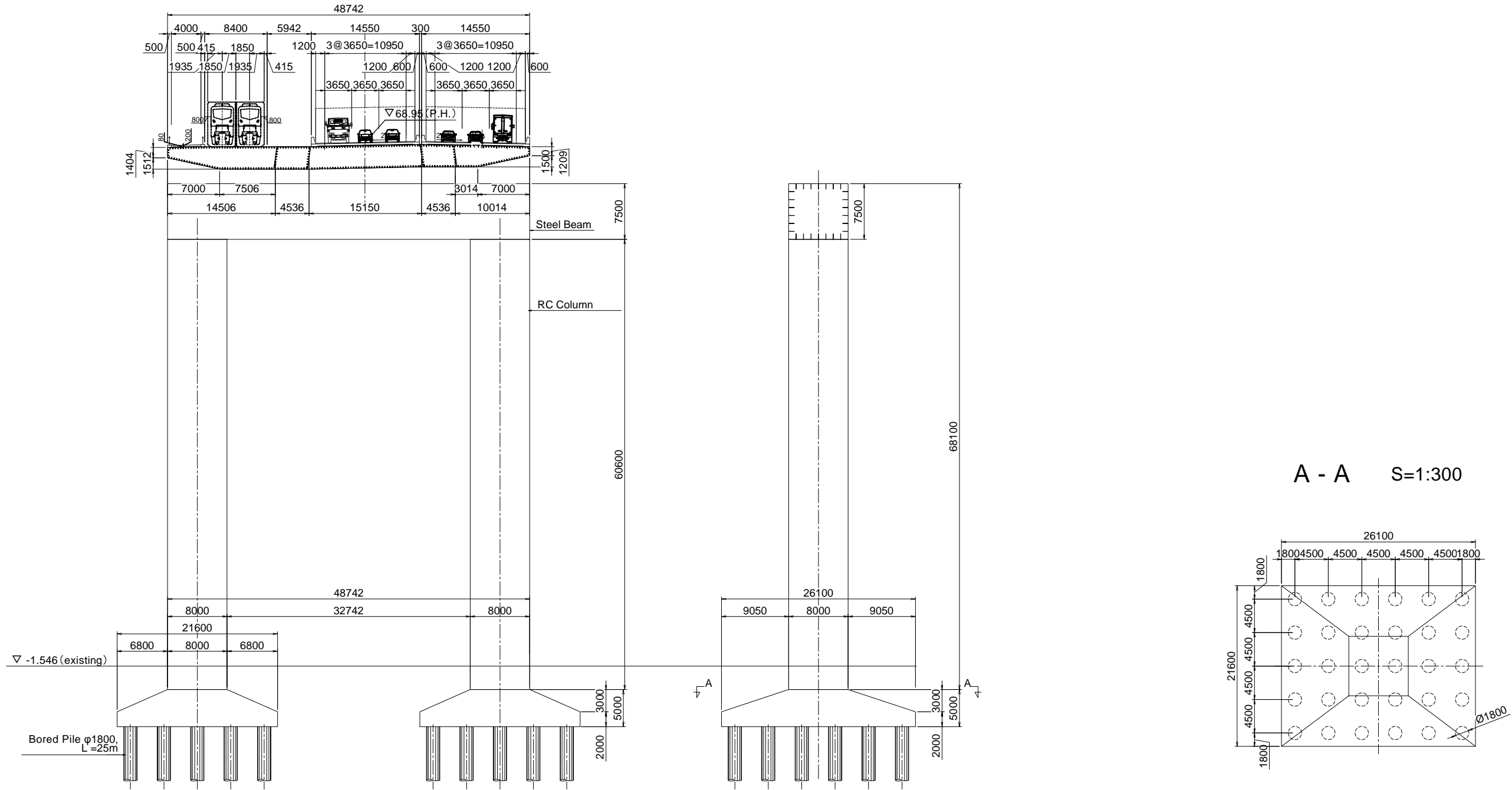
REMARKS:

4th Panama Canal Bridge
Main Bridge (3 of 4)
(KM3+380.000~KM4+220.000)

4th Panama Canal Bridge, Main Bridge (4 of 4)

(KM3+380.000 ~ KM4+220.000)

P33 Cross Section S=1:300



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S=1:300

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REMARKS:

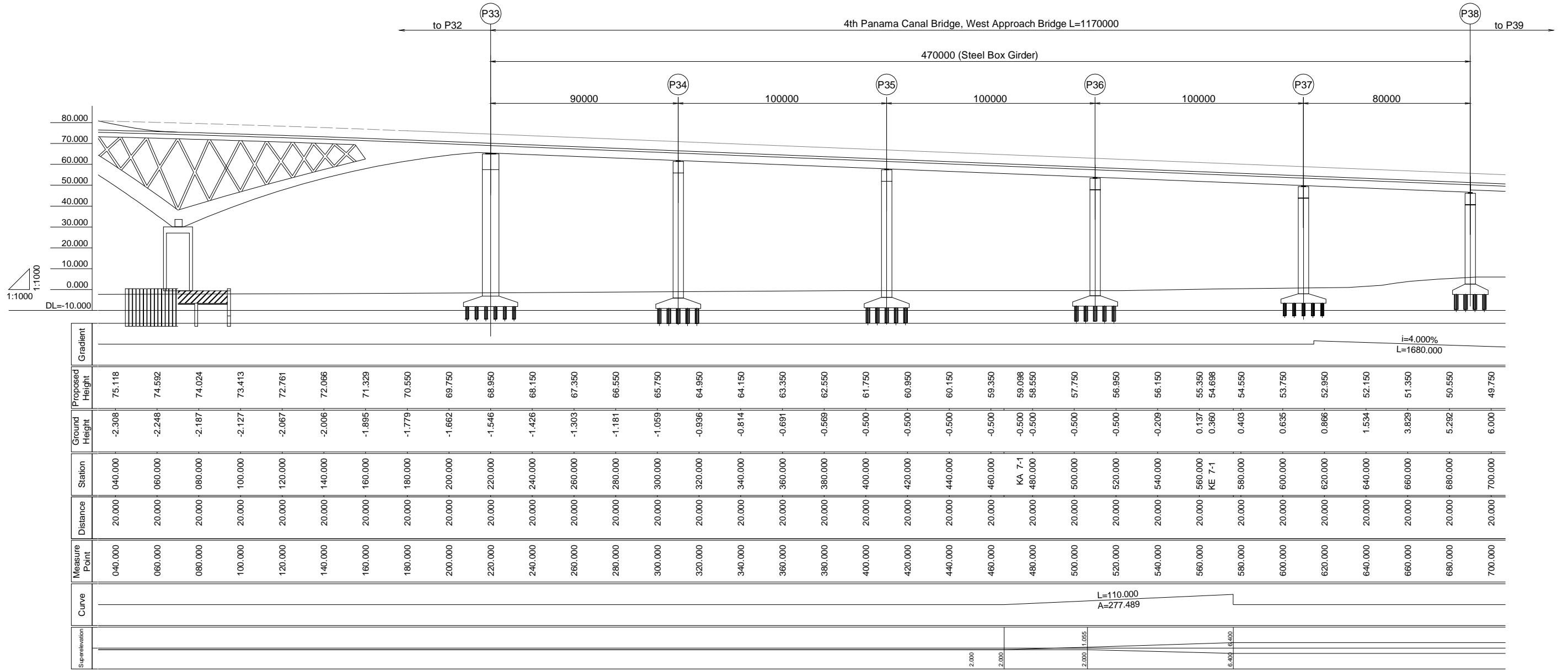
4th Panama Canal Bridge
Main Bridge (4 of 4)
(KM3+380.000~KM4+220.000)

4th Panama Canal Bridge, West Approach Bridge (1 of 6)

Profile

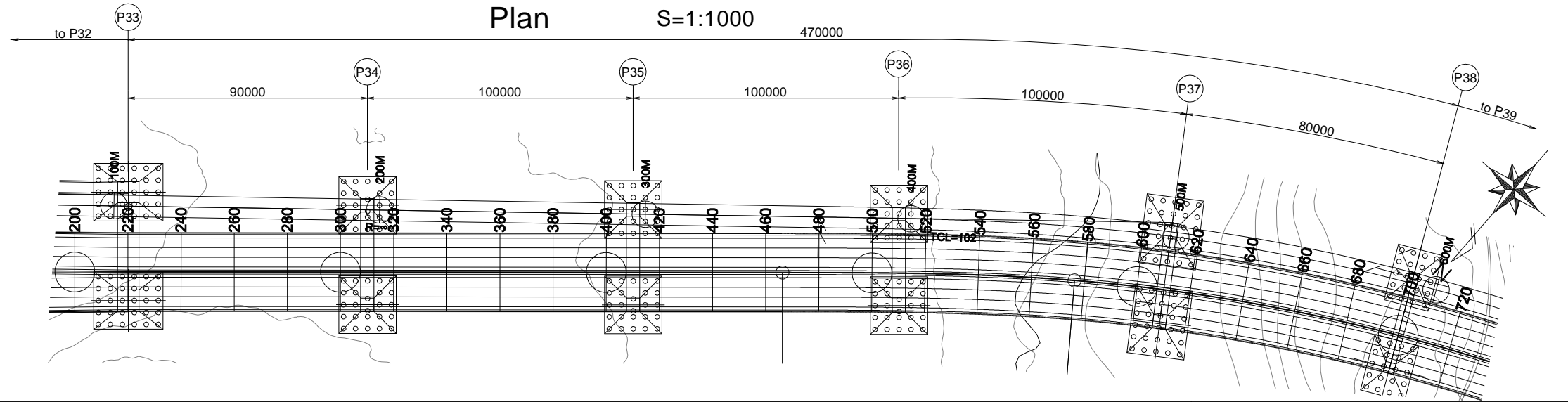
S=1:1000

(KM4+220.000 ~ KM5+390.000)



Plan

S=1:1000



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S=1:1000

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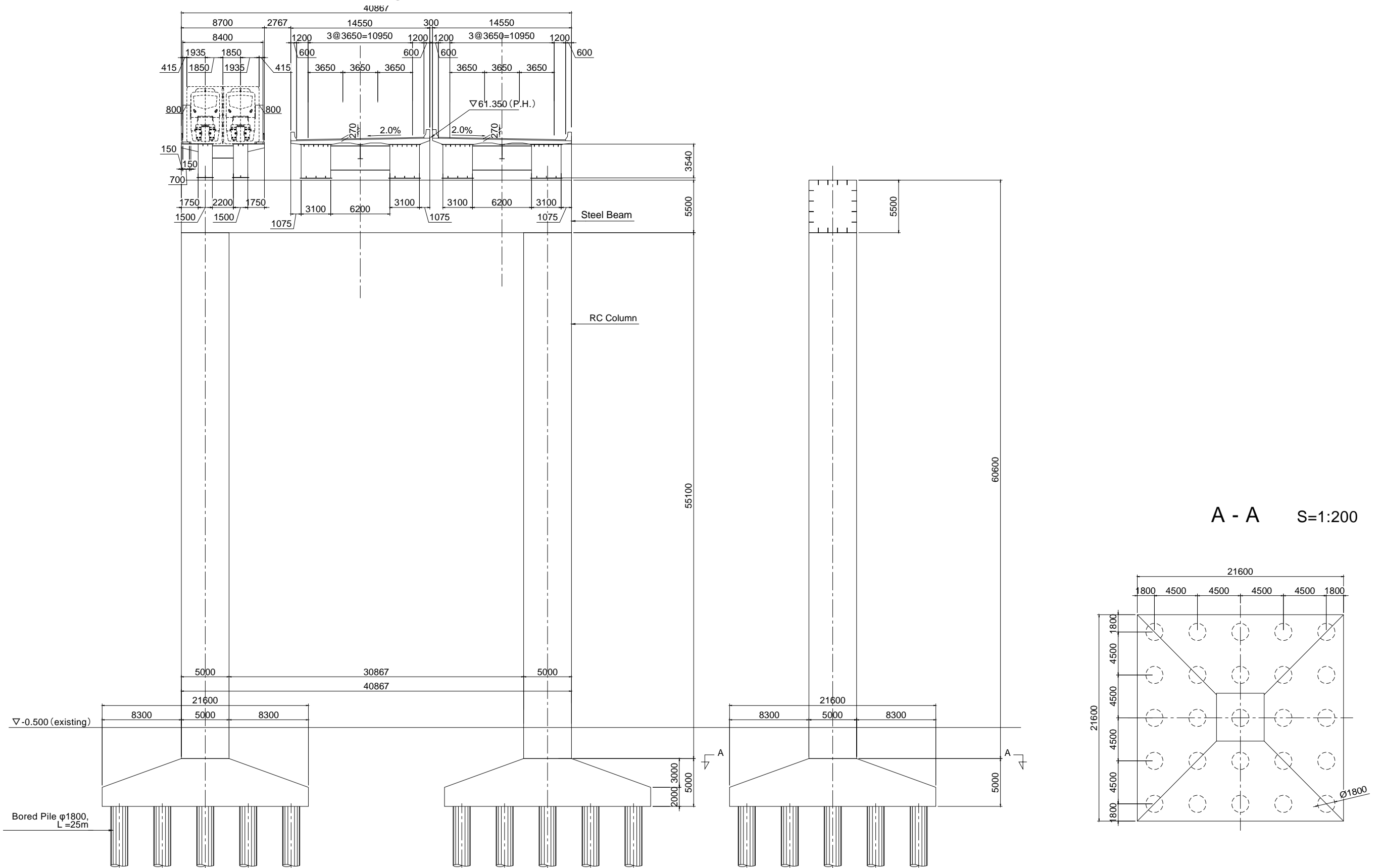
REMARKS:

4th Panama Canal Bridge West Approach Bridge (1 of 6) (KM4+220.000~KM5+390.000)

4th Panama Canal Bridge, West Approach Bridge (2 of 6)

(KM4+220.000 ~ KM5+390.000)

P35 Cross Section S=1:200



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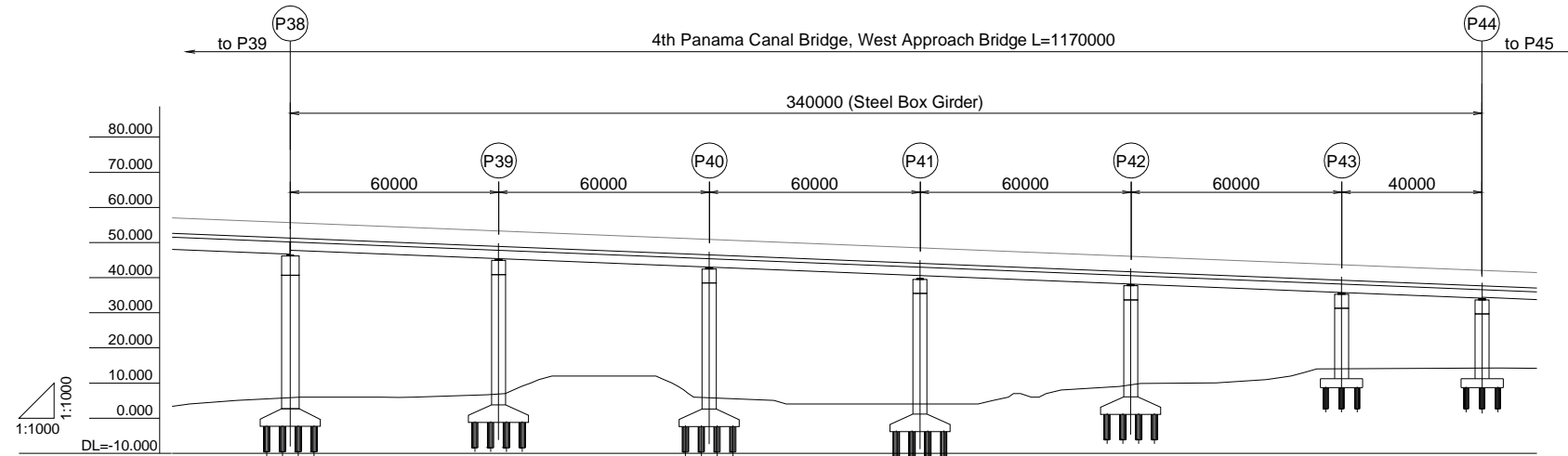
REMARKS:
 4th Panama Canal Bridge West Approach Bridge (2 of 6) (KM4+220.000~KM5+390.000)

4th Panama Canal Bridge, West Approach Bridge (3 of 6)

Profile

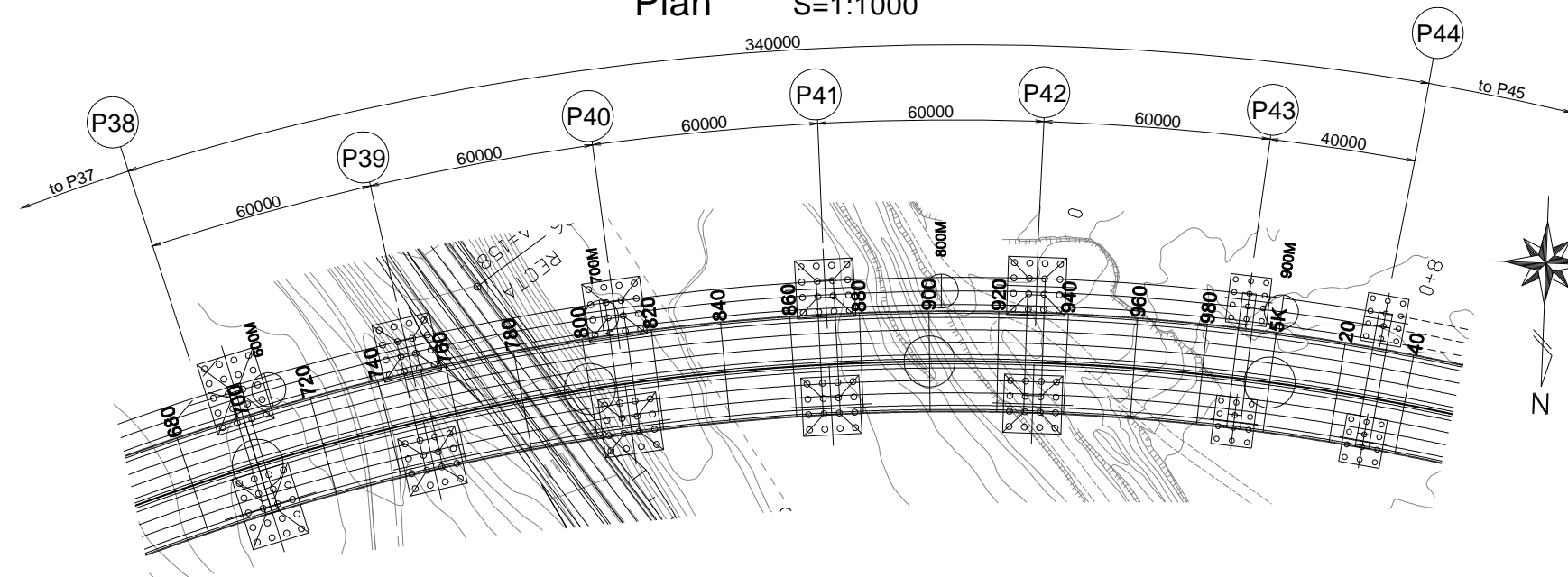
S=1:1000

(KM4+220.000~KM5+390.000)



