





JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY,
THE REPUBLIC OF THE PHILIPPINES

No.

The Feasibility Study of the Proposed

Cavite Busway System

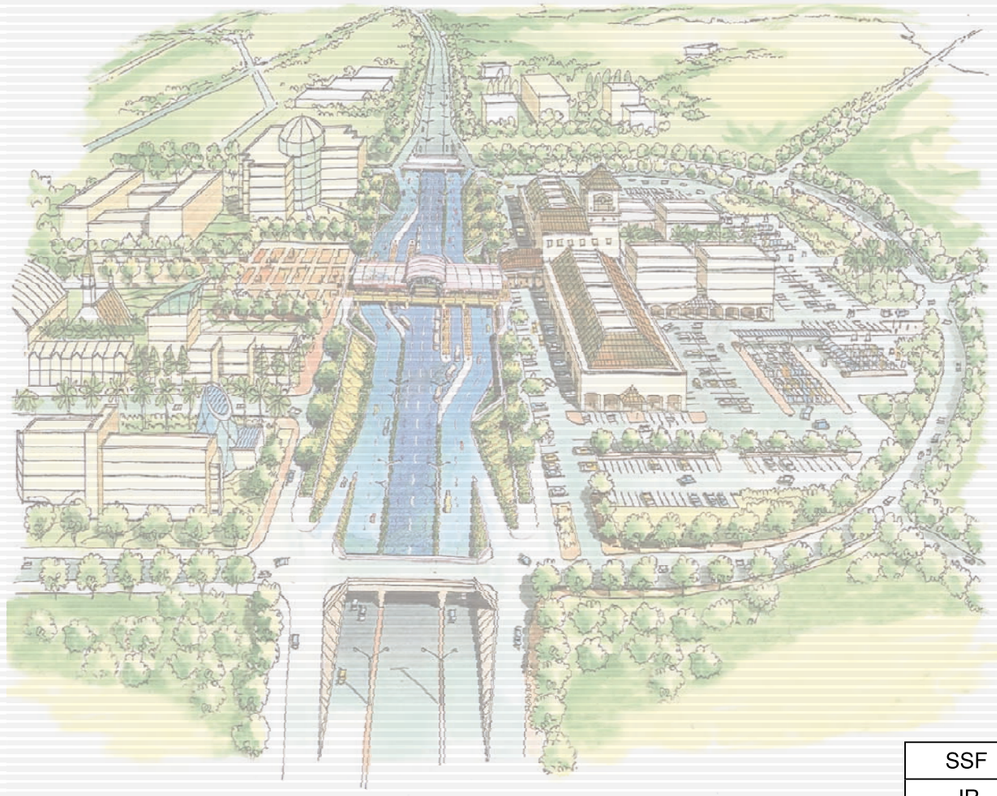
Final Report

Drawings

November 2002

ALMEC Corporation

Pacific Consultants International



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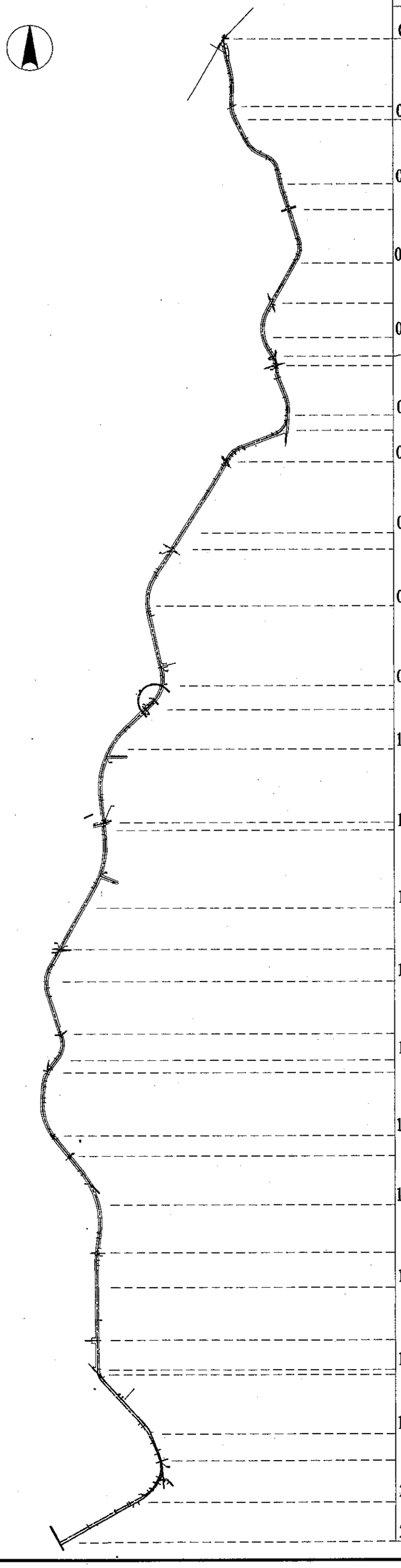
A. GENERAL



STATION		TERMINAL	INTERSECTION	FLYOVER BRIDGE	SECTION
00+000	00+000	Talaba	Aguinaldo Highway		
	00+824		Existing Road		
01+000					
02+000	02+315	Ligas	Tirona Highway		
03+000					
	03+560		Niog Road A		
04+000			Niog Road B		
	04+376	Bayanan	Mambog Bayanan		
05+000	05+100		MolinoBoulevard	Molino Fly-over	
06+000	05+994	Molino	Subdivision		
07+000	07+230	Anabu	Anabu		
08+000					
09+000	09+350	One Asia Imus			
10+000					
11+000	10+911	Daang Hari	Daang Hari Road		
12+000	12+570	Orchard	Orchard		
13+000	13+653	Salitran	Salawag Salitran Road		
14+000	14+180		Salitran Road		
15+000	15+310	Burol	Subdivision Extension		
16+000	16+573	Congressional	Congressional Road		
17+000	17+640	San Agustin			
18+000	18+040		Aguinaldo Highway	Aguinaldo Fly-over	
19+000	19+350	Pala-pala			
20+000					
21+000	21+000	End Terminal			

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NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY
Republic of the Philippines

JAPAN INTERNATIONAL COOPERATION AGENCY
Japan

THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM

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SCALE

Drawing Number
A-01

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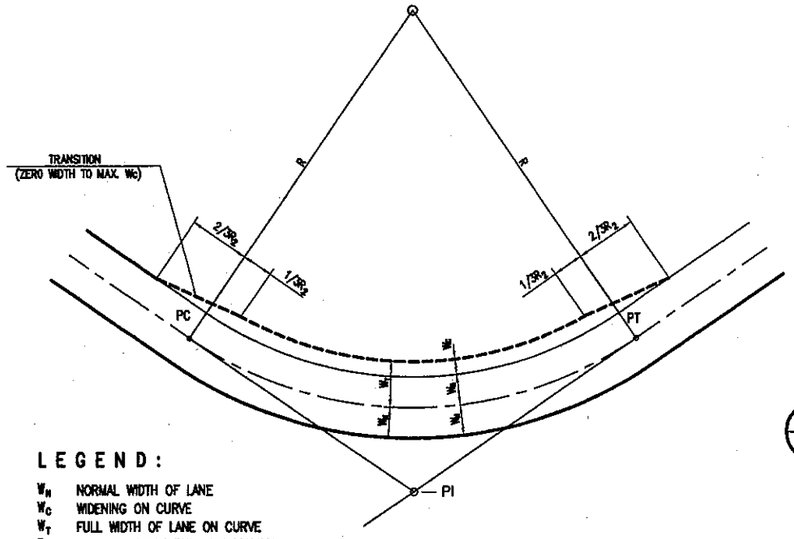
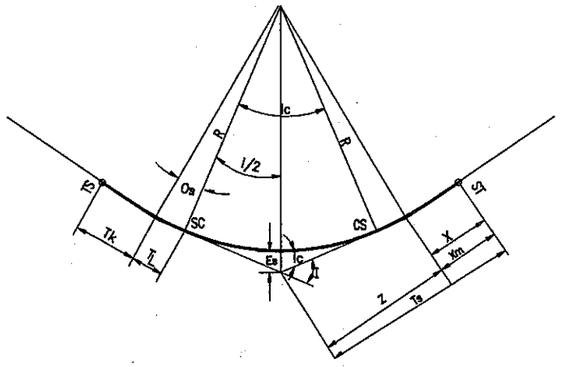


LEGEND:

W_N	NORMAL WIDTH OF LANE
W_C	WIDENING ON CURVE
W_T	FULL WIDTH OF LANE ON CURVE
R_2	SUPERELEVATION RUN-OFF LENGTH

2 / A-02 WIDENING ON SIMPLE CURVES

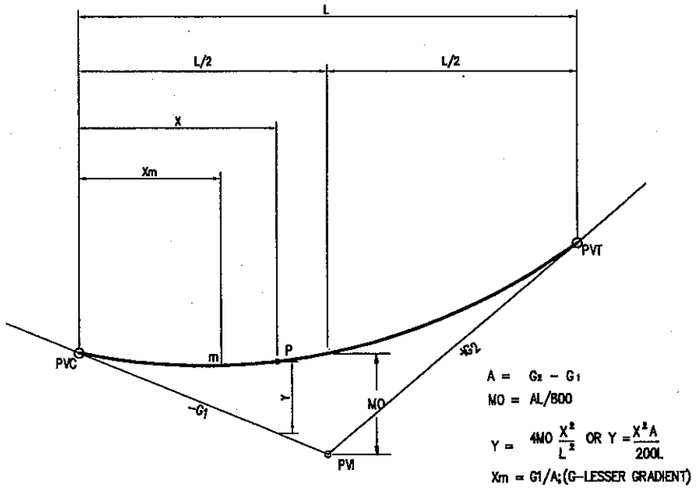


4 / A-02 HORIZONTAL CURVE WITH TRANSITION (CLOTHOID–SPIRAL CURVE)

LEGEND:

PI	POINT OF INTERSECTION	Lc	LENGTH OF CIRCULAR CURVE
I	INTERSECTION ANGLE	T_L	LONG TANGENT OF SPIRAL
Os	SPIRAL ANGLE	T_K	SHORT TANGENT OF SPIRAL
ΔR	OFFSET BETWEEN CIRCULAR CURVE & TANGENT	T_S	TOTAL TANGENT DISTANCE
A	PARAMETER OF CLOTHOID	L_K	LENGTH OF SPIRAL
R	HORIZONTAL RADIUS	TS	TANGENT TO SPIRAL
Xm	LENGTHENING OF TANGENT DUE TO INSERTION OF SPIRAL	SC	SPIRAL TO CIRCULAR CURVE
X,Y	COORDINATES OF POINTS BCC & ECC WITH RESPECT TO TANGENT	CS	CIRCULAR CURVE TO SPIRAL
Ic	INTERSECTION ANGLE OF CIRCULAR CURVE	ST	SPIRAL TO TANGENT

HORIZONTAL CURVE WITH TRANSITION (CLOTHOID)



