

SOCIALIST REPUBLIC OF VIETNAM
PEOPLE'S COMMITTEE OF HAI PHONG CITY, VIETNAM

SOCIALIST REPUBLIC OF VIETNAM
PREPARATORY SURVEY
ON
HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT

**FINAL REPORT
DRAWINGS**

DECEMBER 2016

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

CHODAI CO.,LTD.

ORIENTAL CONSULTANTS GLOBAL CO., LTD.

ALMEC VPI CO., LTD.

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CR(5)
16-005

**SOCIALIST REPUBLIC OF VIETNAM
PEOPLE'S COMMITTEE OF HAI PHONG CITY, VIETNAM**

**SOCIALIST REPUBLIC OF VIETNAM
PREPARATORY SURVEY
ON
HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT**

ROAD DRAWINGS

DECEMBER 2016

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)


CHODAI CO.,LTD.

ORIENTAL CONSULTANTS GLOBAL CO., LTD.

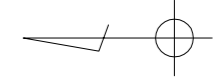
ALMEC VPI CO., LTD.

LIST OF DRAWINGS

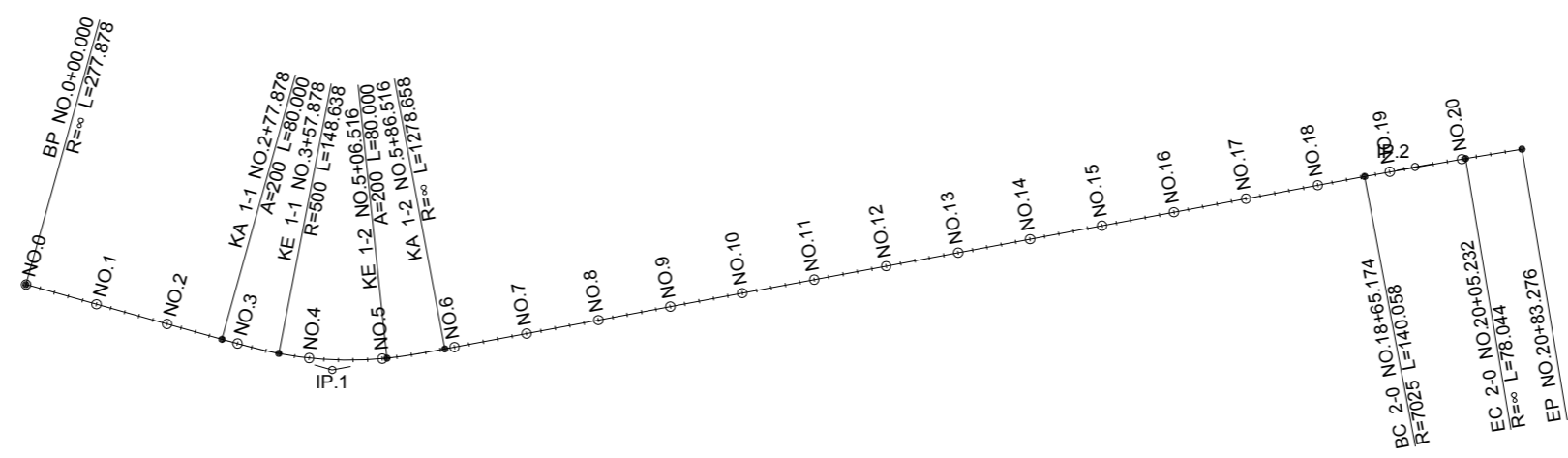
GENERAL DRAWING			NG-RD-0318	CROSS SECTION(18)
NG-GE-0001	LIST OF DRAWING		NG-RD-0319	CROSS SECTION(19)
NG-GE-0002	ALIGNMENTS		NG-RD-0320	CROSS SECTION(20)
			NG-RD-0321	CROSS SECTION(21)
ROAD DESIGN			NG-RD-0322	CROSS SECTION(22)
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NG-RD-0002	PLAN (2)		NG-RD-0324	CROSS SECTION(24)
NG-RD-0003	PLAN (3)		NG-RD-0325	CROSS SECTION(25)
NG-RD-0004	PLAN (4)			
			NG-RD-0401	NGUYEN TRAI SOUTH IC ON RAMP PROFILE(1)
NG-RD-0101	PROFILE (1)		NG-RD-0402	NGUYEN TRAI SOUTH IC ON RAMP PROFILE(2)
NG-RD-0102	PROFILE (2)		NG-RD-0403	NGUYEN TRAI SOUTH IC OFF RAMP PROFILE(1)
NG-RD-0103	PROFILE (3)		NG-RD-0404	NGUYEN TRAI SOUTH IC OFF RAMP PROFILE(2)
NG-RD-0104	PROFILE (4)			
			NG-RD-0501	LE THANH TON INTER SECTION PLAN
NG-RD-0201	TYPICAL CROSS SECTION(1)			
NG-RD-0202	TYPICAL CROSS SECTION(2)		NG-RD-0601	RETAINING WALL
NG-RD-0301	CROSS SECTION(1)			
NG-RD-0302	CROSS SECTION(2)			
NG-RD-0303	CROSS SECTION(3)			
NG-RD-0304	CROSS SECTION(4)			
NG-RD-0305	CROSS SECTION(5)			
NG-RD-0306	CROSS SECTION(6)			
NG-RD-0307	CROSS SECTION(7)			
NG-RD-0308	CROSS SECTION(8)			
NG-RD-0309	CROSS SECTION(9)			
NG-RD-0310	CROSS SECTION(10)			
NG-RD-0311	CROSS SECTION(11)			
NG-RD-0312	CROSS SECTION(12)			
NG-RD-0313	CROSS SECTION(13)			
NG-RD-0314	CROSS SECTION(14)			
NG-RD-0315	CROSS SECTION(15)			
NG-RD-0316	CROSS SECTION(16)			
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PROJECT: PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT		JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) CONSULTANTS: JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.	DRAWING TITLE: NGUYEN TRAI LIST OF DRAWINGS		Rev No.
			DRAWING No.	NG-RD-0001	SCALE

Main Point	Station	X	Y	Element	Length
20150717 NGUYEN TRAI					
BP	0+00.000	2309994.425	598013.272		
KA 1-1	2+77.878	2309726.764	597938.616	R=∞	277.878
KE 1-1	3+57.878	2309649.181	597919.191	A=200.000	80.000
KE 1-2	5+06.516	2309501.230	597912.770	R=500.000	148.638
KA 1-2	5+86.516	2309422.256	597925.402	A=200.000	80.000
BC 2-0	18+65.174	2308165.481	598160.944	R=∞	1278.658
EC 2-0	20+05.232	2308027.571	598185.370	R=7025.000	140.058
EP	20+83.276	2307950.591	598198.215	R=∞	78.044



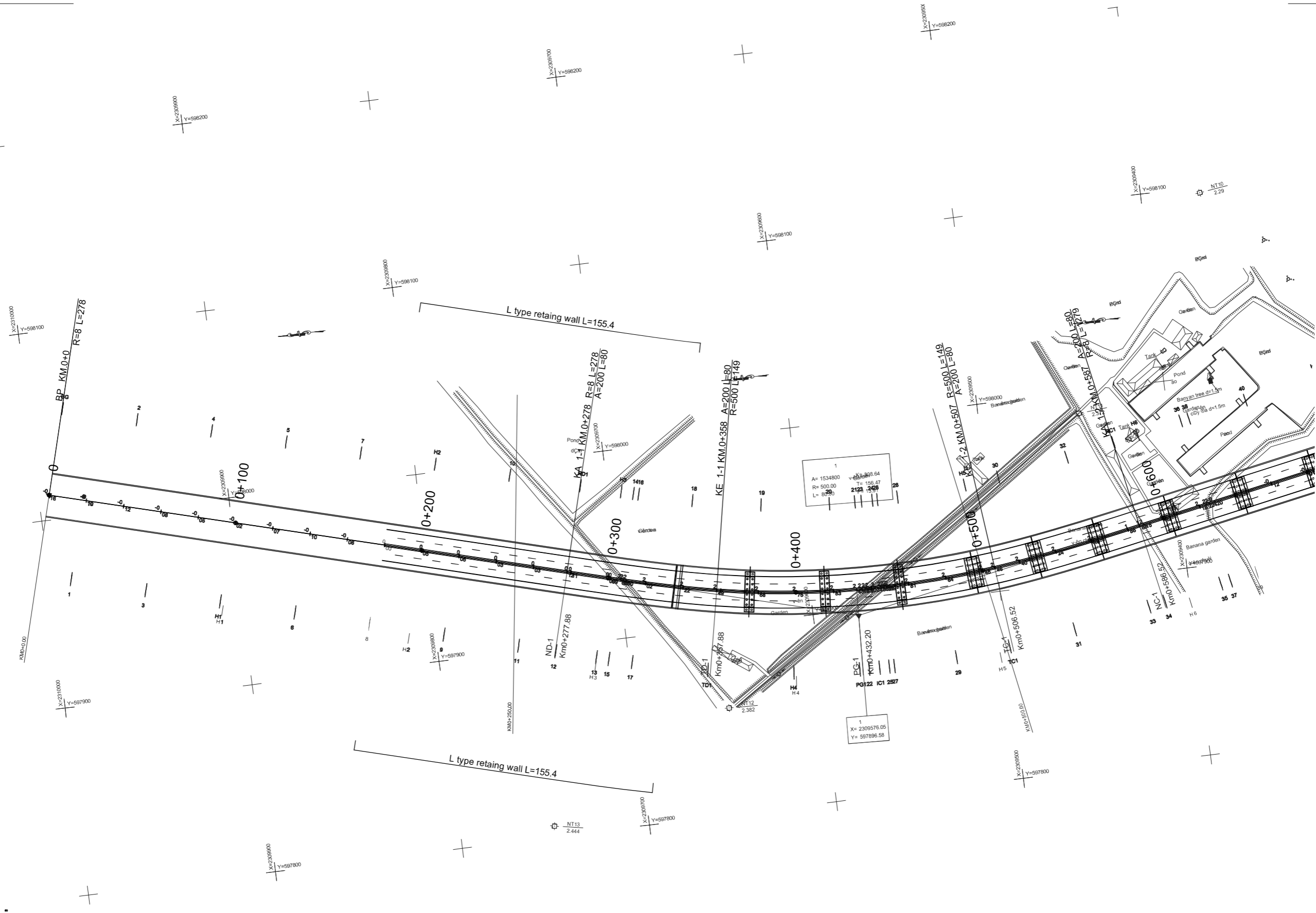
IP	2
IA	1-08-32.324
R	7025.000
TL	70.031
SL	0.349
CL	140.058



IP	1	Y	2.132	2.132	
KNo	1-1	1-2	Lc	148.638	
IA	26-11-59.804		CL	308.638	
R	500.000	500.000	D	156.469	156.469
L	80.000	80.000	S	79.977	79.977
ΔR	0.533	0.533	W	116.477	
XM	39.991	39.991	A	200.000	200.000
X	79.949	79.949	SL	13.907	

TO THUY NGUYEN

TO HAI AN



PROJECT: PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT

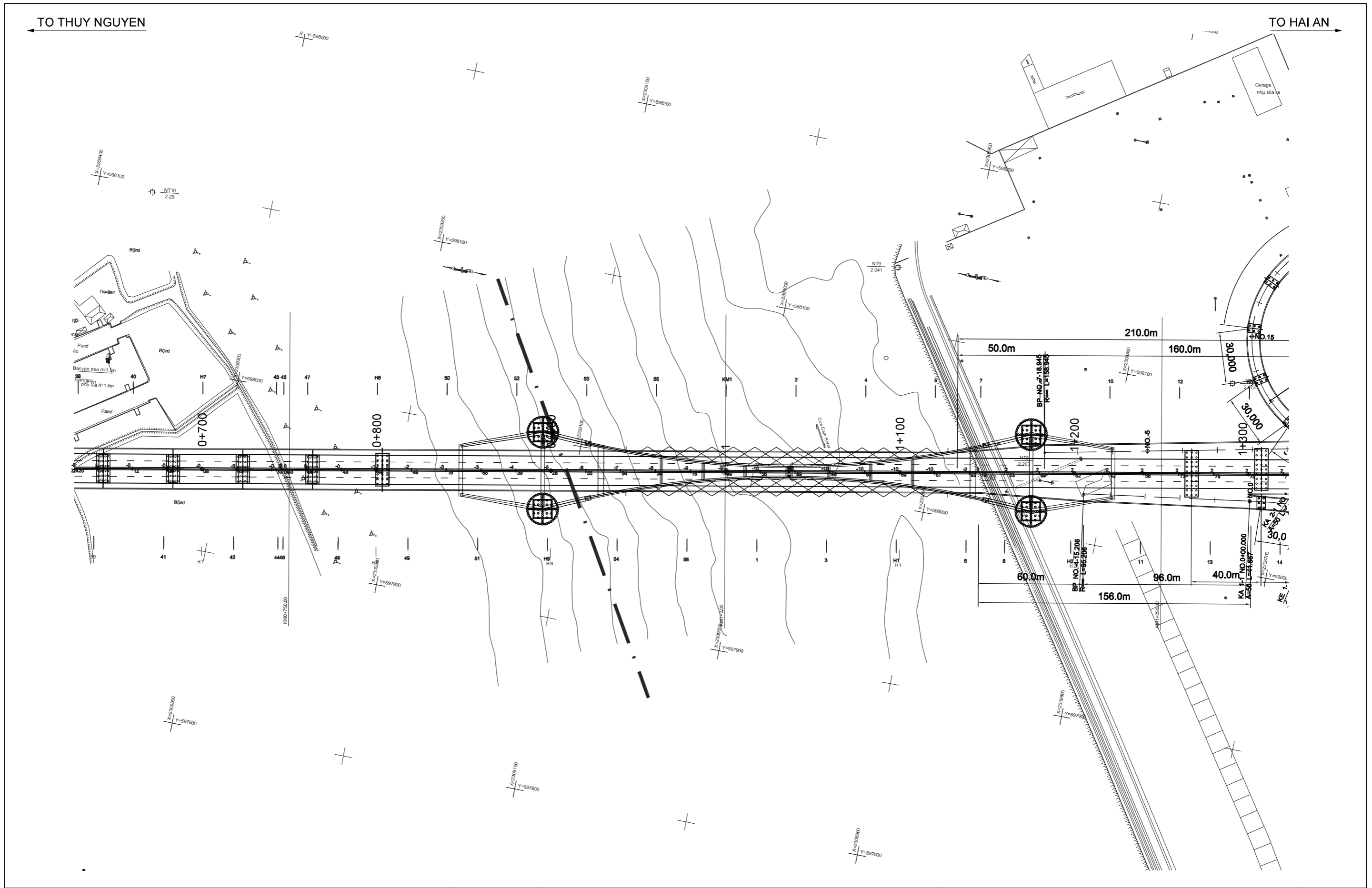


JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
 CONSULTANTS: JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.

DRAWING TITLE: NGUYEN TRAI PLAN(1)

Rev No.

DRAWING No.	NG-RD-0001	SCALE	S=1:2000
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PROJECT: PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT



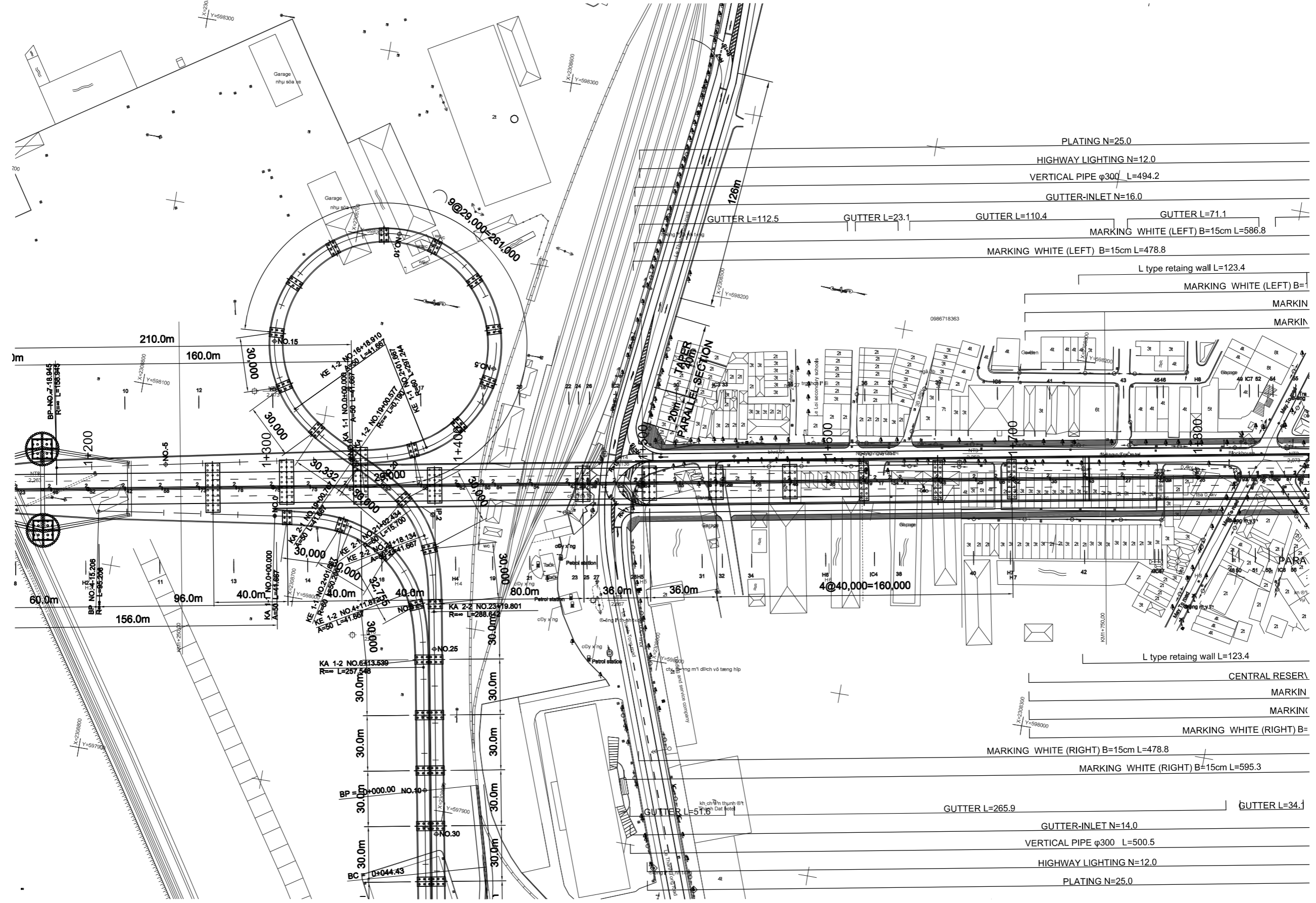
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
 CONSULTANTS: JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.

DRAWING TITLE: NGUYEN TRAI PLAN(2)
 DRAWING No. NG-RD-0002 SCALE S=1:2000

Rev No.

TO THUY NGUYEN

TO HAI AN



PROJECT: PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT



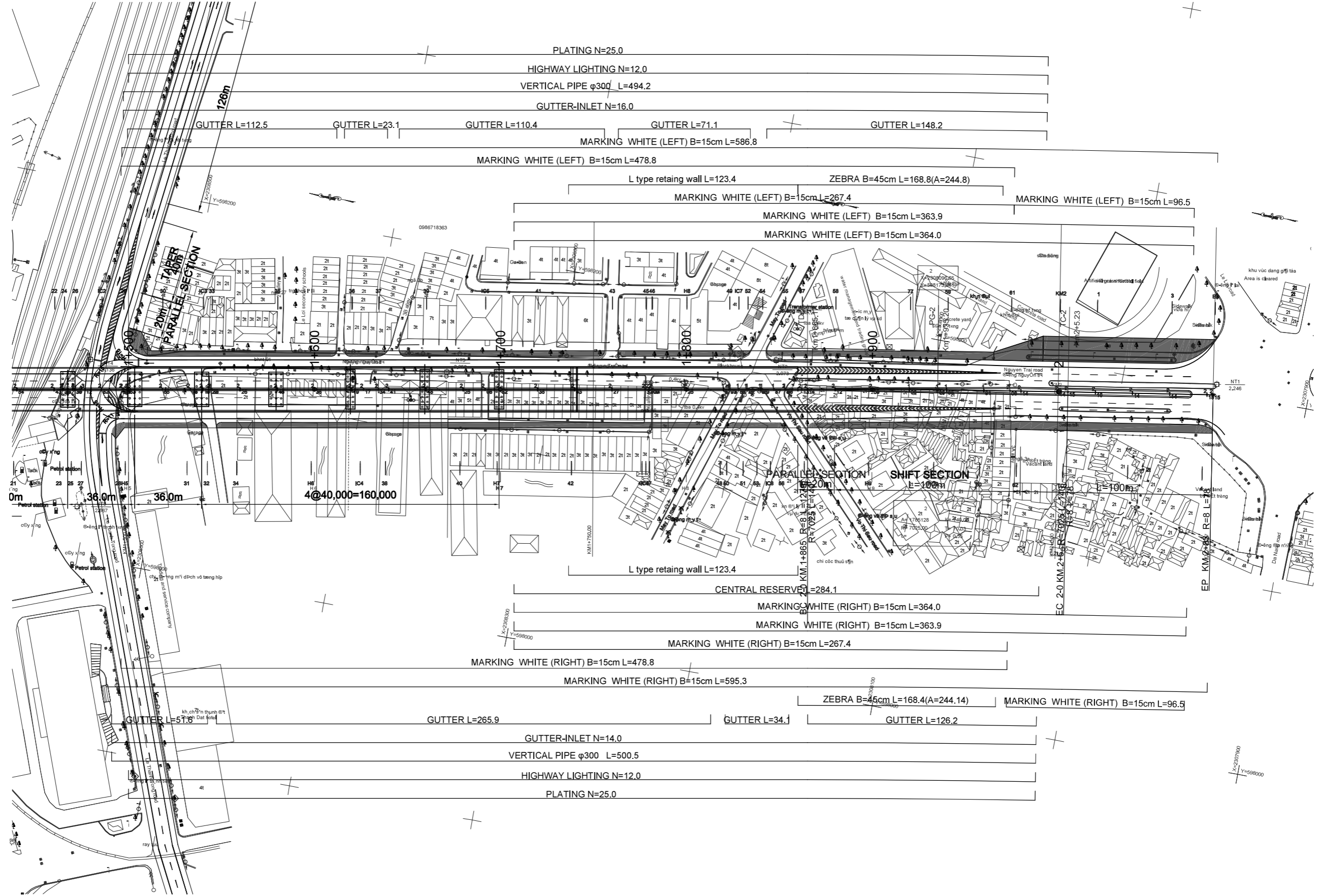
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
 CONSULTANTS: JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.