Station	Distance	Measure Point	Curve	Superelevation
660.000	20.000	660.000		
680.000	20.000	680.000		
700.000	20.000	700.000		
720.000	20.000	720.000		
740.000	20.000	740.000		
760.000	20.000	760.000		
780.000	20.000	780.000		
800.000	20.000	800.000		
820.000	20.000	820.000		
840.000	20.000	840.000		
860.000	20.000	860.000		
880.000	20.000	880.000		
900.000	20.000	900.000		
920.000	20.000	920.000		
940.000	20.000	940.000		
960.000	20.000	960.000		
980.000	20.000	980.000		
000.000	20.000	5K 000.000		
020.000	20.000	020.000		
040.000	20.000	040.000		

Plan S=1:1000



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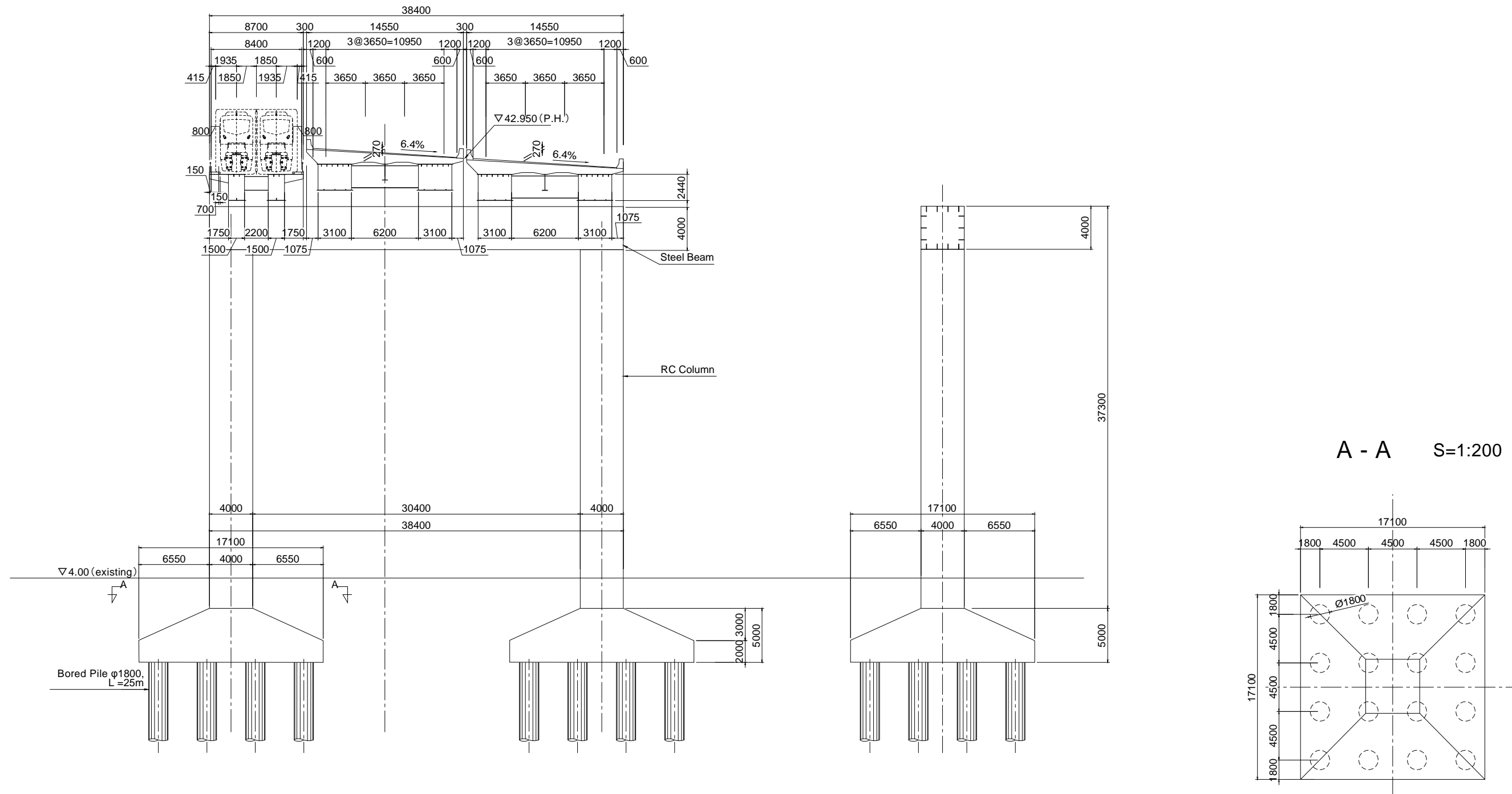
REMARKS:

4th Panama Canal Bridge
West Approach Bridge (3 of 6)
(KM4+220.000~KM5+390.000)

4th Panama Canal Bridge, West Approach Bridge (4 of 6)

(KM4+220.000 ~ KM5+390.000)

P41 Cross Section S=1:200



A - A S=1:200



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SCALE:

S=1:200

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19

25

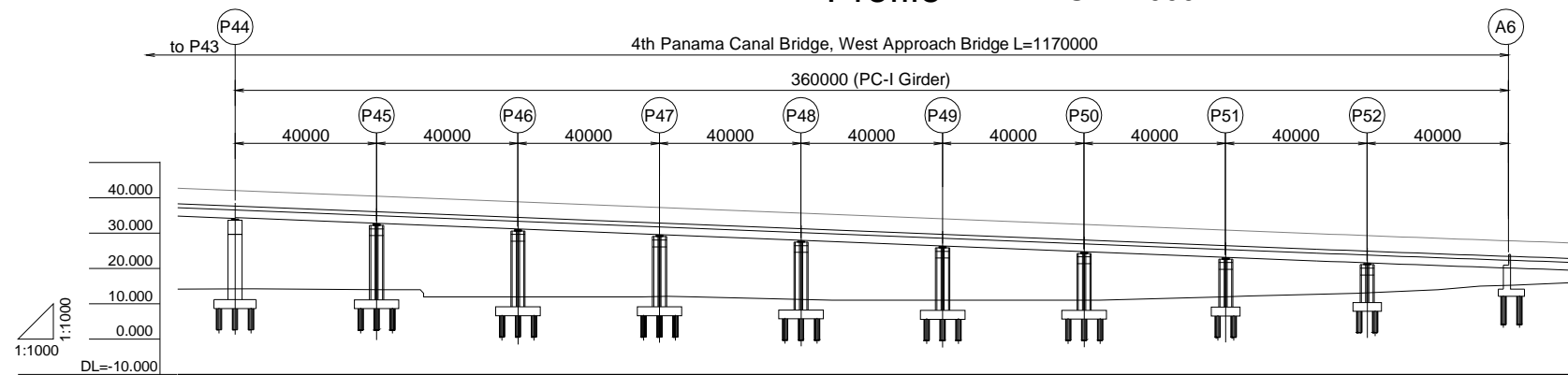
REMARKS:

4th Panama Canal Bridge
West Approach Bridge (4 of 6)
(KM4+220.000~KM5+390.000)

4th Panama Canal Bridge, West Approach Bridge (5 of 6)

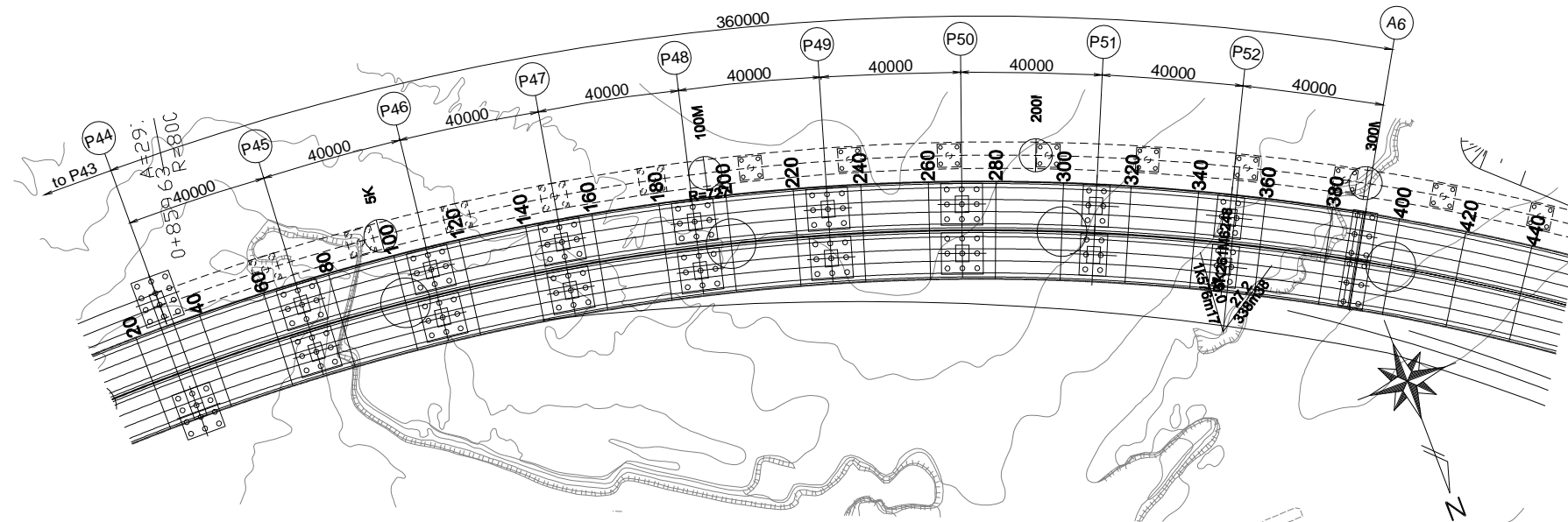
(KM4+220.000~KM5+390.000)

Profile S=1:1000



Station	Distance	Measure Point	Curve	Superelevation
020.000	20.000	020.000	L=1224.901 R=700.000	
040.000	20.000	040.000		
060.000	20.000	060.000		
080.000	20.000	080.000		
100.000	20.000	100.000		
120.000	20.000	120.000		
140.000	20.000	140.000		
160.000	20.000	160.000		
180.000	20.000	180.000		
200.000	20.000	200.000		
220.000	20.000	220.000		
240.000	20.000	240.000		
260.000	20.000	260.000		
280.000	20.000	280.000		
300.000	20.000	300.000		
320.000	20.000	320.000		
340.000	20.000	340.000		
360.000	20.000	360.000		
380.000	20.000	380.000		
400.000	20.000	400.000		

Plan S=1:1000



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REMARKS:

4th Panama Canal Bridge
West Approach Bridge (5 of 6)
(KM4+220.000~KM5+390.000)

4th Panama Canal Bridge, West Approach Bridge (6 of 6)

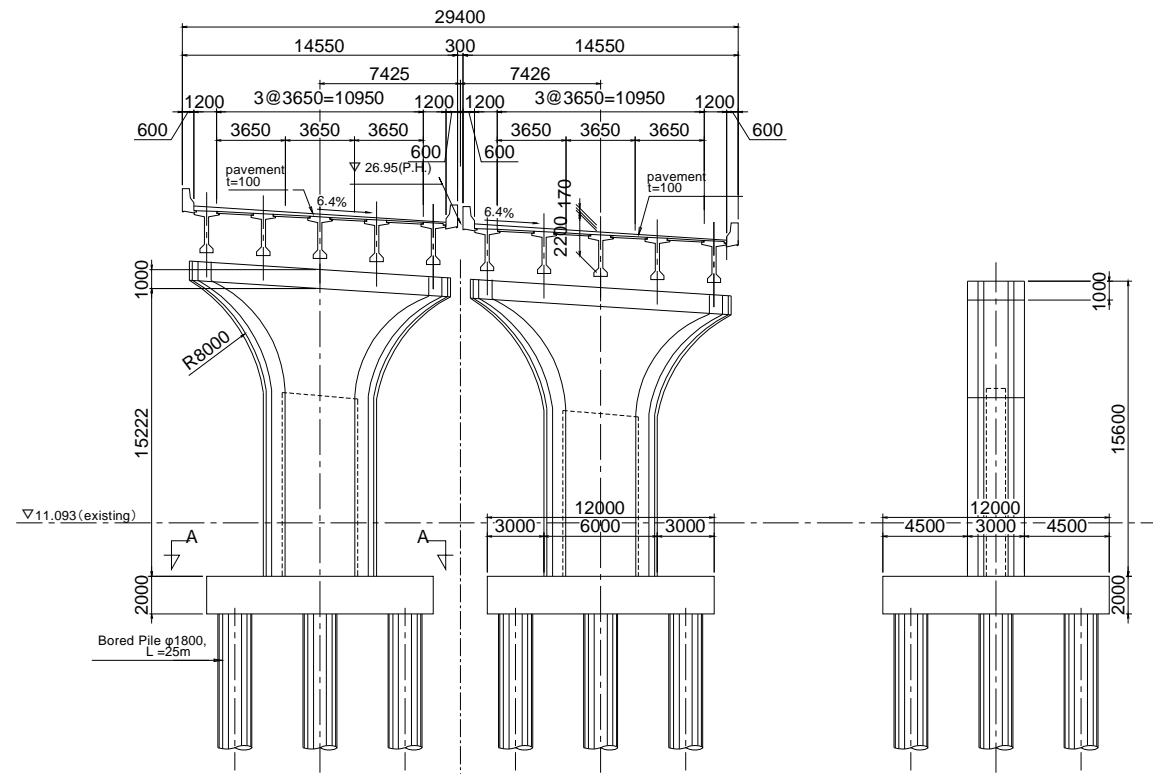
(KM4+220.000 ~ KM5+390.000)

P50 Cross Section

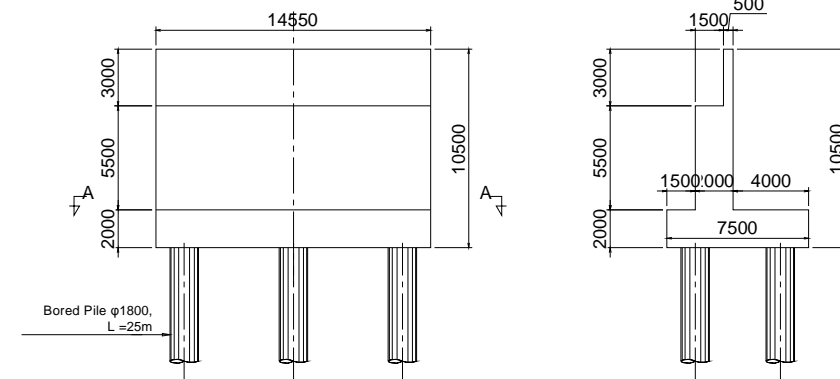
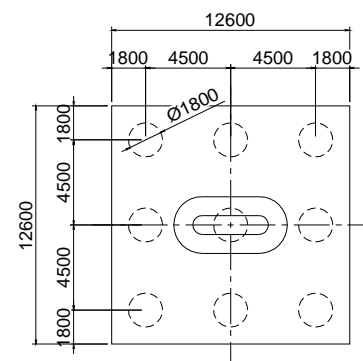
S=1:200

A6 Cross Section

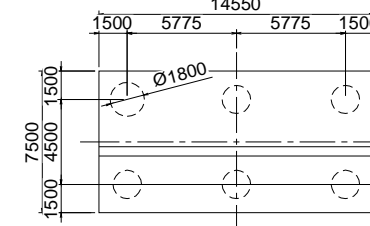
S=1:200



A - A S=1:200



A - A S=1:200



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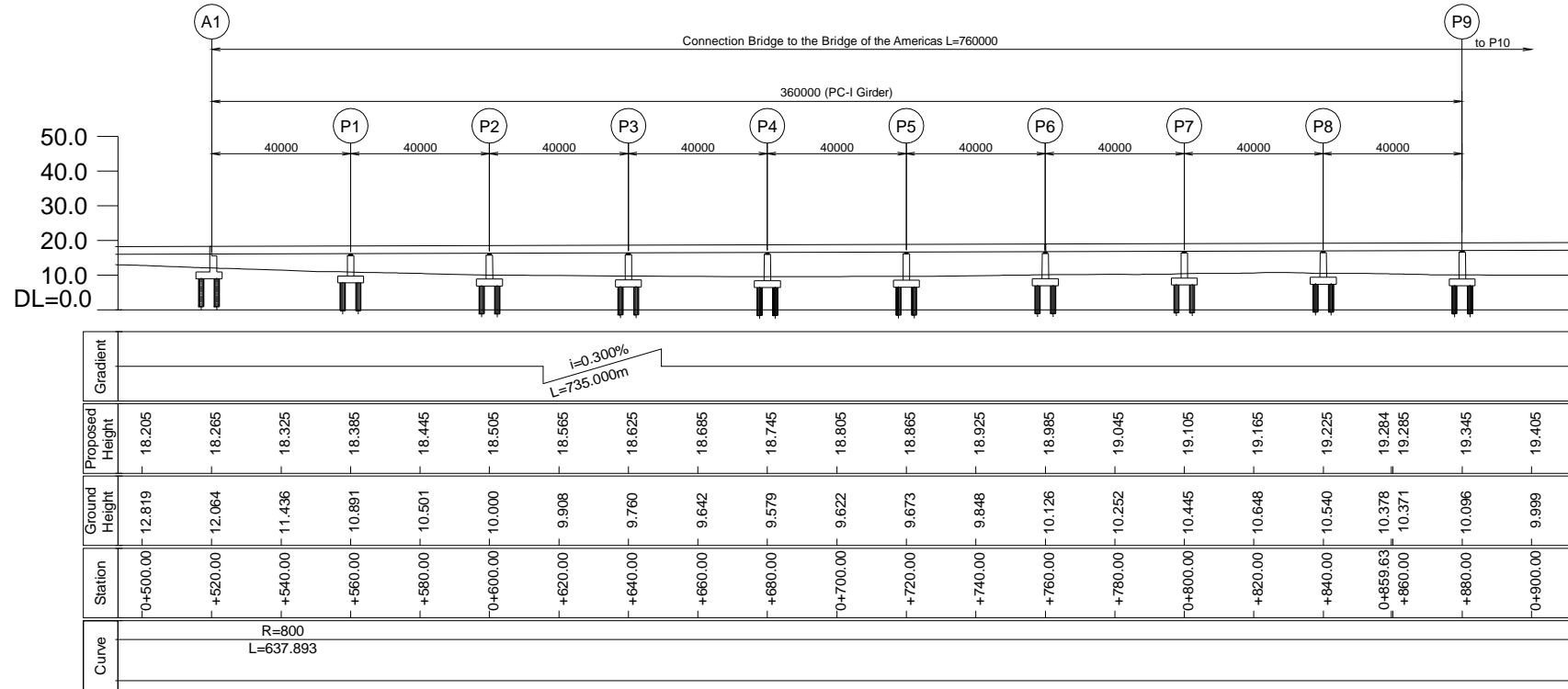
REMARKS:

4th Panama Canal Bridge West Approach Bridge (6 of 6) (KM4+220.000~KM5+390.000)