A = $G_2 - G_1$

MO = AL/800

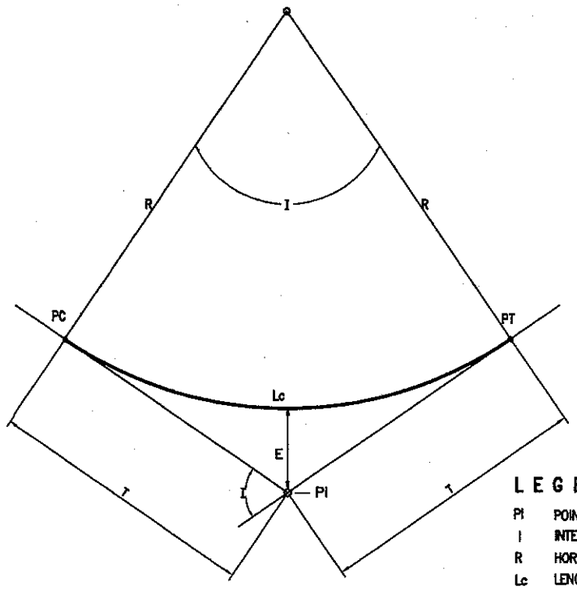
Y = $\frac{4MO}{L^2}X^2$ OR Y = $\frac{X^2A}{200L}$

Xm = G1/A;(G–LESSER GRADIENT)

6 / A-02 VERTICAL PARABOLIC CURVE (SYMMETRICAL)

LEGEND:

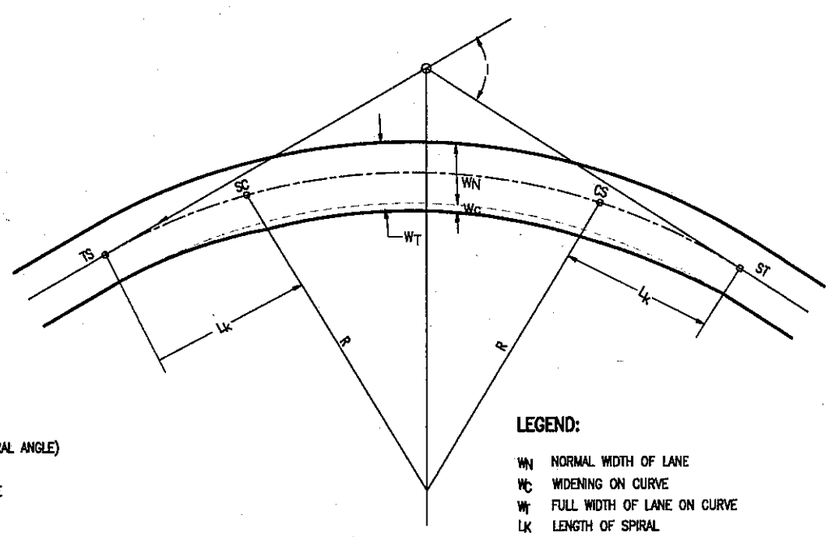
PVC	POINT OF VERTICAL CURVATURE
PVT	POINT OF VERTICAL TANGENCY
PVI	POINT OF VERTICAL INTERSECTION
L	LENGTH OF PARABOLIC VERTICAL CURVE
A	ALGEBRAIC DIFFERENCES OF GRADES IN PERCENT
MO	MIDDLE ORDINATE
X	DISTANCE AT ANY POINT P FROM PVC OR PVT
Y	CORRECTION OR OFFSET AT POINT P
Xm	DISTANCE OF HIGHEST OR LOWEST POINT m ON THE CURVE FROM PVC OR PVT



LEGEND:

PI	POINT OF INTERSECTION
I	INTERSECTION ANGLE (CENTRAL ANGLE)
R	HORIZONTAL RADIUS
Lc	LENGTH OF CIRCULAR CURVE
E	EXTERNAL DISTANCE
T	TOTAL TANGENT DISTANCE
PC	POINT OF CURVATURE
PT	POINT OF TANGENCY

1 / A-02 HORIZONTAL CURVE (CIRCULAR)

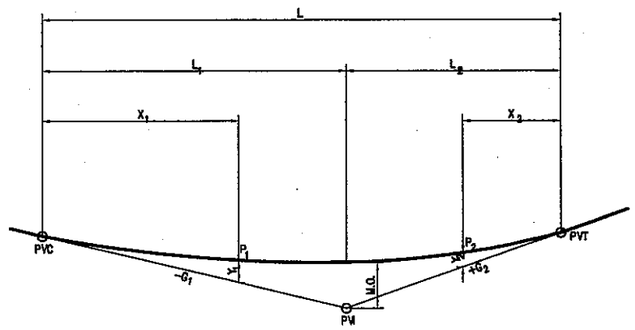


LEGEND:

W_N	NORMAL WIDTH OF LANE
W_C	WIDENING ON CURVE
W_T	FULL WIDTH OF LANE ON CURVE
L_K	LENGTH OF SPIRAL

WIDENING OF PAVEMENT ON CURVE ,Wc (m) = 50/R

3 / A-02 WIDENING ON TRANSITION(CLOTHOID CURVES)



MO = $AL_1L_2/200L$

$Y_1 = MOX_1^2/L_1^2$

$Y_2 = MOX_2^2/L_2^2$

5 / A-02 VERTICAL PARABOLIC CURVE (UNSYMMETRICAL)

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LEGEND, SYMBOLS AND ABBREVIATIONS

1. LEGEND & SYMBOLS

1.1 EXISTING TOPOGRAPHIC FEATURES

1. EXISTING ROAD		11. BRIDGE	
2. RIVER		12. NORTH ARROW	
3. HOUSE/ BUILDING		13. WATER TANK	WT
4. IRRIGATION CANAL			
5. WALL			
6. CONTOUR LINES (ELEV. AS SHOWN)			
7. VEGETATION LINE			
8. RICELAND	RICELAND		
9. GRASS	GRASS		
10. TOWER			

1.2 NEW DESIGN FEATURES

P L A N

1. CENTERLINE	
2. RIGHT-OF-WAY LIMIT	
3. BRIDGE	
4. SYMMETRICAL	
5. SINGLE BARREL BOX CULVERT	
6. DOUBLE BARREL BOX CULVERT	
7. TRIPLE BARREL BOX CULVERT	
8. SINGLE BARREL PIPE CULVERT	

LONGITUDINAL PROFILE

1. PROFILE GRADE/ FINISHED GRADE	
2. EXISTING GROUND LINE	
3. WATER LEVEL	

2. A B B R E V I A T I O N S

ABUT	ABUTMENT
AH	AHEAD/AUGER HOLE
APPROX.	APPROXIMATE
AZIM	AZIMUTH
@	AT
BK	BACK
℄	BASELINE
BRG	BEARING
BEG	BEGINNING
BM	BENCH MARK
BIT	BITUMINOUS
BH	BOREHOLE
CB	CATCH BASIN
℄	CENTERLINE
cm	CENTIMETRE
CLR	CLEAR
COMB	COMBINATION
CONC.	CONCRETE
CONST	CONSTRUCT/CONSTRUCTION
CULV.	CULVERT
m^3	CUBIC METRE
CL	CLASS
D	DEGREE OF CURVE
DFL	DESIGN FLOOD LEVEL
DET	DETAIL
DIA, Ø	DIAMETER
DIST	DISTANCE
DS (C)-A	RECTANGULAR DITCH W/ COVER
DS (C)-B	RECTANGULAR DITCH W/O COVER
DWG	DRAWING
e	FULL SUPERELEVATION
EA	EACH
E	EAST/EXTERNAL DISTANCE
ELEV.	ELEVATION
EQ	EQUAL
EXTG.	EXISTING
EXT	EXTENSION
FG	FINISHED GRADE
℄	FLOWLINE
FTG	FOOTING
g	GRADE
GEN	GENERAL
GRD	GROUND
Hw	HEADWALL
HA.	HECTARE
HP	HIGH POINT
HOR	HORIZONTAL
I	INTERSECTION ANGLE
Ic	CENTRAL ANGLE OF CIRCULAR CURVE
IIE	INLET INVERT ELEVATION
∞	INFINITY
KG	KILOGRAM
KM	KILOMETER
KPH	KILOMETER PER HOUR
LT	LEFT
LT FWD	LEFT FORWARD
L	TOTAL LENGTH
Lc	LENGTH OF CIRCULAR CURVE
LM	LINEAR METRE
LP	LOW POINT
LWL	LOW WATER LEVEL
LS	LUMP SUM
MAX	MAXIMUM
MSL	MINIMUM SEA LEVEL
MT,	METRIC TON
m	METRE
MIN.	MINIMUM
mm	MILLIMETRE
MON	MONUMENT
MRW	MASONRY RETAINING WALL
N	NORTHING(S)
NC	NORMAL CROWN SLOPE
NA	NOT APPLICABLE
NTS	NOT TO SCALE
NO.	NUMBER
&	AND
OWL	ORDINARY WATER LEVEL
OIE	OUTLET INVERT ELEVATION
PVMT	PAVEMENT
PI	POINT OF INTERSECTION
PC	POINT OF CURVATURE
PT	POINT OF TANGENCY
PVI	POINT OF VERTICAL INTERSECTION
PVC	POINT OF VERTICAL CURVATURE
PVT	POINT OF VERTICAL TANGENCY
PCC	PORTLAND CEMENT CONCRETE
PSC	PRESTRESSED CONCRETE
%	PERCENT
PVRC	POINT OF VERTICAL REVERSE CURVATURE
PVCC	POINT OF VERTICAL COMPOUND CURVE
QTY	QUANTITY
R	RADIUS
REF	REFERENCE
RP.	REFERENCE POINT
REINF	REINFORCED/REINFORCEMENT
RCBC	REINFORCED CONC. BOX CULVERT
RCPC	REINFORCED CONC. PIPE CULVERT
RCW	REINFORCED CONC. WALL
REQD	REQUIRED
RET. WALL	RETAINING WALL
RT	RIGHT
RT FWD	RIGHT FORWARD
ROW	RIGHT-OF-WAY
RDWY	ROADWAY
s	SLOPE
SHT	SHEET
SLDR	SHOULDER
SS	SIDE SLOPE
SPL	SPECIAL
S	SOUTH
STD	STANDARD
STA	STATION
STR	STRAIGHT
T	TANGENT
TP	TEST PIT
THK	THICK
TYP	TYPICAL
VAR	VARIABLE
VERT	VERTICAL
VC	VERTICAL CURVE
w	WIDTH
Wc	PAVEMENT WIDTH ON CURVE
W_T	PAVEMENT WIDTH ON TANGENT
w/	WITH
Ww	WINGWALL