DRAWING TITLE: NGUYEN TRAI PLAN(3)
 DRAWING No. NG-RD-0003 SCALE S=1:2000

Rev No.

TO THUY NGUYEN

TO HAI AN



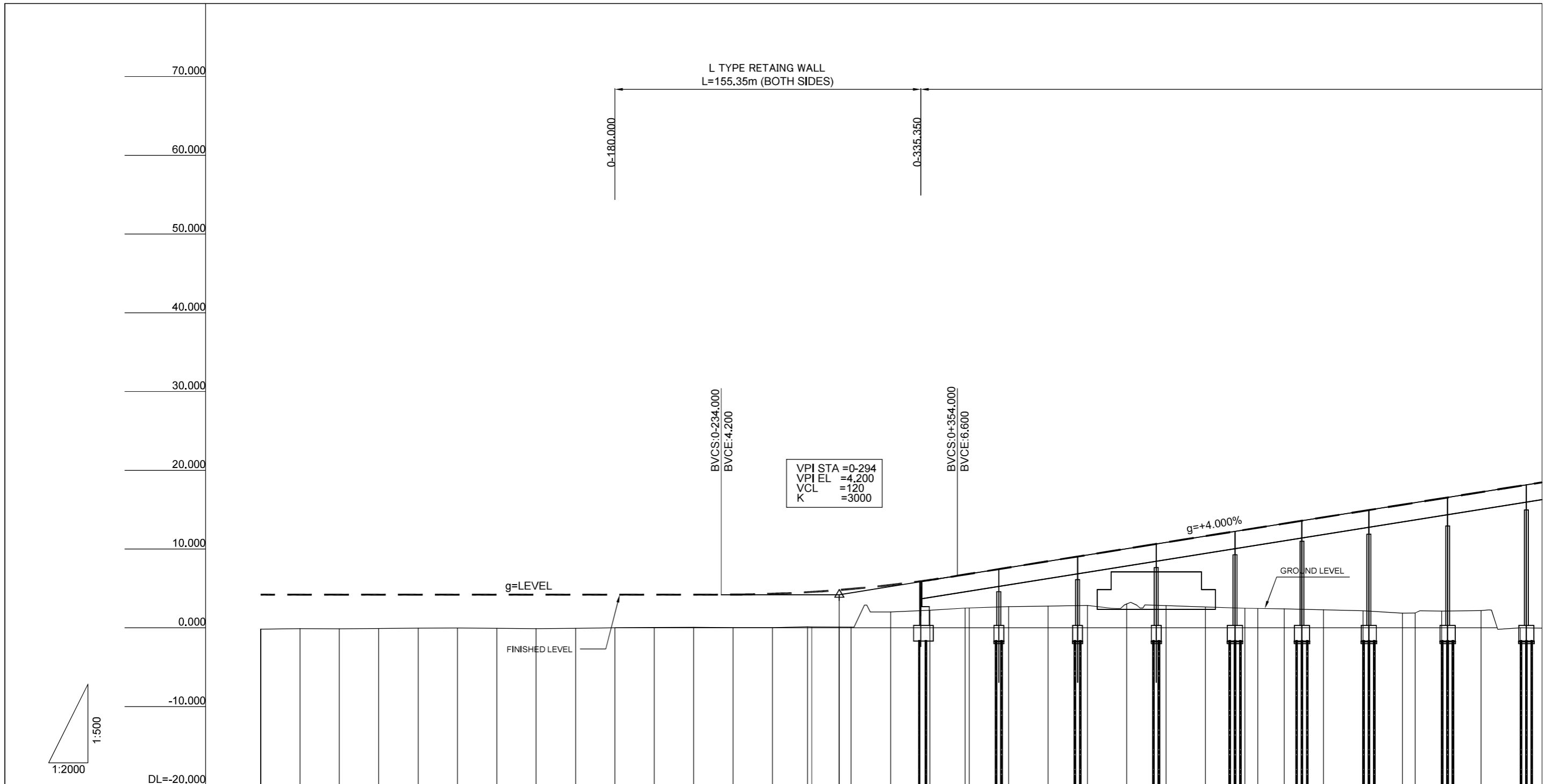
PROJECT: PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
 CONSULTANTS: JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.

DRAWING TITLE: NGUYEN TRAI PLAN(4)
 DRAWING No. NG-RD-0004 SCALE S=1:2000

Rev No.



CHAINAGE	BP	0+100	0+200	0+300	0+400	0+500	0+600	
FINISHED LEVEL	4.200	4.200	4.200	4.200	4.200	4.200	4.200	
GROUND LEVEL	-0.160	-0.100	-0.120	-0.080	-0.050	-0.020	-0.070	
HORIZONTAL ALIGNMENT	R=8 L=277.878		CS A=200 L=80		IP = IP.1 R=500 L=148.638		SC A=200 L=80	
VERTICAL ALIGNMENT	LEVEL		BVSC		CURVE - 1 VCL = 120		EVCE	
SUPERELEVATION	0-0.000		2.0%		0-277.878 1/145		0-341.878 3.0%	

PROJECT:
**PREPARATORY SURVEY
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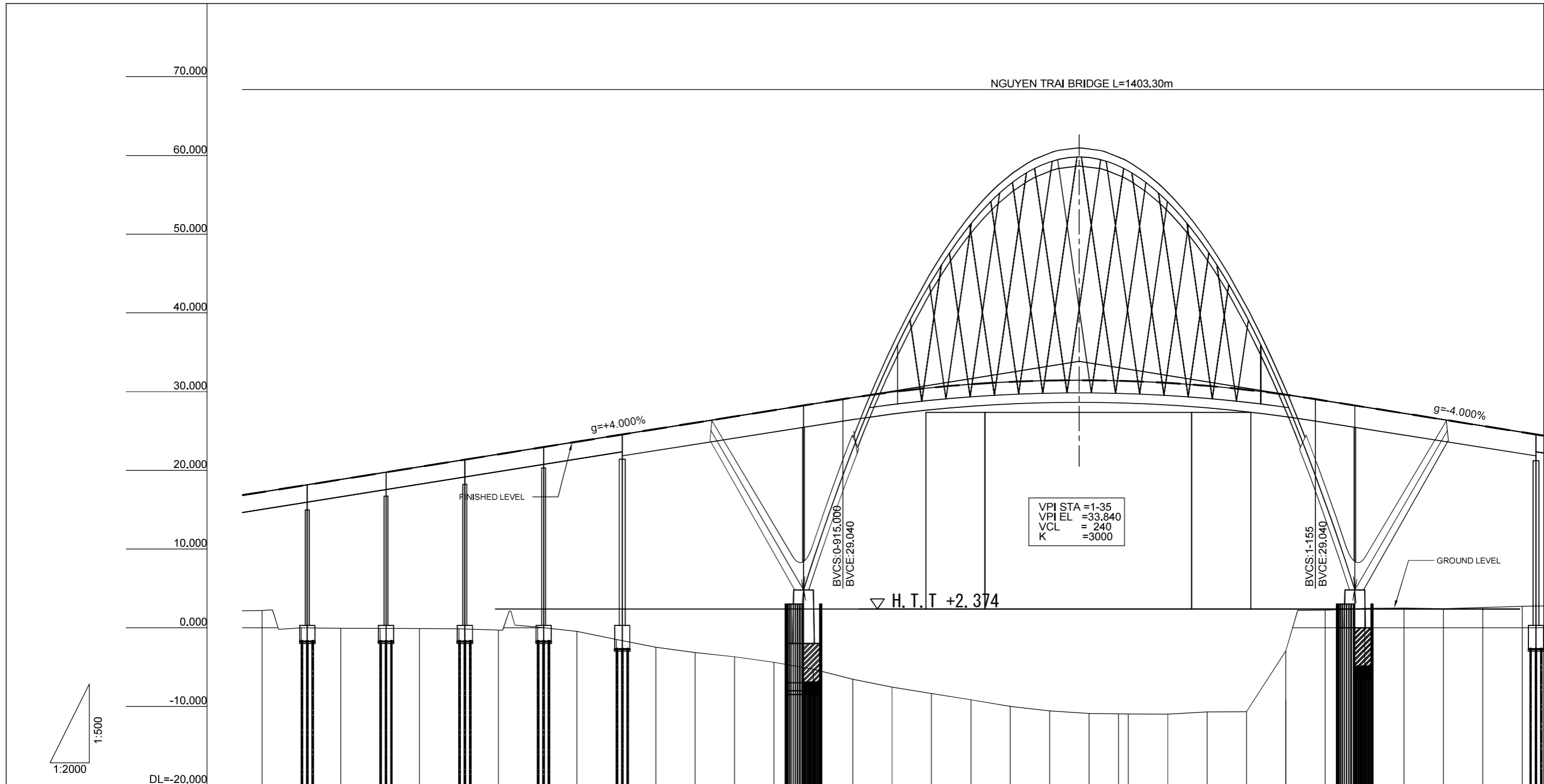


JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
 CONSULTANTS:
 JOINT VENTURE OF
 CHODAI CO.,LTD.
 ORIENTAL CONSULTANTS GLOBAL CO.,LTD.
 ALMEC VPI CO.,LTD.

DRAWING TITLE:
**NGUYEN TRAI
 PROFILE(1)**

DRAWING No. NG-RD-0101 SCALE V=1:500 S=1:2000

Rev No.



CHAINAGE		0+700	0+800	0+900	0+1000	0+1100	0+1200																													
FINISHED LEVEL	-17.240	-18.040	-18.840	-19.640	-20.440	-21.240	-22.040	-22.840	-23.640	-24.440	-25.240	-26.040	-26.840	-27.640	-28.440	-29.236	-29.936	-30.503	-30.996	-31.236	-31.403	-31.440	-31.436	-31.336	-31.103	-30.736	-30.236	-29.603	-28.840	-28.040	-27.240	-26.440	-25.640	-24.840		
GROUND LEVEL	-2.180	0.000	-0.060	-0.070	-0.080	-0.130	-0.310	-0.080	-0.480	-1.490	-2.490	-3.150	-3.680	-4.390	-5.280	-6.550	-7.540	-8.340	-9.160	-9.990	-10.560	-10.808	-10.890	-10.950	-10.970	-10.690	-10.670	-2.920	-2.225	-2.480	-2.520	-2.420	-2.580	-2.730		
HORIZONTAL ALIGNMENT	R=8 L=1278.658																																			
VERTICAL ALIGNMENT	g=+4.000%															BVSC										CURVE - 2 VCL = 240					EVCE			g=-4.000%		
SUPERELEVATION	2.0%															2.0%																				

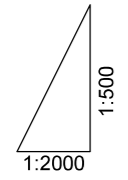
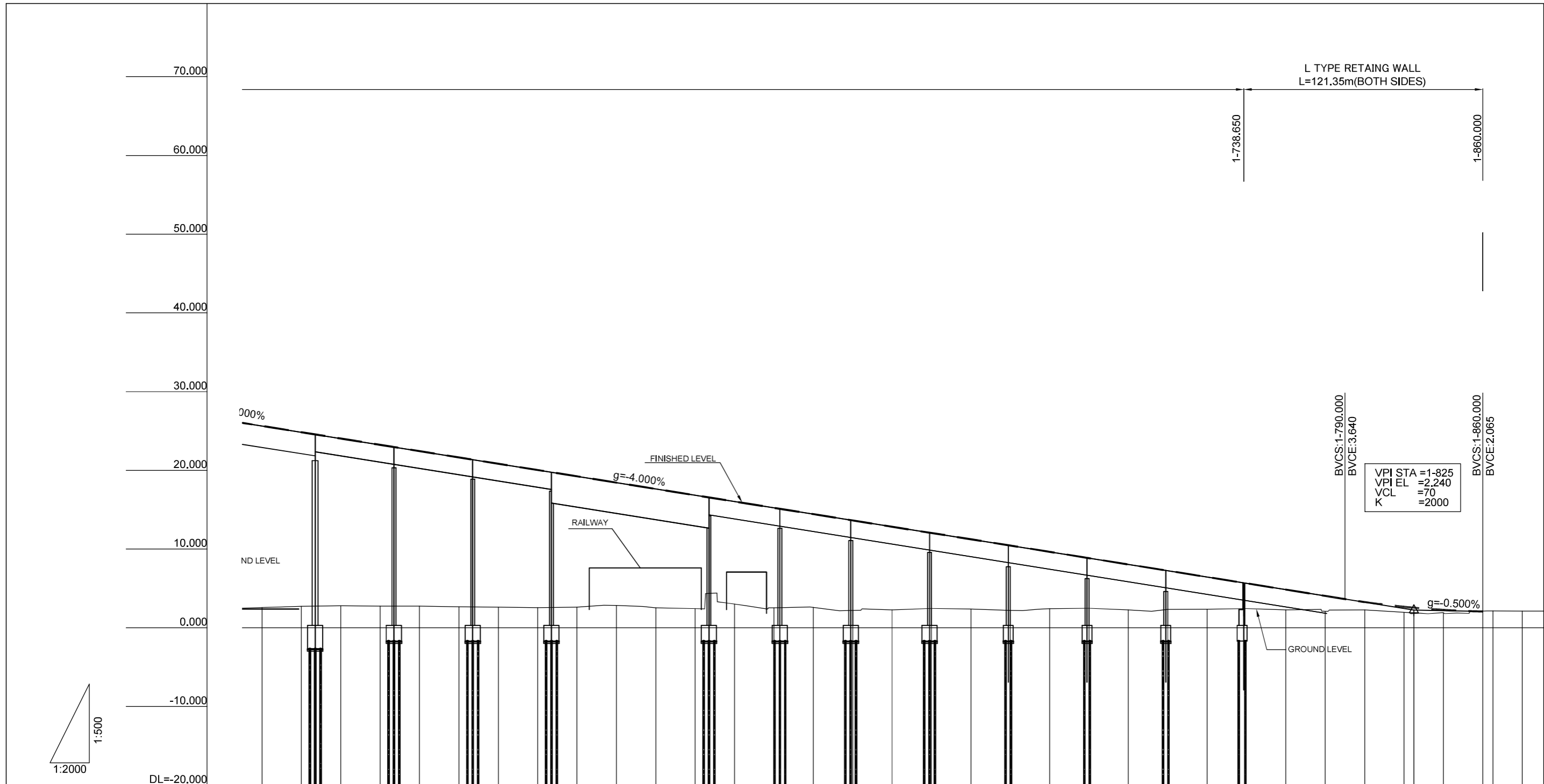
PROJECT: PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT




JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS: JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.

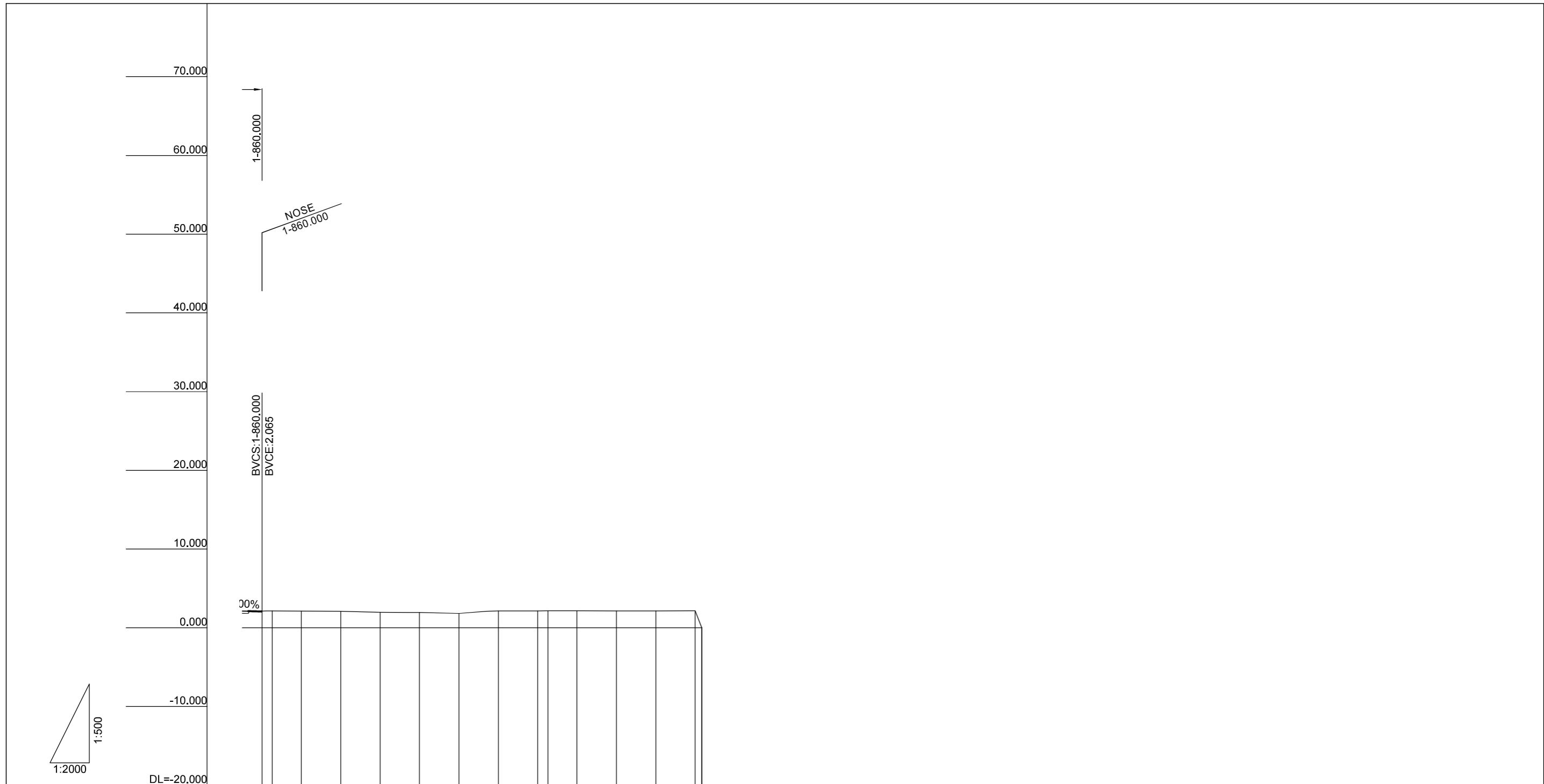
DRAWING TITLE: NGUYEN TRAI PROFILE(2)
DRAWING No. NG-RD-0102 SCALE V=1:500 S=1:2000

Rev No.



CHAINAGE		0+1300	0+1400	0+1500	0+1600	0+1700	0+1800	
FINISHED LEVEL		25.640	24.840	24.040	23.240	22.440	21.640	20.840
GROUND LEVEL		2.580	2.730	2.780	2.750	2.750	2.670	2.620
HORIZONTAL ALIGNMENT								
VERTICAL ALIGNMENT								
SUPERELEVATION								

PROJECT: PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT		JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) CONSULTANTS: JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.	DRAWING TITLE: NGUYEN TRAI PROFILE(3)			Rev No.
			DRAWING No. NG-RD-0103	SCALE V=1:500 S=1:2000		



CHAINAGE	0+1900	0+2000	EP
FINISHED LEVEL	2.065		
GROUND LEVEL	2.111 2.140	2.120 2.090 1.960 1.950 1.810 2.140	2.140 2.150 2.160 2.140 2.140 2.150
HORIZONTAL ALIGNMENT	BC	L=140.058 R=7025	EC R=8 L=78.044
VERTICAL ALIGNMENT	EVCE		
SUPERELEVATION		2.0%	

PROJECT: PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT

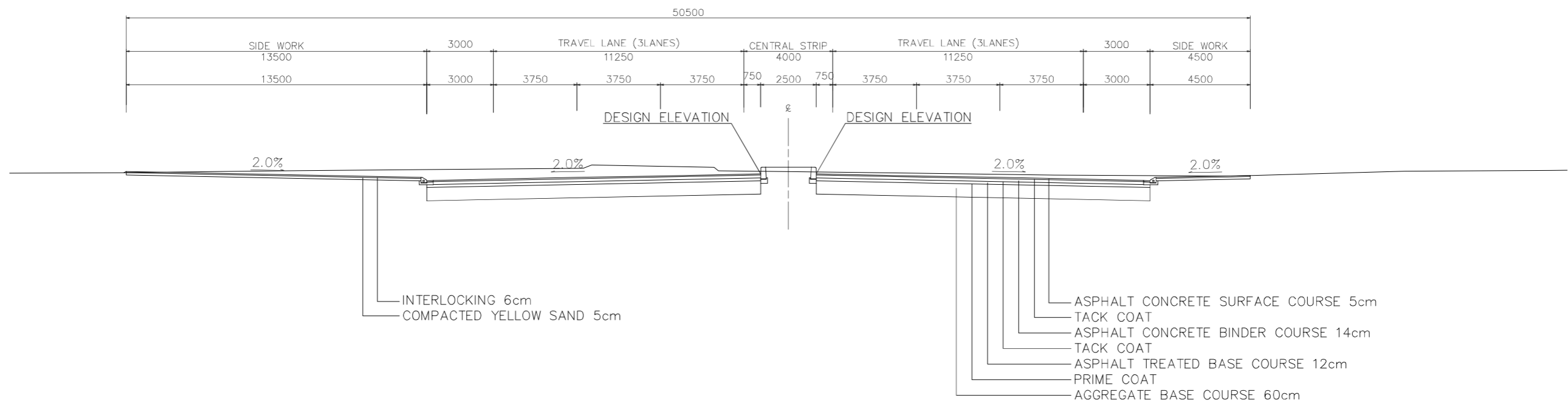


JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
 CONSULTANTS: JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.