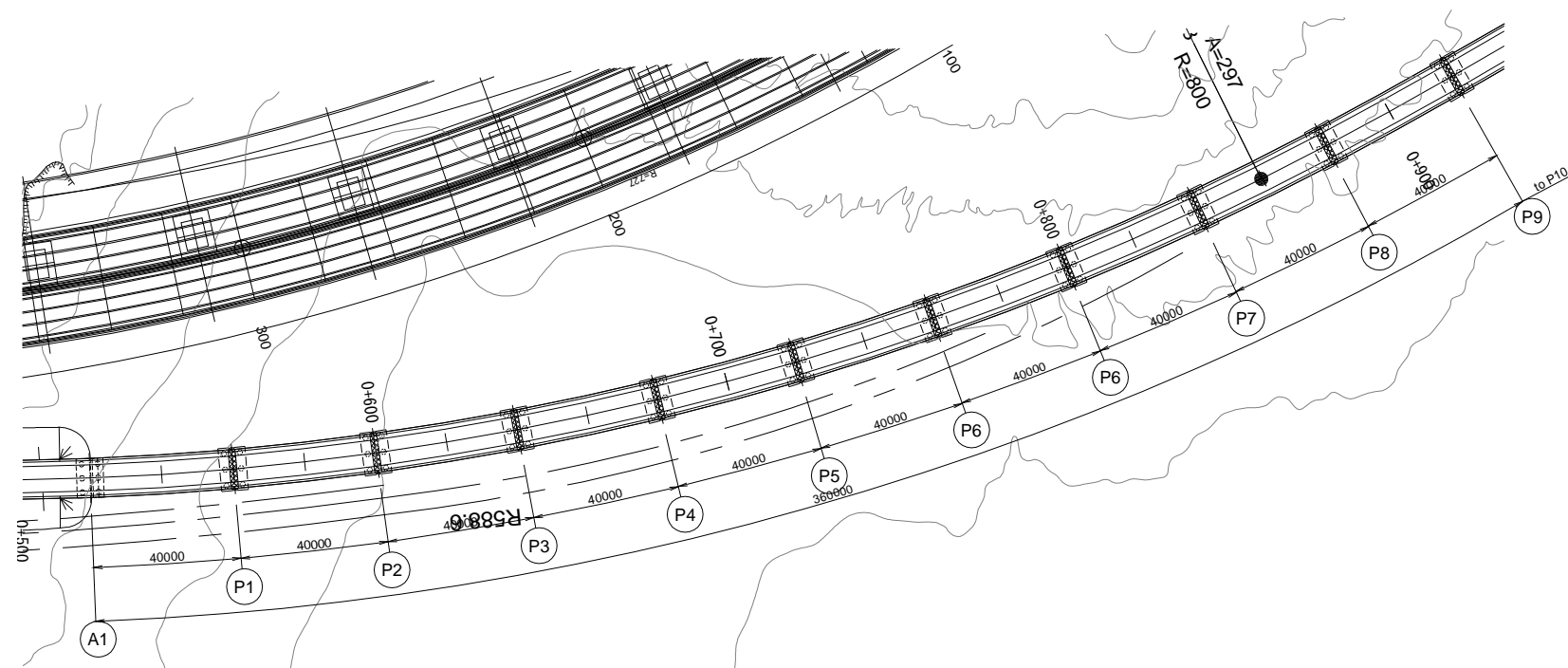
Connection Bridge to the Bridge of the Americas (1 of 4)

(KM0+520.000 ~ KM1+280.000)

Profile S=1:1000



Plan S=1:1000



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THE FEASIBILITY STUDY ON PANAMA CITY URBAN TRANSPORTATION LINE-3 PROJECT

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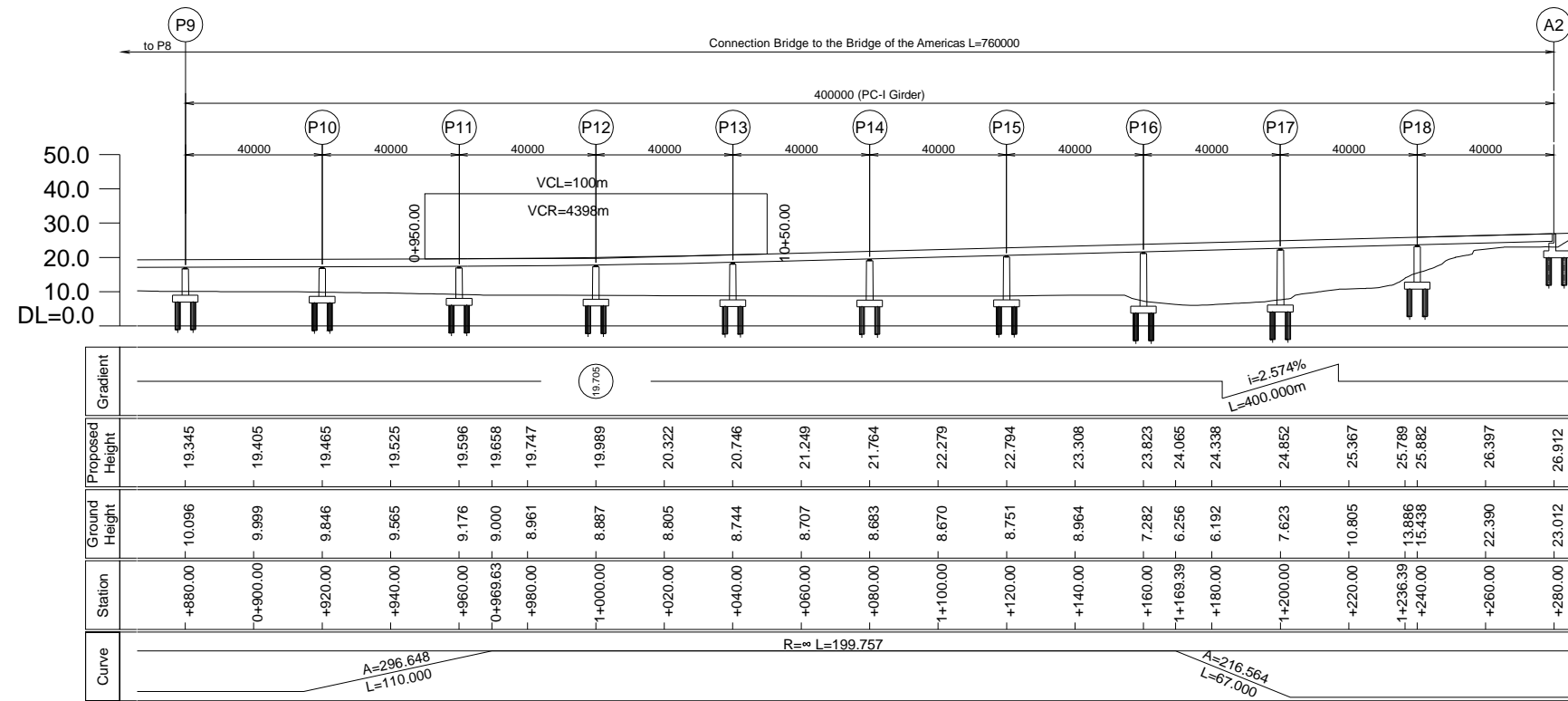
REMARKS:

Connection Bridge to the Bridge of the Americas (1 of 4)
(KM0+520.000~KM1+280.000)

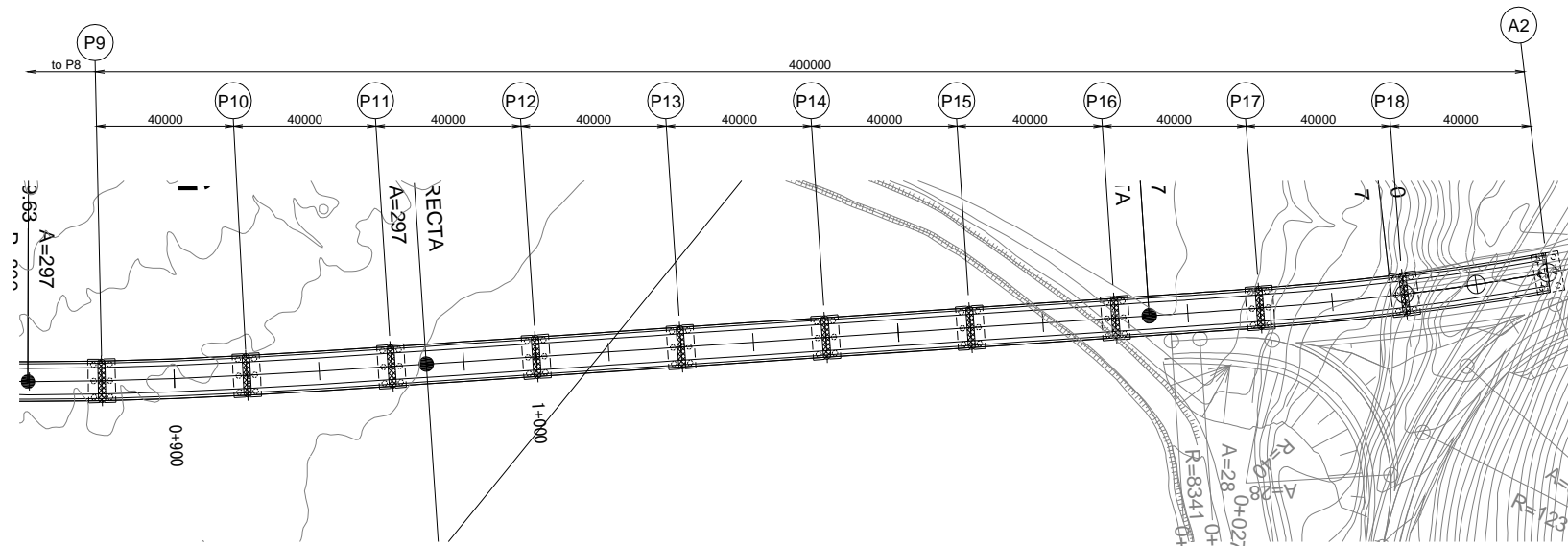
Connection Bridge to the Bridge of the Americas (2 of 4)

(KM0+520.000 ~ KM1+280.000)

Profile S=1:1000



Plan S=1:1000



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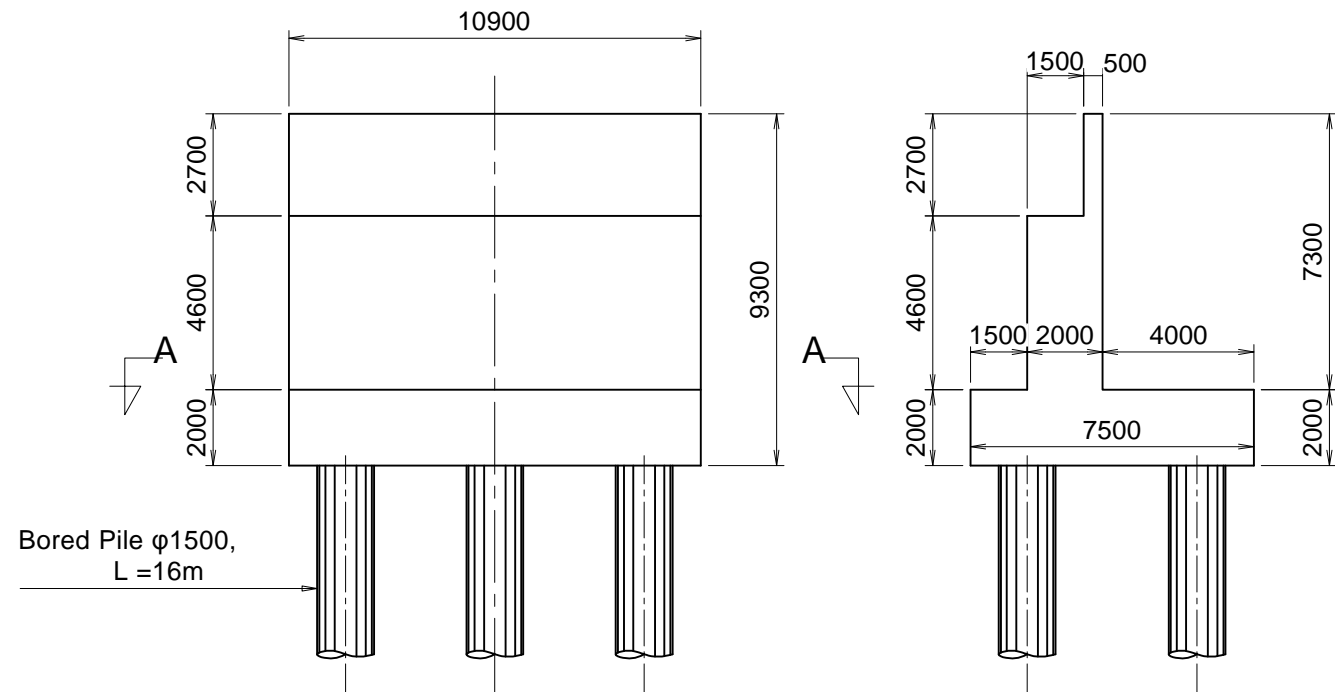
REMARKS:

Connection Bridge to the Bridge of the Americas (2 of 4)
(KM0+520.000 ~ KM1+280.000)

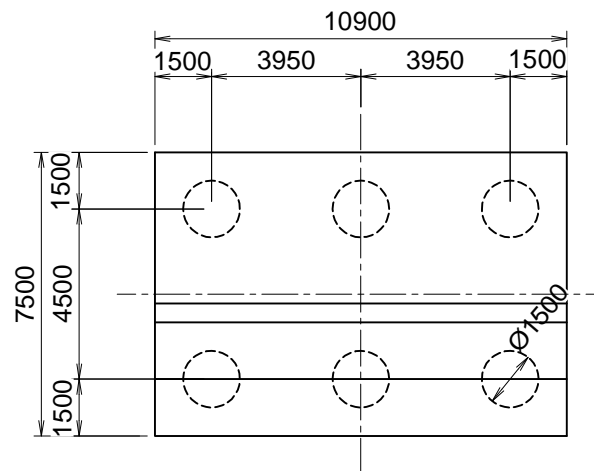
Connection Bridge to the Bridge of the Americas (3 of 4)

(KM0+520.000 ~ KM1+280.000)

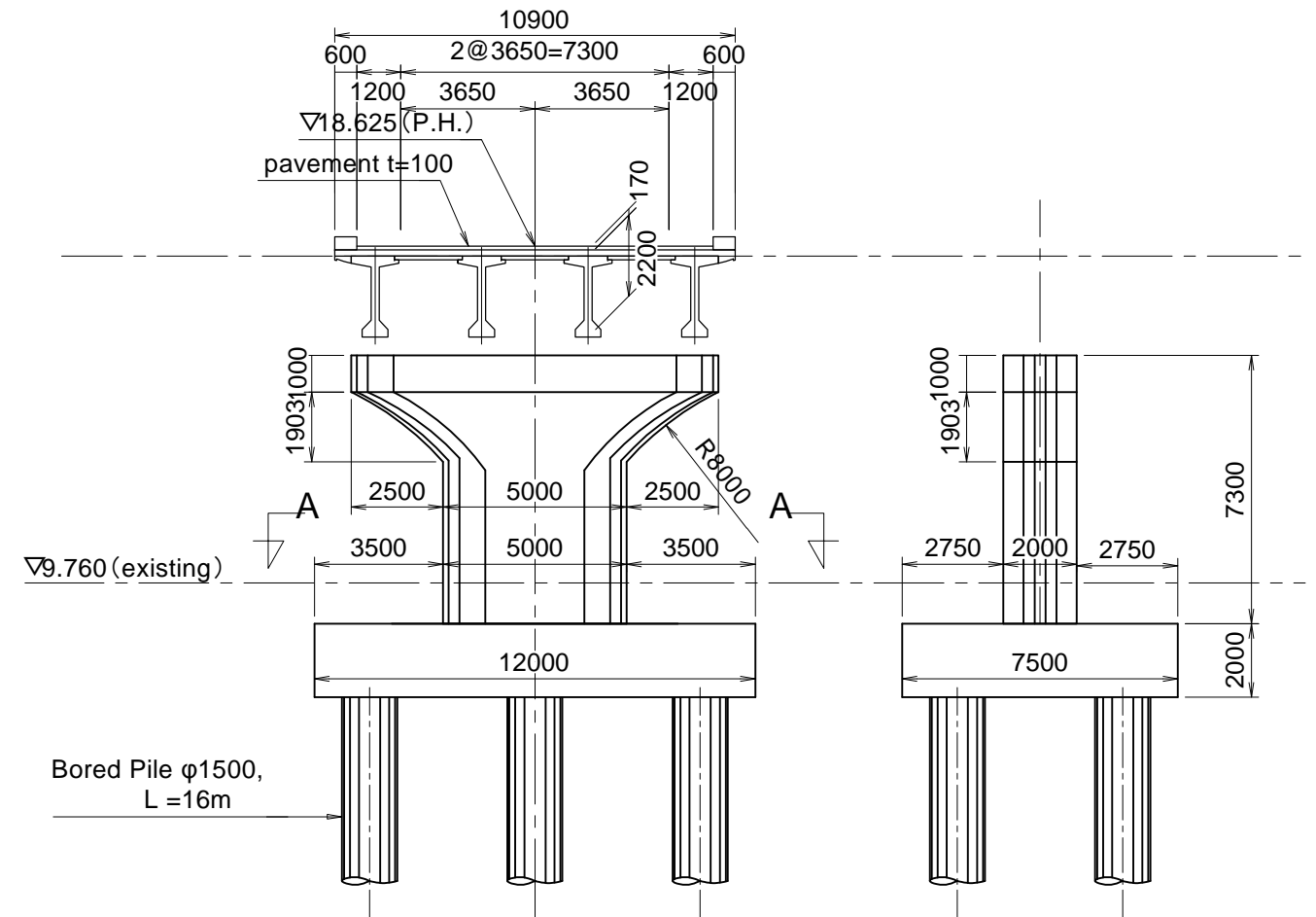
A1 Cross Section S=1:100



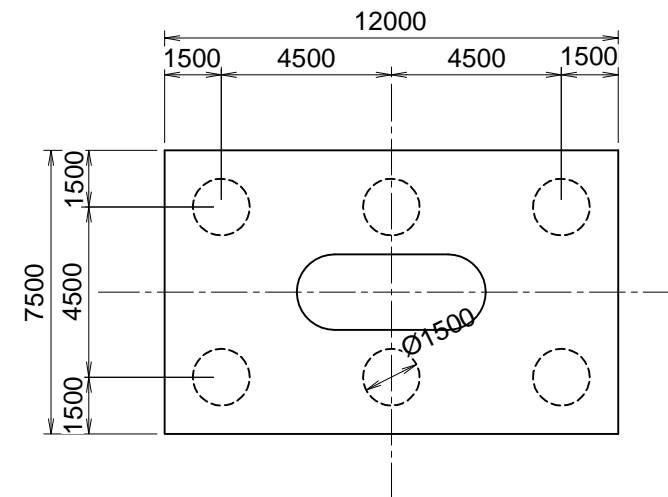
A - A S=1:100



P3 Cross Section S=1:100



A - A S=1:100



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THE FEASIBILITY STUDY ON PANAMA CITY URBAN TRANSPORTATION LINE-3 PROJECT