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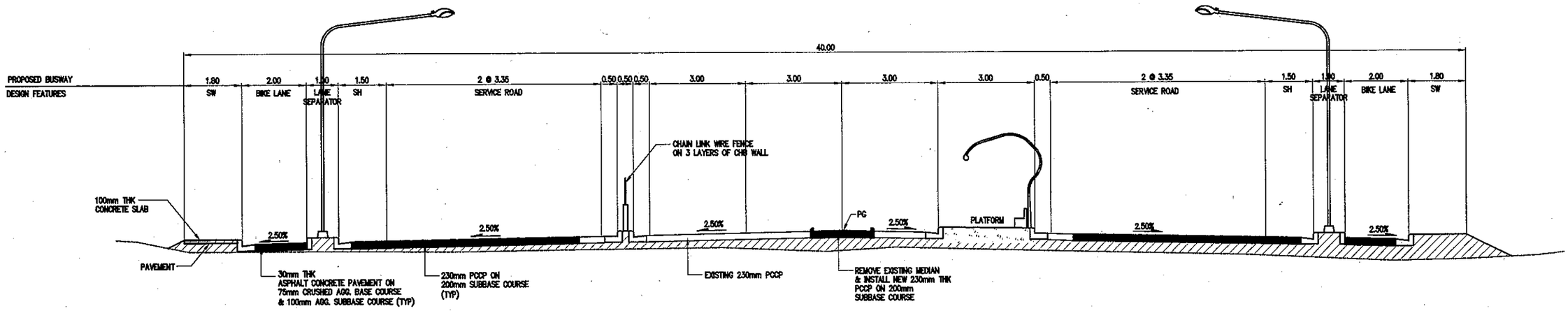
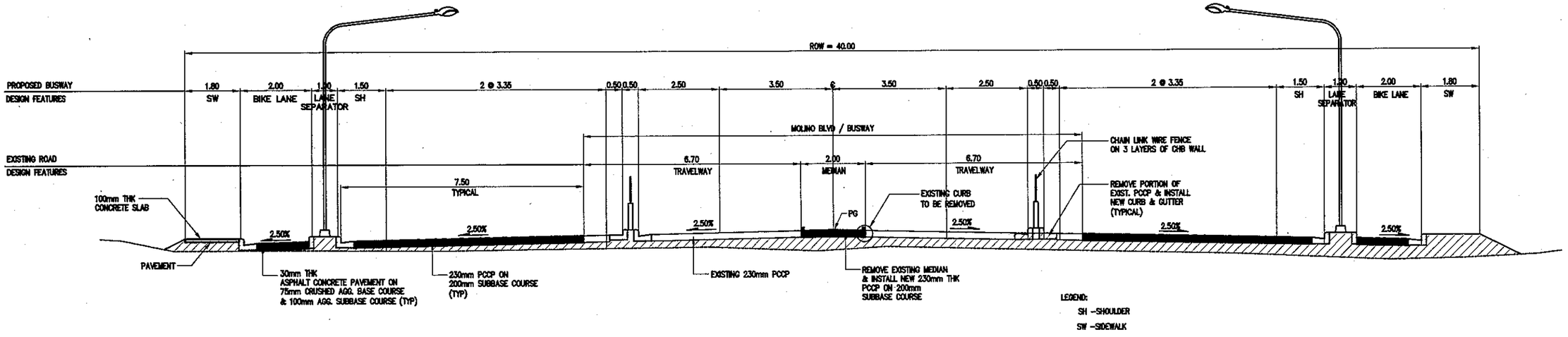
B. TYPICAL SECTIONS AND DETAILS



1B / B-01 BUS STOP SECTION
SCALE: N T S

LEGEND:
SH –SHOULDER
SW –SIDEWALK



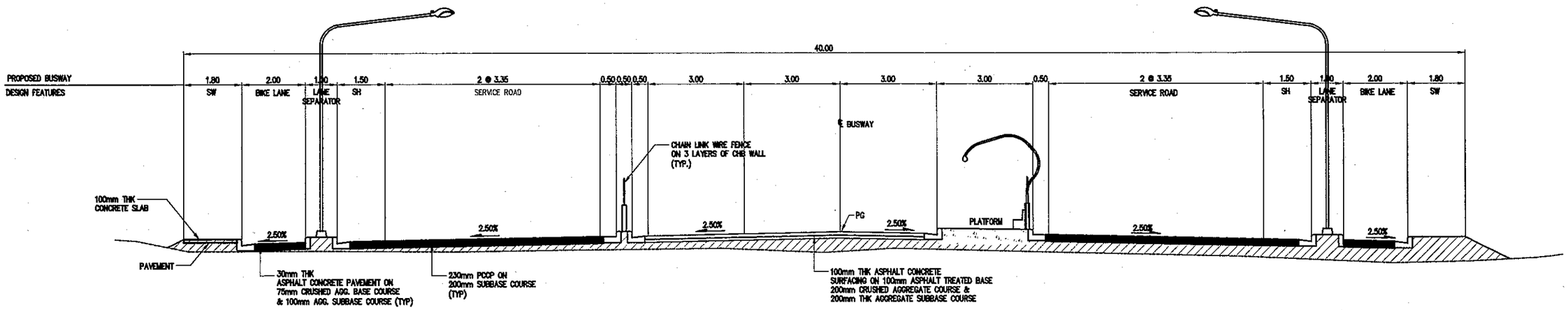
1A / B-01 ORDINARY SECTION
SCALE: N T S

LEGEND:
SH –SHOULDER
SW –SIDEWALK

TYPICAL BUSWAY SECTION (WIDENING OF EXISTING ROAD) – MOLINO BLVD.

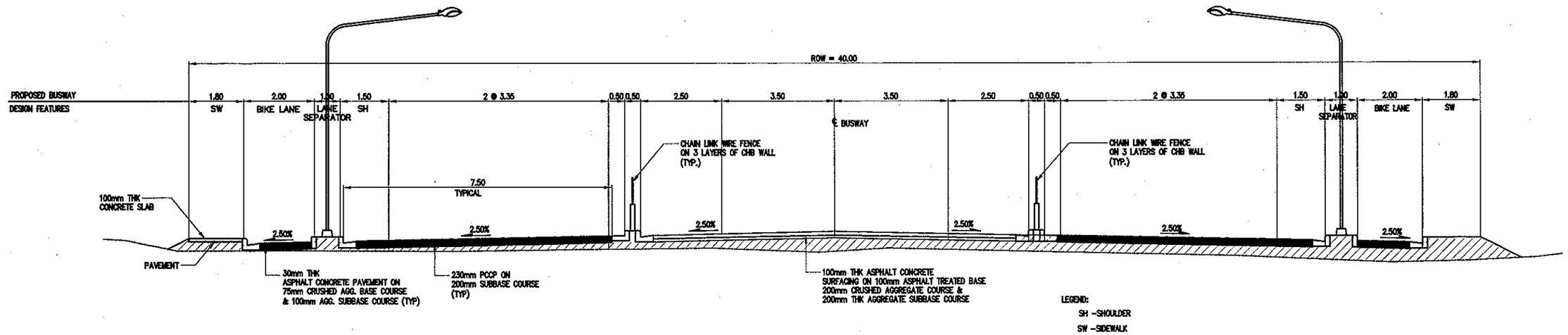
1 / B-01 SCALE: N T S

ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM	SHEET CONTENTS TYPICAL BUSWAY SECTION (WIDENING OF EXISTING ROAD)– MOLINO BLVD.	SCALE N T S	Drawing Number B–01



2B B-01A **BUS STOP SECTION** (NEW ALIGNMENT)
SCALE: N T S

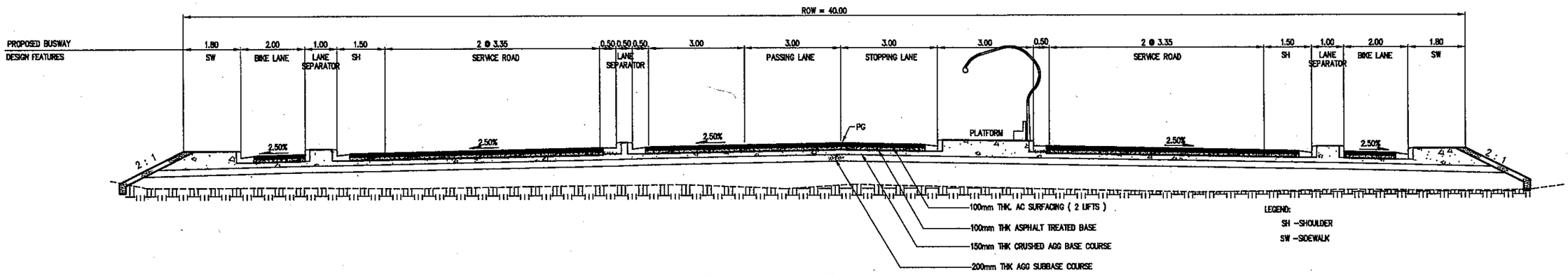
LEGEND:
SH –SHOULDER
SW –SIDEWALK



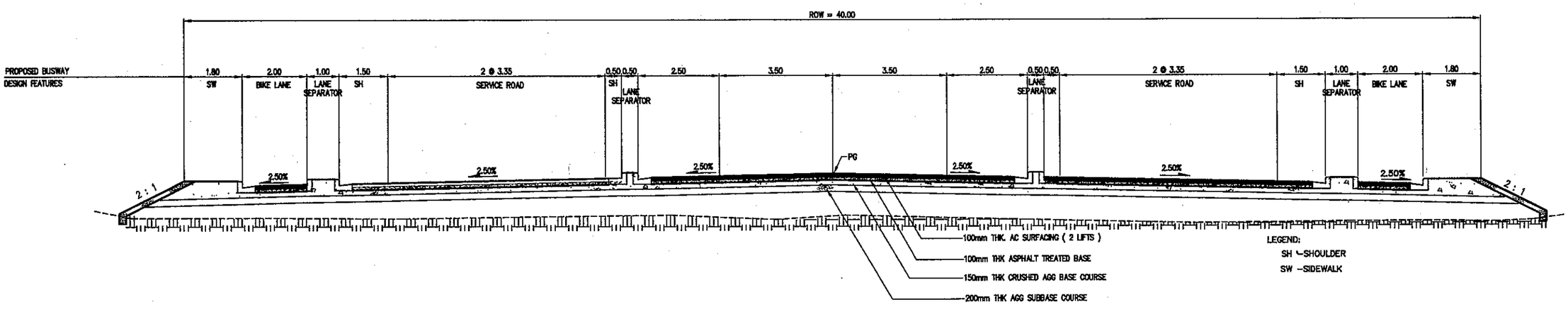
LEGEND:
SH –SHOULDER
SW –SIDEWALK

2A B-01A **TYPICAL BUSWAY SECTION** (NEW ALIGNMENT)
SCALE: N T S

ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS TYPICAL BUSWAY SECTION (NEW ALIGNMENT)	SCALE N T S	Drawing Number B–01A



1B B-02 **BUS STOP SECTION**
SCALE: N T S



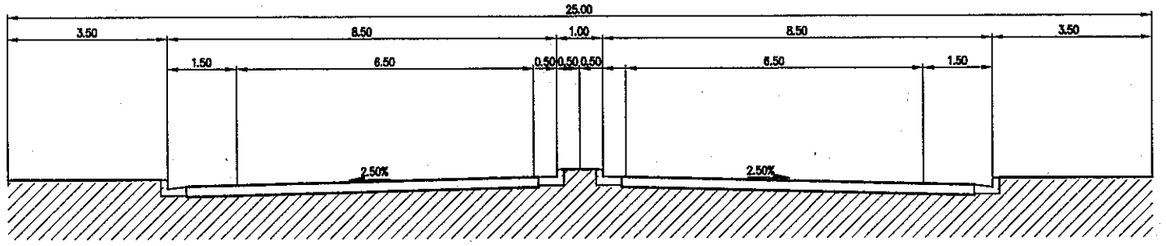
1A B-02 **ORDINARY SECTION**
SCALE: N T S

1 B-02 **TYPICAL CROSS SECTION – RECLAIMED AREA**
SCALE: SHOWN

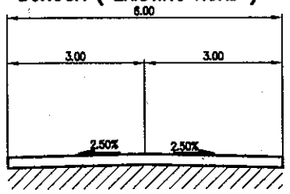
ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM	SHEET CONTENTS TYPICAL CROSS SECTION – RECLAIMED AREA (BUSWAY)	SCALE N T S	Drawing Number B-02