DRAWING TITLE: NGUYEN TRAI PROFILE(4)
 DRAWING No. NG-RD-0104 SCALE V=1:500 S=1:2000

Rev No.

TYPICAL CROSS SECTION-1
NGUYEN TRAI BRIDGE APPROARCH SECTION



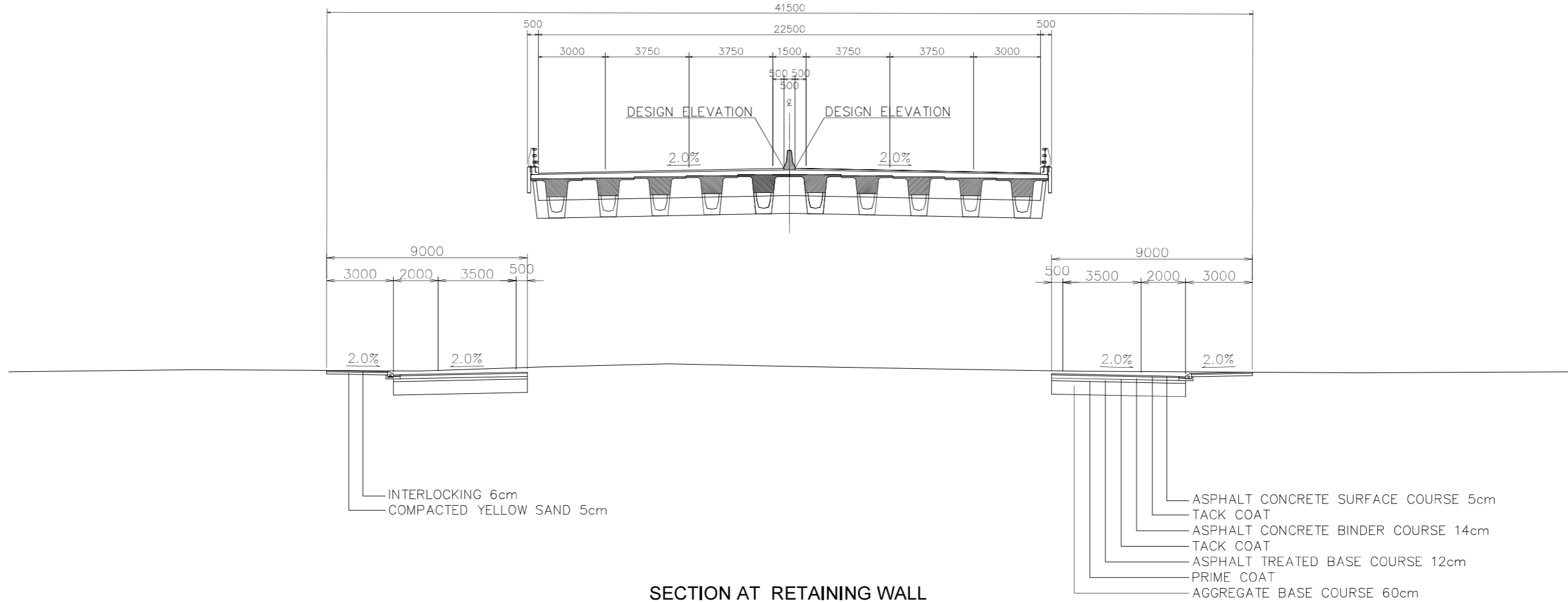
PROJECT: **PREPARATORY SURVEY
ON
HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT**



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS: **JOINT VENTURE OF
CHODAI CO.,LTD.
ORIENTAL CONSULTANTS GLOBAL CO.,LTD.
ALMEC VPI CO.,LTD.**

DRAWING TITLE: NGUYEN TRAI TYPICAL CROSS SECTION(1)				Rev No.
DRAWING No.	NG-RD-0201	SCALE	S=1:200	

TYPICAL CROSS SECTION-2
NGUYEN TRAI BRIDGE APPROACH SECTION



INTERLOCKING 6cm
COMPACTED YELLOW SAND 5cm

ASPHALT CONCRETE SURFACE COURSE 5cm
TACK COAT
ASPHALT CONCRETE BINDER COURSE 14cm
TACK COAT
ASPHALT TREATED BASE COURSE 12cm
PRIME COAT
AGGREGATE BASE COURSE 60cm

ASPHALT CONCRETE SURFACE COURSE 5cm
TACK COAT
ASPHALT CONCRETE BINDER COURSE 14cm
TACK COAT
ASPHALT TREATED BASE COURSE 12cm
PRIME COAT
AGGREGATE BASE COURSE 60cm
SUB GRADE 30cm

PROJECT: **PREPARATORY SURVEY
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ALMEC VPI CO.,LTD.**

DRAWING TITLE: **NGUYEN TRAI
TYPICAL CROSS SECTION(2)**

Rev No.

DRAWING No.	NG-RD-0202	SCALE	S=1:200
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STAKE: H5
Km: 1+500.00

km: 01+500.00		
C	m3/m	10.3
B1	m3/m	0.0
C LL	m2/m	0.0
C RL	m2/m	0.0
B LL	m2/m	0.0
B RL	m2/m	0.0

FINISHED LEVEL	DL=0.0													
SINGLE DISTANCE			3.00	6.00	0.50	10.5	0.50	0.50	0.50	10.5	0.50	6.00	3.00	
GROUND LEVEL	2.30	2.32	2.34	2.35	2.34	2.32	2.47	2.53	2.58	2.62	2.73	2.83	2.81	2.80
DISTANCE		6.81	6.85	3.60	4.75	4.85	0.54	2.59	4.50	4.28	5.45	5.33	4.33	4.09

PROJECT:
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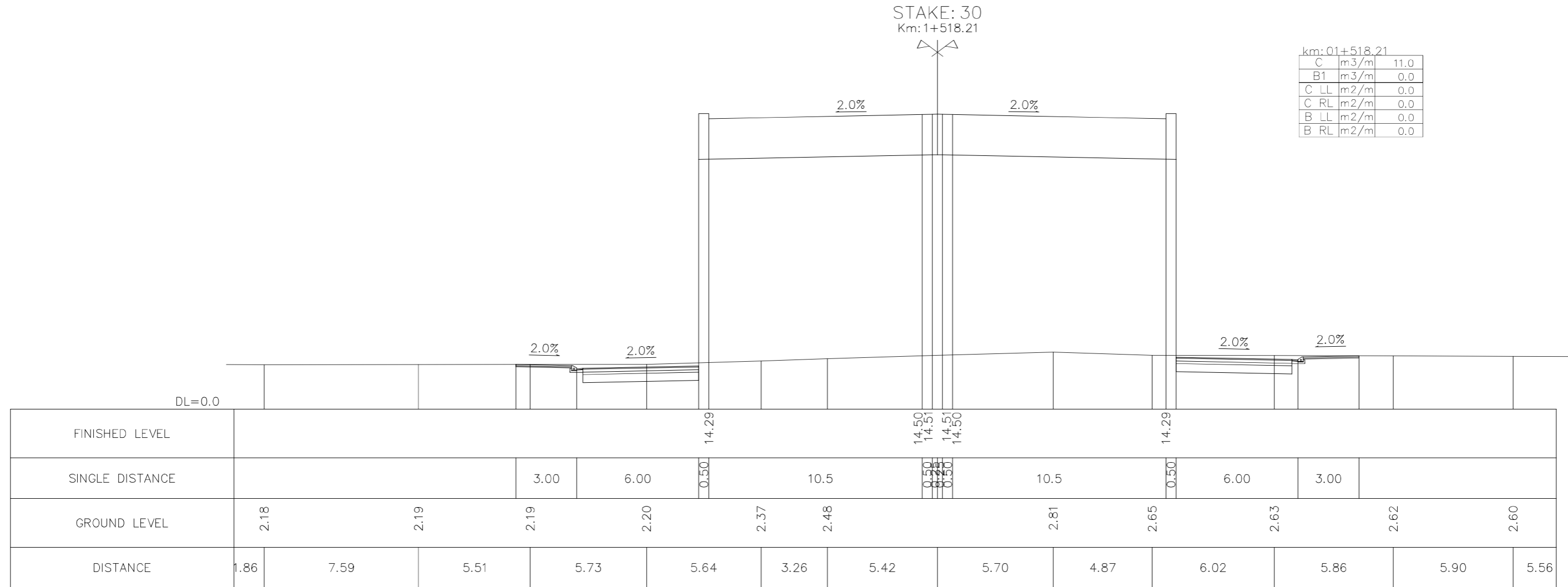
DRAWING TITLE:
**NGUYEN TRAI
CROSS SECTION(1)**

Rev No.

DRAWING No.	NG-RD-0301	SCALE	S=1:200
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STAKE: 30
Km: 1+518.21

km: 01+518.21		
C	m3/m	11.0
B1	m3/m	0.0
C LL	m2/m	0.0
C RL	m2/m	0.0
B LL	m2/m	0.0
B RL	m2/m	0.0



PROJECT: **PREPARATORY SURVEY
ON
HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT**

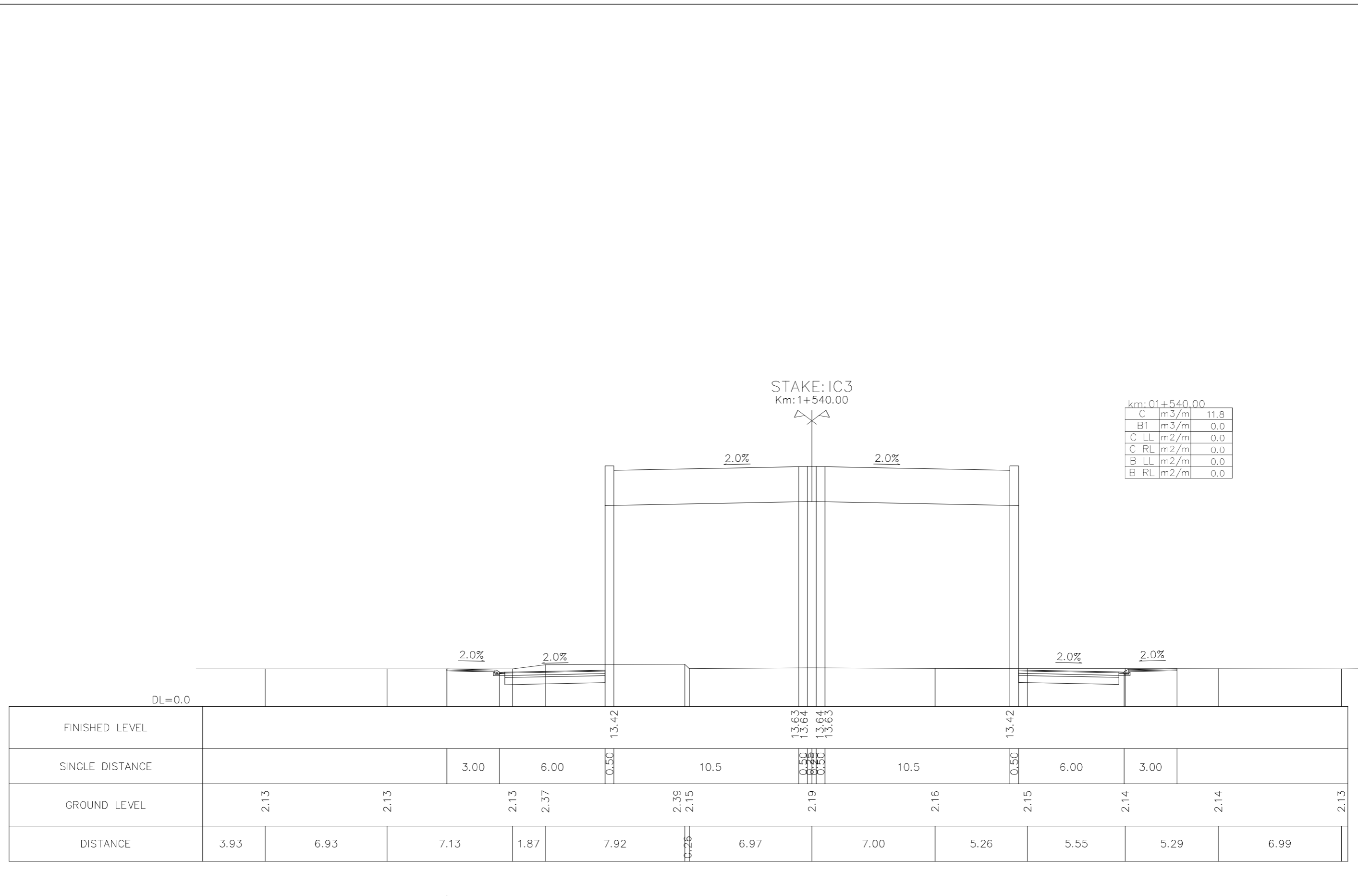



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS: **JOINT VENTURE OF
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ORIENTAL CONSULTANTS GLOBAL CO.,LTD.
ALMEC VPI CO.,LTD.**

DRAWING TITLE: **NGUYEN TRAI
CROSS SECTION(2)**

Rev No.

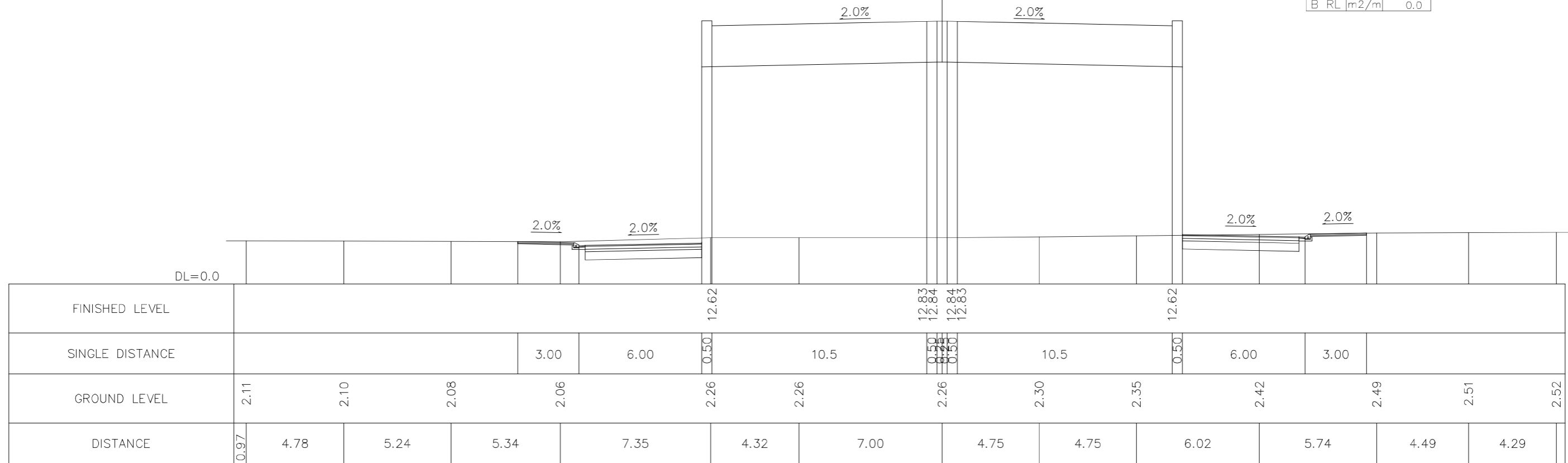
DRAWING No.	NG-RD-0302	SCALE	S=1:200
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PROJECT: PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT		JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) CONSULTANTS: JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.	DRAWING TITLE: NGUYEN TRAI CROSS SECTION(3)				Rev No.
			DRAWING No. NG-RD-0303	SCALE S=1:200			

STAKE: 34
Km: 1+560.00

km: 01+560.00		
C	m3/m	10.9
B1	m3/m	0.0
C LL	m2/m	0.0
C RL	m2/m	0.0
B LL	m2/m	0.0
B RL	m2/m	0.0



PROJECT: **PREPARATORY SURVEY
ON
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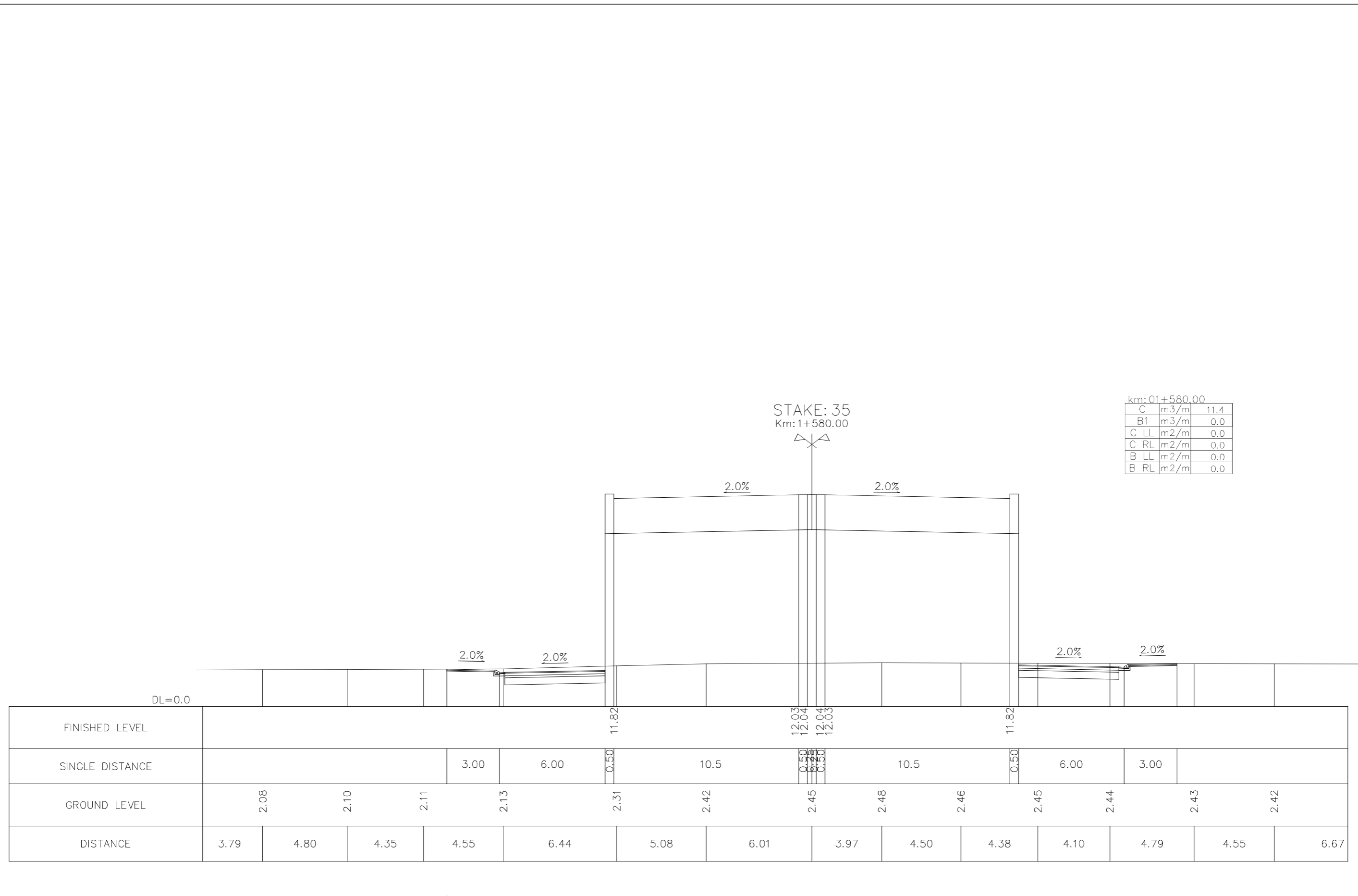


JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS: **JOINT VENTURE OF
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ORIENTAL CONSULTANTS GLOBAL CO.,LTD.
ALMEC VPI CO.,LTD.**

DRAWING TITLE: **NGUYEN TRAI
CROSS SECTION(4)**


Rev No.