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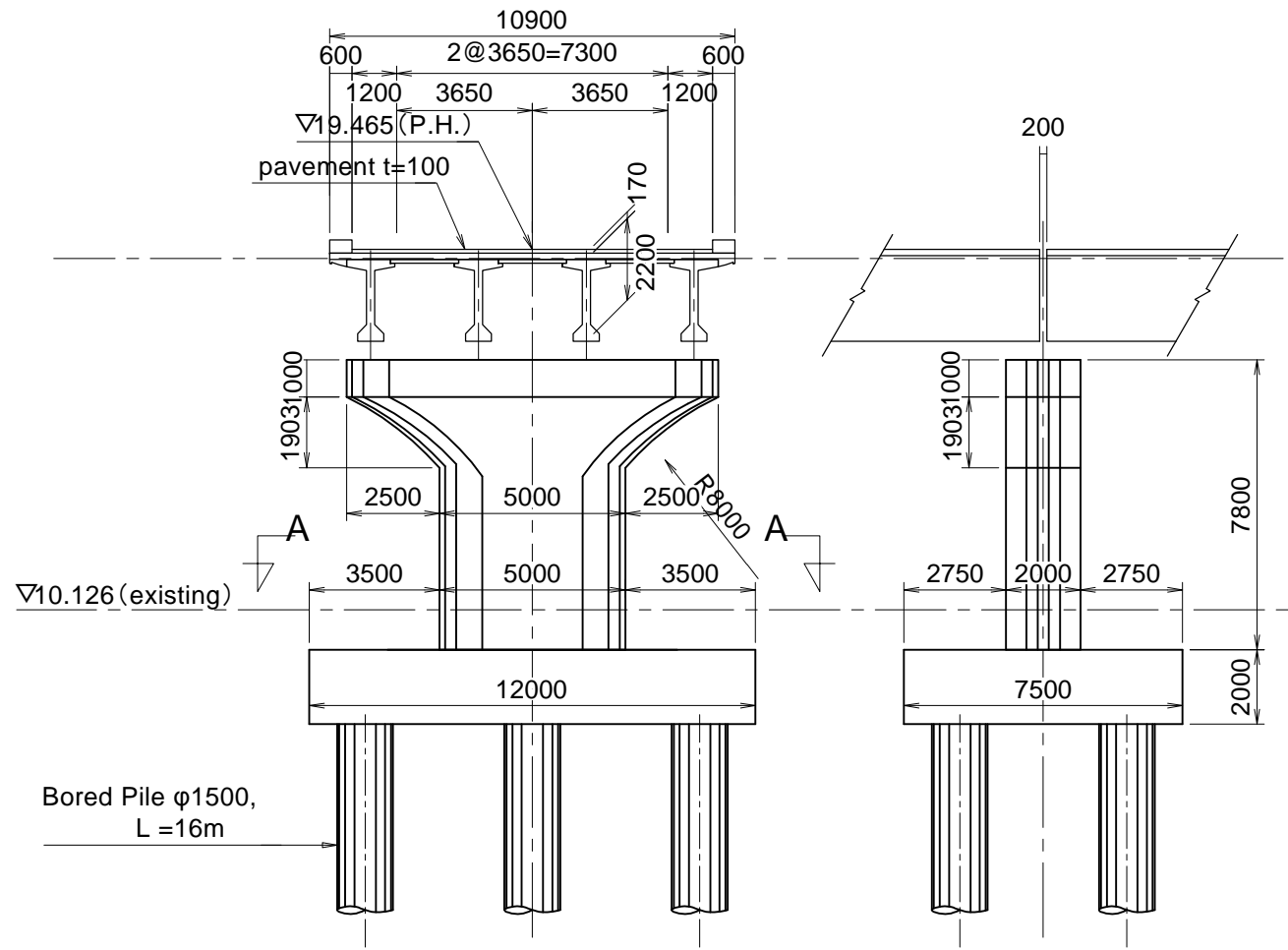
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REMARKS:

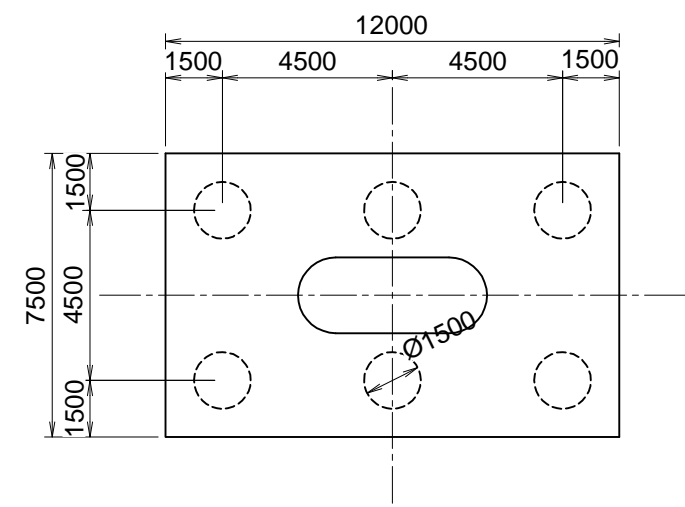
Connection Bridge to the Bridge of the Americas (3 of 4)
(KM0+520.000 ~ KM1+280.000)

Connection Bridge to the Bridge of the Americas (4 of 4)
(KM0+520.000~KM1+280.000)

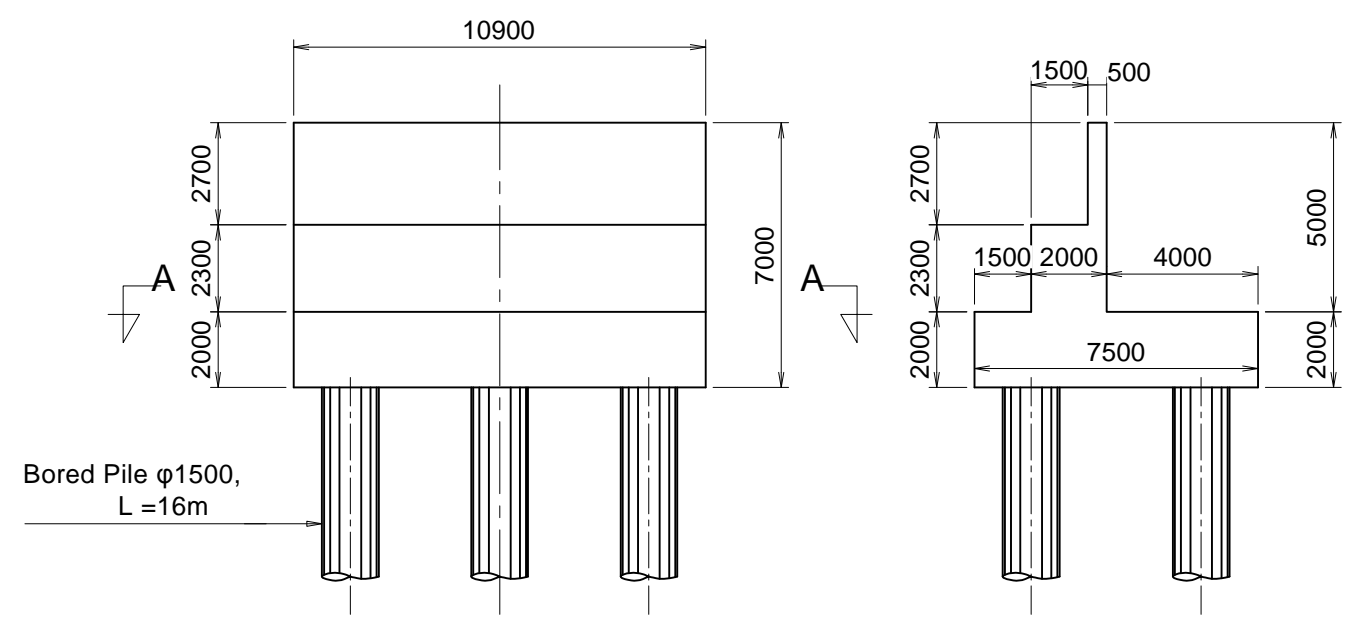
P10 Cross Section S=1:100



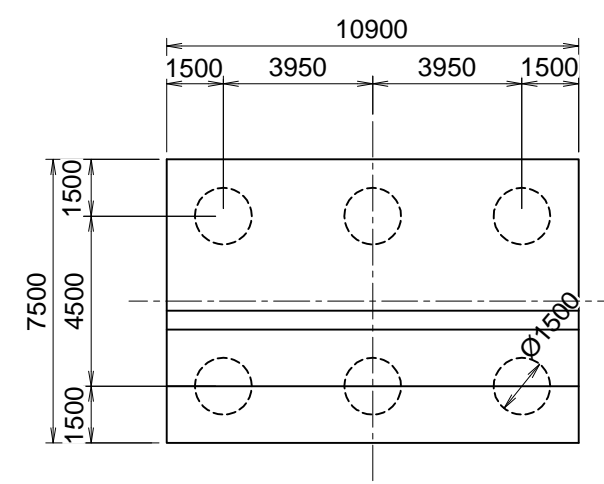
A - A S=1:100



A2 Cross Section S=1:100



A - A S=1:100



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THE FEASIBILITY STUDY ON PANAMA CITY URBAN TRANSPORTATION LINE-3 PROJECT

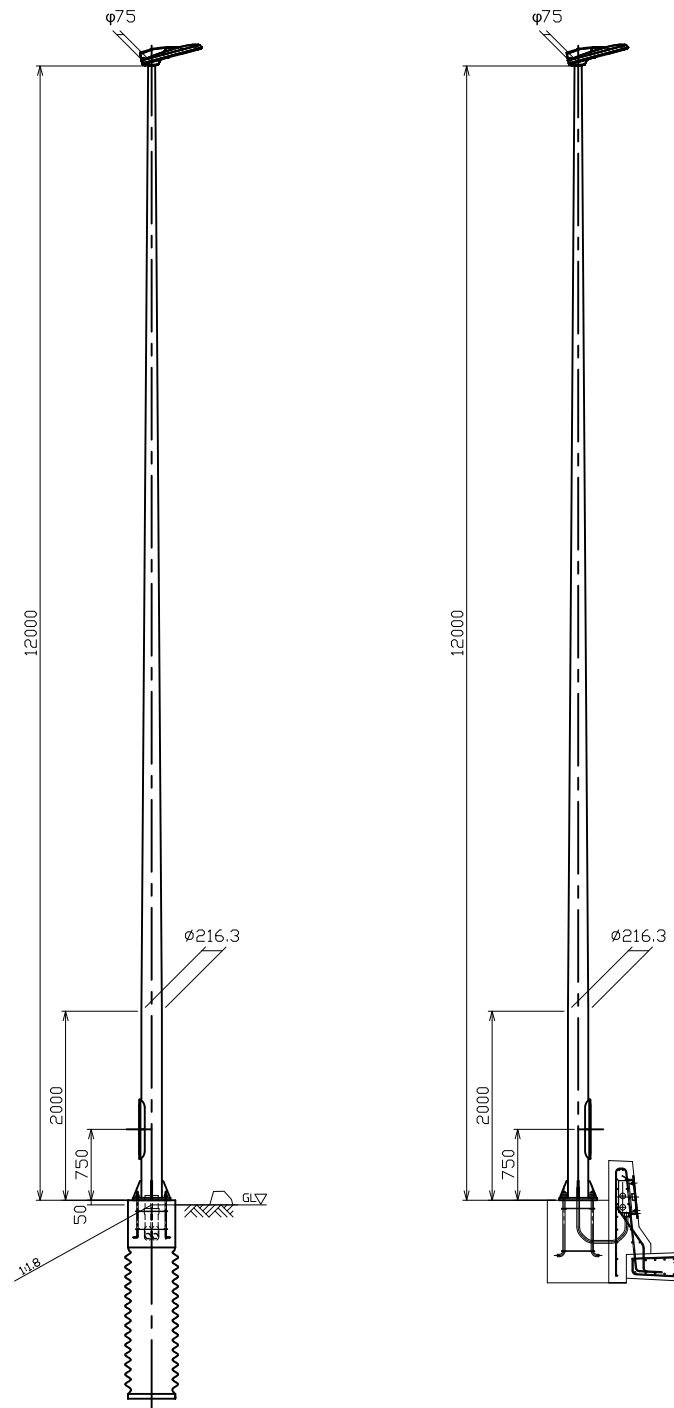
DRAWN:	DATE: May 2014	RECEIVED BY:	SUBMITTED BY:	CHECKED BY:	PAGE: 25
DESIGNED:	SCALE: S=1:100	TEAM LEADER/URBAN RAILWAY PLANNING	CIVIL AND FACILITY PLANNING	APPROVED BY:	25

REMARKS:
Connection Bridge to the Bridge of the Americas (4 of 4)
(KM0+520.000~KM1+280.000)

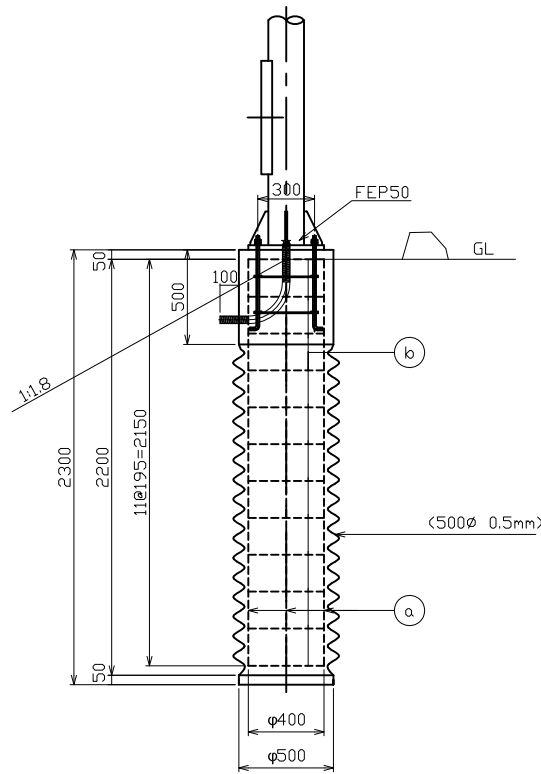
Appendix 5-1-4: Electrical and Mechanical Facility Drawings

Lighting Equipment

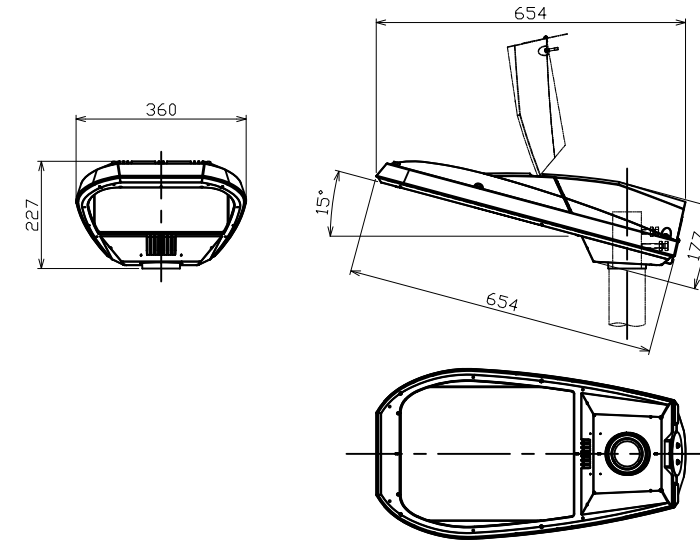
Pole Lighting S=1:40



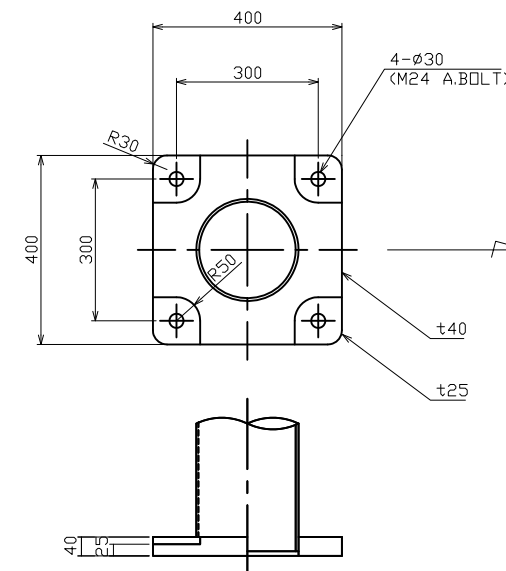
Basis S=1:20



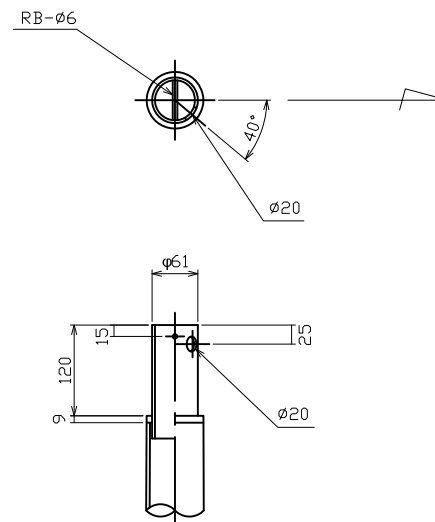
Lamp Fitting S=1:8



Base plate S=1:8



Adapter S=1:5



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SCALE: S=1:40, S=1:20, S=1:8, S=1:5

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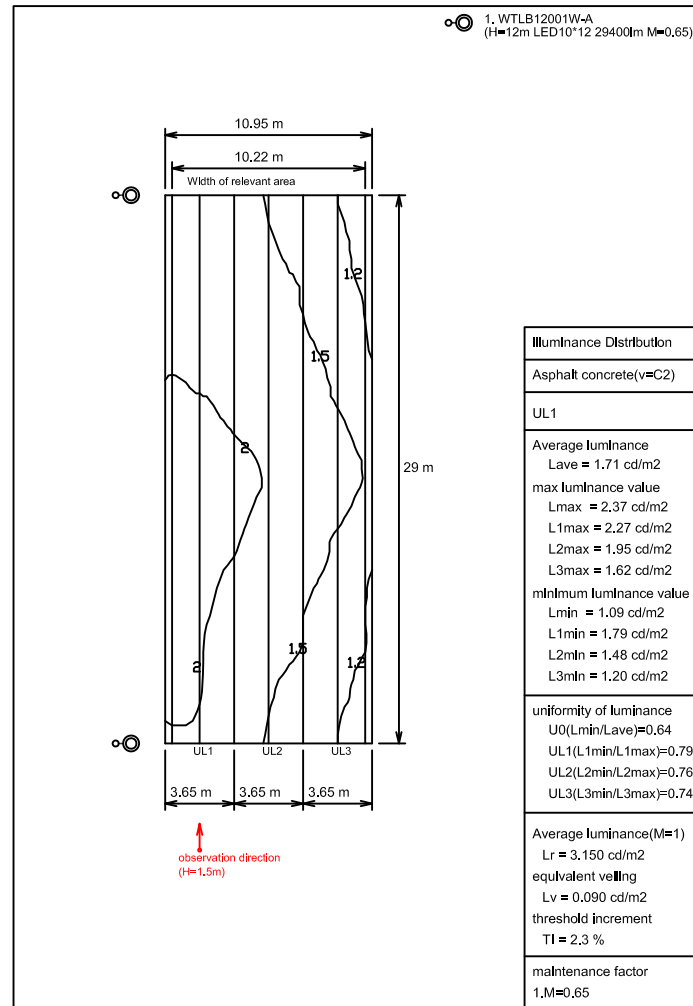
PAGE: 1/4

REMARKS:

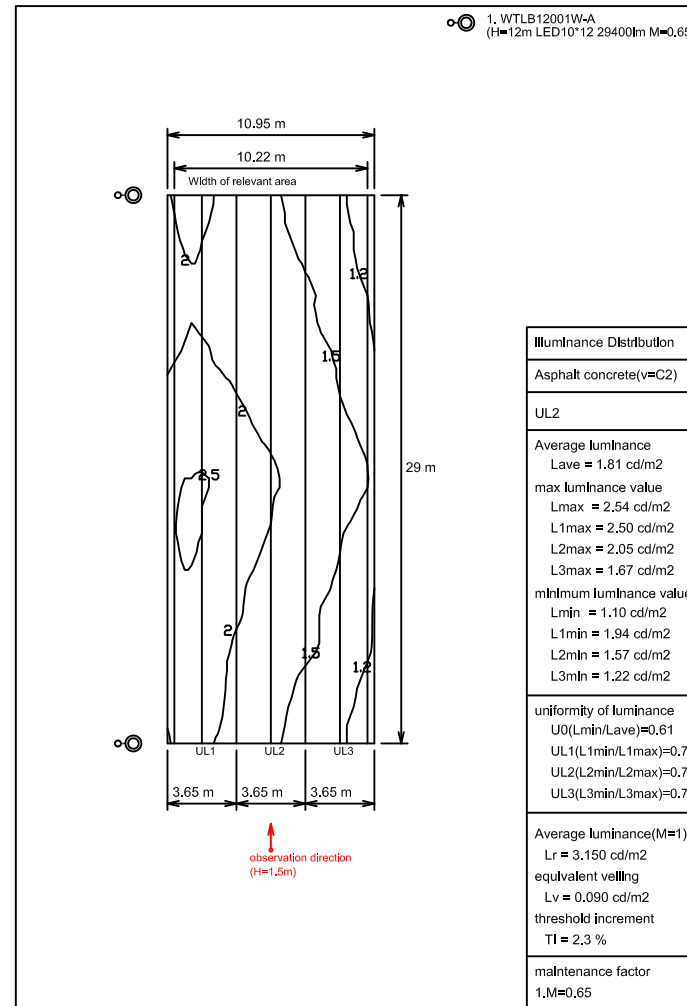
Lighting Equipment

Illuminance Distribution (3 Lanes) S=1:200

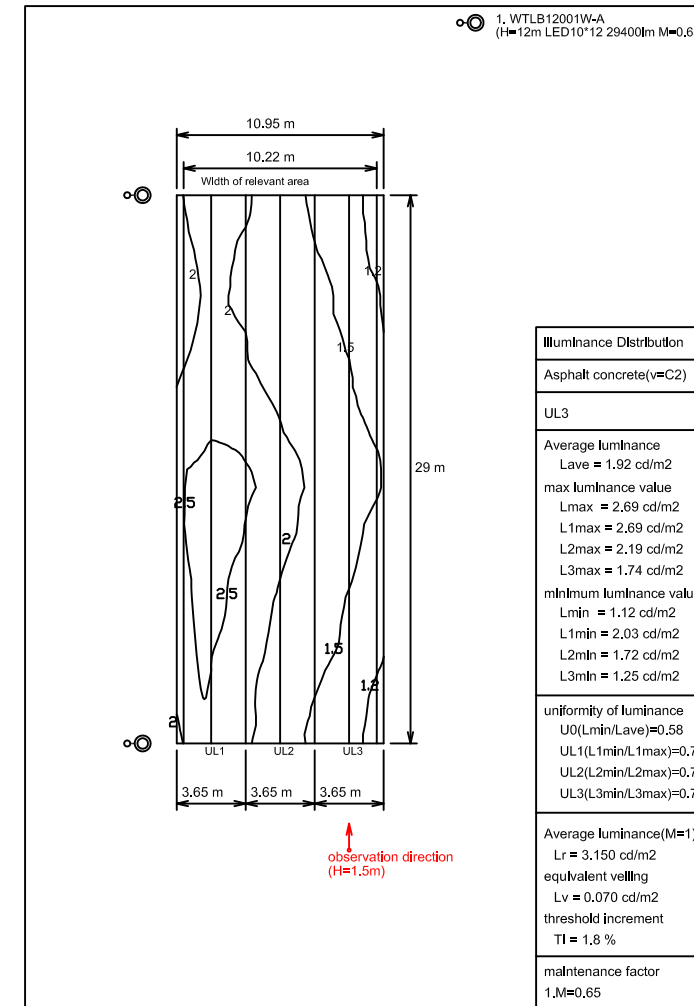
First Lane



Second Lane



Third Lane



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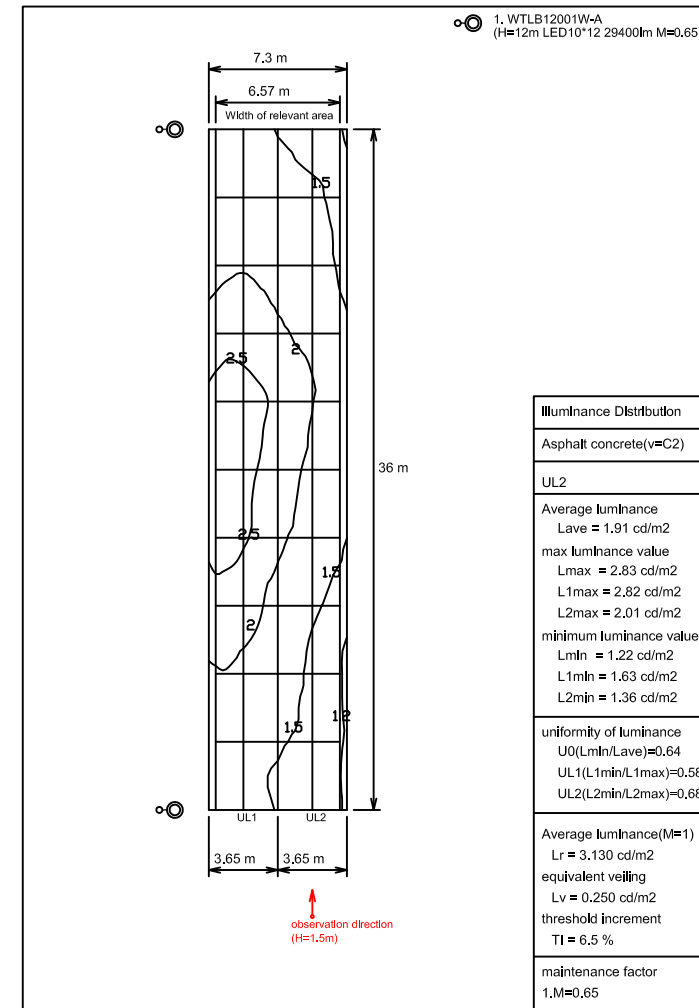
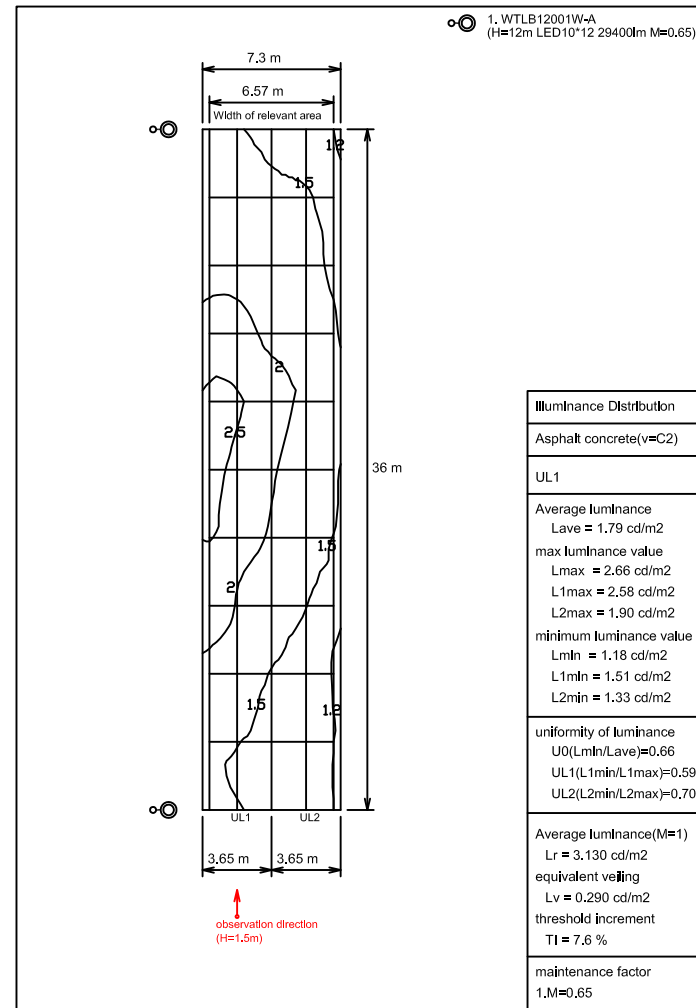
REMARKS:

Illuminance Distribution (3 Lanes)

Illuminance Distribution (2 Lanes) S=1:200

First Lane

Second Lane



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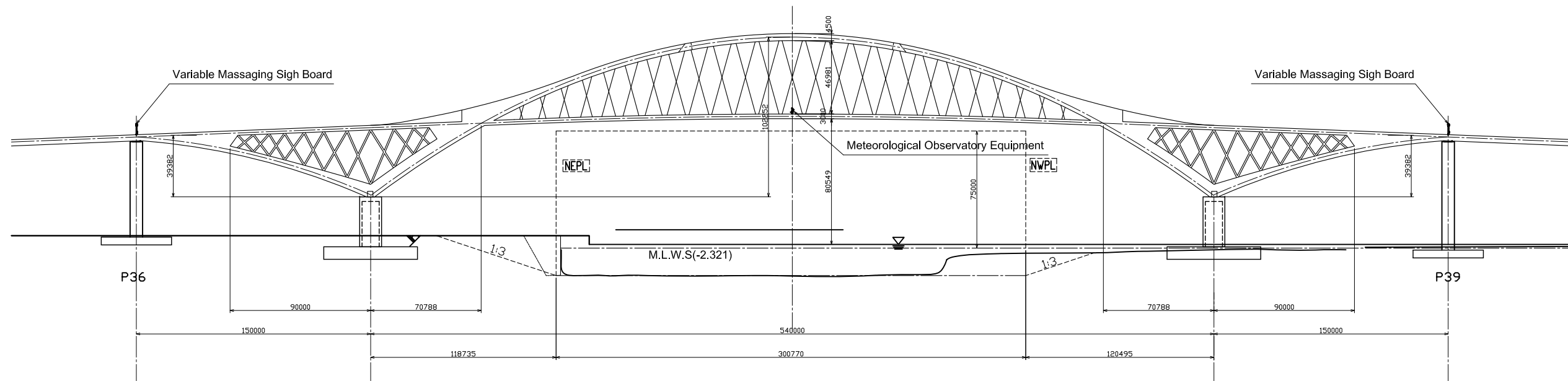
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4

REMARKS:

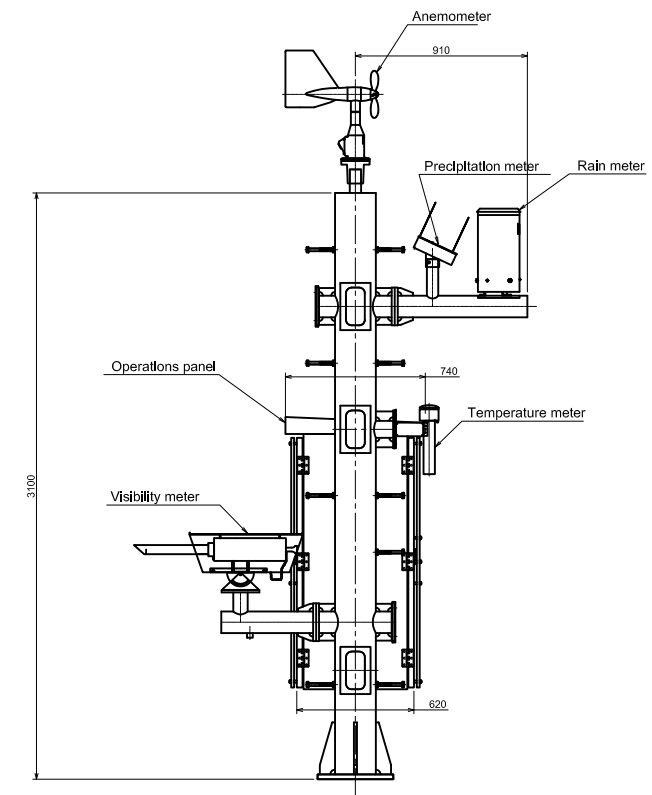
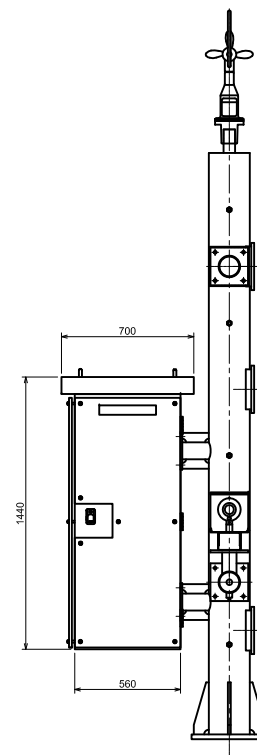
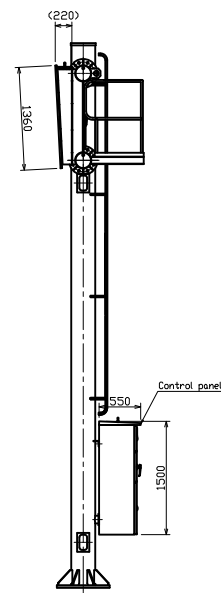
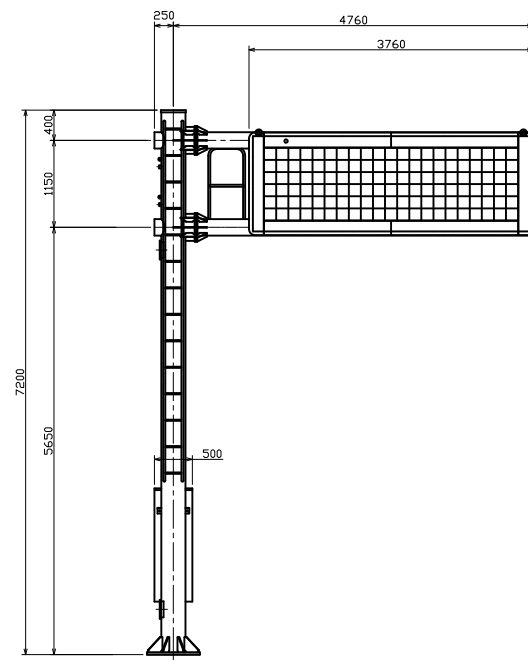
Illuminance Distribution (2 Lanes)

Meteorological Observatory Facilities S=1:1500



Meteorological Observatory Equipment S=1:20

Variable Massaging Sigh Board S=1:50



SECRETARIA DEL METRO DE PANAMA



JAPAN INTERNATIONAL COOPERATION AGENCY

THE FEASIBILITY STUDY ON PANAMA CITY URBAN TRANSPORTATION LINE-3 PROJECT

DRAWN: _____
DESIGNED: _____

DATE: May 2014
SCALE: S=1:1500, S=1:50, S=1:20

RECEIVED BY: _____
TEAM LEADER/URBAN RAILWAY PLANNING

SUBMITTED BY: _____
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PAGE: 4/4

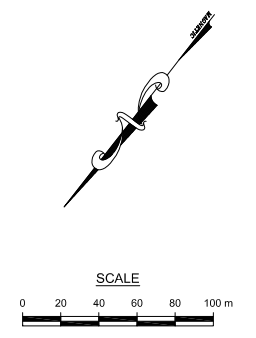
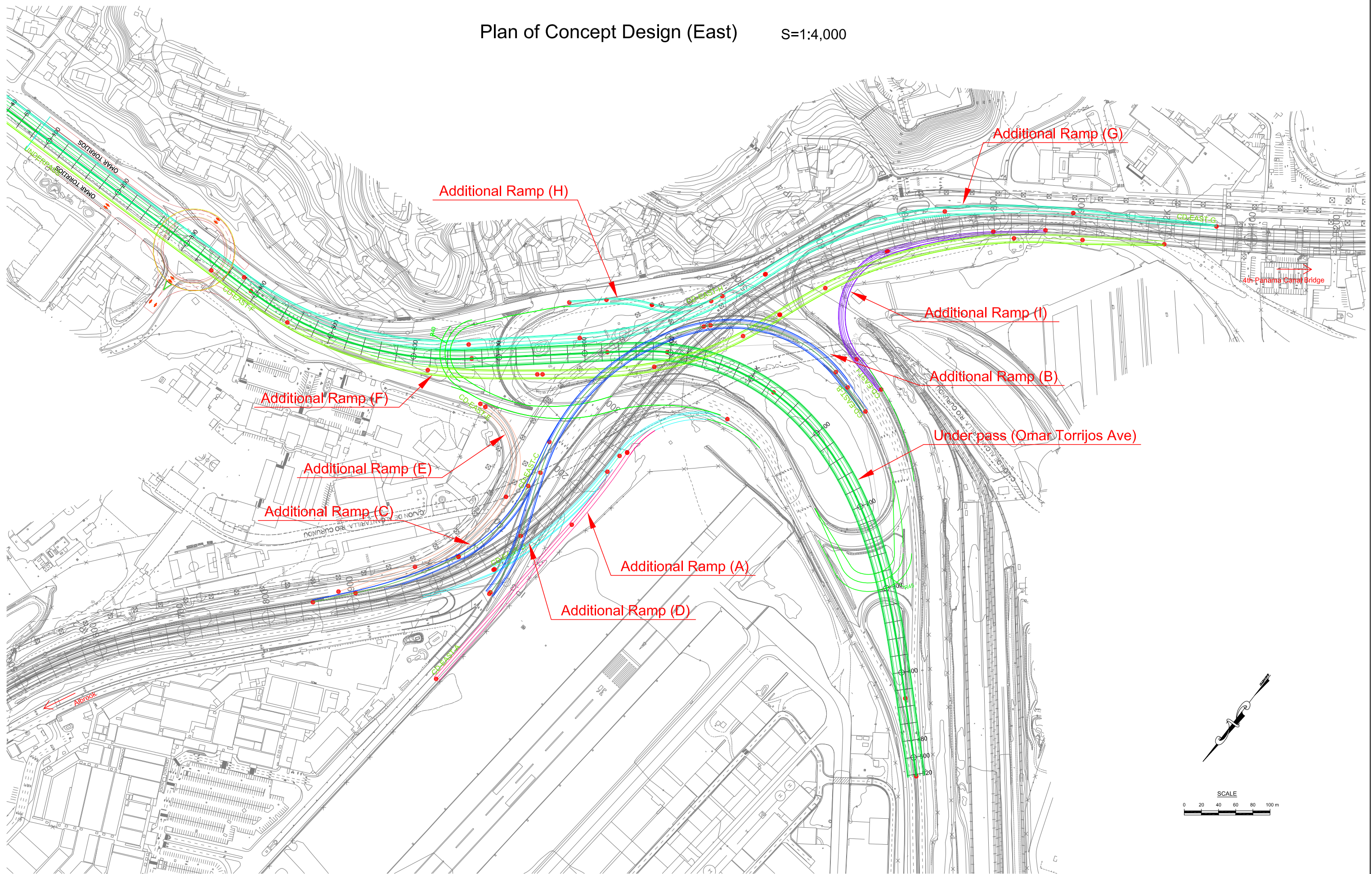
REMARKS:



Meteorological Observatory Facilities

Appendix 5-2: Concept Design Drawings

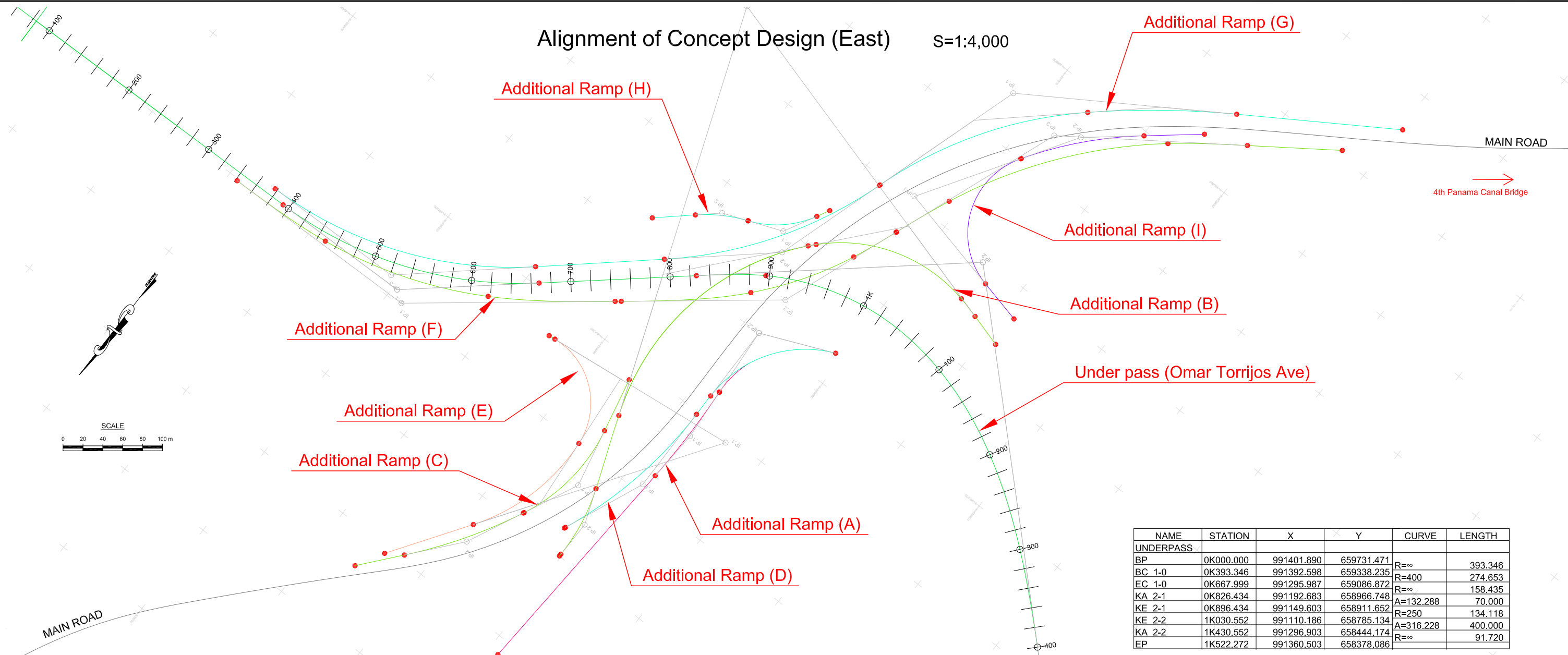
Appendix 5-2-1 : East Side Area

Plan of Concept Design (East) S=1:4,000



 <p>SECRETARIA DEL METRO DE PANAMA</p>	 <p>JAPAN INTERNATIONAL COOPERATION AGENCY</p>	<p>THE FEASIBILITY STUDY ON PANAMA CITY URBAN TRANSPORTATION LINE-3 PROJECT</p>				<p>REMARKS:</p>	
		<p>DRAWN:</p>	<p>DATE: May 2014</p>	<p>RECEIVED BY:</p>	<p>SUBMITTED BY:</p>	<p>CHECKED BY:</p>	<p>PAGE:</p>
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Alignment of Concept Design (East) S=1:4,000



NAME	STATION	X	Y	CURVE	LENGTH
UNDERPASS					
BP	0K000.000	991401.890	659731.471	R=∞	393.346
BC 1-0	0K393.346	991392.598	659338.235	R=400	274.653
EC 1-0	0K667.999	991295.987	659086.872	R=∞	158.435
KA 2-1	0K826.434	991192.683	658966.748	A=132.288	70.000
KE 2-1	0K896.434	991149.603	658911.652	R=250	134.118
KA 2-2	1K430.552	991296.903	658444.174	A=316.228	400.000
EP	1K522.272	991360.503	658378.086	R=∞	91.720

NAME	STATION	X	Y	CURVE	LENGTH
CD EAST A					
BP	0K000.000	991616.022	658889.335	R=∞	239.595
BC 1-0	0K239.595	991376.830	658875.445	R=800	106.070
EC 1-0	0K345.665	991270.841	658876.324	R=∞	0.263
BC 2-0	0K345.928	991270.578	658876.343	R=100	123.938
EC 2-0	0K469.867	991171.256	658816.114	R=∞	9.717
EP	0K479.583	991167.419	658807.188		

NAME	STATION	X	Y	CURVE	LENGTH
CD EAST B					
BP	0K000.000	991061.754	658686.915	R=∞	35.000
KA 1-1	0K035.000	991052.310	658720.617	A=60	22.500
KE 1-1	0K057.500	991046.749	658742.414	R=160	162.971
KEE 1-1	0K220.470	991093.805	658891.165	A=60	8.100
KAE 1-1	0K228.570	991099.825	658896.584	R=250	268.433
EC 1-0	0K497.003	991351.563	658941.549	R=∞	77.118
BC 2-0	0K574.121	991423.734	658914.375	R=200	75.184
EC 2-0	0K649.305	991497.372	658901.572	R=∞	2.260
EP	0K651.566	991499.632	658901.607		

NAME	STATION	X	Y	CURVE	LENGTH
CD EAST C					
BP	0K000.000	991,316.858	658,955.504	R=∞	56.876
BC 1-0	0K056.876	991,372.443	658,948.452	R=180	117.674
EC 1-0	0K174.550	991,487.290	658,956.524	R=∞	0.680
BC 2-0	0K175.230	991,487.906	658,956.814	R=500	127.384
EC 2-0	0K302.613	991,595.025	659,025.111	R=∞	50.836
EP	0K353.449	991,634.070	659,057.665		

NAME	STATION	X	Y	CURVE	LENGTH
CD EAST D					
BP	0K000.000	991474.442	658915.016	R=∞	1.236
BC 1-0	0K001.236	991473.302	658914.535	R=430	175.370
EC 1-0	0K176.605	991302.452	658880.759	R=∞	23.238
BC 2-0	0K199.843	991279.216	658880.962	R=120	140.825
EC 2-0	0K340.668	991167.922	658808.358	R=∞	1.274
EP	0K341.942	991167.419	658807.188		

NAME	STATION	X	Y	CURVE	LENGTH
CD EAST E					
BP	0K000.000	991331.460	659046.292	R=∞	6.805
BC 1-0	0K006.804	991330.655	659039.535	R=75	120.000
EBC 1-1	0K126.804	991398.439	658955.965	R=200	136.547
EC 1-0	0K263.351	991528.118	658989.360	R=∞	93.863
EP	0K357.214	991605.934	659041.848		

NAME	STATION	X	Y	CURVE	LENGTH
CD EAST F					
BP	0K000.000	991,409.886	659,731.282	R=∞	341.838
KA 1-1	0K341.838	991,401.969	659,389.535	A=220	107.556
KE 1-1	0K449.394	991,395.202	659,282.261	R=450	174.079
KE 1-2	0K623.473	991,338.148	659,118.945	A=240	128.000
KA 1-2	0K751.473	991,263.392	659,015.185	R=∞	6.120
KA 2-1	0K757.593	991,259.583	659,010.394	A=220	130.811
KE 2-1	0K888.404	991,172.408	658,913.109	R=370	110.001
KE 2-2	0K998.405	991,080.355	658,853.632	A=135	49.257
KA 2-2	1K047.662	991,034.632	658,835.337	R=∞	0.645
KA 3-1	1K048.307	991,034.028	658,835.110	A=175	61.250
KE 3-1	1K109.557	990,977.130	658,812.461	R=500	229.661
KE 3-2	1K339.218	990,795.812	658,674.812	A=200	80.000
KA 3-2	1K419.218	990,748.149	658,610.589	R=∞	95.554
EP	1K514.772	990,693.269	658,532.367		

NAME	STATION	X	Y	CURVE	LENGTH
CD EAST G					
BP	0K000.000	990639.477	658497.234	R=∞	167.766
BC 1-0	0K167.765	990729.967	658638.503	R=920	150.000
EBC 1-1	0K317.765	990820.791	658757.672	R=420	224.101
EC 1-0	0K541.866	991007.080	658877.410	R=∞	0.779
BC 2-0	0K542.645	991007.823	658877.643	R=425	231.489
EC 2-0	0K774.134	991199.469	659002.333	R=∞	129.810
BC 3-0	0K903.944	991285.224	659099.785	R=400	279.087
EC 3-0	1K183.031	991384.820	659354.463	R=∞	377.306
EP	1K560.337	991393.845	659731.661		

NAME	STATION	X	Y	CURVE	LENGTH
CD EAST H					
BP	0K000.000	991058.519	658901.340	R=∞	14.259
BC 1-0	0K014.258	991071.100	658908.051	R=100	70.636
EC 1-0	0K084.894	991117.107	658959.711	R=∞	0.066
BC 2-0	0K084.960	991117.131	658959.773	R=150	53.644
EC 2-0	0K138.604	991145.167	659005.172	R=∞	43.475
EP	0K182.080	991174.225	659037.510		



SECRETARIA DEL METRO DE PANAMA



JAPAN INTERNATIONAL COOPERATION AGENCY

THE FEASIBILITY STUDY ON PANAMA CITY URBAN TRANSPORTATION LINE-3 PROJECT

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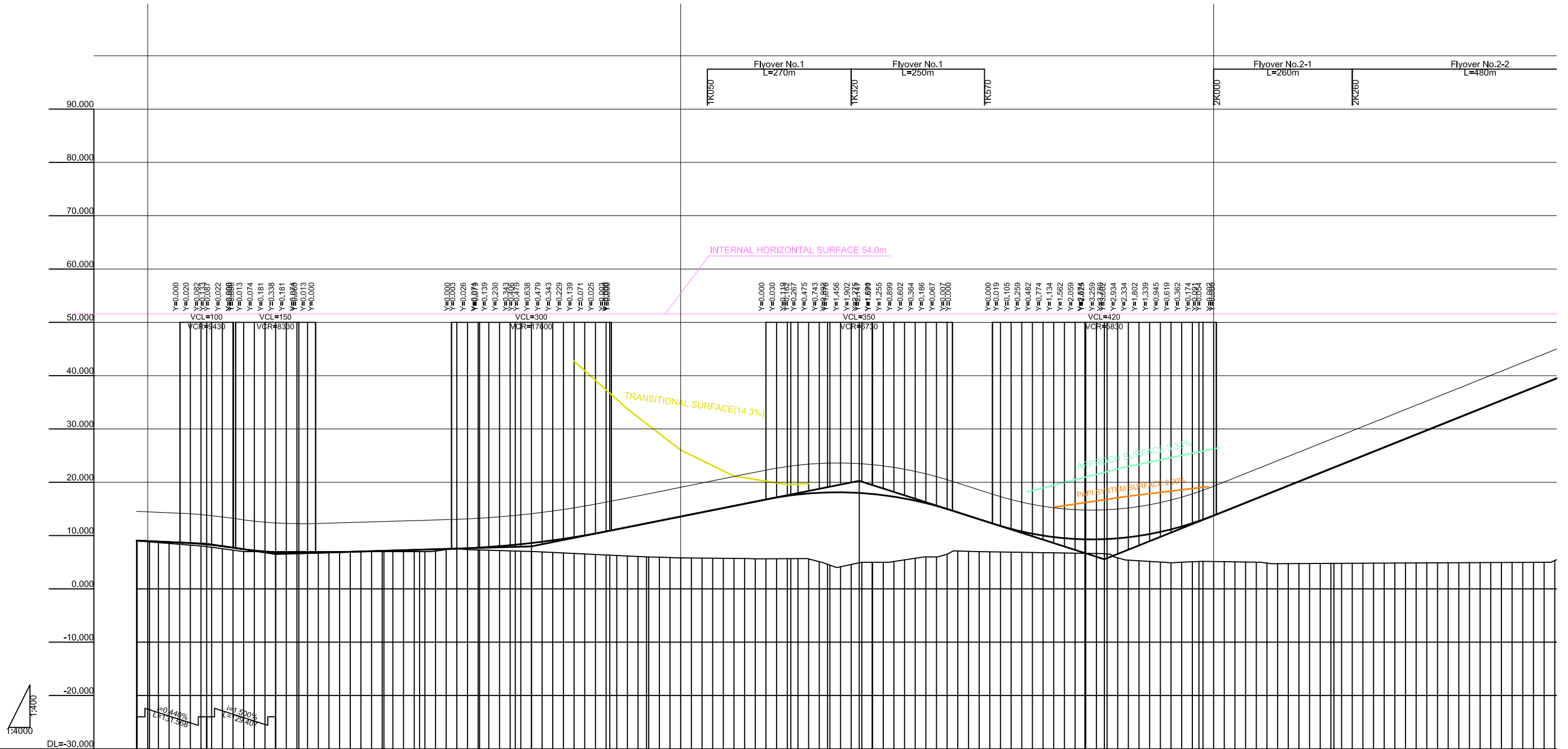
REMARKS:

Alignment of Concept Design (East)

2/6

Profile of Main Road (4th Panama Canal Bridge)

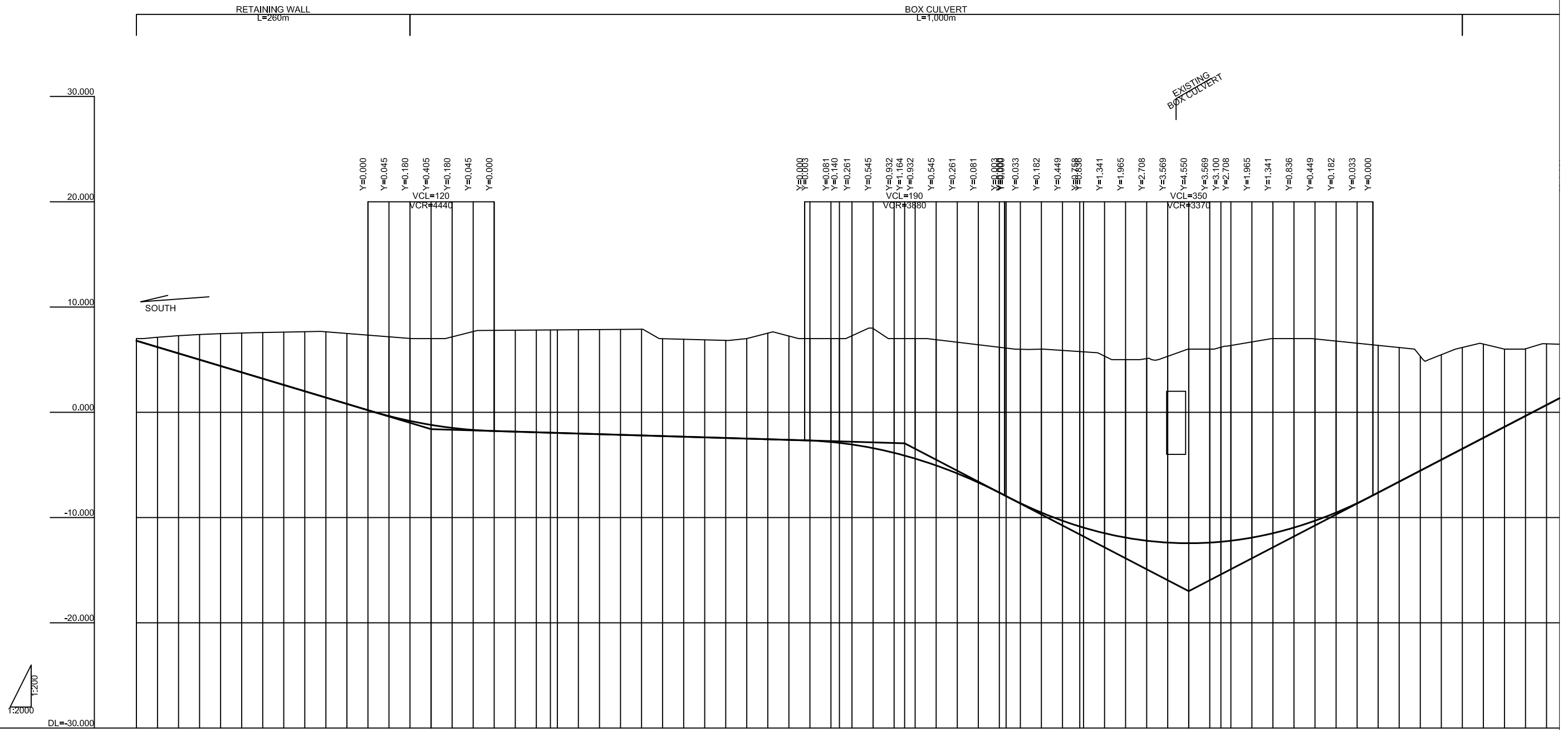
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Station	Proposed Height	Ground Height	Gradient	Curve	Superelevation
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100+000	8.878	8.878	8.471	R=5000.000, L=280.116	2.000
200+000	8.694	8.514	6.530	R=∞, L=159.596	2.000
300+000	8.436	8.196	7.970	L=67.000, R=500.000, L=112.553	2.000
400+000	8.243	8.098	20.270	L=177.279, R=3000.000	2.000
500+000	8.008	7.953	5.550	R=435.000, L=270.306	2.000
600+000	7.730	7.688		L=172.983, R=83.623	2.000
700+000	7.444	7.402		L=66.789, R=212.501	2.000
800+000	7.204	7.162		L=399.117, R=540.000	2.000
900+000	7.012	6.970		L=214.074, R=300.000	2.000
1000+000	6.868	6.826		A=527.861, L=263.307	2.000
1100+000	6.772	6.730		R=1100.000, L=646.362	2.000
1200+000	6.720	6.678			2.000
1300+000	6.700	6.658			2.000
1400+000	6.630	6.588			2.000
1500+000	6.590	6.548			2.000
1600+000	6.590	6.548			2.000
1700+000	6.590	6.548			2.000
1800+000	6.590	6.548			2.000
1900+000	6.590	6.548			2.000
2000+000	6.590	6.548			2.000
2100+000	6.590	6.548			2.000
2200+000	6.590	6.548			2.000
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2600+000	6.590	6.548			2.000
2700+000	6.590	6.548			2.000
2800+000	6.590	6.548			2.000
2900+000	6.590	6.548			2.000
3000+000	6.590	6.548			2.000
3100+000	6.590	6.548			2.000
3200+000	6.590	6.548			2.000
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3800+000	6.590	6.548			2.000
3900+000	6.590	6.548			2.000
4000+000	6.590	6.548			2.000
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5300+000	6.590	6.548			2.000
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5600+000	6.590	6.548			2.000
5700+000	6.590	6.548			2.000
5800+000	6.590	6.548			2.000
5900+000	6.590	6.548			2.000
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6100+000	6.590	6.548			2.000
6200+000	6.590	6.548			2.000
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6400+000	6.590	6.548			2.000