TYPICAL CROSS SECTIONS OF ALL CROSSING ROADS

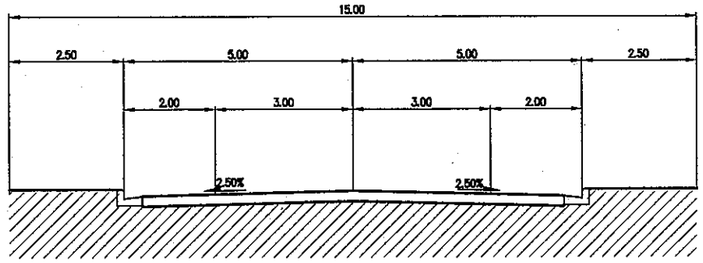
AGUINALDO HIGHWAY



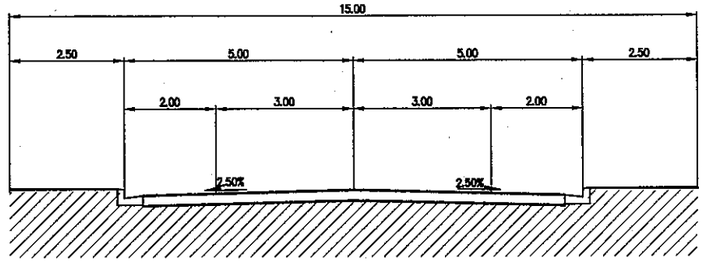
BUNUGA (EXISTING ROAD)



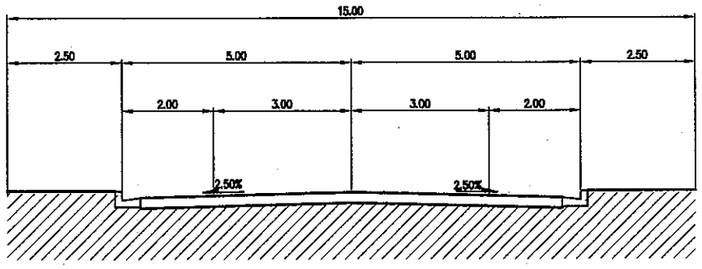
TIRONA HIGHWAY



NIOG ROAD A&B



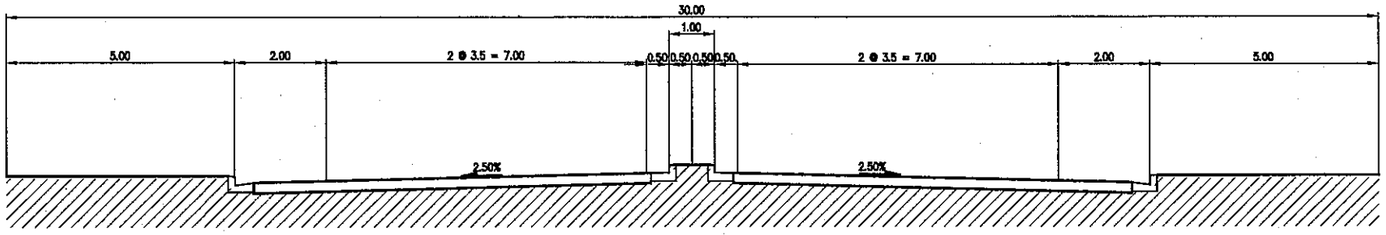
MAMBOG – BAYANAN ROAD



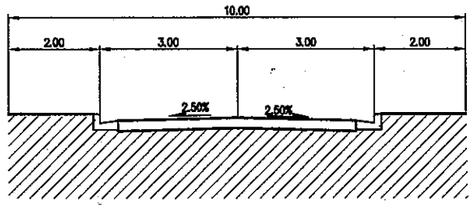
ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM	SHEET CONTENTS TYPICAL CROSS SECTIONS OF ALL CROSSING ROADS	SCALE N T S	Drawing Number B–03

TYPICAL CROSS SECTIONS OF ALL CROSSING ROADS

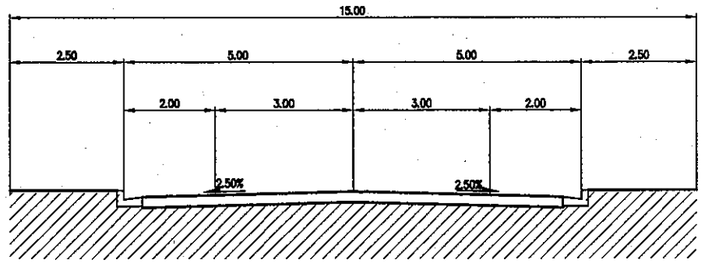
MOLINO BOULEVARD



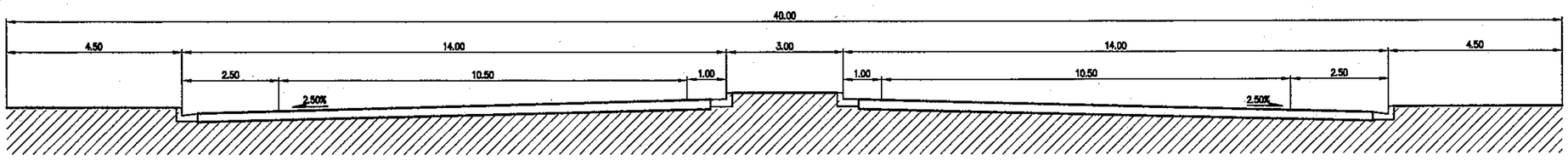
SUPER DIVISION



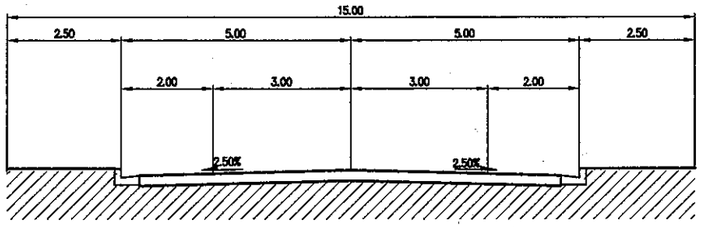
ANABU ROAD



ONE ASIA NORTH (EAST – WEST HIGHWAY) (A,E&F)



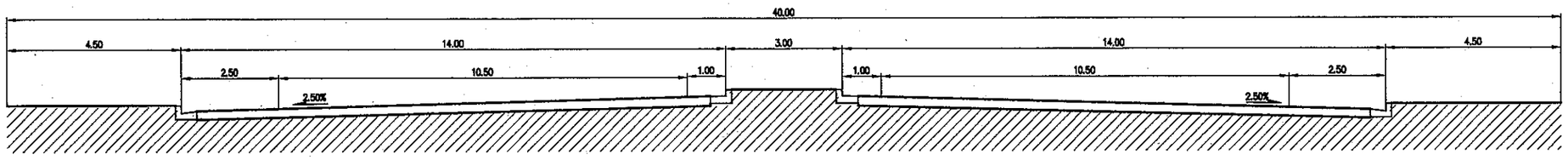
ONE ASIA SOUTH (B,C&D)



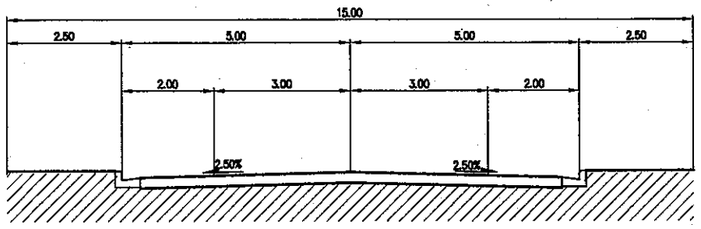
ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JICA JAPAN INTERNATIONAL COOPERATION AGENCY Japan	THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM	SHEET CONTENTS TYPICAL CROSS SECTIONS OF ALL CROSSING ROADS	SCALE N T S	Drawing Number B–03A

TYPICAL CROSS SECTIONS OF ALL CROSSING ROADS

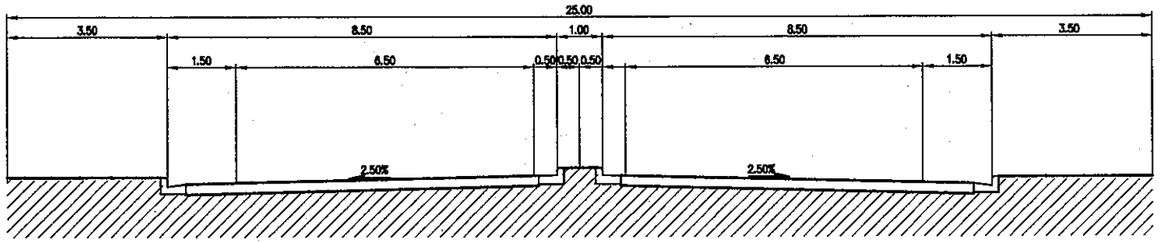
DAAN – HARI ROAD



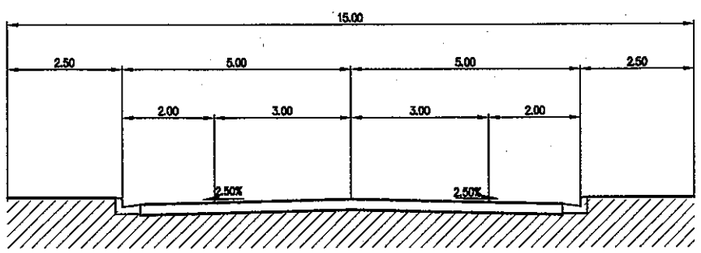
ORCHARD ROAD



SALAWAG –SANITRAN ROAD



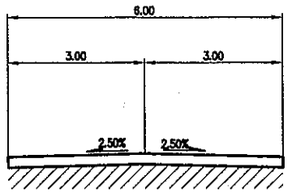
SALITRAN ROAD



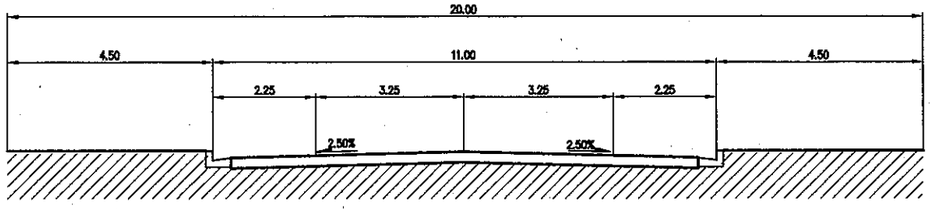
ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM	SHEET CONTENTS TYPICAL CROSS SECTIONS OF ALL CROSSING ROADS	SCALE N T S	Drawing Number B–03B

TYPICAL CROSS SECTIONS OF ALL CROSSING ROADS

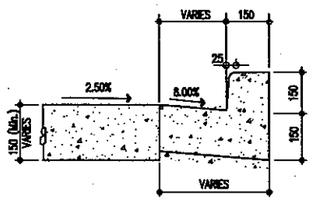
BUROL ROAD



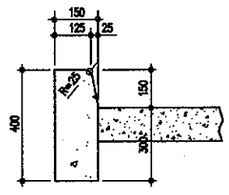
CONGRESSIONAL ROAD



AGUINALDO HIGHWAY (SOUTH)

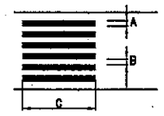


A B-03A CONC. CURB & GUTTER DETAIL N T S



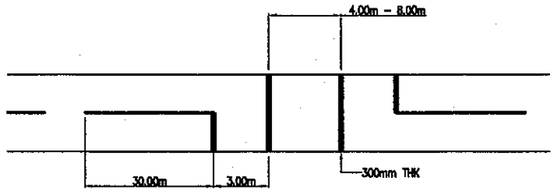
B B-03A CONC. CURB DETAIL N T S

ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM	SHEET CONTENTS TYPICAL CROSS SECTIONS OF ALL CROSSING ROADS, CONCRETE CURB AND GUTTER & CONCRETE CURB DETAIL	SCALE N T S	Drawing Number B-03C