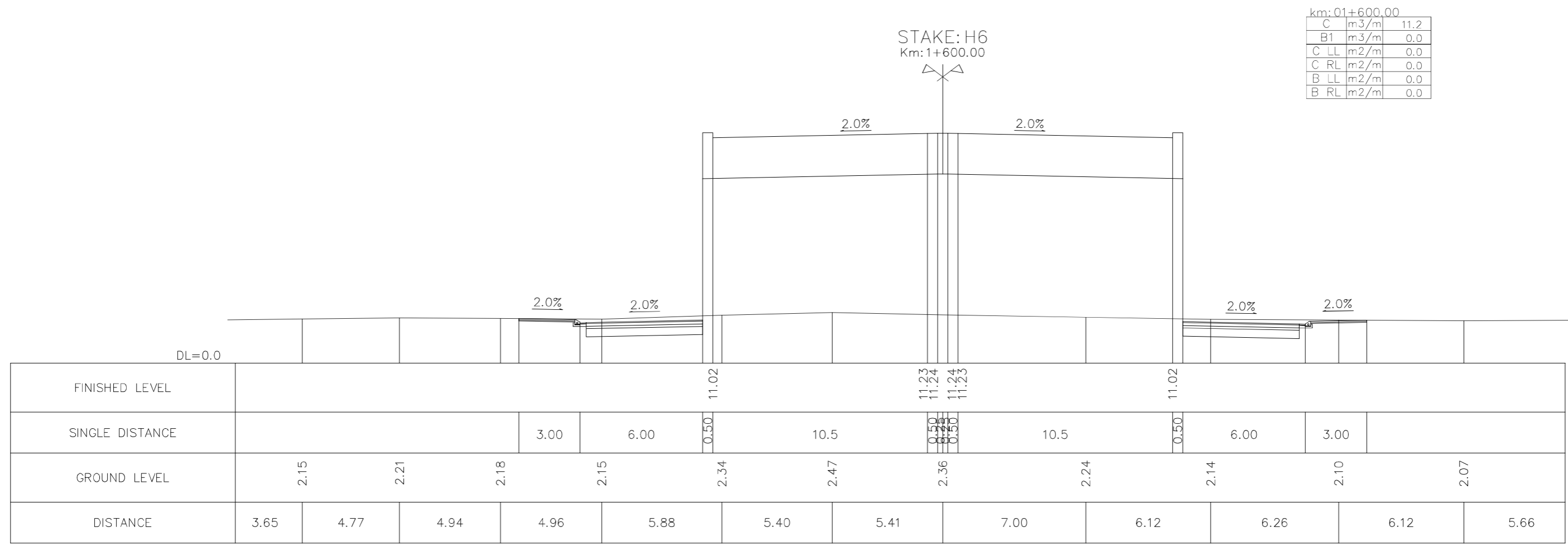
DRAWING No.	NG-RD-0304	SCALE	S=1:200
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km: 01+580.00


C	m3/m	11.4
B1	m3/m	0.0
C LL	m2/m	0.0
C RL	m2/m	0.0
B LL	m2/m	0.0
B RL	m2/m	0.0

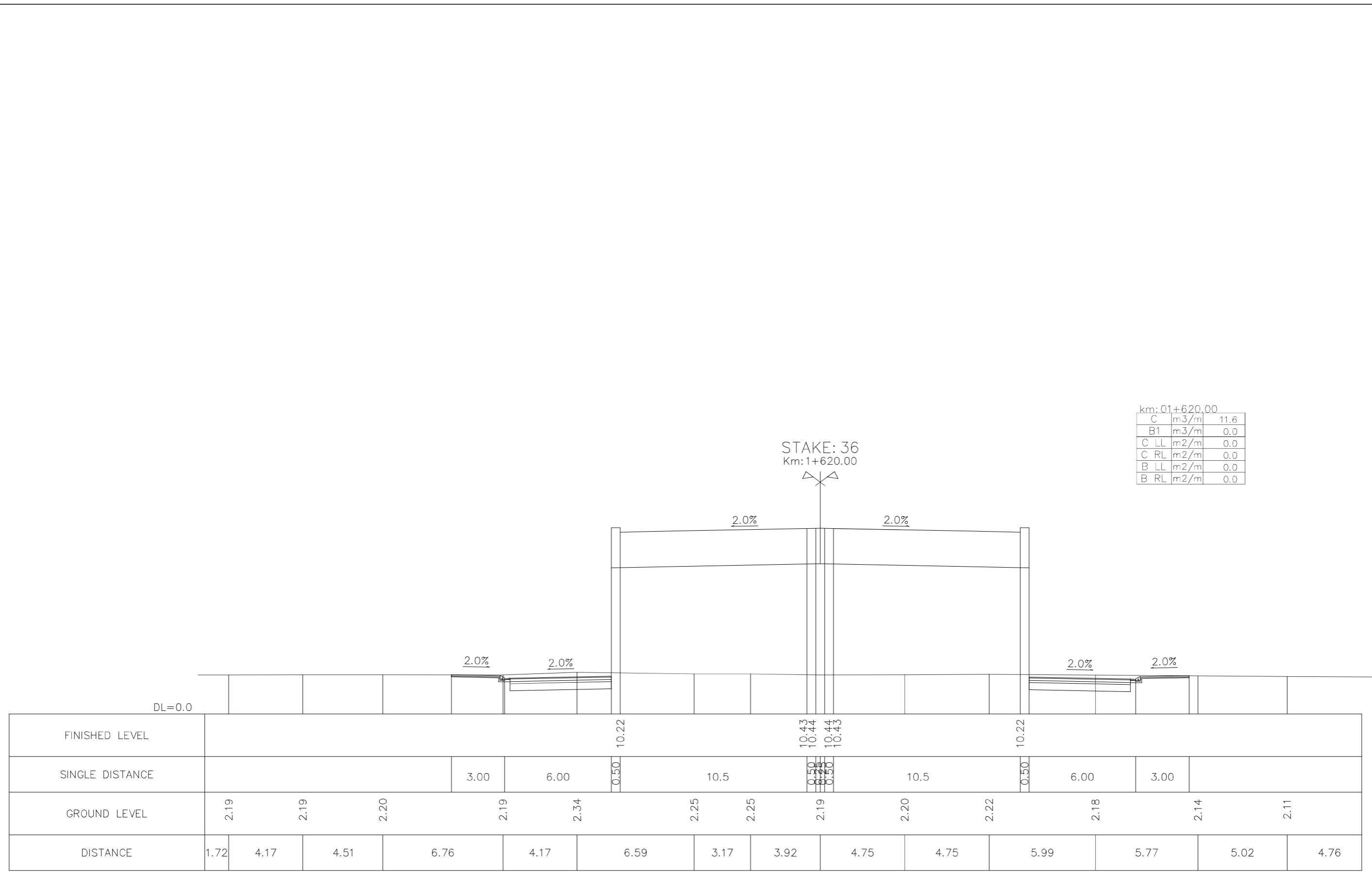
PROJECT: PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT		JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	DRAWING TITLE: NGUYEN TRAI CROSS SECTION(5)		Rev No.
		CONSULTANTS: JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.	DRAWING No. NG-RD-0305	SCALE S=1:200	




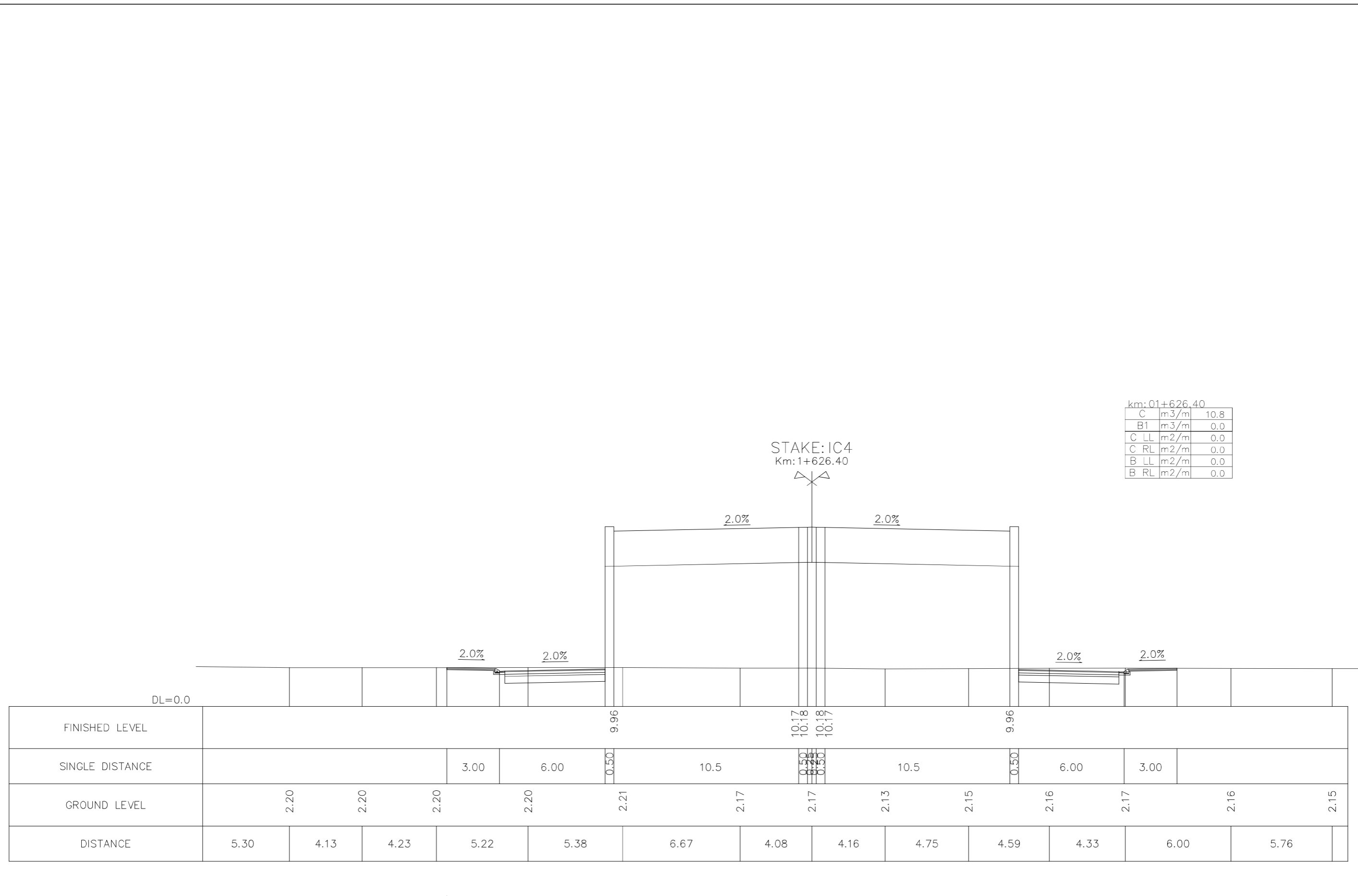
km: 01+600.00

C	m3/m	11.2
B1	m3/m	0.0
C LL	m2/m	0.0
C RL	m2/m	0.0
B LL	m2/m	0.0
B RL	m2/m	0.0

PROJECT: PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT		JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) CONSULTANTS: JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.	DRAWING TITLE: NGUYEN TRAI CROSS SECTION(6)				Rev No.
			DRAWING No. NG-RD-0306	SCALE S=1:200			




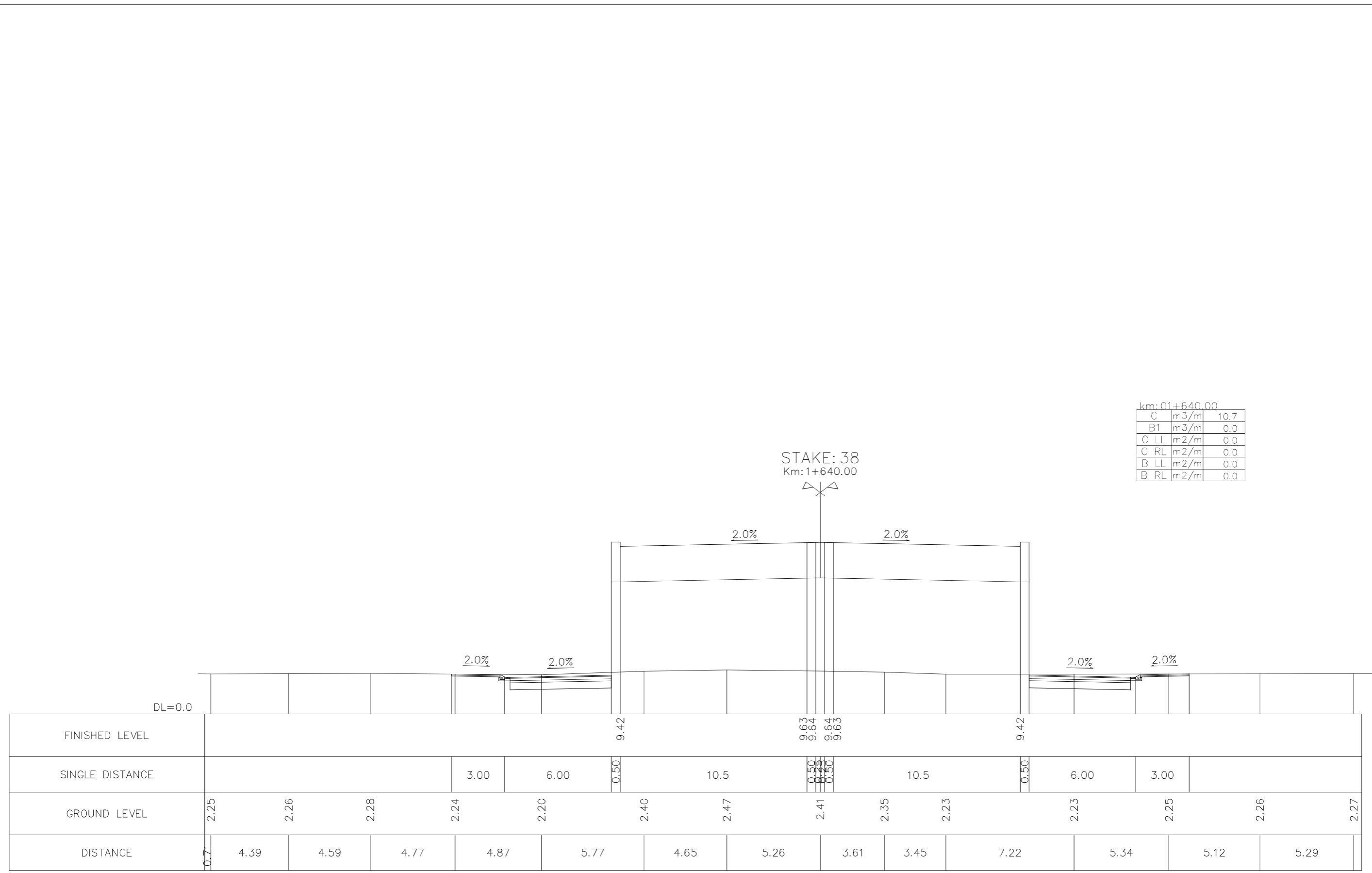
PROJECT: PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT		CONSULTANTS: JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.	DRAWING TITLE: NGUYEN TRAI CROSS SECTION(7)				Rev No.
			DRAWING No.	NG-RD-0307	SCALE	S=1:200	



km:01+626.40

C	m3/m	10.8
B1	m3/m	0.0
C LL	m2/m	0.0
C RL	m2/m	0.0
B LL	m2/m	0.0
B RL	m2/m	0.0

PROJECT: PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT		JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) CONSULTANTS: JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.	DRAWING TITLE: NGUYEN TRAI CROSS SECTION(8)				Rev No.
			DRAWING No. NG-RD-0308	SCALE S=1:200			



km: 01+640.00

C	m3/m	10.7
B1	m3/m	0.0
C LL	m2/m	0.0
C RL	m2/m	0.0
B LL	m2/m	0.0
B RL	m2/m	0.0

STAKE: 38
Km: 1+640.00

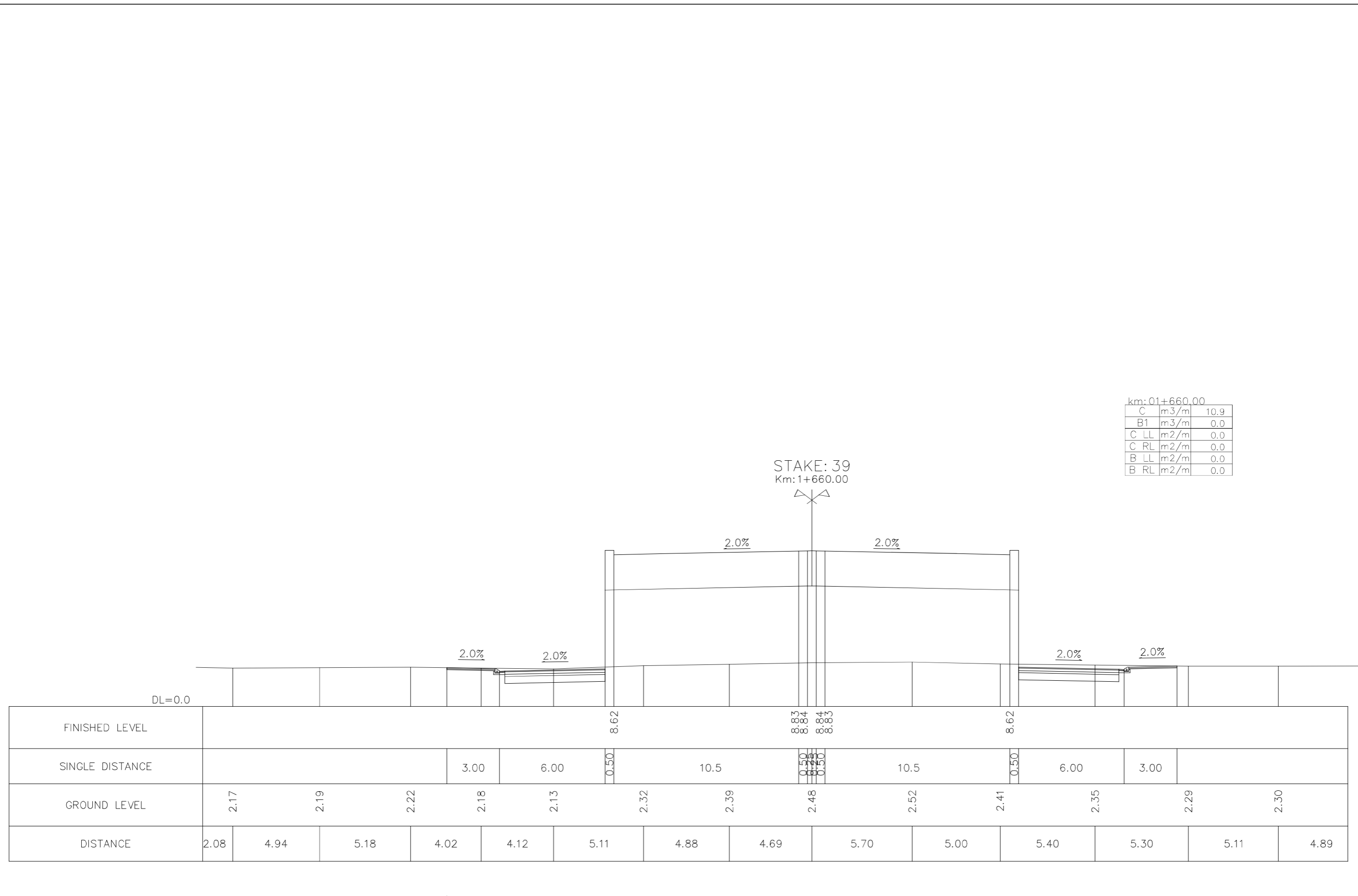
PROJECT: **PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT**




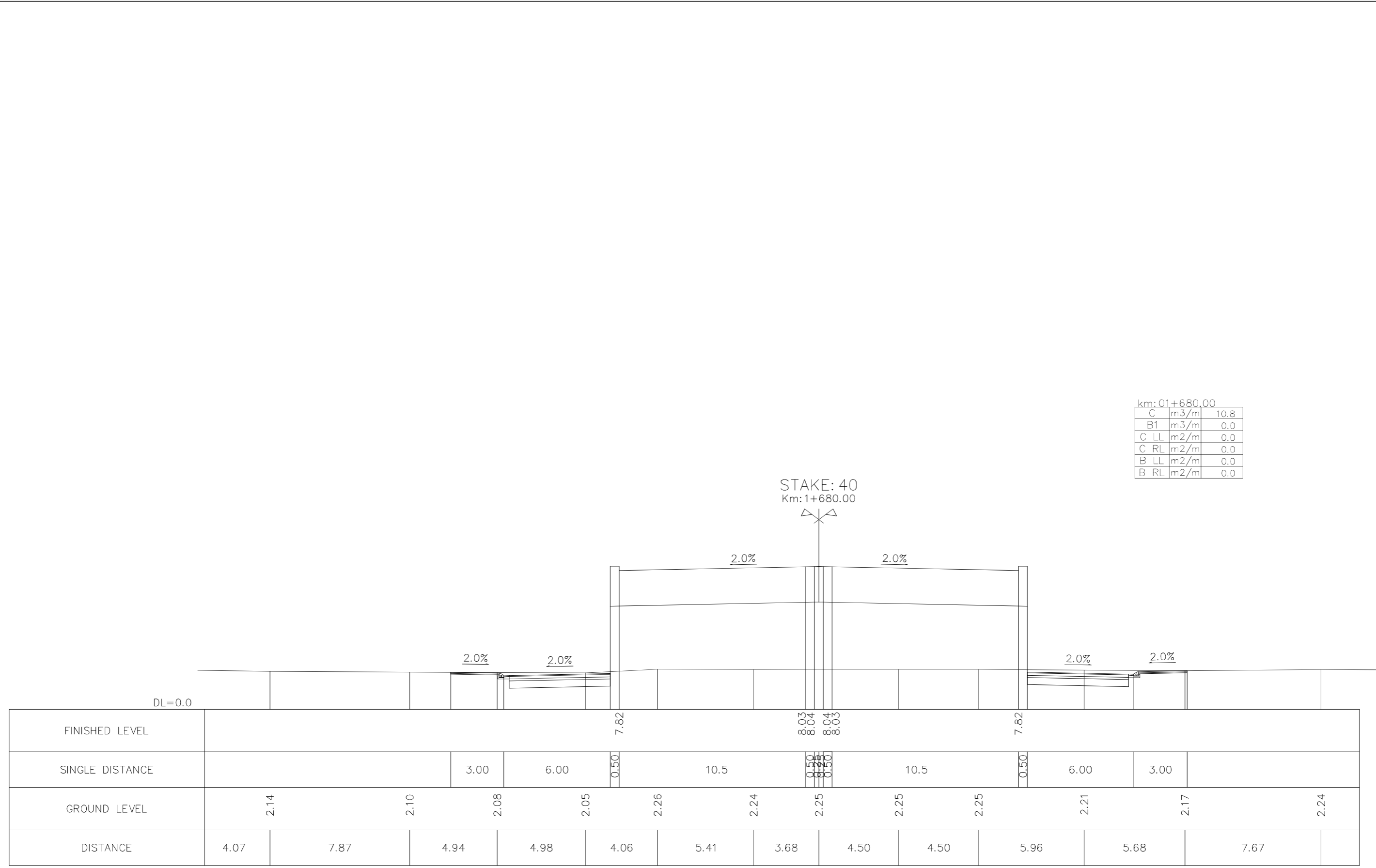
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS: **JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.**

DRAWING TITLE: **NGUYEN TRAI CROSS SECTION(9)**
DRAWING No. NG-RD-0309 SCALE S=1:200

Rev No.