Profile of Underpass (1 of 2)

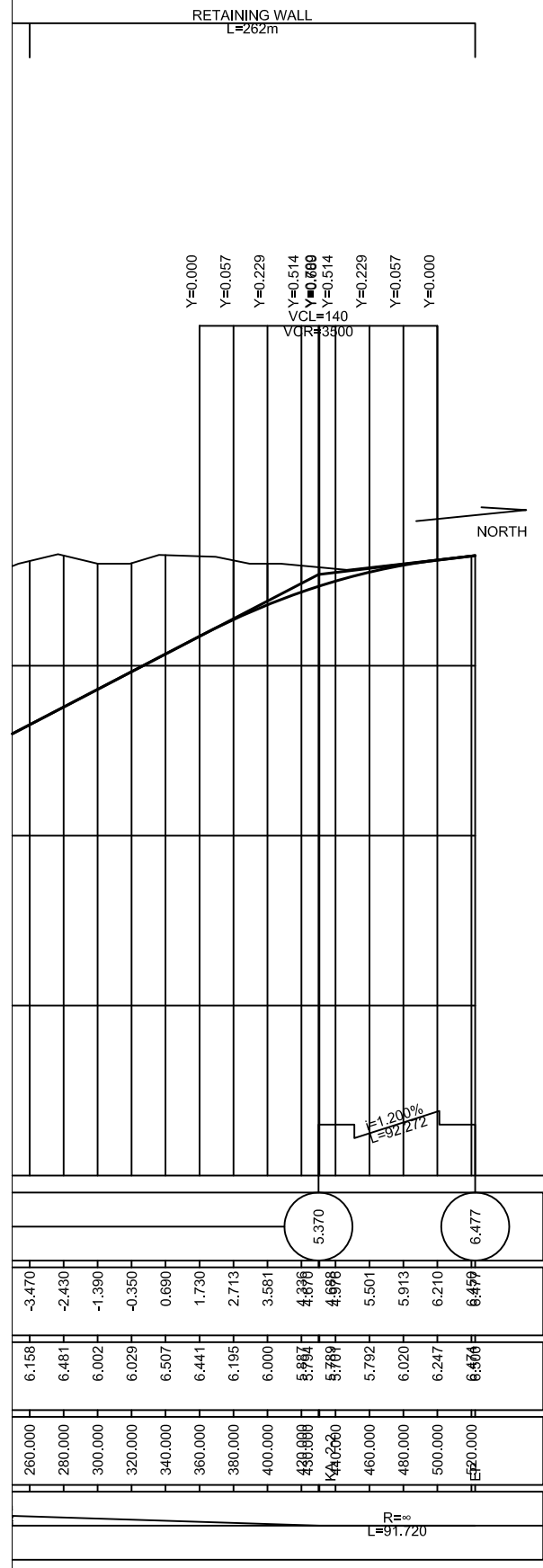
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H=1:4000



Gradient	6.800	$i=3.000\%$ $L=280.000$	-1.600	$i=0.300\%$ $L=450.000$	-2.950	$i=5.200\%$ $L=270.000$	-16.990	$i=5.200\%$ $L=430.000$																																																																		
Proposed Height	6.800	6.200	5.600	5.000	4.400	3.800	3.200	2.600	2.000	1.400	0.800	0.200	-0.355	-0.820	-1.195	-1.480	-1.675	-1.780	-1.840	-1.900	-1.940	-1.960	-2.020	-2.080	-2.140	-2.200	-2.260	-2.320	-2.380	-2.440	-2.500	-2.560	-2.620	-2.683	-2.821	-2.904	-3.061	-3.405	-3.852	-4.114	-4.402	-5.055	-5.811	-6.671	-7.633	-7.964	-8.637	-9.528	-10.301	-10.846	-10.964	-11.489	-11.905	-12.202	-12.381	-12.440	-12.381	-12.301	-12.202	-11.905	-11.489	-10.964	-10.301	-9.528	-8.637	-7.630	-6.590	-5.550	-4.510	-3.470	-2.430	-1.390	-0.350	0.690
Ground Height	7.000	7.100	7.246	7.390	7.457	7.527	7.573	7.617	7.662	7.650	7.491	7.332	7.173	7.014	7.000	7.165	7.672	7.782	7.798	7.813	7.823	7.828	7.844	7.859	7.874	7.890	6.991	6.936	6.882	6.827	7.003	7.518	7.243	7.000	7.000	7.000	7.000	6.897	6.656	6.416	6.176	6.096	5.988	5.997	5.876	5.765	5.741	5.330	5.000	5.103	5.313	6.000	6.000	6.180	6.345	6.683	7.000	7.000	6.969	6.764	6.559	6.355	6.150	5.331	5.468	6.158	6.481	6.002	6.029	6.507				
Station	BP	020.000	040.000	060.000	080.000	100.000	120.000	140.000	160.000	180.000	200.000	220.000	240.000	260.000	280.000	300.000	320.000	340.000	360.000	380.000	400.000	420.000	440.000	460.000	480.000	500.000	520.000	540.000	560.000	580.000	600.000	620.000	640.000	660.000	680.000	700.000	720.000	730.000	740.000	760.000	780.000	800.000	820.000	840.000	860.000	880.000	900.000	920.000	940.000	960.000	980.000	1000.000	1020.000	1040.000	1060.000	1080.000	1100.000	1120.000	1140.000	1160.000	1180.000	1200.000	1220.000	1240.000	1260.000	1280.000	1300.000	1320.000	1340.000					
Curve		R= ∞ L=393.346		R=400.000 L=274.653												R= ∞ L=158.435												L=70.000 A=132.288												L=134.118 R=250.000												L=400.000 A=316.228																						

PROFILE OF UNDERPASS (2 of 2)

V=1: 400
H=1:4000



SECRETARIA DEL METRO DE PANAMA



JAPAN INTERNATIONAL COOPERATION AGENCY

THE FEASIBILITY STUDY ON PANAMA CITY URBAN TRANSPORTATION LINE-3 PROJECT

DRAWN:
DESIGNED:

DATE: May 2014
SCALE: V=1:400
H=1:4000

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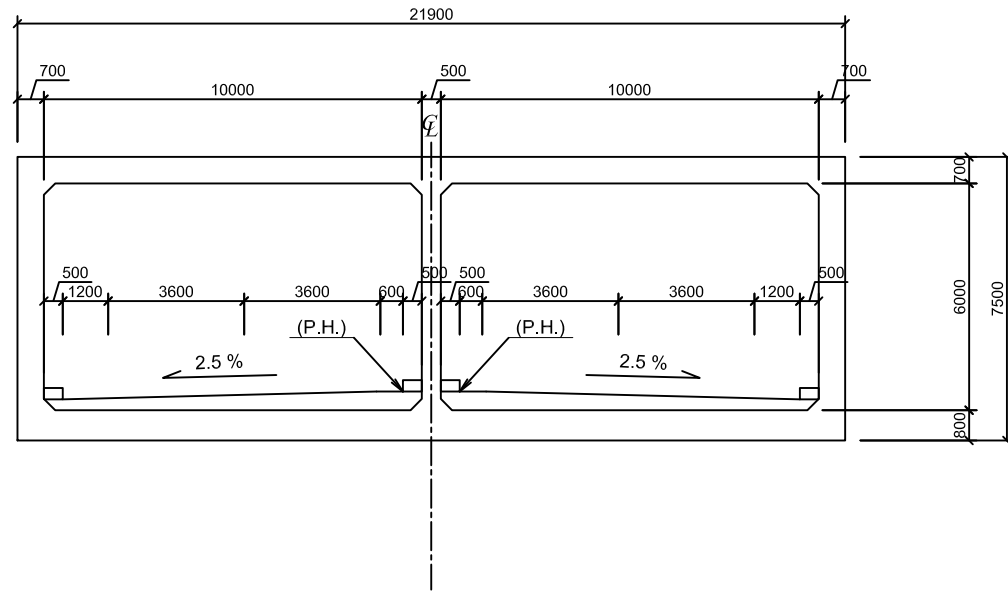
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REMARKS:
Profile of Underpass (2 of 2)

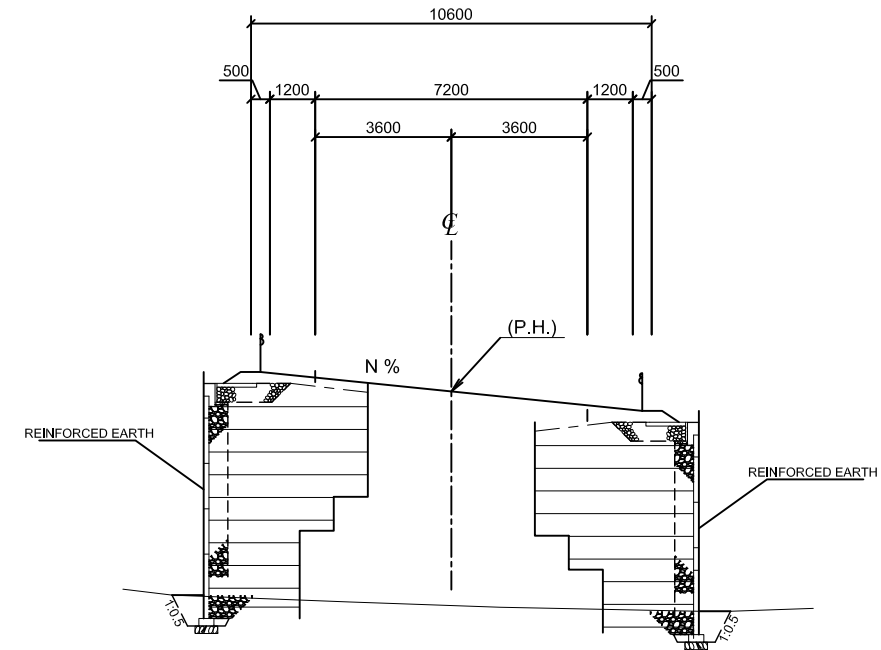
Typical Cross Sections (Concept Design at East Side)

S=1:200

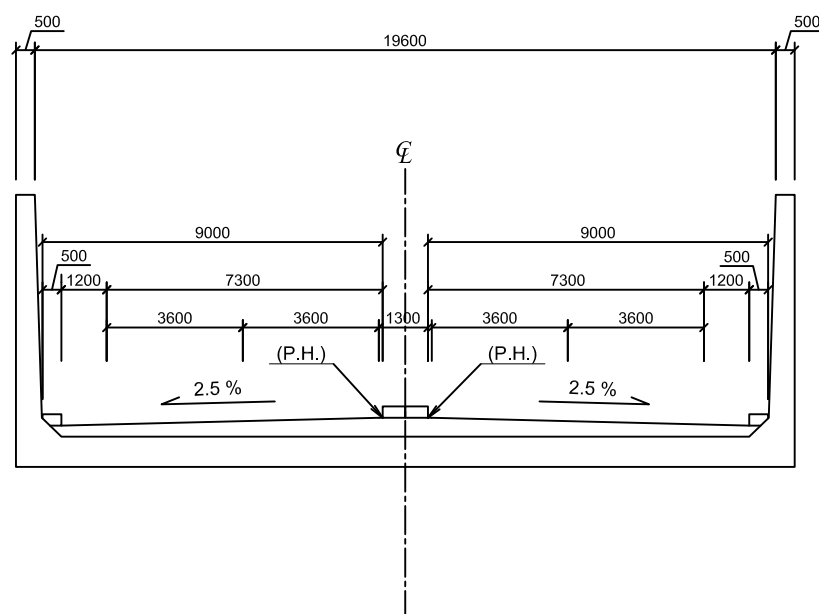
Box Culvert (Omar Torrijos Ave.)



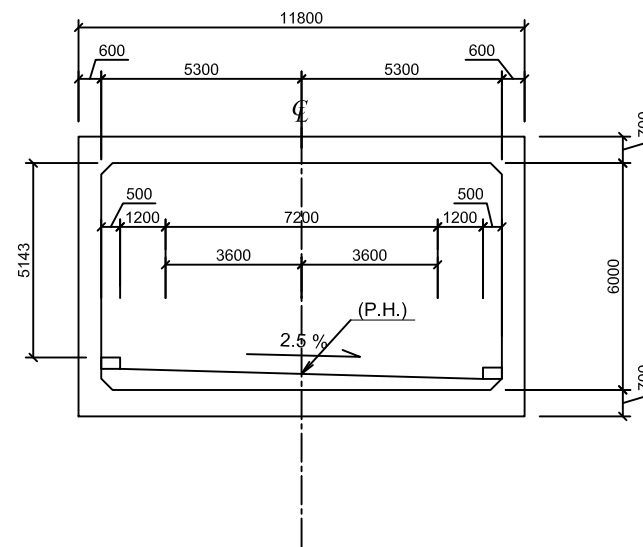
Earth Work (1 Way 2 Lane Ramp)



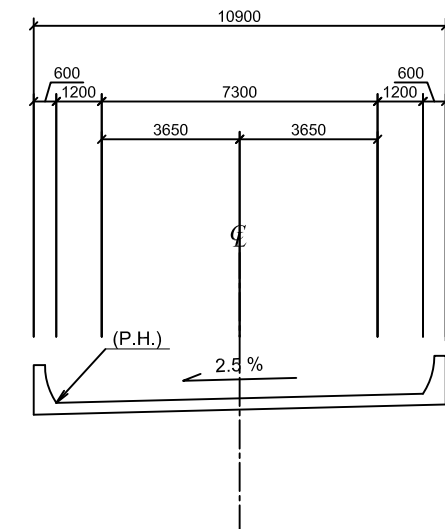
Under Pass (Omar Torrijos Ave.)



Box Culvert (1 Way 2 Lane Ramp)



On/Off Ramp (1 Way 2 Lane)



SECRETARIA DEL METRO DE PANAMA



JAPAN INTERNATIONAL COOPERATION AGENCY

THE FEASIBILITY STUDY ON PANAMA CITY URBAN TRANSPORTATION LINE-3 PROJECT

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PAGE: 6/6

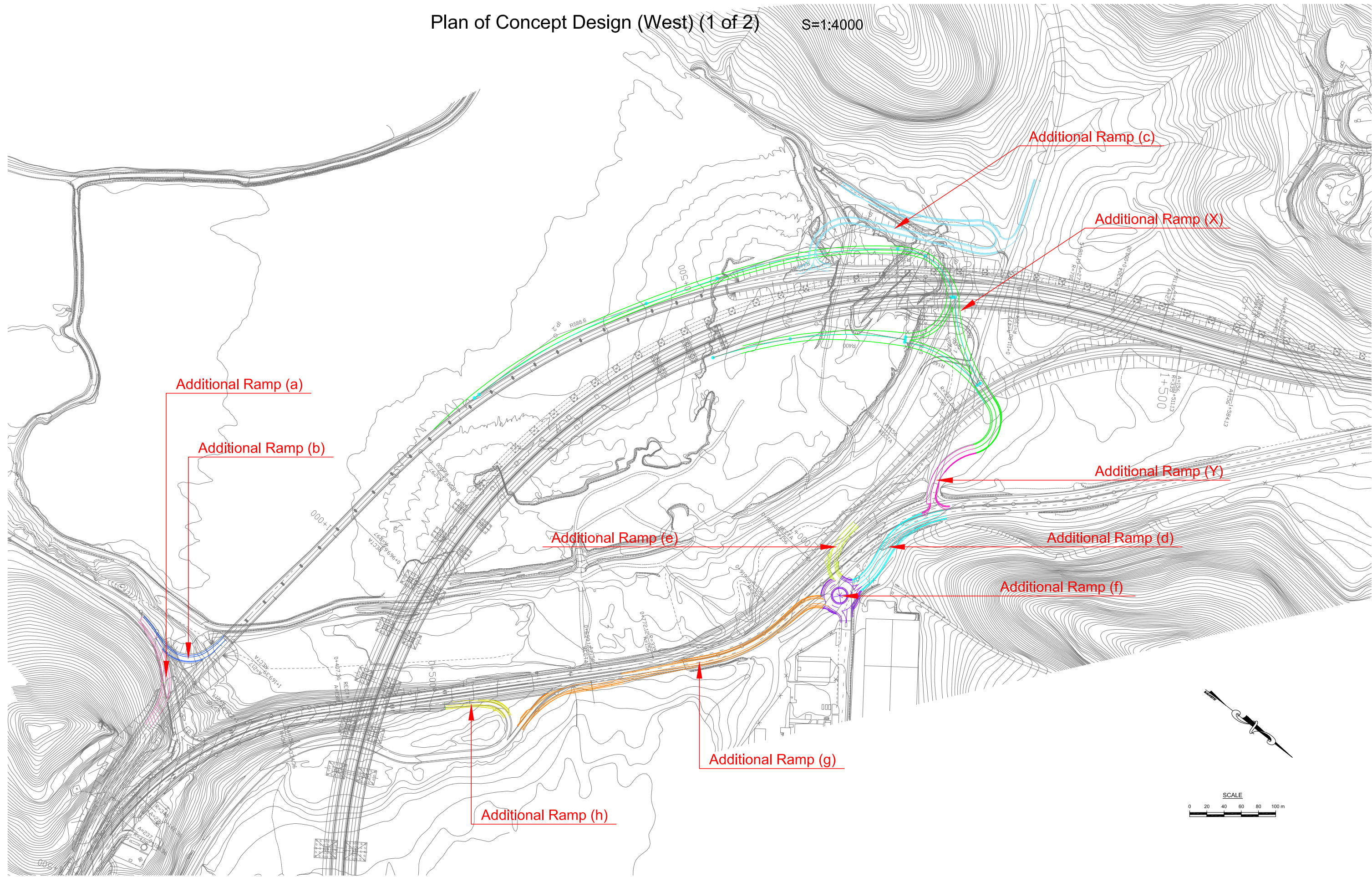
REMARKS:

Typical Cross Sections (Concept Design at East Side)

Appendix 5-2-2: West Side Area

Plan of Concept Design (West) (1 of 2)