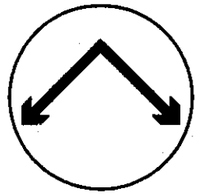


NOTE:
FOR 85%ile SPEED < 60 kph
A = B = 300 C = 2.5m – 4.0m
FOR 85% ile SPEED > 60 kph
A = B = 600mm C > 4.0m

3A B-04 ZEBRA TYPE (NON-SIGNALIZED CROSSING)
N T S

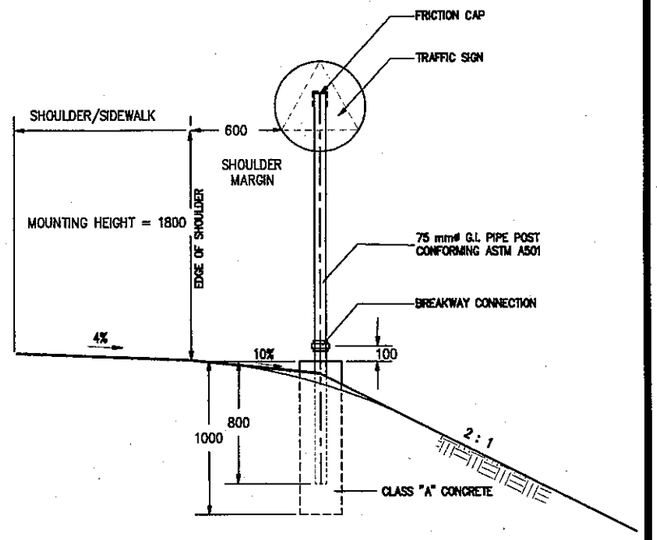


3B B-04 CROSSWALKS (SIGNALIZED PEDESTRIAN CROSSING)
N T S

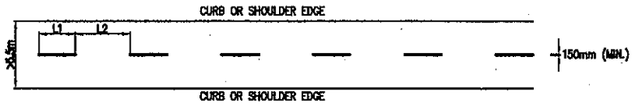


A–1

6 B-04 DIRECTIONAL SIGN
N T S



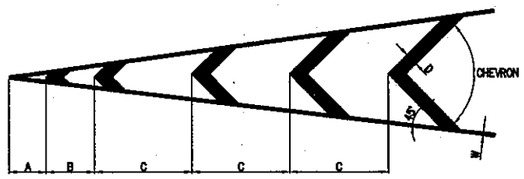
7 B-04 MOUNTING FOR WARNING AND REGULATORY SIGNS



NOTE:
FOR 85% ile SPEED < 60 kph L1=3.0m L2=4.5m
FOR 85% ile SPEED > 60 kph L1=3.0m L2=9.0m
BARRIER LINES MAY BE USED AS CENTER LINES ONLY
WHEN PASSING IS WARRANTED

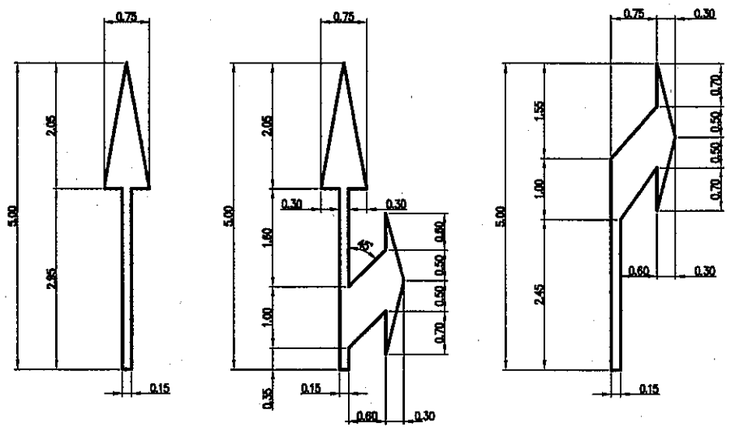
3 B-04 PEDESTRIAN CROSSING MARKINGS
N T S

2 B-04 CENTER LINE AND EDGE LINE MARKING FOR A TYP. TWO-LANE ROAD
SCALE: 1:250



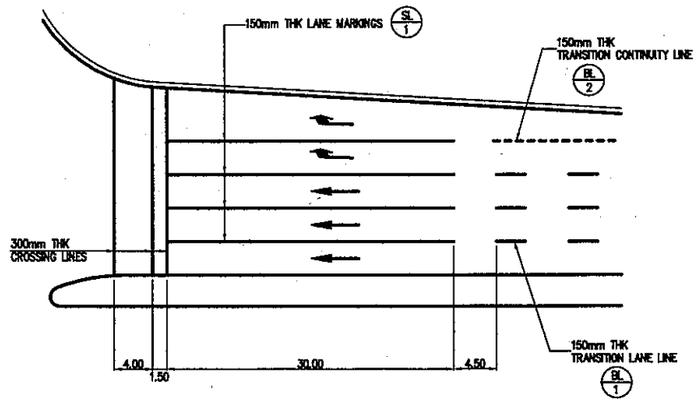
NOTE:
FOR SPEED OF 60kph OR LESS USE:
W = 100mm
D = 500mm
A = 1.5m
B = 2.0m
C = 4.0m

5 B-04 APPROACH MARKING TO TRAFFIC ISLAND
N T S



NOTE:
TO BE USED FOR ROADS WITH A SPEED LIMIT OF 60kph OR LESS

1 B-04 STANDARD PAVEMENT ARROWS
SCALE: 1:50



4 B-04 DETAIL – TYPICAL LINE MARKING
N T S

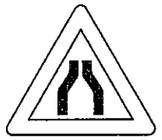
GENERAL NOTES:

1. ALL SIGNS SHALL BE PLACED ON THE RIGHT HAND SIDE OF THE TRAVELWAY, EXCEPT AS OTHERWISE INDICATED ON PLAN. SIGNS SHALL FACE THE DIRECTION OF TRAFFIC FLOW AND SHALL BE SUCH IN A MANNER THAT NO OTHER OBJECT SHALL OBSTRUCT THE VIEW OR LINE OF SIGHT OF THE MOTORIST.
2. THE PROPER LOCATION OF SIGN SHALL BE SUCH, AS NOT TO OBSTRUCT THE DRIVEWAYS OF ABUTTING PROPERTIES.
3. UNLESS OTHERWISE SPECIFIED ON THE PLANS, ALL TRAFFIC SIGNS AND PAVEMENT MARKINGS SHALL CONFORM WITH THE REQUIREMENTS OF THE PHILIPPINE ROAD SIGNS AND PAVEMENT MARKINGS MANUALS OF DPWH SERIES OF 1981 AND 1977.
4. TRAFFIC SIGNS, SYMBOLS AMD MESSAGES ARE SUBJECT TO CHANGE TO SUIT LOCAL NEEDS AND ACTUAL SITE CONDITIONS, THIS SHALL BE AS DIRECTED BY THE ENGINEER.
5. THE DIMENSIONS AND COLORS OF ADVANCE DIRECTION AND DIRECTION SIGNS SHALL BE ADAPTED TO THE PHILIPPINE STANDARD.

ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM	SHEET CONTENTS PAVEMENT MARKINGS DETAILS	SCALE AS SHOWN	Drawing Number B–04

A. WARNING SIGNS :

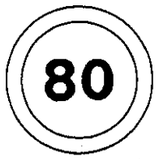
1. MERGING ROAD



2. ROAD NARROWS

3. END DIVIDED ROAD

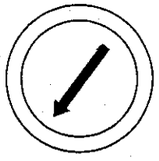
B. REGULATORY SIGNS :



1. SPEED LIMIT 80kph

2. SPEED LIMIT 60kph

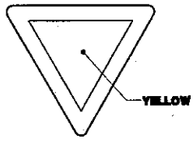
3. SPEED LIMIT 40kph



4. PASS THIS SIDE

5. PASS THIS SIDE

6. PASS EITHER SIDE



7. YIELD SIGN

8. STOP AT INTERSECTION

PAVEMENT MARKINGS			
SYMBOLS	WIDTH	SPACING SEGMENT / GAP	COLOR
SL-1	150	3000/9000	WHITE
SL-2	100	1000/3000	WHITE
SL-1	150	SOLID LINE	YELLOW
SL-2	150	SOLID LINE	WHITE
REFLECTIVE PAINT IS INDICATED WITH R		e.y. SL-1R	

C. ADVANCED DIRECTION SIGNS :

AD-1

AD-2

AD-3

NOTES :

WARNING SIGNS :

EACH SIDE OF THE EQUILATERAL TRIANGLE SHALL BE 900mm. THE SYMBOL SHALL BE BLACK ON WHITE BACKROUND & RED BORDER (80mm WIDE).

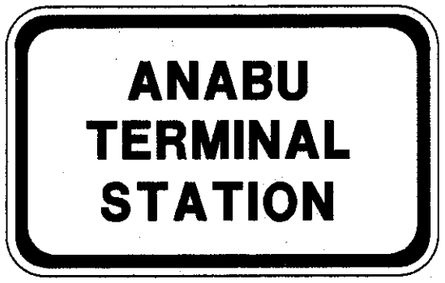
REGULATORY SIGNS :

THE PERIMETER SHALL BE 600mm. EXCEPT THE NO ENTRY & SPEED LIMIT SIGNS WHICH SHALL BE 900mm. THE SYMBOLS & INSCRIPTIONS IF ANY, SHALL BE BLACK ON WHITE BACKROUND WITH RED BORDER (80mm WIDE).

FOR NOS. 26 & 29 THE DIAMETER SHALL BE 900mm. SYMBOL SHALL BE WHITE ON BLUE BACKROUND WITH BORDER.

THE WORD "STOP" SHALL BE WHITE ON RED BACKROUND WITH WHITE BORDER.

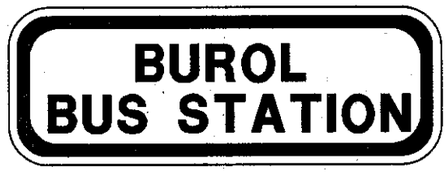
TRAFFIC SIGNS AND PAVEMENT MARKINGS SHOULD CONFORM WITH THE REQUIREMENTS BASED ON THE MANUAL PUBLISHED BY MANUAL TRAFFIC ENGINEERING AND MANAGEMENT, DPWH SERIES 1977 & 1981 RESPECTIVELY.