PROJECT: PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT		CONSULTANTS: JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.	DRAWING TITLE: NGUYEN TRAI CROSS SECTION(10)				Rev No.
			DRAWING No.	NG-RD-0310	SCALE	S=1:200	



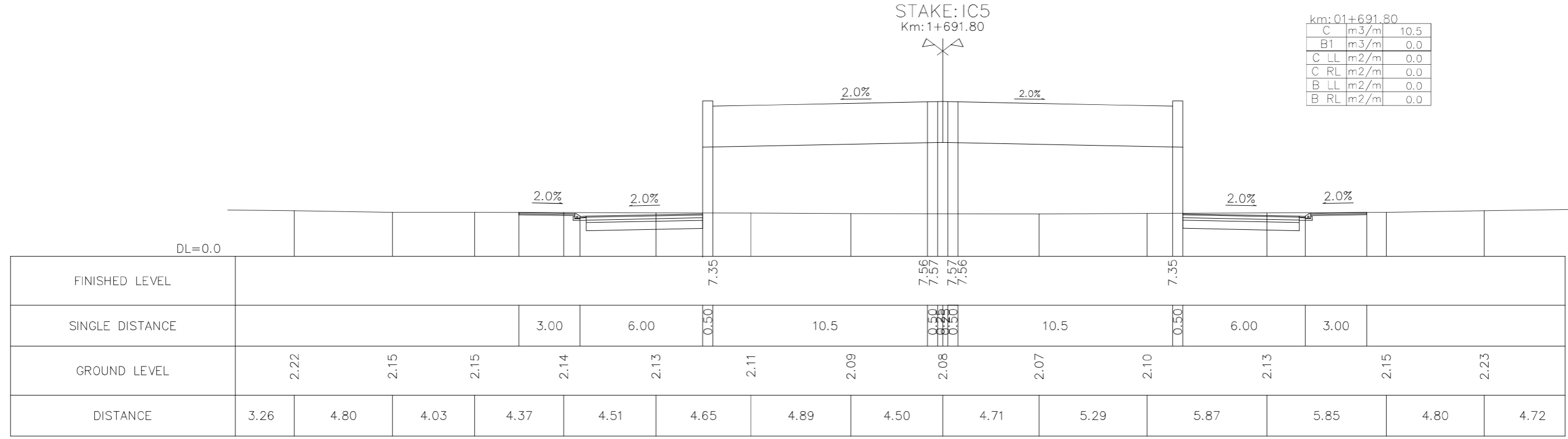
PROJECT: **PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT**



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
 CONSULTANTS: **JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.**


DRAWING TITLE: **NGUYEN TRAI CROSS SECTION(11)**
 DRAWING No. NG-RD-0311 SCALE S=1:200

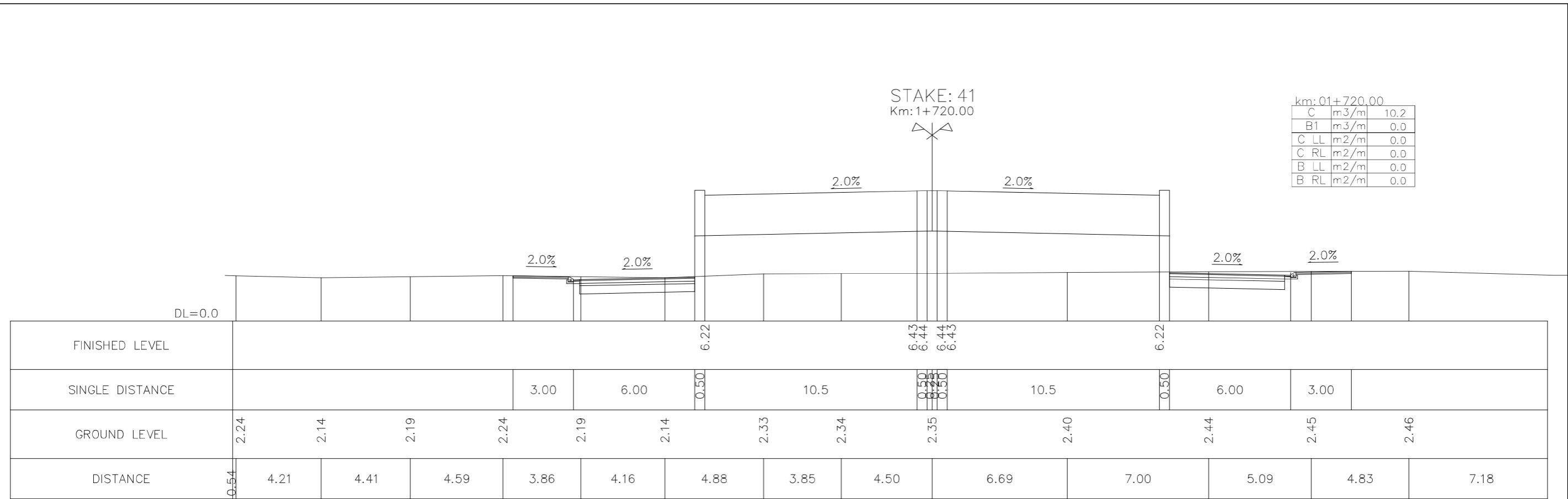
Rev No.



km: 01+691.80

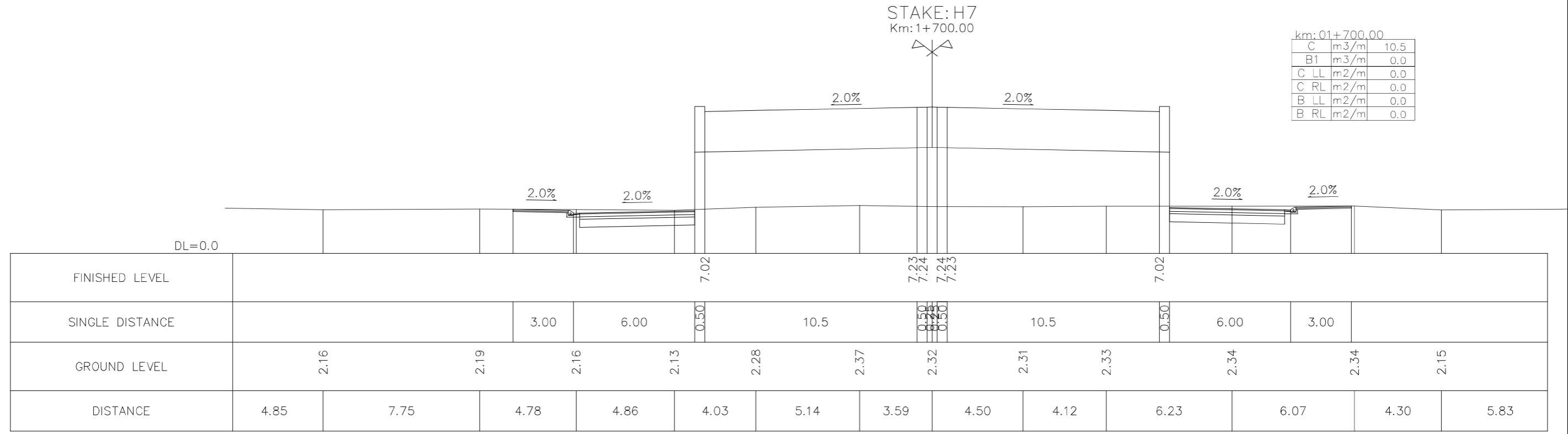
C	m3/m	10.5
B1	m3/m	0.0
C LL	m2/m	0.0
C RL	m2/m	0.0
B LL	m2/m	0.0
B RL	m2/m	0.0

PROJECT: PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT		JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) CONSULTANTS: JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.	DRAWING TITLE: NGUYEN TRAI CROSS SECTION(12)				Rev No.
			DRAWING No.	NG-RD-0312	SCALE	S=1:200	



km: 01+720.00

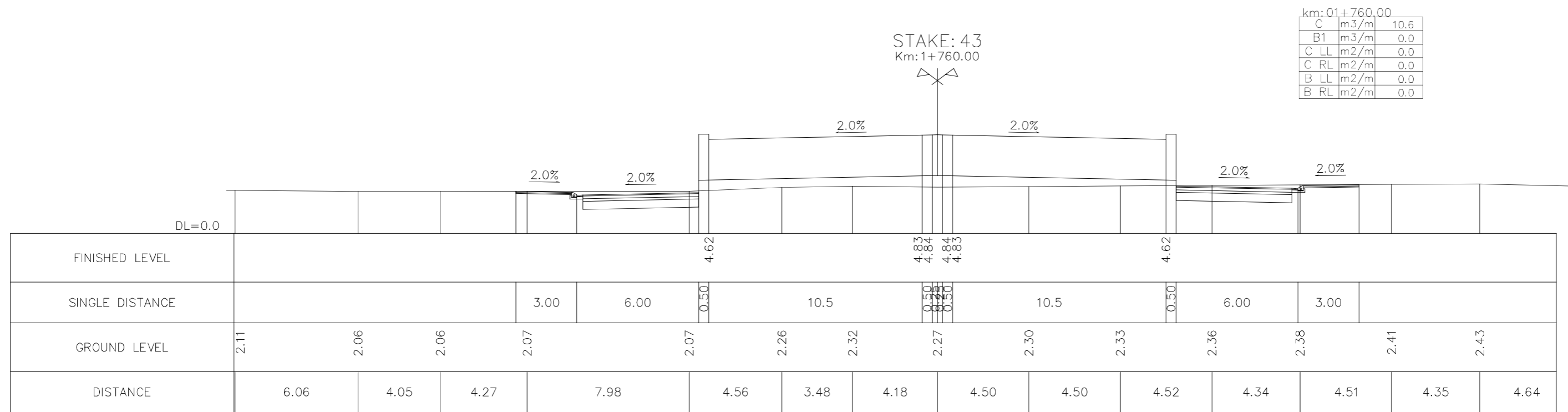
C	m3/m	10.2
B1	m3/m	0.0
C LL	m2/m	0.0
C RL	m2/m	0.0
B LL	m2/m	0.0
B RL	m2/m	0.0



km: 01+700.00

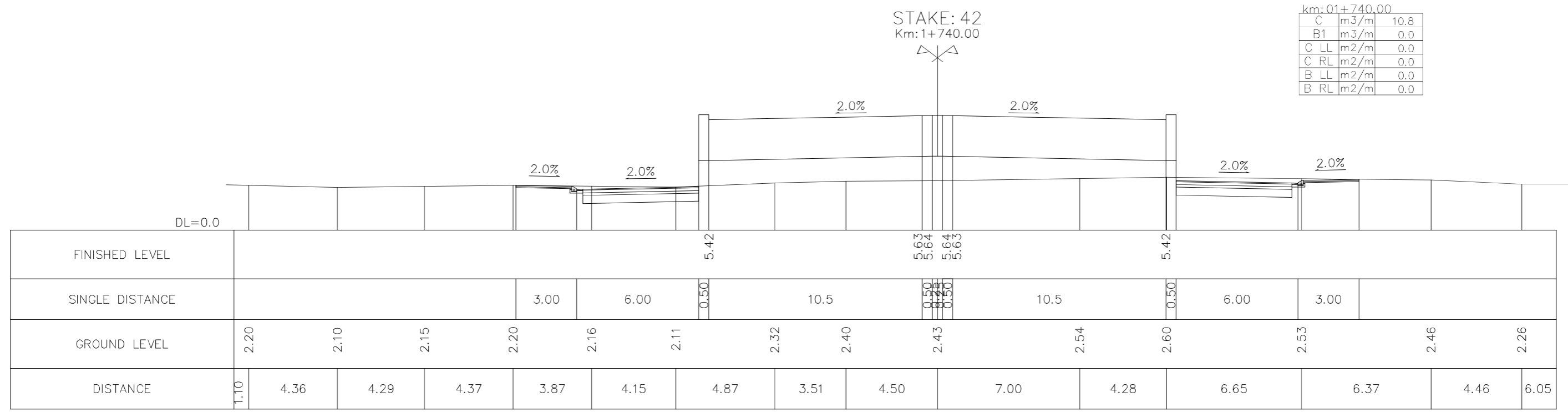
C	m3/m	10.5
B1	m3/m	0.0
C LL	m2/m	0.0
C RL	m2/m	0.0
B LL	m2/m	0.0
B RL	m2/m	0.0

PROJECT: PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT		JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) CONSULTANTS:	DRAWING TITLE:	Rev No.	
		JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.	NGUYEN TRAI CROSS SECTION(13)		
		DRAWING No.	NG-RD-0313	SCALE	S=1:200



km: 01+760.00

C	m3/m	10.6
B1	m3/m	0.0
C LL	m2/m	0.0
C RL	m2/m	0.0
B LL	m2/m	0.0
B RL	m2/m	0.0



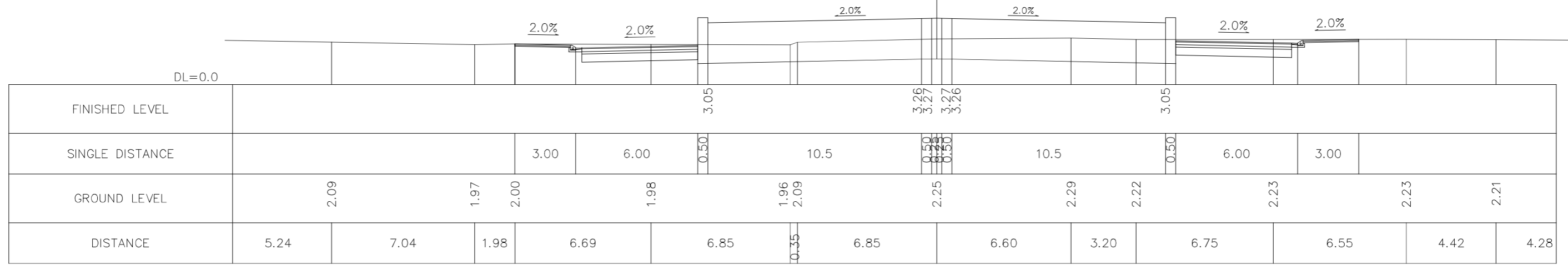
km: 01+740.00

C	m3/m	10.8
B1	m3/m	0.0
C LL	m2/m	0.0
C RL	m2/m	0.0
B LL	m2/m	0.0
B RL	m2/m	0.0

PROJECT: PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT		JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) CONSULTANTS: JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.	DRAWING TITLE: NGUYEN TRAI CROSS SECTION(14)	Rev No.
		DRAWING No. NG-RD-0314 SCALE S=1:200		

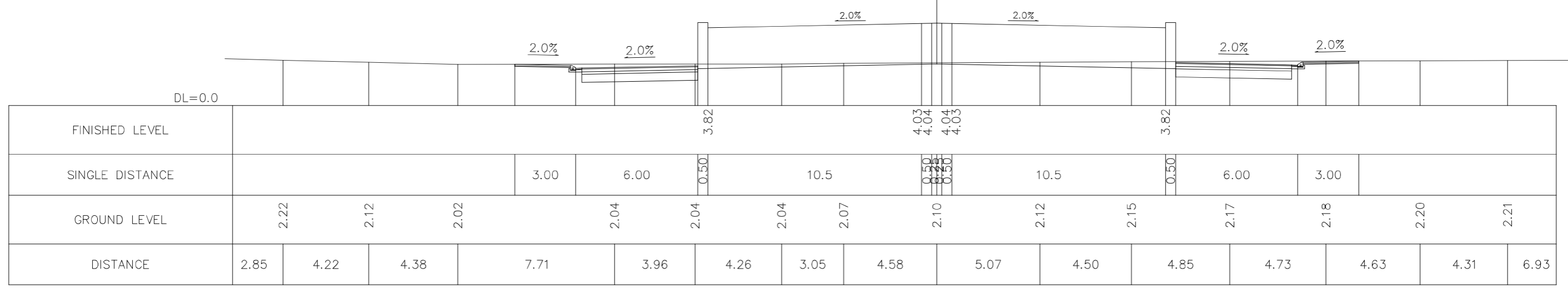
km: 01+800.00		
C	m ³ /m	10.7
B1	m ³ /m	0.0
C LL	m ² /m	0.0
C RL	m ² /m	0.0
B LL	m ² /m	0.0
B RL	m ² /m	0.0


STAKE: H8
Km: 1+800.00



km: 01+780.00		
C	m ³ /m	10.8
B1	m ³ /m	0.0
C LL	m ² /m	0.0
C RL	m ² /m	0.0
B LL	m ² /m	0.0
B RL	m ² /m	0.0

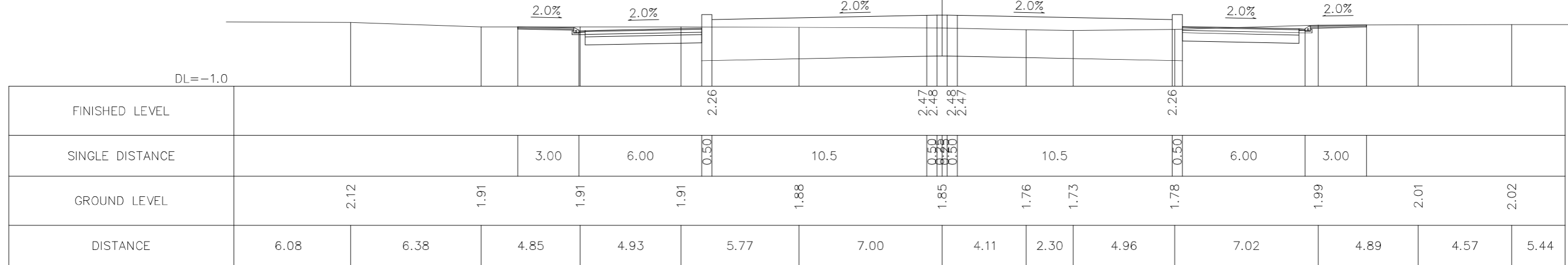
STAKE: IC6
Km: 1+780.00



PROJECT: PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT		CONSULTANTS: JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.	DRAWING TITLE: NGUYEN TRAI CROSS SECTION(15)		Rev No.
			DRAWING No.	NG-RD-0315	SCALE

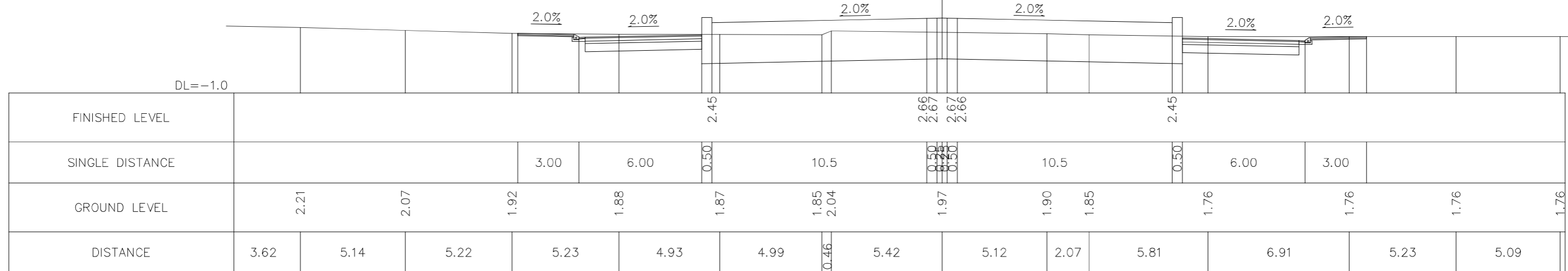
km: 01+828.00		
C	m3/m	10.1
B1	m3/m	0.0
C LL	m2/m	0.0
C RL	m2/m	0.0
B LL	m2/m	0.0
B RL	m2/m	0.0

STAKE: IC7
Km: 1+828.00



km: 01+820.00		
C	m3/m	10.5
B1	m3/m	0.0
C LL	m2/m	0.0
C RL	m2/m	0.0
B LL	m2/m	0.0
B RL	m2/m	0.0

STAKE: 48
Km: 1+820.00



PROJECT: **PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT**



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS: **JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.**

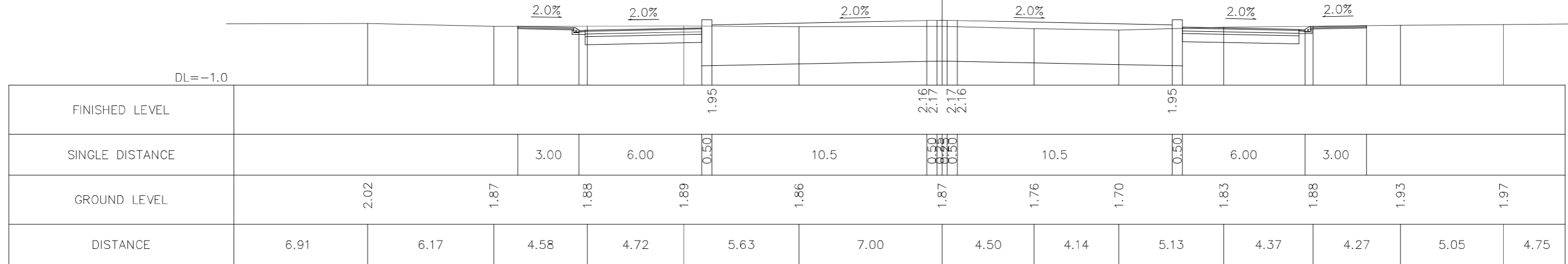
DRAWING TITLE: **NGUYEN TRAI CROSS SECTION(16)**

Rev No.