S=1:4000



SECRETARIA DEL METRO DE PANAMA



JAPAN INTERNATIONAL COOPERATION AGENCY

THE FEASIBILITY STUDY ON PANAMA CITY URBAN TRANSPORTATION LINE-3 PROJECT

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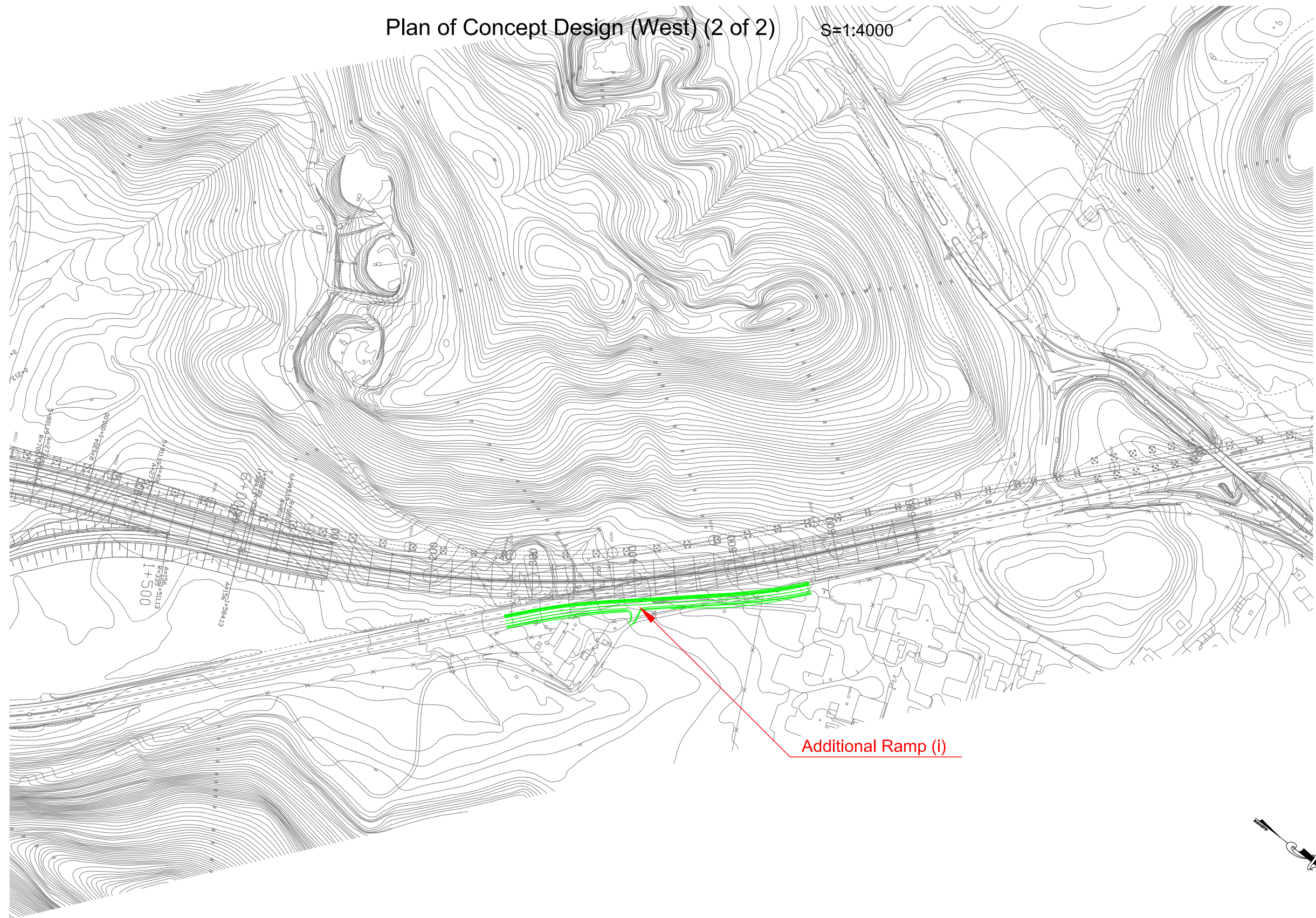
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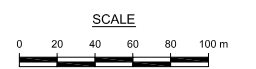
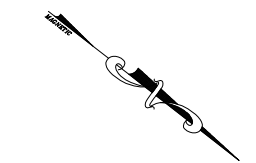
REMARKS:
Plan of Concept Design (West) (1 of 2)



Plan of Concept Design (West) (2 of 2)

S=1:4000



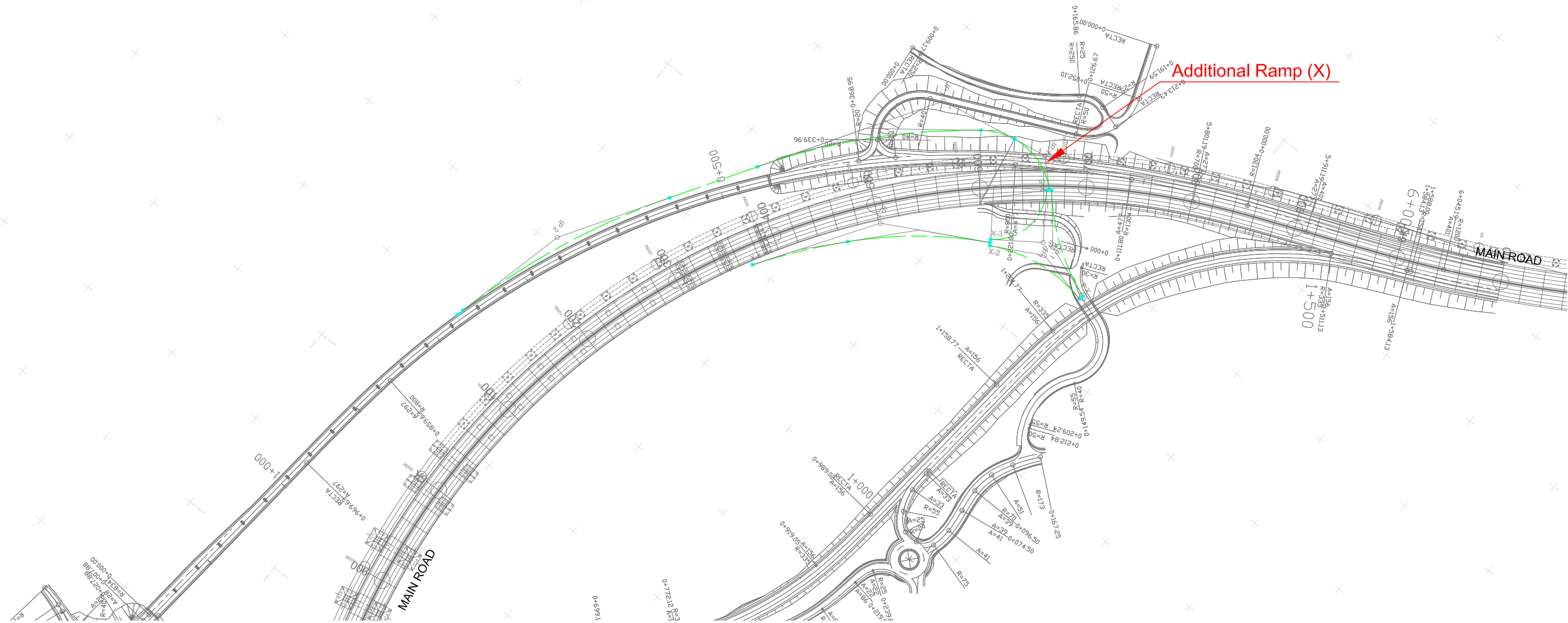
Additional Ramp (i)



 <p>SECRETARIA DEL METRO DE PANAMA</p>	 <p>JAPAN INTERNATIONAL COOPERATION AGENCY</p>	<p>THE FEASIBILITY STUDY ON PANAMA CITY URBAN TRANSPORTATION LINE-3 PROJECT</p>						<p>REMARKS:</p> <p>Plan of Concept Design (West) (2 of 2)</p>
		<p>DRAWN:</p>	<p>DATE: May 2014</p>	<p>RECEIVED BY:</p>	<p>SUBMITTED BY:</p>	<p>CHECKED BY:</p>	<p>PAGE: 2 / 5</p>	
<p>DESIGNED:</p>	<p>SCALE: S=1:4000</p>	<p>TEAM LEADER/URBAN RAILWAY PLANNING</p>	<p>CIVIL AND FACILITY PLANNING</p>	<p>APPROVED BY:</p>				

Alignment of Additional Ramp (X)

S=1:4000



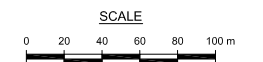
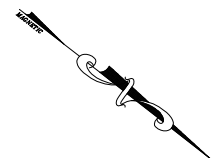
NAME	STATION	X	Y	CURVE	LENGTH
X-1					
BC 1-0	0K000.000	988778.671000	656099.620000		
EBC 1-1	0K092.394	988835.936000	656027.227000	R=605.000000	92.394
EP	0K226.661	988941.725219	655945.570672	R=400.000000	134.267

NAME	STATION	X	Y	CURVE	LENGTH
X-2					
BC 1-0	0K000.000	988943.113000	655948.194000		
EP	0K100.131	989040.305000	655935.558000	R=140.000000	100.131

NAME	STATION	X	Y	CURVE	LENGTH
X-3					
BC 1-0	0K000.000	988940.324000	655942.925000		
EP	0K077.845	988953.411000	655873.938000	R=50.000000	77.845

NAME	STATION	X	Y	CURVE	LENGTH
X-4					
BC 1-0	0K000.000	989041.708000	655931.793000		
EP	0K105.539	988956.843000	655871.127000	R=200.000000	105.539

NAME	STATION	X	Y	CURVE	LENGTH
X-5.1					
BC 1-0	0K000.000	988955.200000	655872.473000		
EP	0K059.959	988900.132000	655854.900000	R=64.200000	59.959
X-5.2					
BP	0K000.000	988900.132000	655854.900000	R=∞	0.000
BC 1-0	0K000.000	988900.132000	655854.900000	R=70.000000	33.109
EBC 1-1	0K033.109	988870.052429	655867.982202	R=600.000000	213.630
EC 1-0	0K246.739	988725.819414	656024.041728	R=∞	87.481
BC 2-0	0K334.220	988678.758653	656097.785642	R=700.000000	222.086
EC 2-0	0K556.306	988590.730142	656300.667441	R=∞	6.800
EP	0K563.106	988589.042929	656307.254660		



SECRETARIA DEL METRO DE PANAMA



JAPAN INTERNATIONAL COOPERATION AGENCY

THE FEASIBILITY STUDY ON PANAMA CITY URBAN TRANSPORTATION LINE-3 PROJECT

DRAWN: _____
DESIGNED: _____

DATE: May 2014
SCALE: S=1:4000

RECEIVED BY: _____
TEAM LEADER/URBAN RAILWAY PLANNING

SUBMITTED BY: _____
CIVIL AND FACILITY PLANNING

CHECKED BY: _____
APPROVED BY: _____

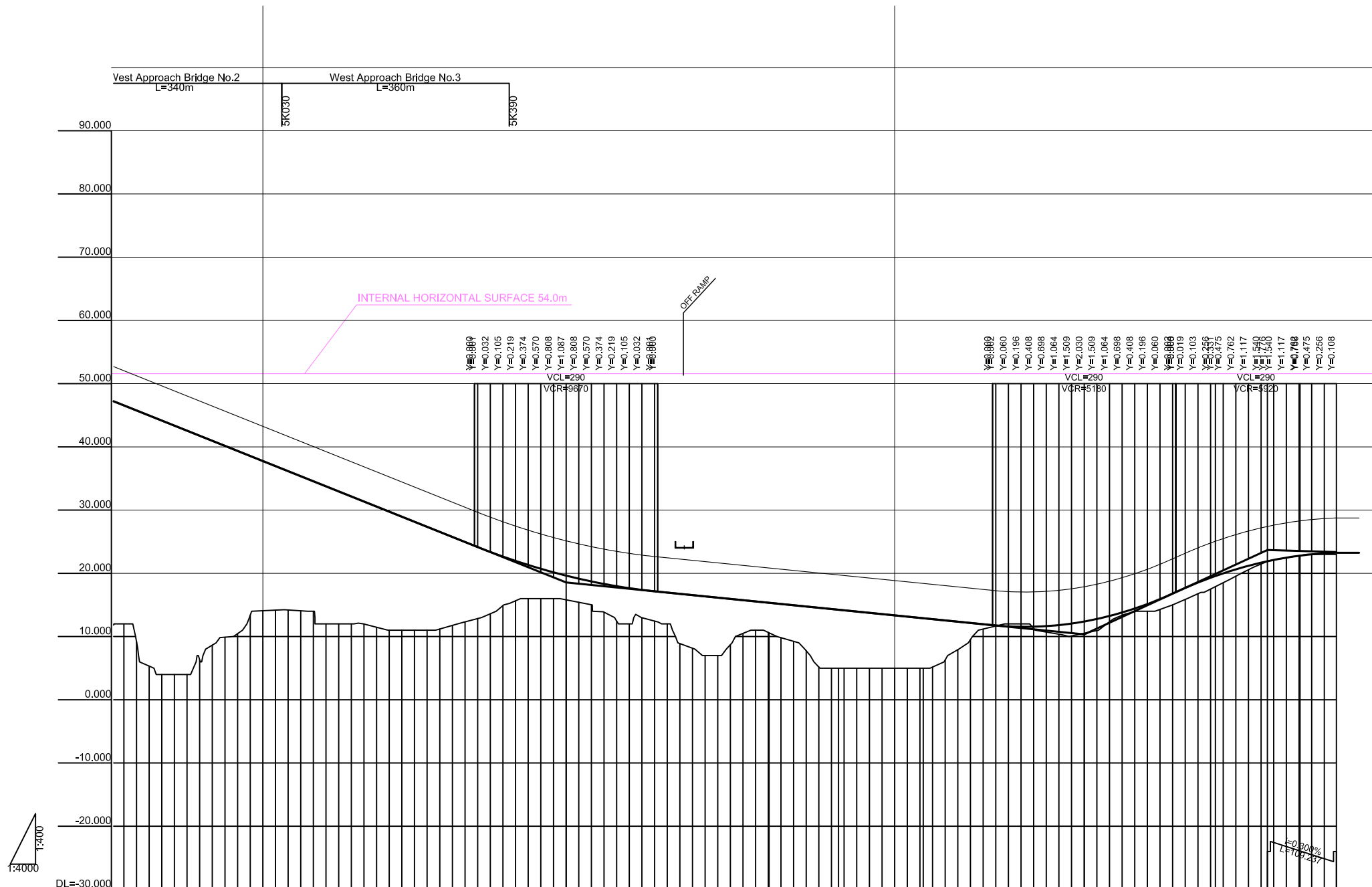
PAGE: 3 / 5

REMARKS:

Alignment of Additional Ramp (X)

Profile of Main Road (4th Panama Canal Bridge)

V=1: 400
H=1:4000

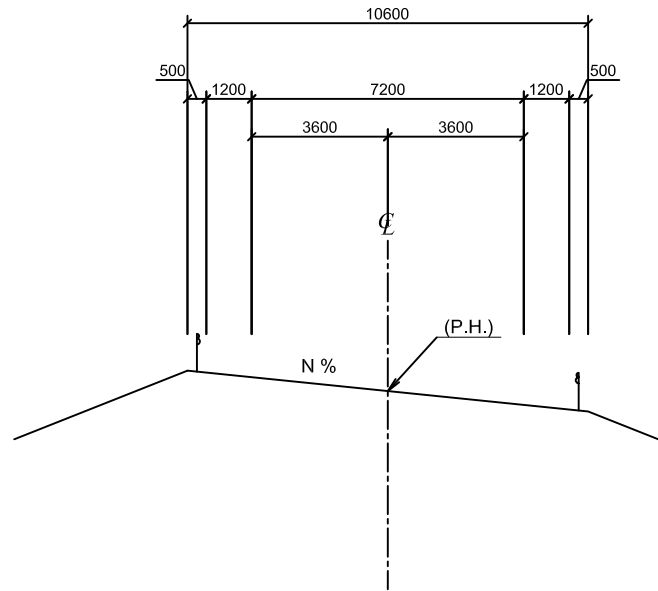


Gradient	18.550 L=1.000% L=290.000	10.350 L=4.600% L=290.000	23.690 L=0.800% L=170.287	23.362
Proposed Height	46.550 45.750 44.950 44.150 43.350 42.550 41.750 40.950 40.150 39.350 38.550 37.750	36.950 36.150 35.350 34.550 33.750 32.950 32.150 31.350 30.550 29.750 28.950 28.150 27.350 26.550 25.750 24.950 24.151 23.352 22.553 21.754 20.955 20.156 19.357 18.558 17.759 16.960 16.161 15.362 14.563 13.764 12.965 12.166 11.367 10.568 9.769 8.970 8.171 7.372 6.573 5.774 4.975 4.176 3.377 2.578 1.779 0.980 0.181 -0.618 -1.417 -2.216 -3.015 -3.814 -4.613 -5.412 -6.211 -7.010 -7.809 -8.608 -9.407 -10.206 -11.005 -11.804 -12.603 -13.402 -14.201 -15.000 -15.799 -16.598 -17.397 -18.196 -18.995 -19.794 -20.593 -21.392 -22.191 -22.990 -23.789 -24.588 -25.387 -26.186 -26.985 -27.784 -28.583 -29.382 -30.181 -30.980 -31.779 -32.578 -33.377 -34.176 -34.975 -35.774 -36.573 -37.372 -38.171 -38.970 -39.769 -40.568 -41.367 -42.166 -42.965 -43.764 -44.563 -45.362 -46.161 -46.960 -47.759 -48.558 -49.357 -50.156 -50.955 -51.754 -52.553 -53.352 -54.151 -54.950 -55.749 -56.548 -57.347 -58.146 -58.945 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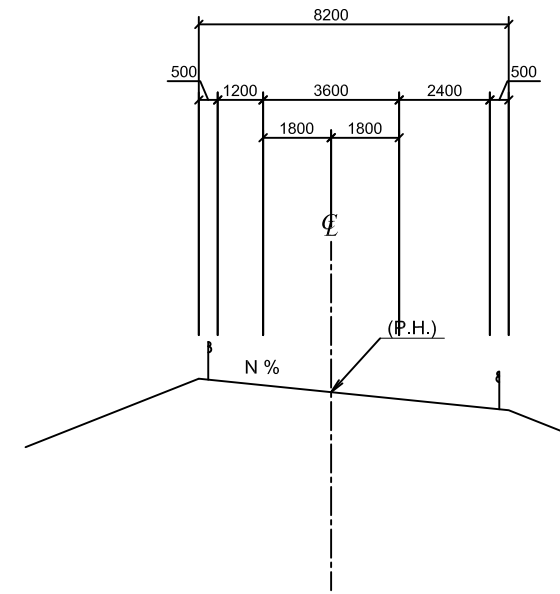
Typcal Cross Sections (Concept Design at West Side)

S=1:200

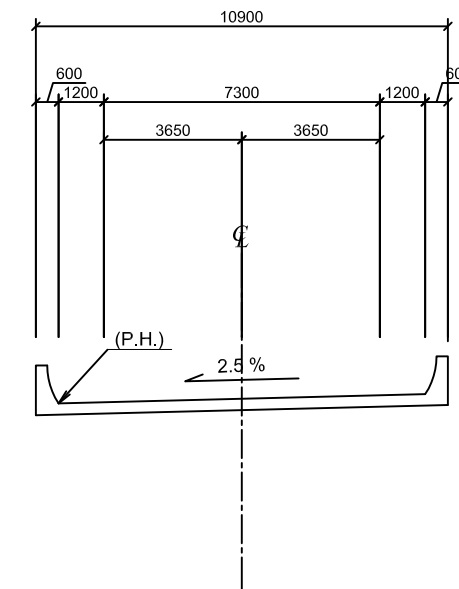
Earth Work (1 Way 2 Lane Ramp)



Earth Work (1 Way 1 Lane Ramp)



Conecting Road to America Bridge
(1 Way 2 Lane)



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JAPAN INTERNATIONAL COOPERATION AGENCY

THE FEASIBILITY STUDY ON PANAMA CITY URBAN TRANSPORTATION LINE-3 PROJECT

DRAWN:
DESIGNED:

DATE: May 2014
SCALE: S=1:200

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REMARKS:
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