AD-4

AD-5

AD-6

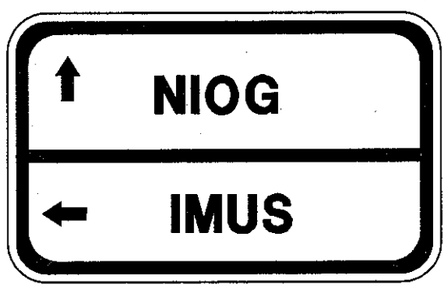


AD-7

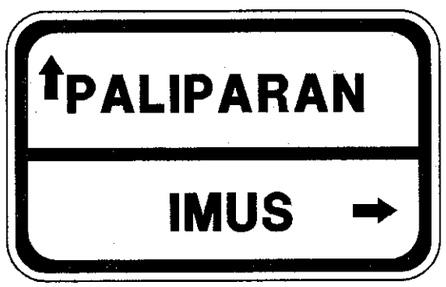
AD-8

AD-9

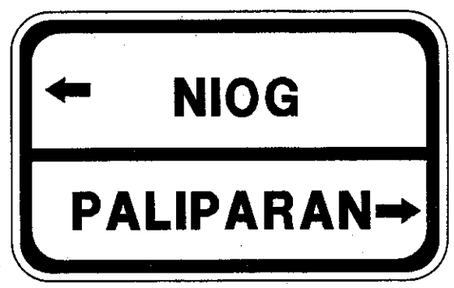
AD-10



AD-11



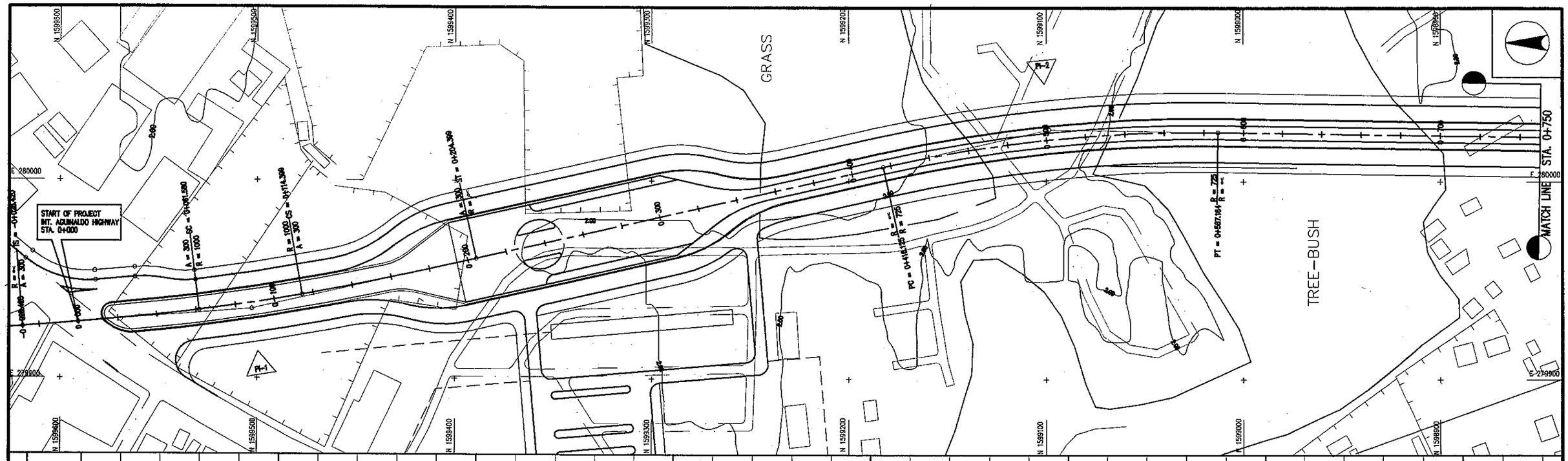
AD-12



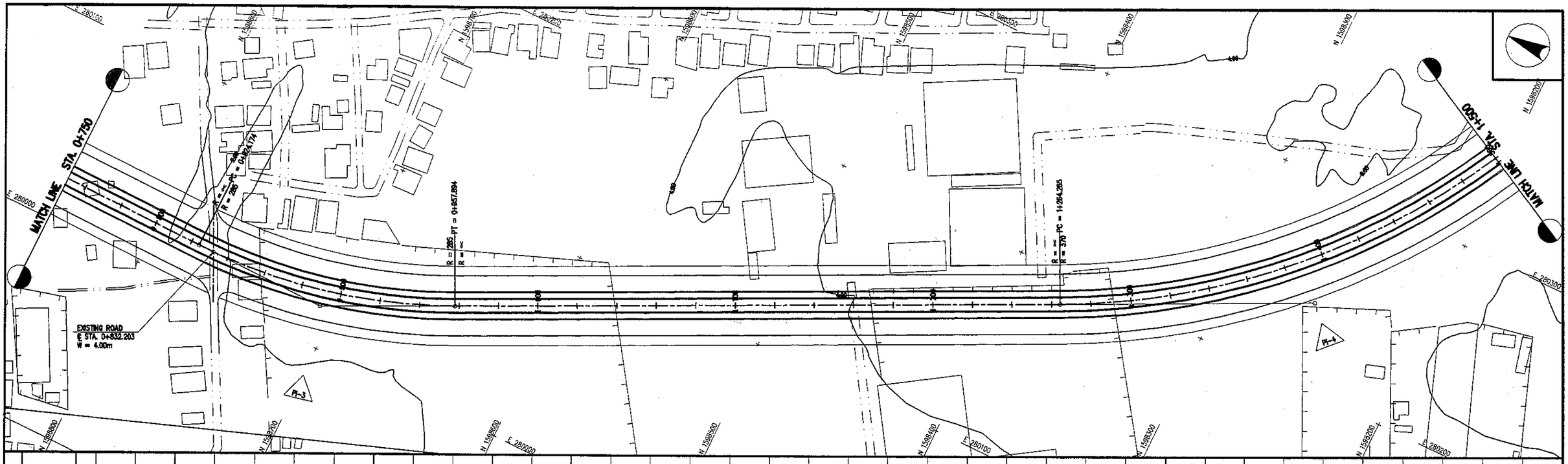
AD-13

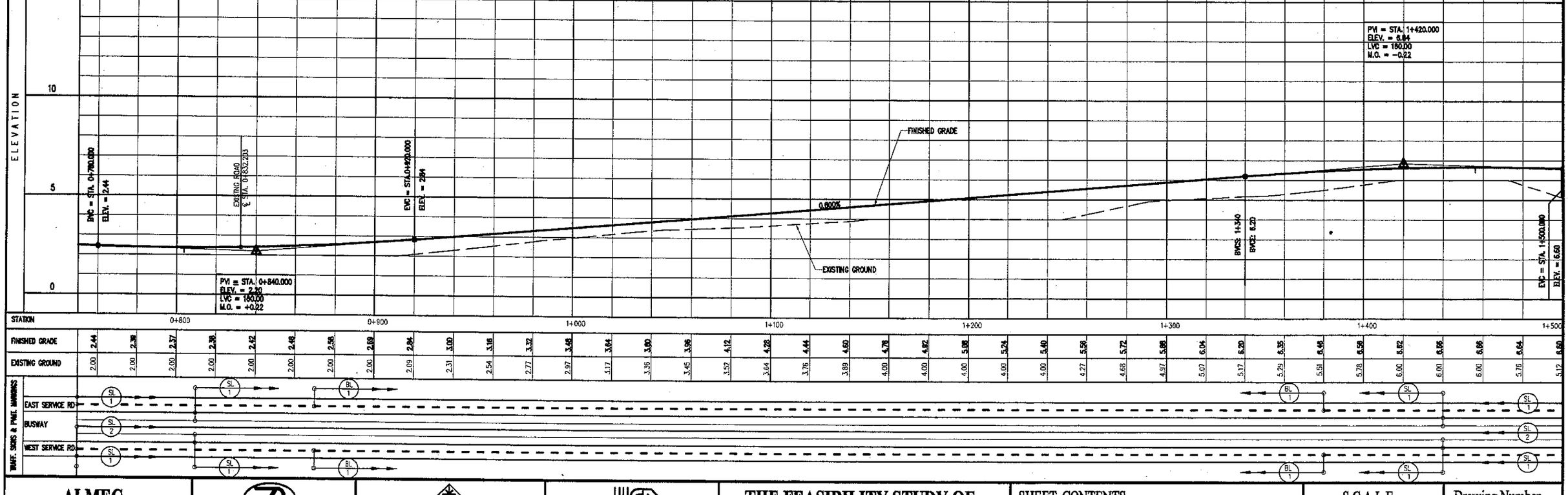
ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM	ROAD SIGNS AND PAVEMENT MARKINGS	SCALE AS SHOWN	Drawing Number B-05

C. PLAN AND PROFILE

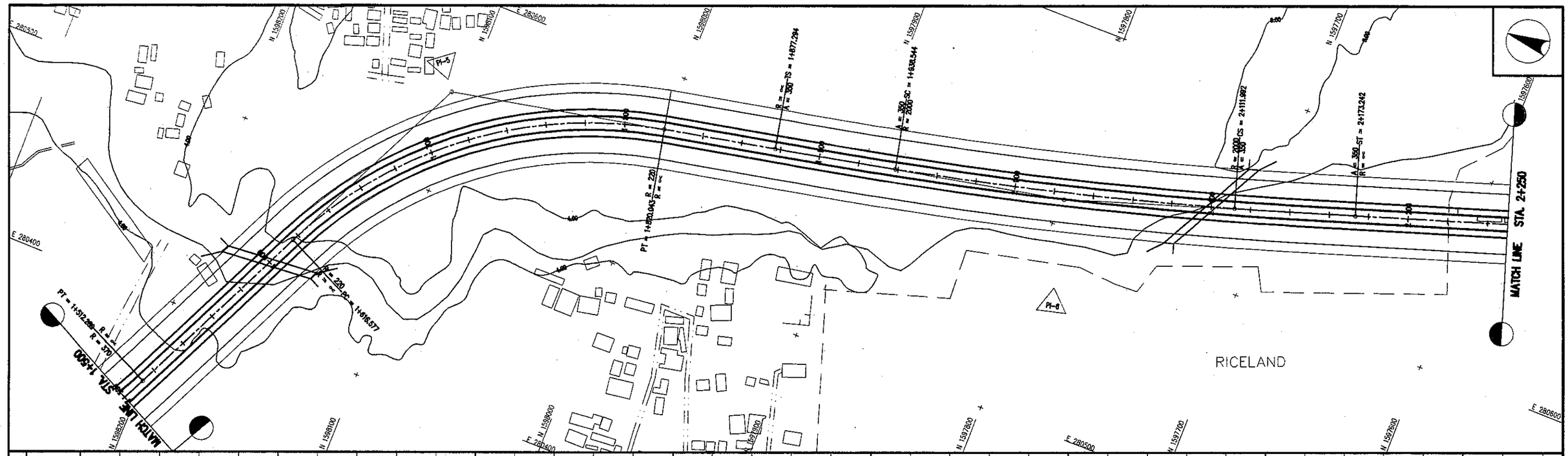


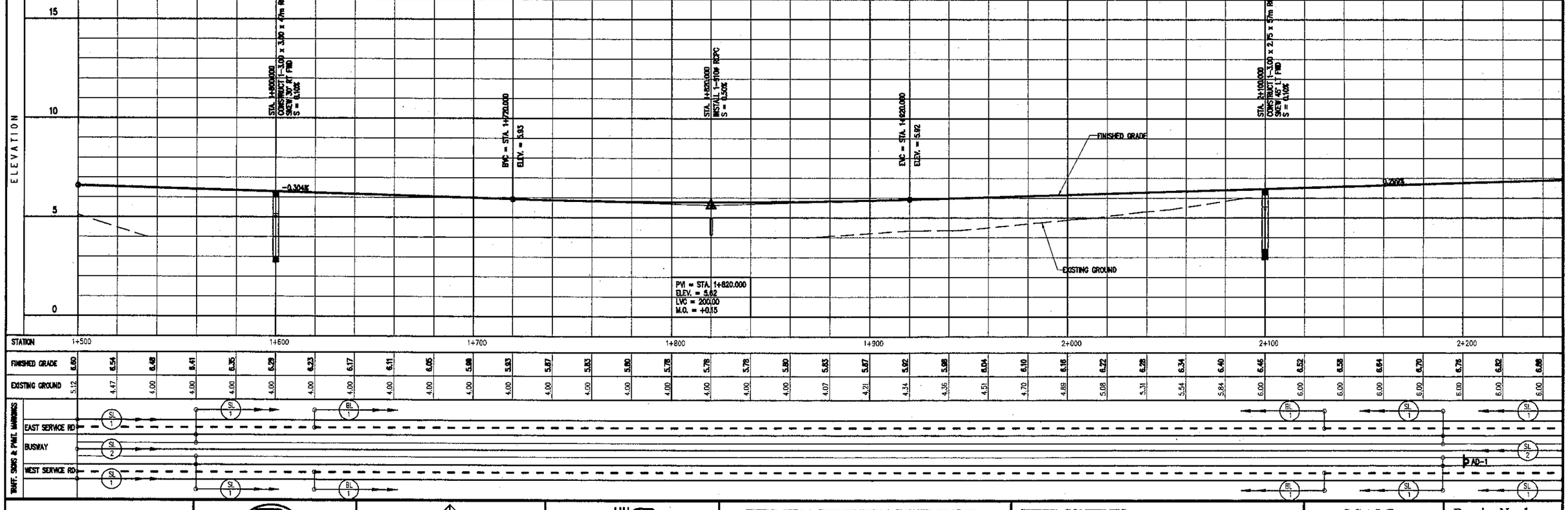
ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JICA JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 0+000 TO STA. 0+750	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number C-01