DRAWING No.	NG-RD-0316	SCALE	S=1:200
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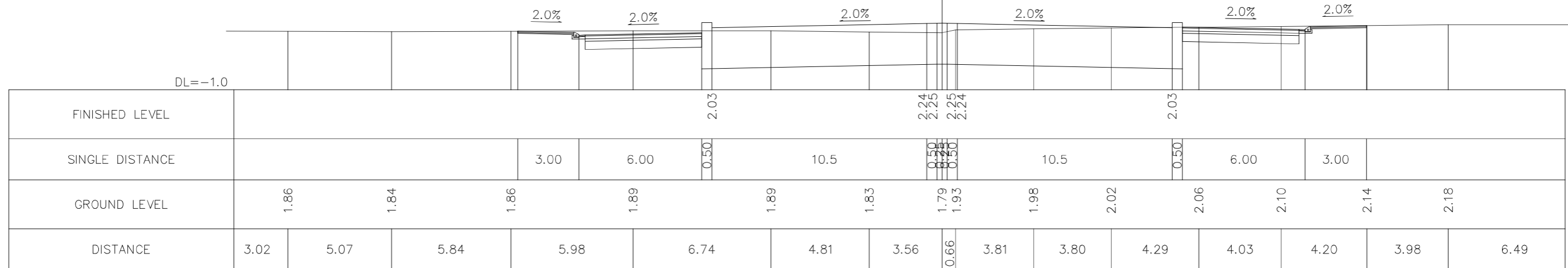
km:01+847.00		
C	m3/m	10.4
B1	m3/m	0.0
C LL	m2/m	0.0
C RL	m2/m	0.0
B LL	m2/m	0.0
B RL	m2/m	0.0

STAKE: IC8
Km: 1+847.00



km:01+840.74		
C	m3/m	10.5
B1	m3/m	0.0
C LL	m2/m	0.0
C RL	m2/m	0.0
B LL	m2/m	0.0
B RL	m2/m	0.0

STAKE: 54
Km: 1+840.74



PROJECT: **PREPARATORY SURVEY
ON
HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT**



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS: **JOINT VENTURE OF
CHODAI CO.,LTD.
ORIENTAL CONSULTANTS GLOBAL CO.,LTD.
ALMEC VPI CO.,LTD.**

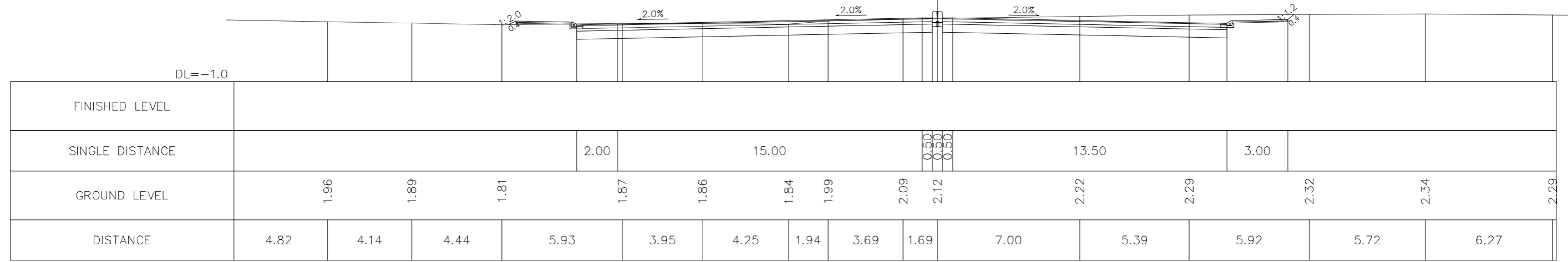
DRAWING TITLE: **NGUYEN TRAI
CROSS SECTION(17)**

Rev No.

DRAWING No.	NG-RD-0317	SCALE	S=1:200
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km: 01+880.00		
C	m3/m	25.8
B1	m3/m	0.1
C LL	m2/m	0.0
C RL	m2/m	0.4
B LL	m2/m	0.4
B RL	m2/m	0.0

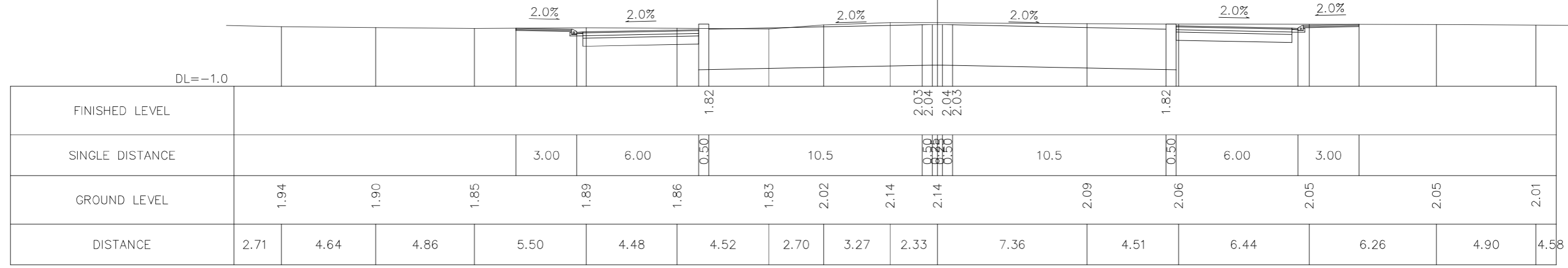
STAKE: 58
Km: 1+880.00




FINISHED LEVEL															
SINGLE DISTANCE				2.00		15.00				13.50		3.00			
GROUND LEVEL		1.96	1.89	1.81	1.87	1.86	1.84	1.99	2.09	2.12	2.22	2.29	2.32	2.34	2.29
DISTANCE	4.82	4.14	4.44	5.93	3.95	4.25	1.94	3.69	1.69	7.00	5.39	5.92	5.72	6.27	

km: 01+865.17		
C	m3/m	10.9
B1	m3/m	0.0
C LL	m2/m	0.0
C RL	m2/m	0.0
B LL	m2/m	0.0
B RL	m2/m	0.0

STAKE: TD2
Km: 1+865.17

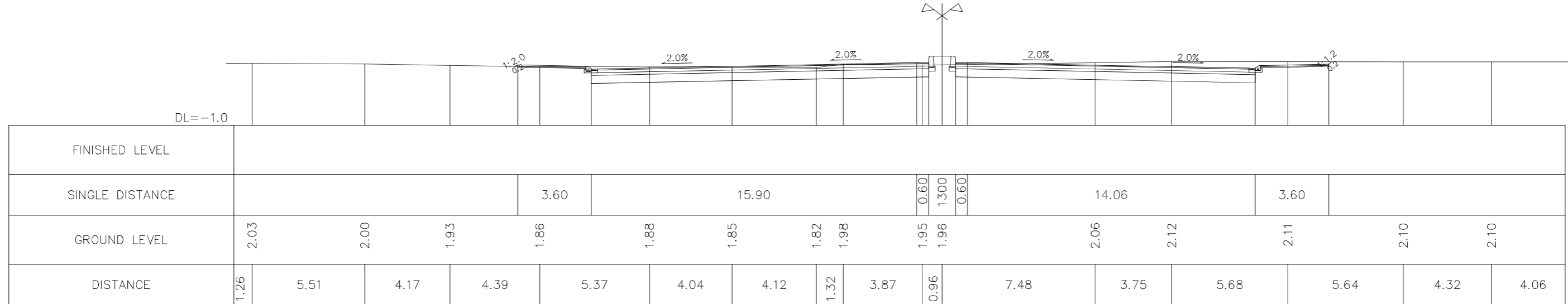


FINISHED LEVEL					1.82							1.82			
SINGLE DISTANCE				3.00	6.00	0.50		10.5				10.5	0.50	6.00	3.00
GROUND LEVEL	1.94	1.90	1.85	1.89	1.86	1.83	2.02	2.14	2.14	2.09	2.06	2.05	2.05	2.01	
DISTANCE	2.71	4.64	4.86	5.50	4.48	4.52	2.70	3.27	2.33	7.36	4.51	6.44	6.26	4.90	4.58

PROJECT: PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT		CONSULTANTS: JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.	DRAWING TITLE: NGUYEN TRAI CROSS SECTION(18)		Rev No.
			DRAWING No.	NG-RD-0318	SCALE

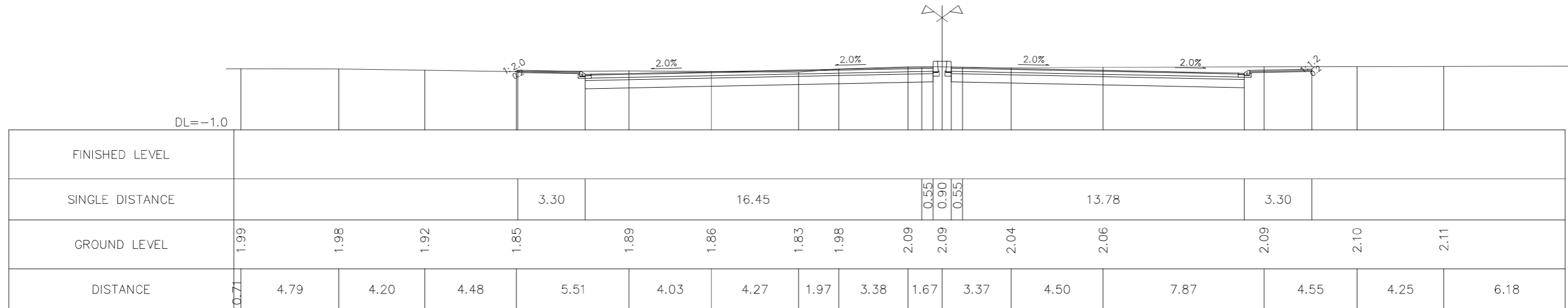
km: 01+920.00		
C	m3/m	25.0
B1	m3/m	0.3
C LL	m2/m	0.0
C RL	m2/m	0.2
B LL	m2/m	0.2
B RL	m2/m	0.0

STAKE: 77
Km: 1+920.00



km: 01+900.00		
C	m3/m	26.3
B1	m3/m	0.1
C LL	m2/m	0.0
C RL	m2/m	0.2
B LL	m2/m	0.2
B RL	m2/m	0.0

STAKE: H9
Km: 1+900.00



PROJECT: **PREPARATORY SURVEY
ON
HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT**



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS: **JOINT VENTURE OF
CHODAI CO.,LTD.
ORIENTAL CONSULTANTS GLOBAL CO.,LTD.
ALMEC VPI CO.,LTD.**

DRAWING TITLE: **NGUYEN TRAI
CROSS SECTION(19)**

Rev No.

DRAWING No.	NG-RD-0319	SCALE	S=1:200
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km: 01+940.00		
C	m3/m	24.7
B1	m3/m	0.5
C LL	m2/m	0.0
C RL	m2/m	0.1
B LL	m2/m	0.2
B RL	m2/m	0.0

STAKE: 59
Km: 1+940.00



DL=-1.0

FINISHED LEVEL																
SINGLE DISTANCE				3.90		15.35		6.50	17.00	6.50		14.34		3.90		
GROUND LEVEL	1.98	1.85	1.84	1.83	1.82		1.83	1.98	1.95	1.95		1.91	1.98	2.00	2.02	2.04
DISTANCE	4.43	4.14	4.66	4.88	3.79	7.96	0.45	4.65	0.06	5.01	4.92	5.05	4.79	5.80	5.68	

km: 01+935.20		
C	m3/m	24.6
B1	m3/m	0.5
C LL	m2/m	0.0
C RL	m2/m	0.1
B LL	m2/m	0.1
B RL	m2/m	0.0

STAKE: PG2
Km: 1+935.20



DL=-1.0

FINISHED LEVEL																
SINGLE DISTANCE				3.83		15.48		6.38	16.04	6.38		14.27		3.83		
GROUND LEVEL	1.99	1.92	1.84	1.85	1.84		1.83	1.98	1.95	1.95		1.98	2.00	2.03	2.05	2.09
DISTANCE	6.85	4.68	4.78	4.30	4.39	4.67	0.59	4.51	0.25	4.75	4.75	5.90	5.86	5.58	5.40	

PROJECT: **PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT**



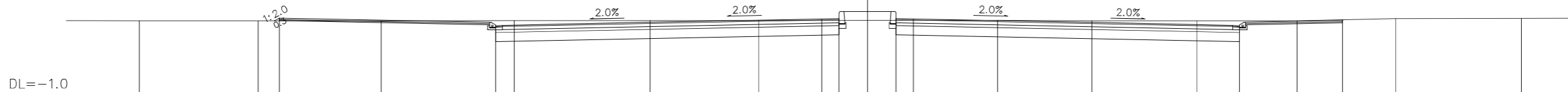
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS: **JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.**

DRAWING TITLE: **NGUYEN TRAI CROSS SECTION(20)**
DRAWING No. **NG-RD-0320** SCALE **S=1:200**

Rev No.

km: 01+980.00		
C	m3/m	24.8
B1	m3/m	0.8
C LL	m2/m	0.0
C RL	m2/m	0.0
B LL	m2/m	0.3
B RL	m2/m	0.0

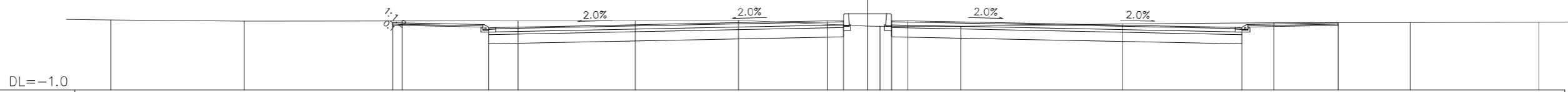
STAKE: 62
Km: 1+980.00




DL=-1.0																	
FINISHED LEVEL																	
SINGLE DISTANCE			9.44		14.25	750	2.50	750		14.25		4.50					
GROUND LEVEL	2.12	2.12	2.12		2.12		2.13	2.13		2.14		2.14	2.12	2.12	2.12	2.22	2.23
DISTANCE	3.18	5.21	5.37	5.82	5.94	4.75	4.75	5.68	4.12	4.59	4.39	4.31	5.49	5.51			

km: 01+960.00		
C	m3/m	25.1
B1	m3/m	0.9
C LL	m2/m	0.1
C RL	m2/m	0.0
B LL	m2/m	0.0
B RL	m2/m	0.0

STAKE: 60
Km: 1+960.00

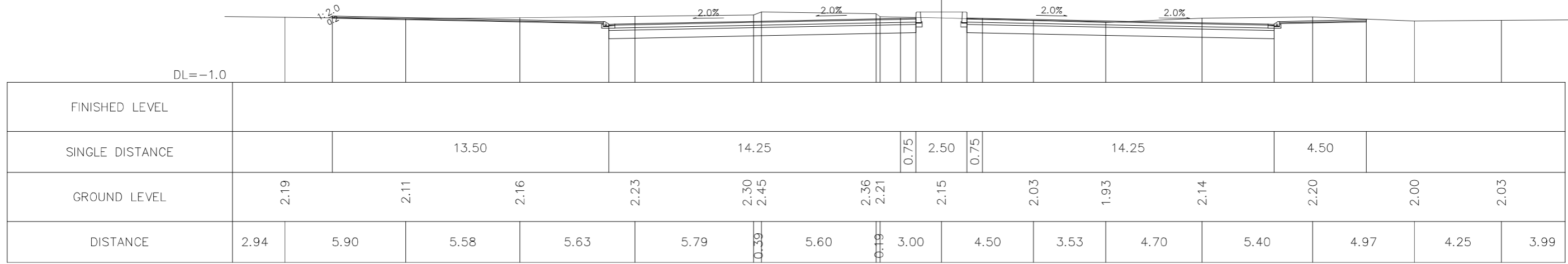


DL=-1.0																
FINISHED LEVEL																
SINGLE DISTANCE			4.20		14.80	700	21.00	700		14.61		4.20				
GROUND LEVEL	2.08	2.02	2.03		2.03		2.04	2.06		1.80	1.80		1.90	1.95	1.97	1.98
DISTANCE	1.93	5.83	6.91	5.07	5.13	4.50	5.64	0.54	3.53	7.07	6.62	5.95	5.63	5.36		

PROJECT: PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT		JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) CONSULTANTS: JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.	DRAWING TITLE: NGUYEN TRAI CROSS SECTION(21)		Rev No.
			DRAWING No. NG-RD-0321	SCALE S=1:200	

km: 02+5.23		
C	m3/m	30.6
B1	m3/m	0.6
C LL	m2/m	0.0
C RL	m2/m	0.0
B LL	m2/m	0.2
B RL	m2/m	0.0

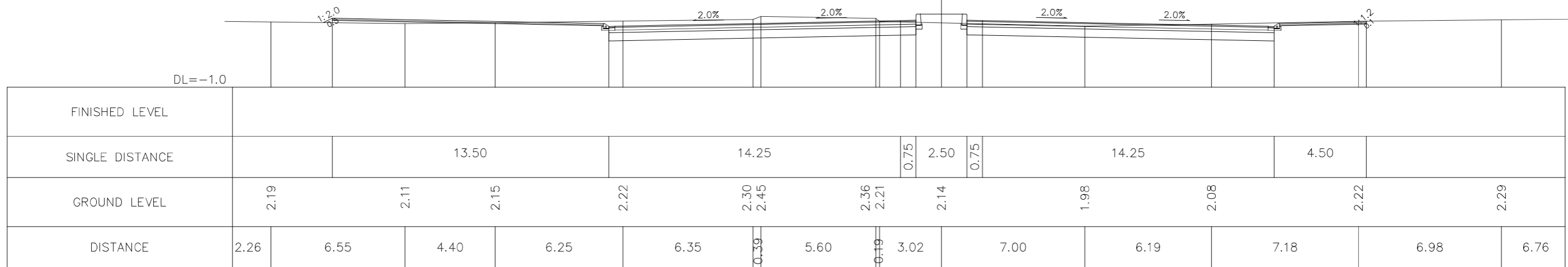
STAKE: TC2
Km: 2+5.23



DL=-1.0																		
FINISHED LEVEL																		
SINGLE DISTANCE		13.50			14.25			0.75	2.50	0.75	14.25			4.50				
GROUND LEVEL	2.19		2.11	2.16		2.23	2.30	2.45	2.36	2.21	2.15		2.03	1.93	2.14	2.20	2.00	2.03
DISTANCE	2.94	5.90	5.58	5.63	5.79	0.39	5.60	0.19	3.00	4.50	3.53	4.70	5.40	4.97	4.25	3.99		

km: 02+0.00		
C	m3/m	25.0
B1	m3/m	1.4
C LL	m2/m	0.0
C RL	m2/m	0.1
B LL	m2/m	0.5
B RL	m2/m	0.0

STAKE: KM2
Km: 2+0.00



DL=-1.0																		
FINISHED LEVEL																		
SINGLE DISTANCE		13.50			14.25			0.75	2.50	0.75	14.25			4.50				
GROUND LEVEL	2.19		2.11	2.15		2.22	2.30	2.45	2.36	2.21	2.14		1.98	2.08	2.22	2.29		
DISTANCE	2.26	6.55	4.40	6.25	6.35	0.39	5.60	0.19	3.02	7.00	6.19	7.18	6.98	6.76				

PROJECT: **PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT**



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS: **JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.**

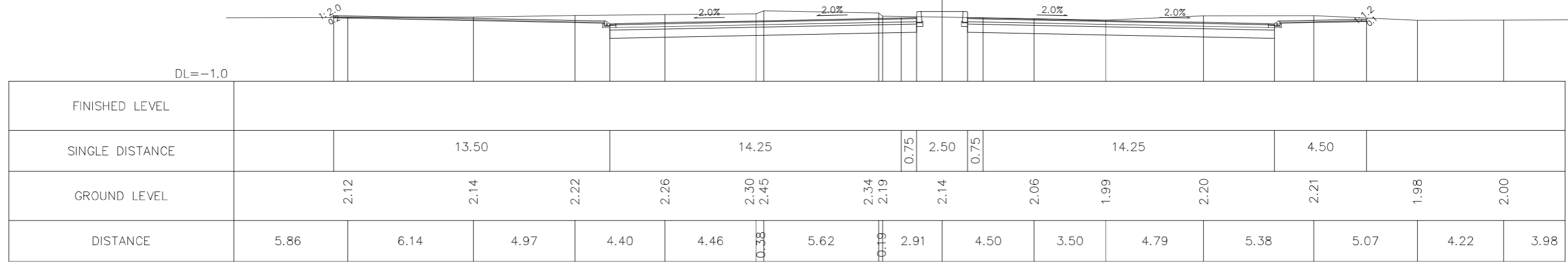
DRAWING TITLE: **NGUYEN TRAI CROSS SECTION(22)**

Rev No.