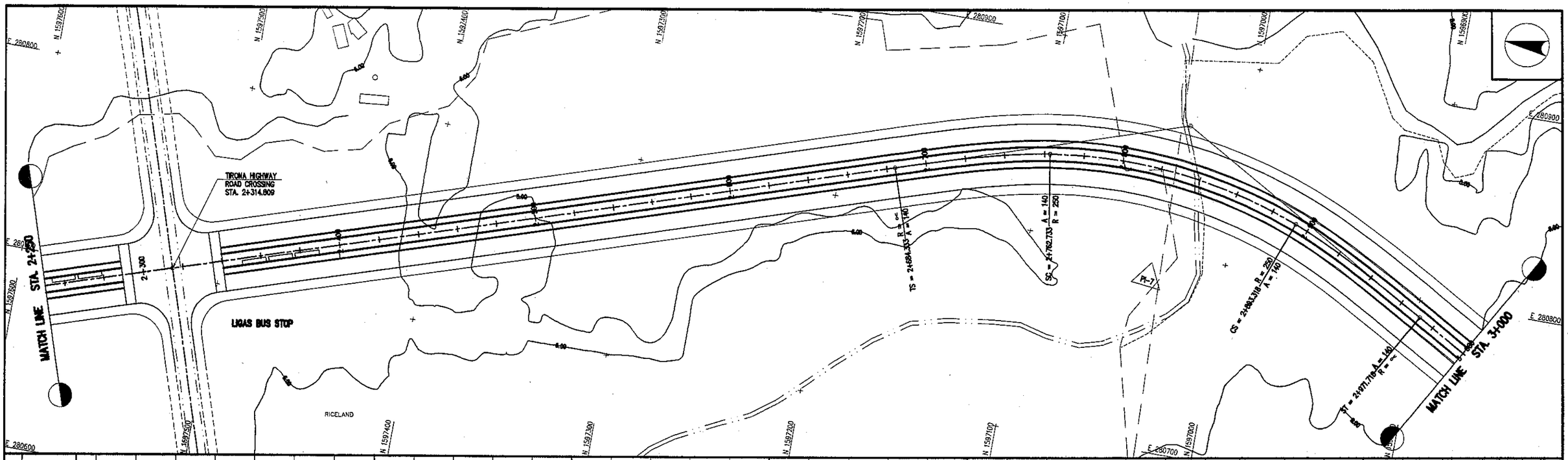


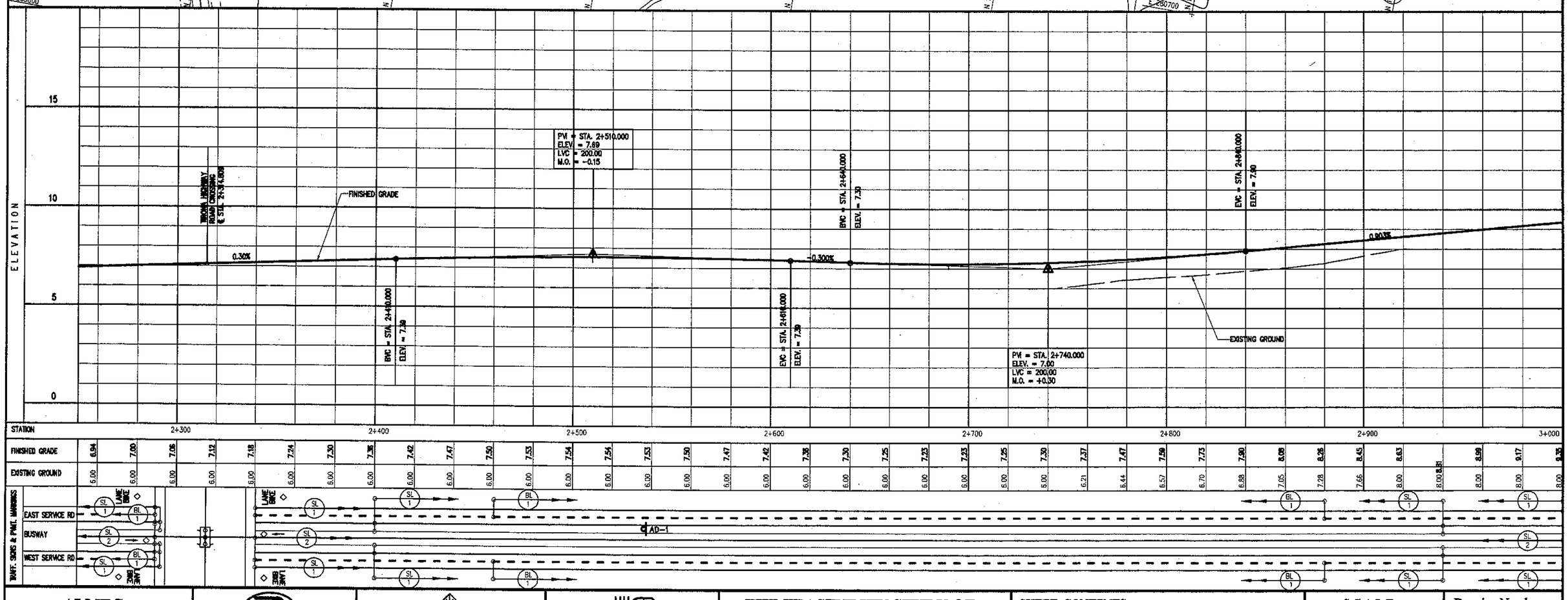
ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JICA JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 0+750 TO STA. 1+500	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number C-02



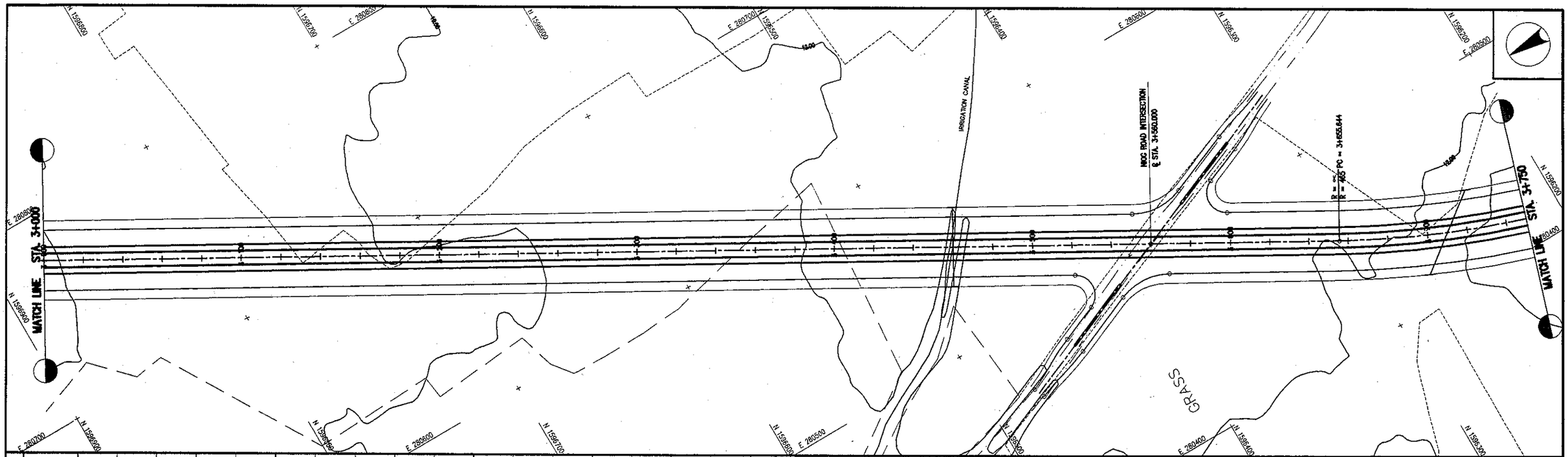


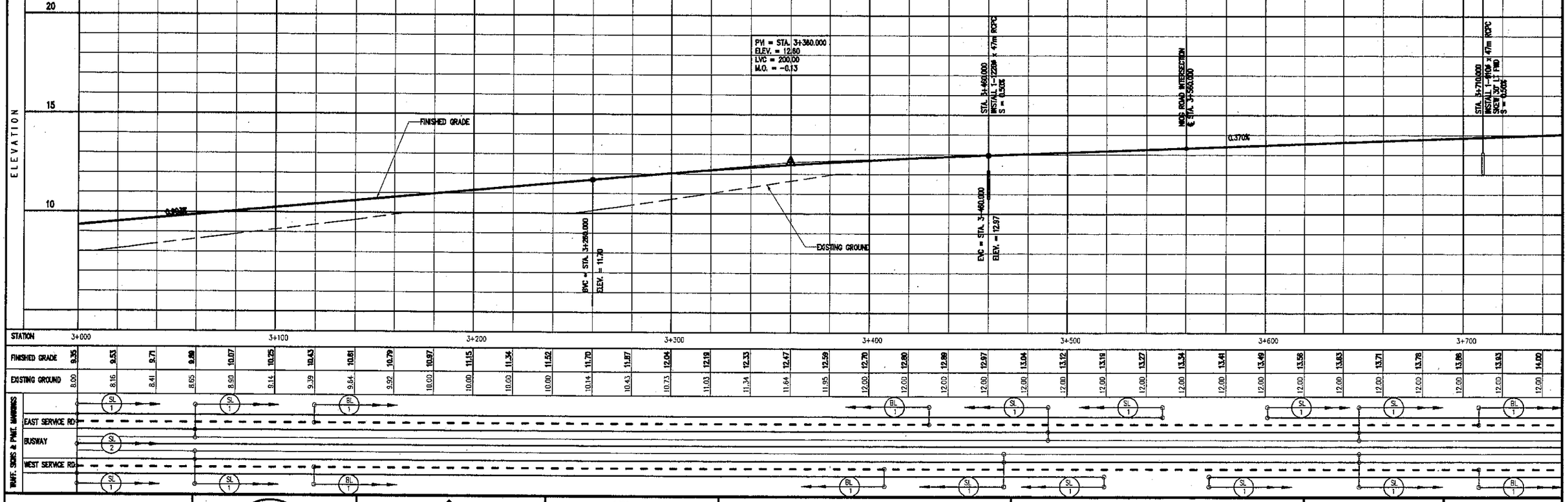
ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS: PLAN AND PROFILE STA. 1+500 TO STA. 2+250	SCALE: 1:2000 HOR. 1:200 VERT.	Drawing Number: C–03