DRAWING No.	NG-RD-0322	SCALE	S=1:200
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km: 02+40.00		
C	m3/m	33.0
B1	m3/m	0.6
C LL	m2/m	0.0
C RL	m2/m	0.1
B LL	m2/m	0.2
B RL	m2/m	0.0

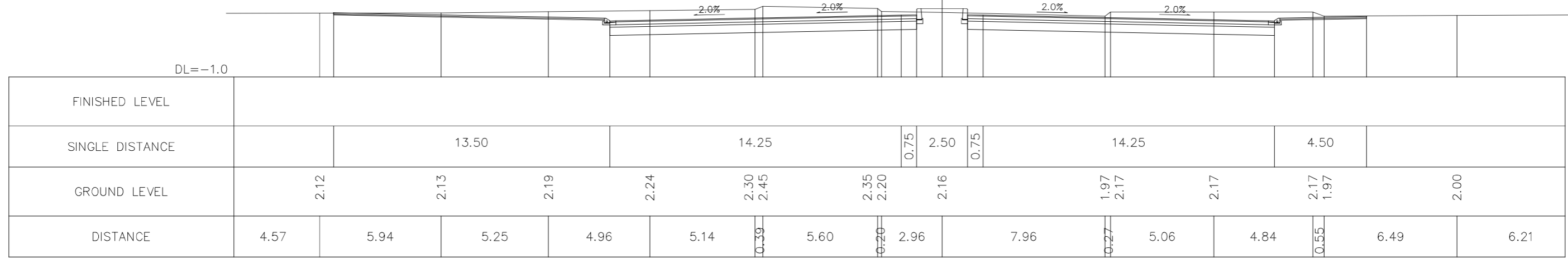
STAKE: 2
Km: 2+40.00



FINISHED LEVEL																		
SINGLE DISTANCE		13.50				14.25				0.75	2.50	0.75	14.25				4.50	
GROUND LEVEL		2.12	2.14	2.22	2.26	2.30	2.45	2.34	2.19	2.14	2.06	1.99	2.20	2.21	1.98	2.00		
DISTANCE	5.86	6.14	4.97	4.40	4.46	0.38	5.62	0.19	2.91	4.50	3.50	4.79	5.38	5.07	4.22	3.98		

km: 02+20.00		
C	m3/m	36.1
B1	m3/m	0.4
C LL	m2/m	0.0
C RL	m2/m	0.0
B LL	m2/m	0.0
B RL	m2/m	0.0

STAKE: 1
Km: 2+20.00



FINISHED LEVEL																		
SINGLE DISTANCE		13.50				14.25				0.75	2.50	0.75	14.25				4.50	
GROUND LEVEL		2.12	2.13	2.19	2.24	2.30	2.45	2.35	2.20	2.16		1.97	2.17	2.17	2.17	2.00		
DISTANCE	4.57	5.94	5.25	4.96	5.14	0.39	5.60	0.20	2.96	7.96	0.27	5.06	4.84	0.55	6.49	6.21		

PROJECT: **PREPARATORY SURVEY
ON
HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT**



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS: **JOINT VENTURE OF
CHODAI CO.,LTD.
ORIENTAL CONSULTANTS GLOBAL CO.,LTD.
ALMEC VPI CO.,LTD.**

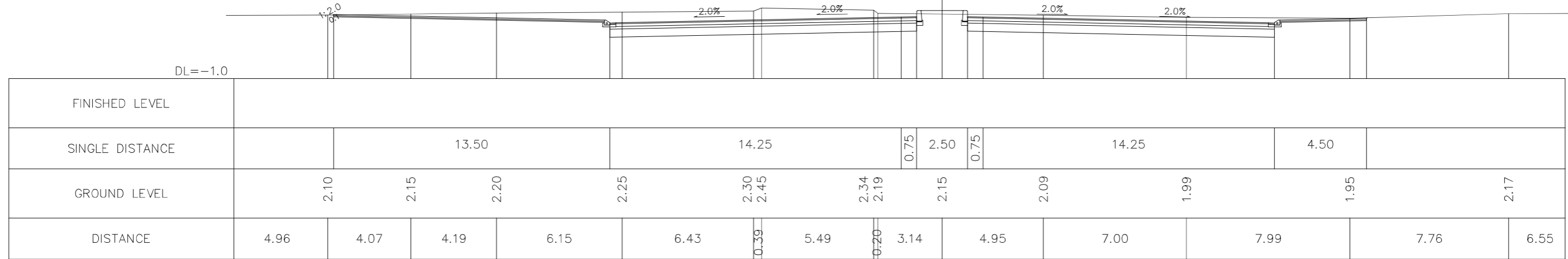
DRAWING TITLE: **NGUYEN TRAI
CROSS SECTION(23)**

Rev No.

DRAWING No.	NG-RD-0323	SCALE	S=1:200
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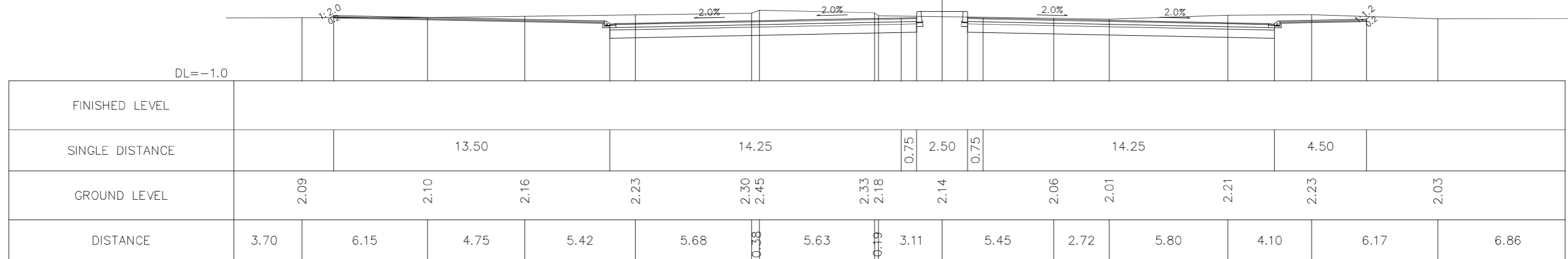
km: 02+80.00		
C	m3/m	35.5
B1	m3/m	0.4
C LL	m2/m	0.0
C RL	m2/m	0.0
B LL	m2/m	0.1
B RL	m2/m	0.0

STAKE: 4
Km: 2+80.00



km: 02+60.00		
C	m3/m	33.7
B1	m3/m	0.5
C LL	m2/m	0.0
C RL	m2/m	0.2
B LL	m2/m	0.2
B RL	m2/m	0.0

STAKE: 3
Km: 2+60.00



PROJECT:
**PREPARATORY SURVEY
ON
HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT**

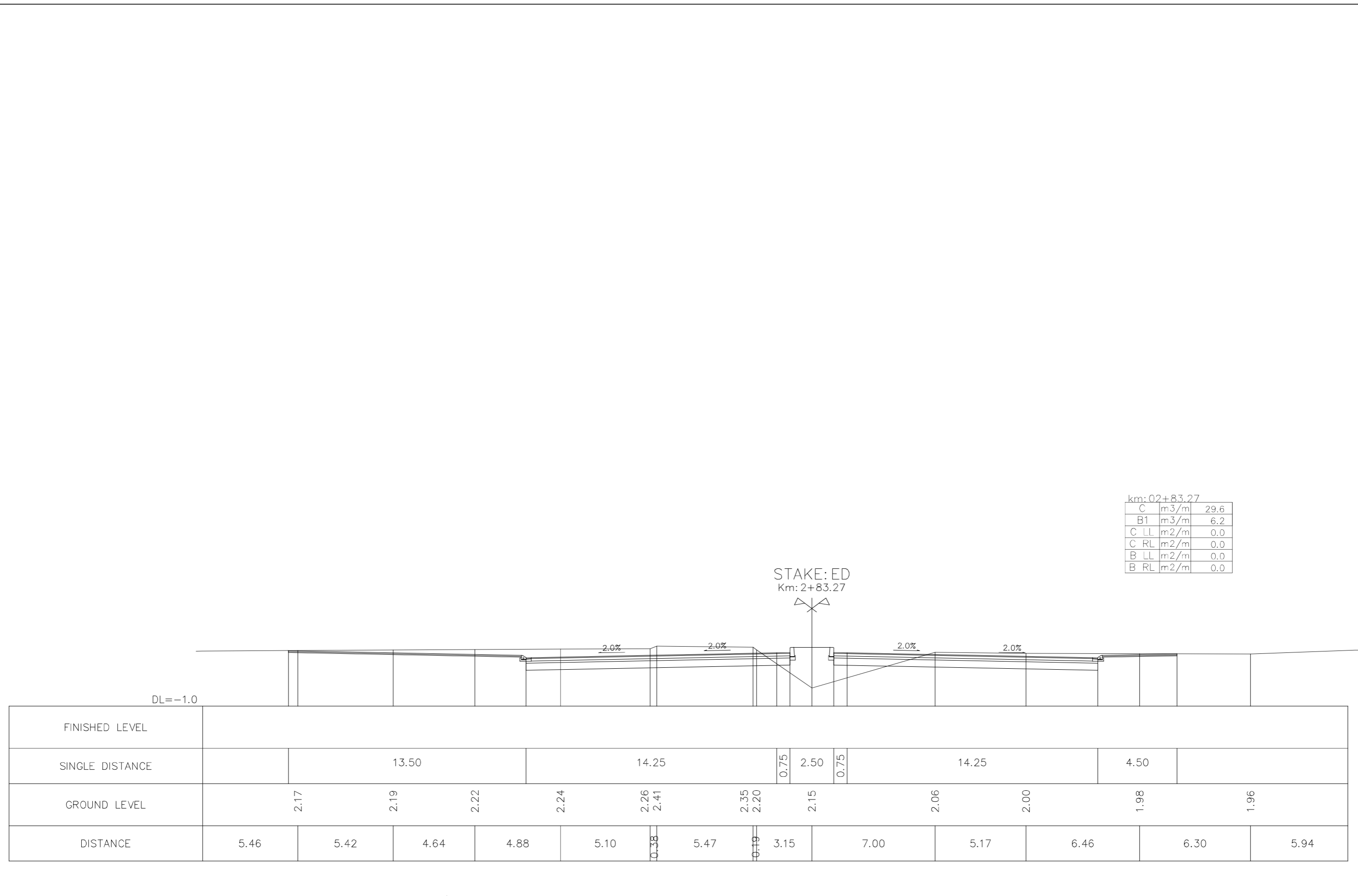



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS:
JOINT VENTURE OF
CHODAI CO.,LTD.
ORIENTAL CONSULTANTS GLOBAL CO.,LTD.
ALMEC VPI CO.,LTD.

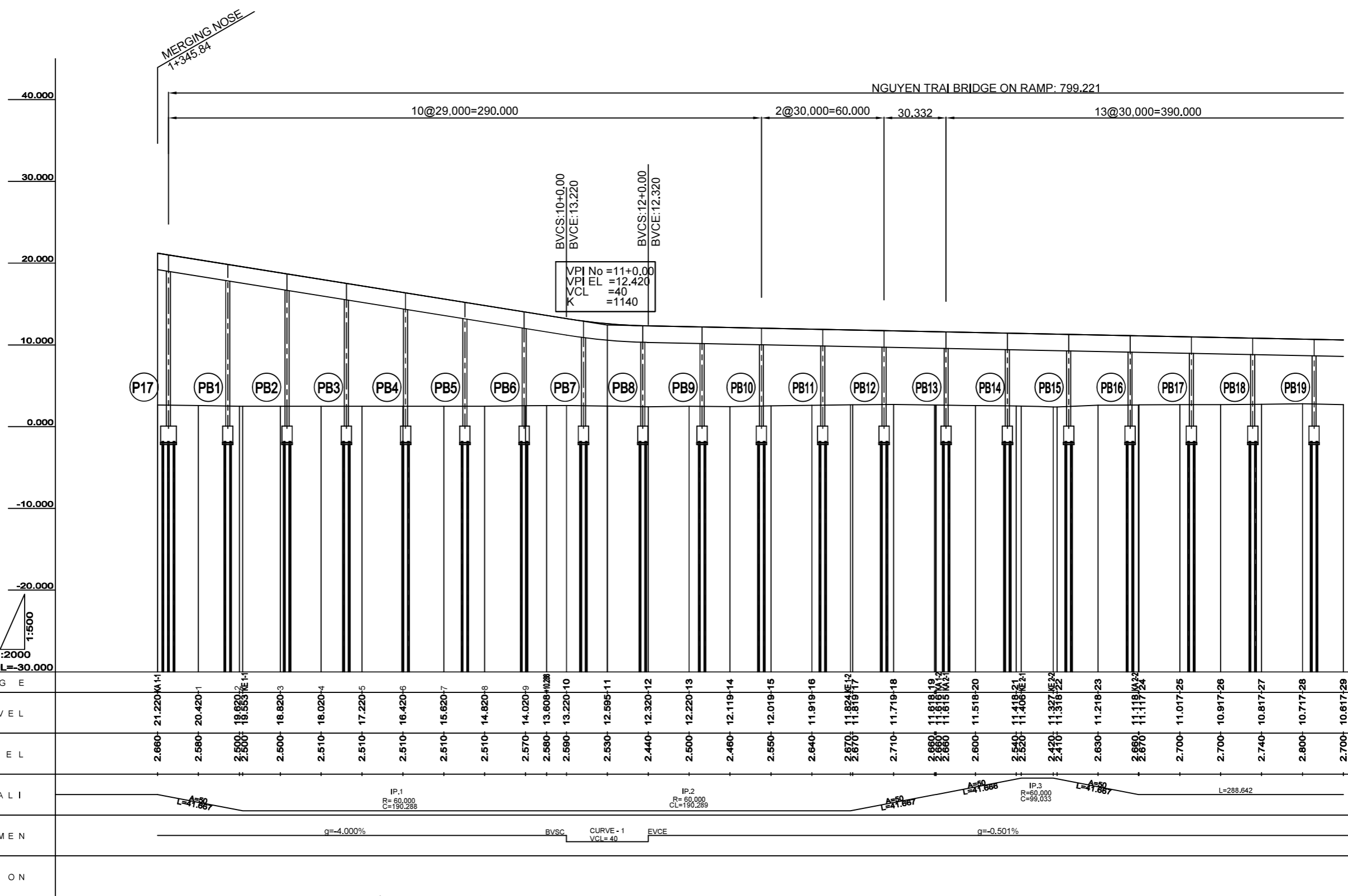
DRAWING TITLE:
**NGUYEN TRAI
CROSS SECTION(24)**

Rev No.

DRAWING No.	NG-RD-0324	SCALE	S=1:200
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PROJECT: PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT		CONSULTANTS: JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.	DRAWING TITLE: NGUYEN TRAI CROSS SECTION(25)				Rev No.
			DRAWING No.	NG-RD-0325	SCALE	S=1:200	



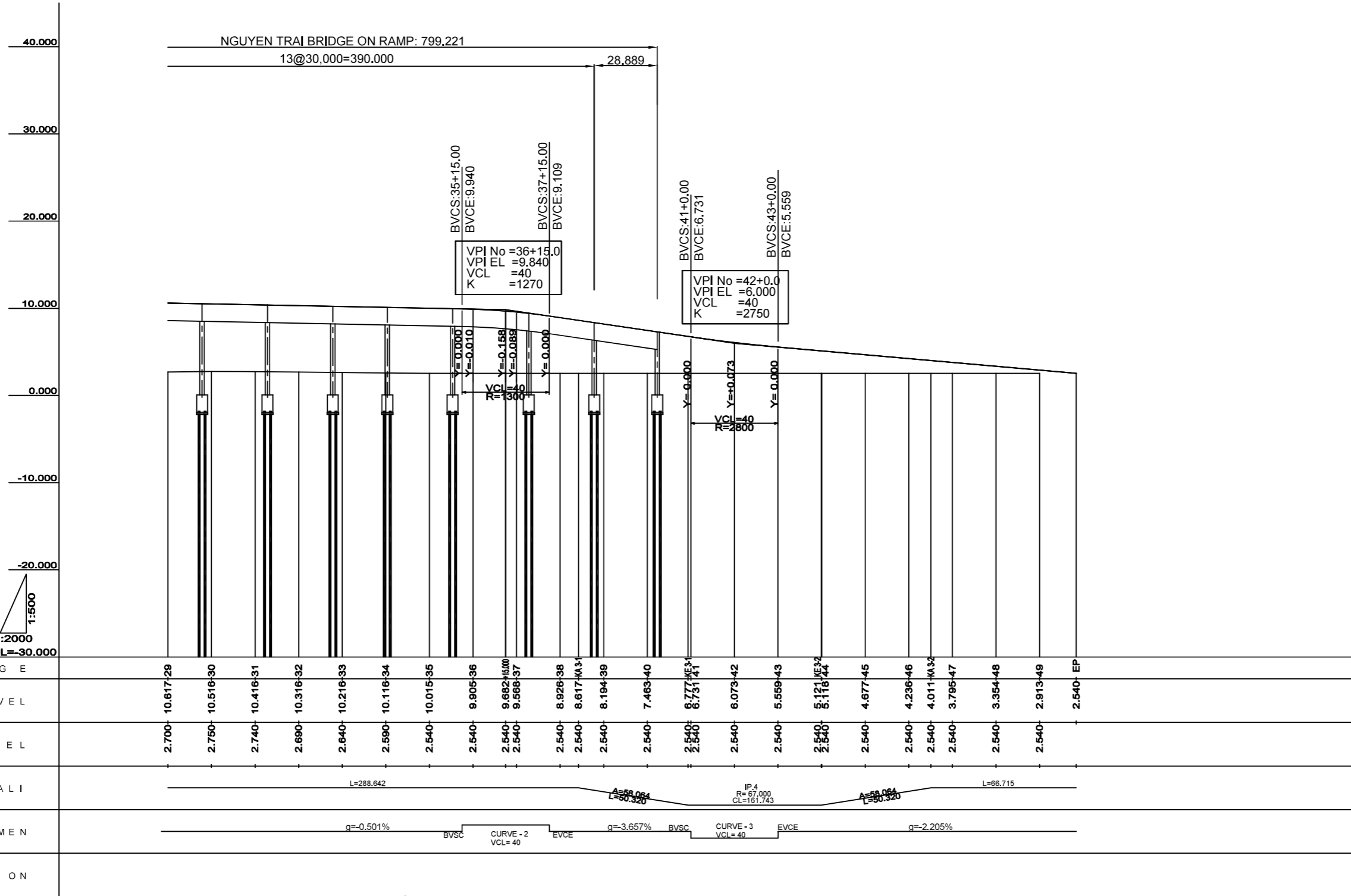
PROJECT: PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT




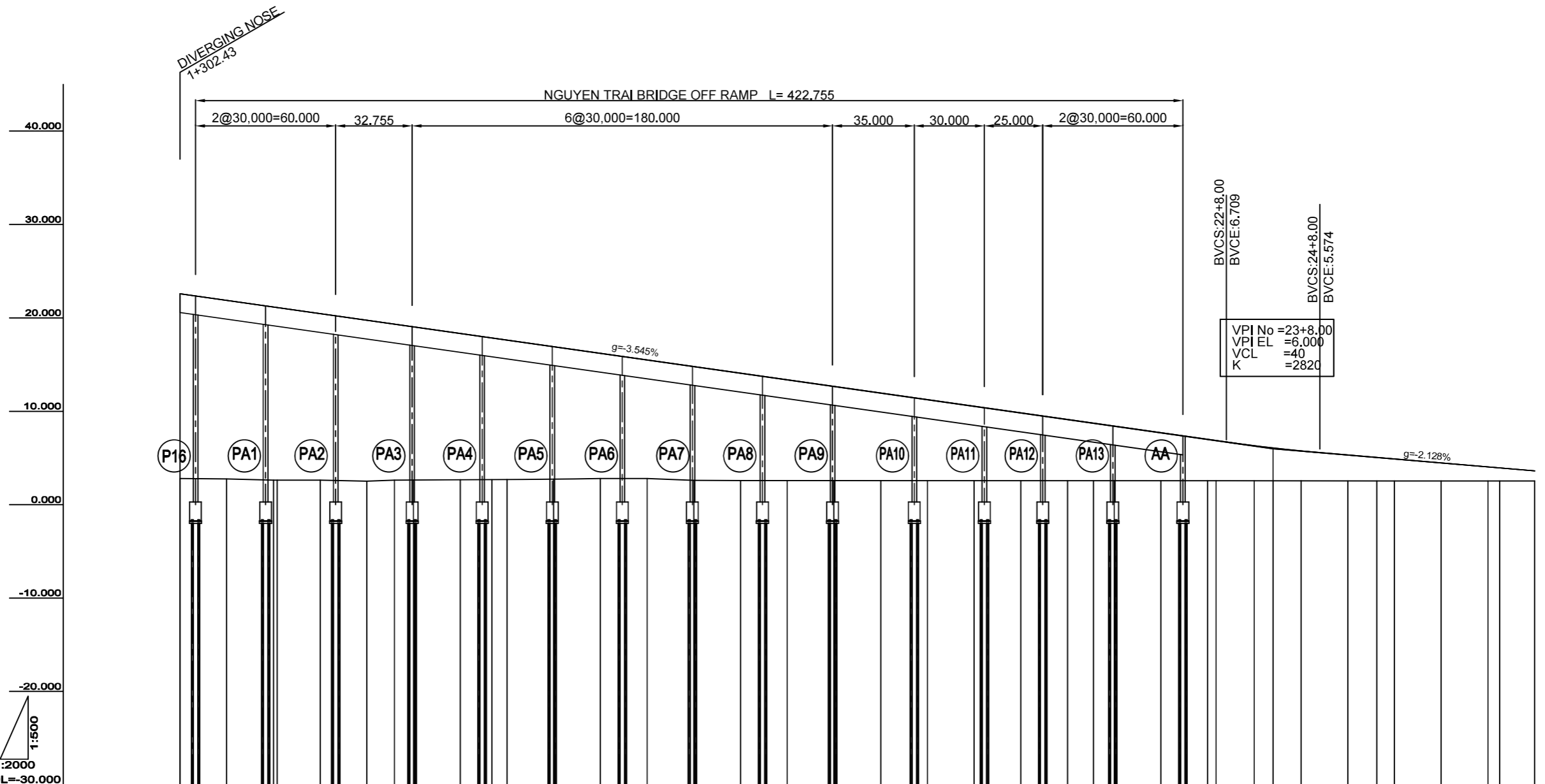
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
 CONSULTANTS: JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.

DRAWING TITLE: NGUYEN TRAI NGUYEN TRAI SOUTH IC ON RAMP PROFILE(1)
 DRAWING No. NG-RD-0401 SCALE V=1:500 S=1:2000

Rev No.



PROJECT:	PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT			JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)		DRAWING TITLE:		Rev No.	
				CONSULTANTS: JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.		NGUYEN TRAI NGUYEN TRAI SOUTH IC ON RAMP PROFILE(2)			
						DRAWING No.	NG-RD-0401	SCALE	V=1:500 S=1:2000



CHAINAGE	22.590+11	21.881+1	21.172+2	20.463+3	19.754+4	19.045+5	18.336+6	17.627+7	16.918+8	16.209+9	15.500+10	14.791+11	14.082+12	13.373+13	12.664+14	11.955+15	11.246+16	10.537+17	9.828+18	9.119+19	8.411+20	7.702+21	6.993+22	6.284+23	5.575+24	4.866+25	4.157+26	3.448+27	2.739+28	2.030+29	1.321+30
FINISHED LEVEL	22.590	21.881	21.172	20.463	19.754	19.045	18.336	17.627	16.918	16.209	15.500	14.791	14.082	13.373	12.664	11.955	11.246	10.537	9.828	9.119	8.411	7.702	6.993	6.284	5.575	4.866	4.157	3.448	2.739	2.030	1.321
GROUND LEVEL	2.810	2.750	2.630	2.630	2.530	2.640	2.660	2.670	2.680	2.800	2.800	2.600	2.590	2.590	2.580	2.580	2.570	2.570	2.570	2.570	2.560	2.560	2.560	2.560	2.560	2.560	2.550	2.550	2.550	2.550	2.550
HORIZONTAL ALIGNMENT	A=50, L=41.887										IP.1, R=60,000, L=133,539					R=8, L=257,548					A=61.916, L=52.515										
VERTICAL ALIGNMENT	g=-3.545%																														
SUPERELEVATION																															

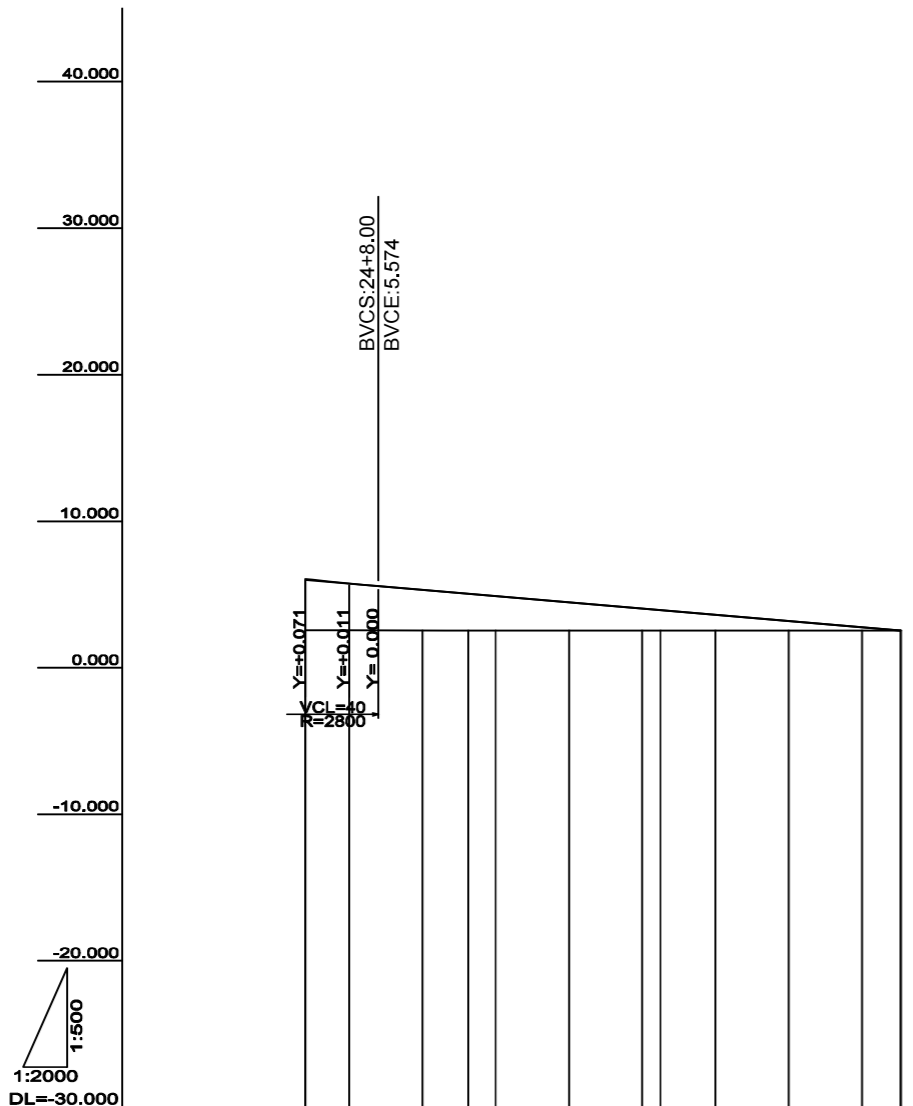
PROJECT: PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
 CONSULTANTS: JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.

DRAWING TITLE: NGUYEN TRAI NGUYEN TRAI SOUTH IC OFF RAMP PROFILE(1)
 DRAWING No. NG-RD-0403 SCALE V=1:500 S=1:2000

Rev No.



CHAINAGE	23+000	24+000	25+000	26+000	27+000	28+000	29+000	30+000	31+000	EP
FINISHED LEVEL	6.071	5.756	5.319	5.053	4.894	4.688	4.043	3.936	3.617	2.540
GROUND LEVEL	2.560	2.560	2.550	2.550	2.550	2.550	2.550	2.540	2.540	2.540
HORIZONTAL ALI	IP,2 C=173.915 R=73.000 L=65.614 A=0.016 L=65.614									
VERTICALIGNMEN	CURVE - 1 VCL=40 EVCE g=-2.128%									
SUPERELEVATION										

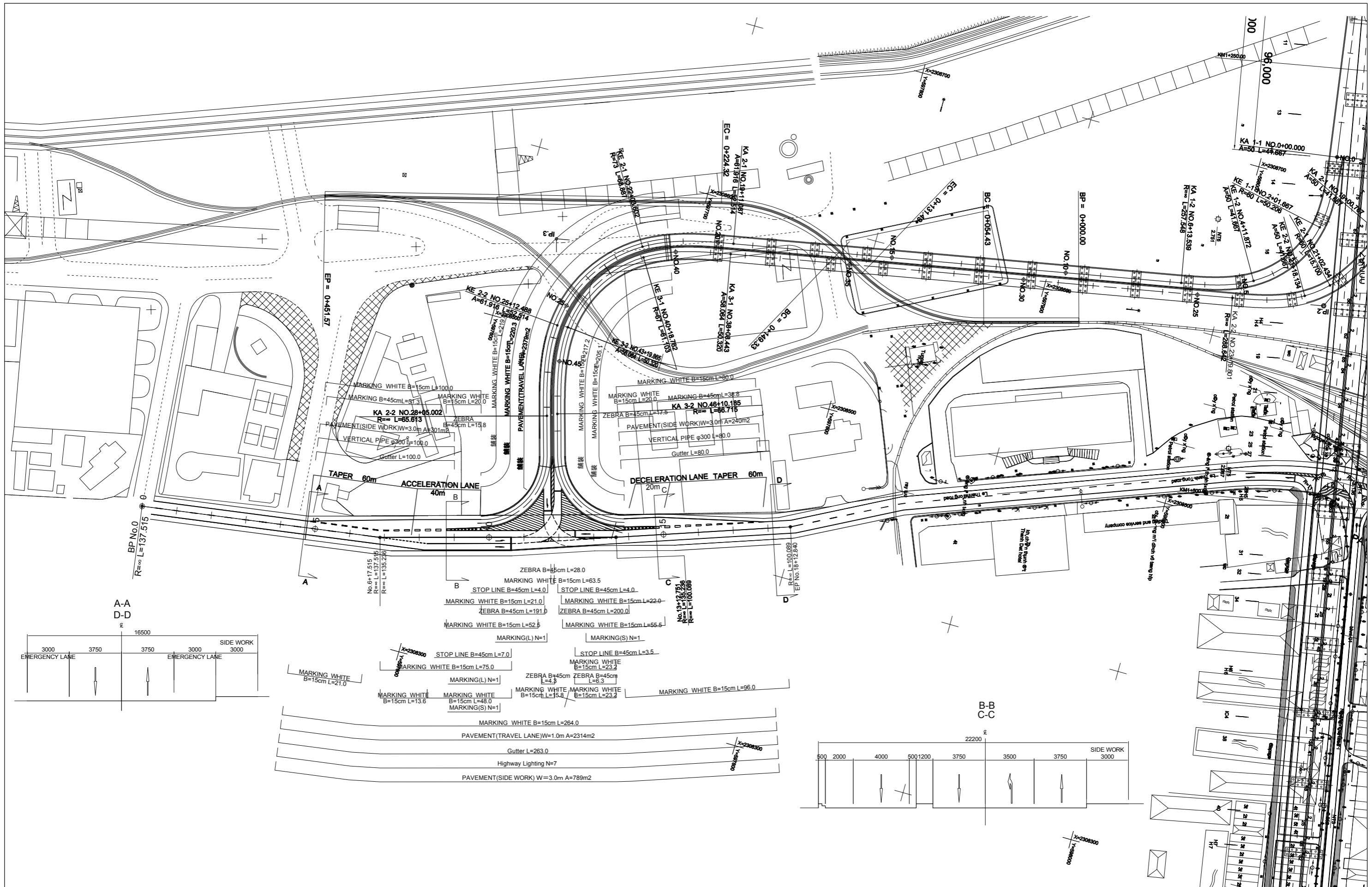
PROJECT: PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
 CONSULTANTS: JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.

DRAWING TITLE: NGUYEN TRAI NGUYEN TRAI SOUTH IC OFF RAMP PROFILE(2)
 DRAWING No. NG-RD-0404 SCALE V=1:500 S=1:2000

Rev No.

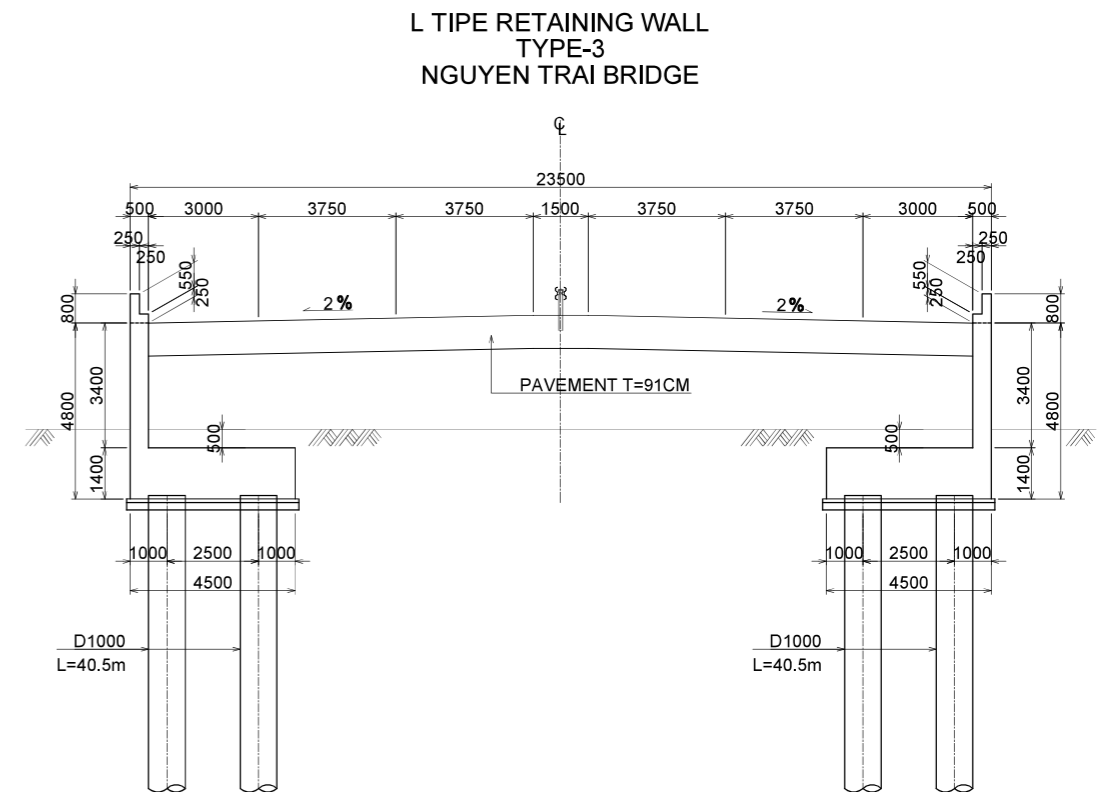
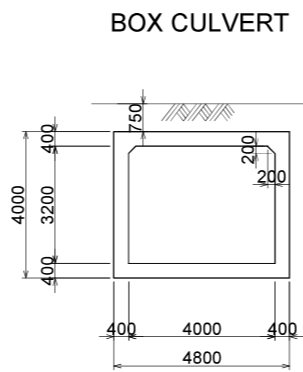
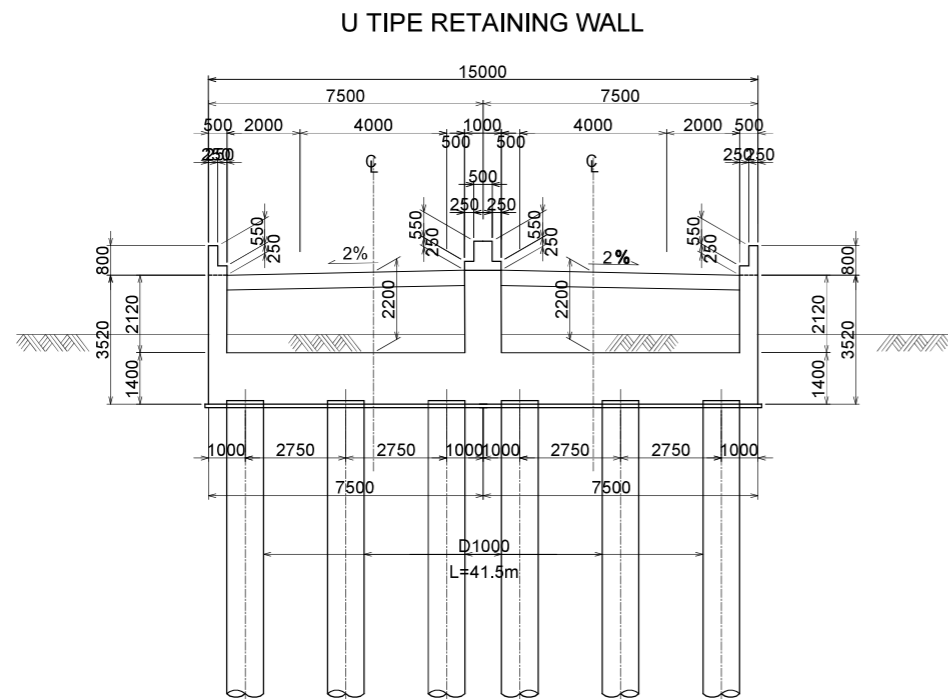
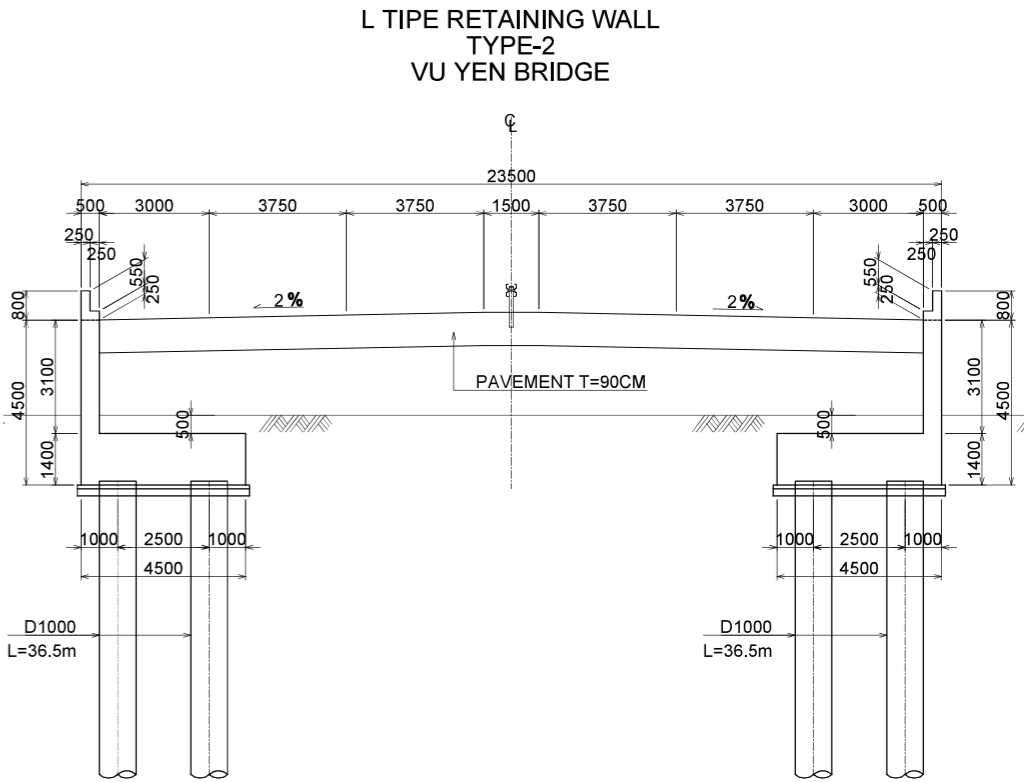
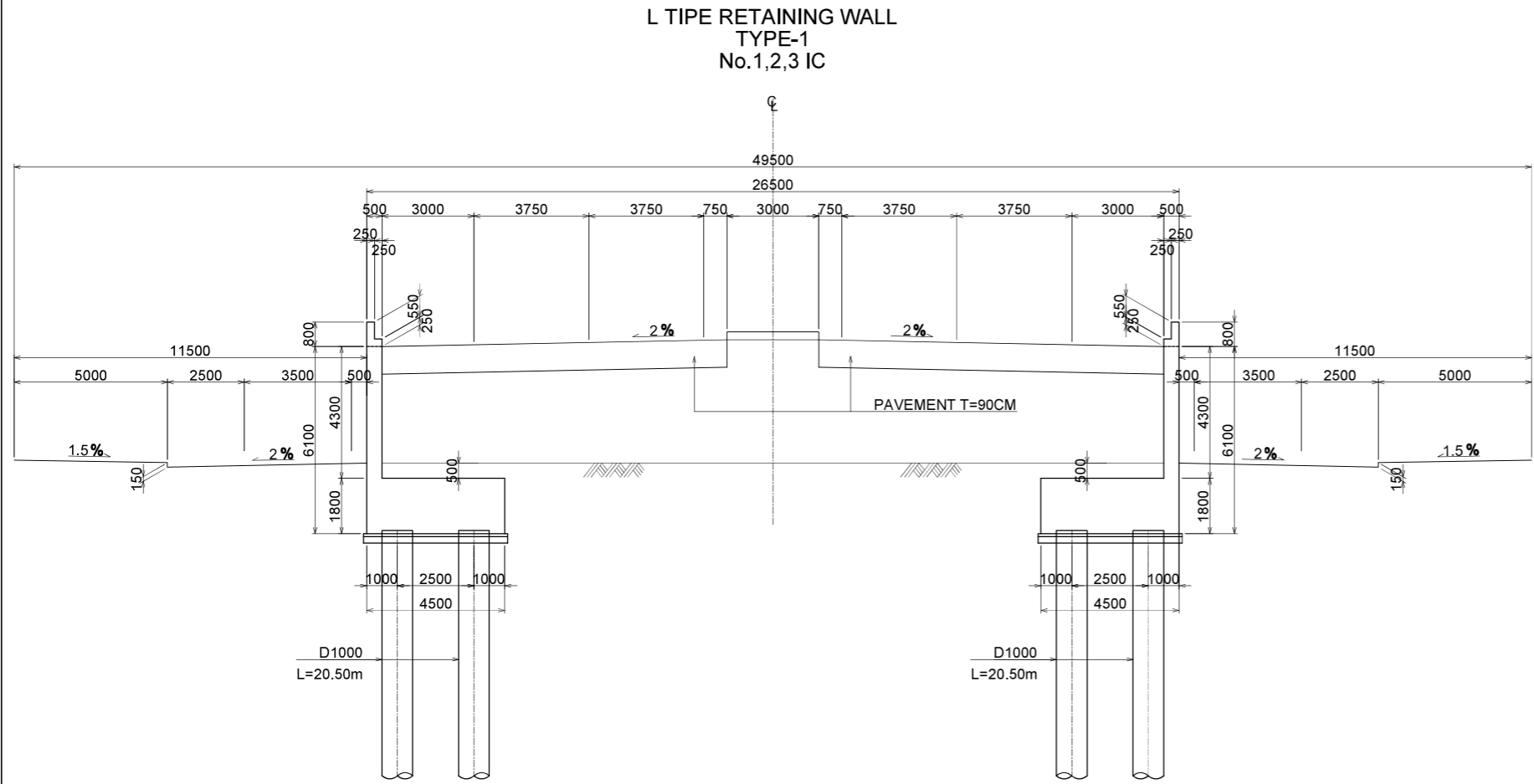


PROJECT: **PREPARATORY SURVEY ON HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT**



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
 CONSULTANTS: **JOINT VENTURE OF CHODAI CO.,LTD. ORIENTAL CONSULTANTS GLOBAL CO.,LTD. ALMEC VPI CO.,LTD.**

DRAWING TITLE: NGUYEN TRAI LE THANH TONG INTERSECTION PLAN		Rev No.
DRAWING No.	NG-RD-0501	SCALE
		S=1:2000



PROJECT: **PREPARATORY SURVEY
ON
HAI PHONG ARTERIAL ROAD CONSTRUCTION PROJECT**



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CONSULTANTS: **JOINT VENTURE OF
CHODAI CO.,LTD.
ORIENTAL CONSULTANTS GLOBAL CO.,LTD.
ALMEC VPI CO.,LTD.**

DRAWING TITLE: **NGUYEN TRAI
RETAINING WALL**

DRAWING No. RR-RD-0601 SCALE S=1:200

Rev No.