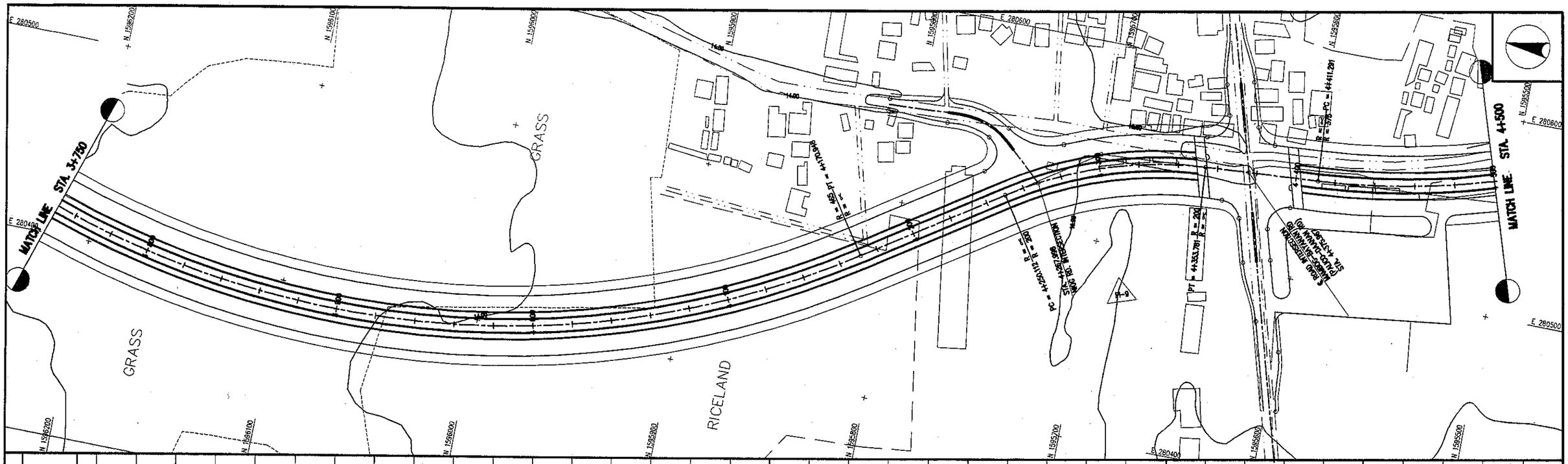


ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JICA JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 2+250 TO STA. 3+000	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number C–04



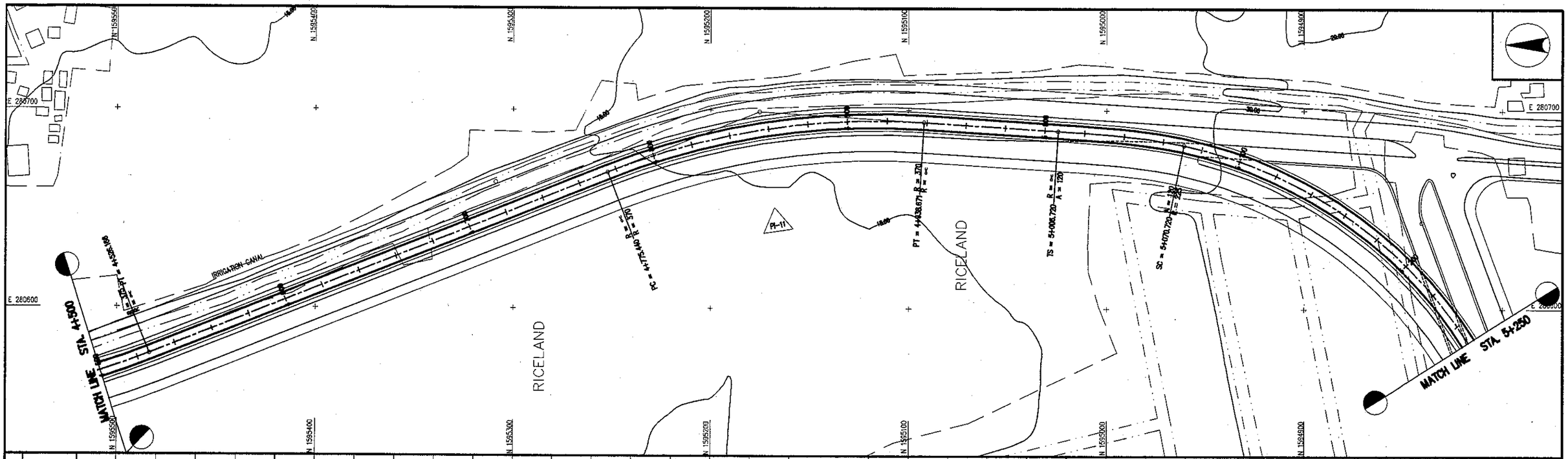


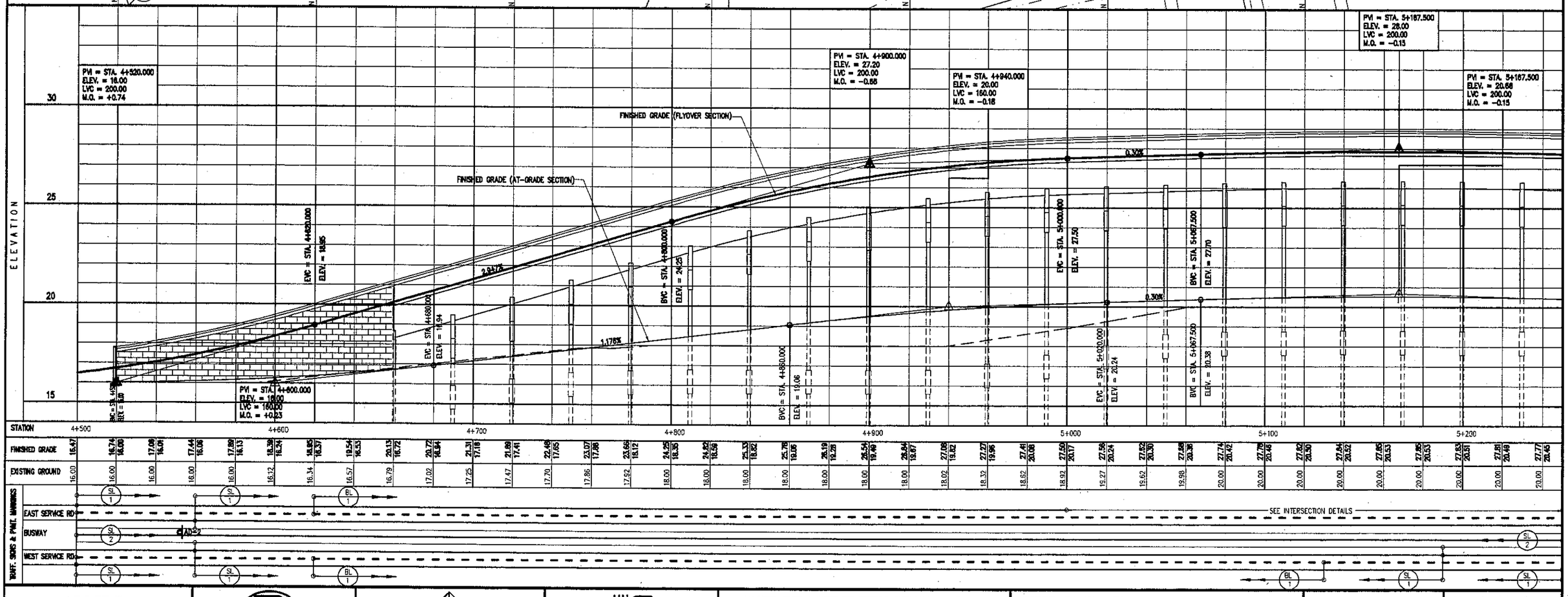
ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 3+000 TO STA. 3+750	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number C−05



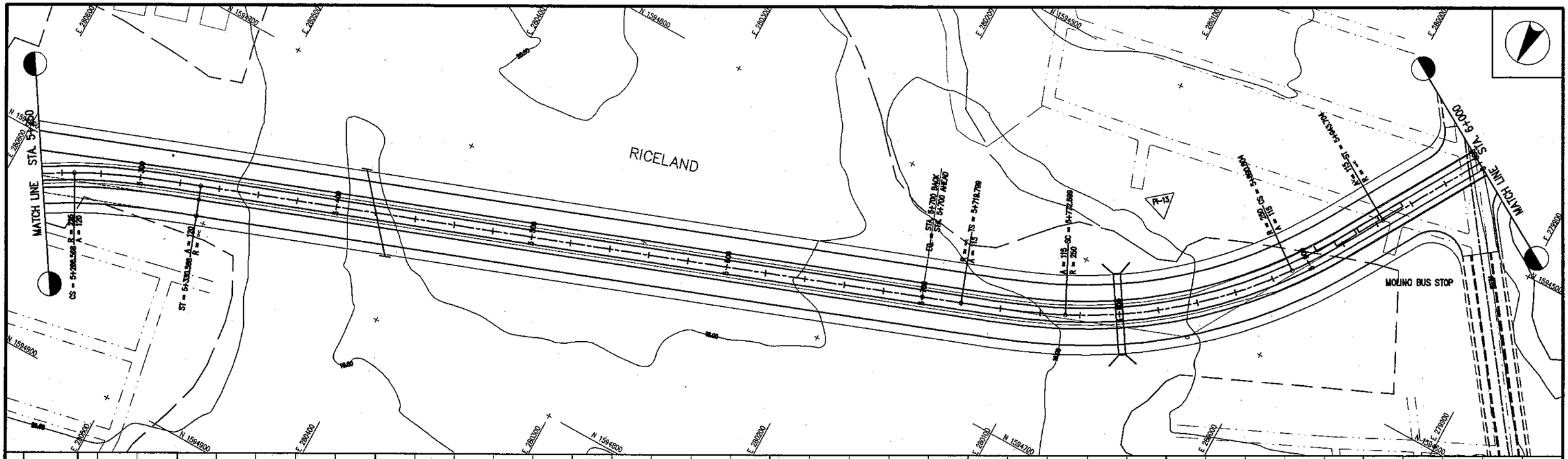
STATION	3+800	3+900	4+000	4+100	4+200	4+300	4+400	4+500
FINISHED GRADE	14.08 14.15 14.23 14.30 14.37 14.45 14.52 14.60 14.67 14.74 14.82 14.89 14.97 15.04 15.11 15.19 15.26 15.33 15.41 15.48 15.56 15.63 15.70 15.77 15.83 15.88 15.93 15.98 15.98 16.00 16.00 16.00 16.00 16.00 16.00 16.00 16.03 16.12 16.27 16.47							
EXISTING GROUND	12.00 12.10 12.38 12.66 12.94 13.22 13.49 13.73 13.98 14.00 14.00 14.00 14.00 14.00 14.00 14.00 14.00 14.00 14.00 14.00 14.17 14.38 14.59 14.80 14.90 15.11 15.43 15.82 16.00 16.00 16.00 16.00 16.00 16.00 16.00 16.00 16.00 16.00 16.00 16.00							
TRAFF. SIGNS & PVMT. MARKINGS	EAST SERVICE RD / BUSWAY / WEST SERVICE RD							

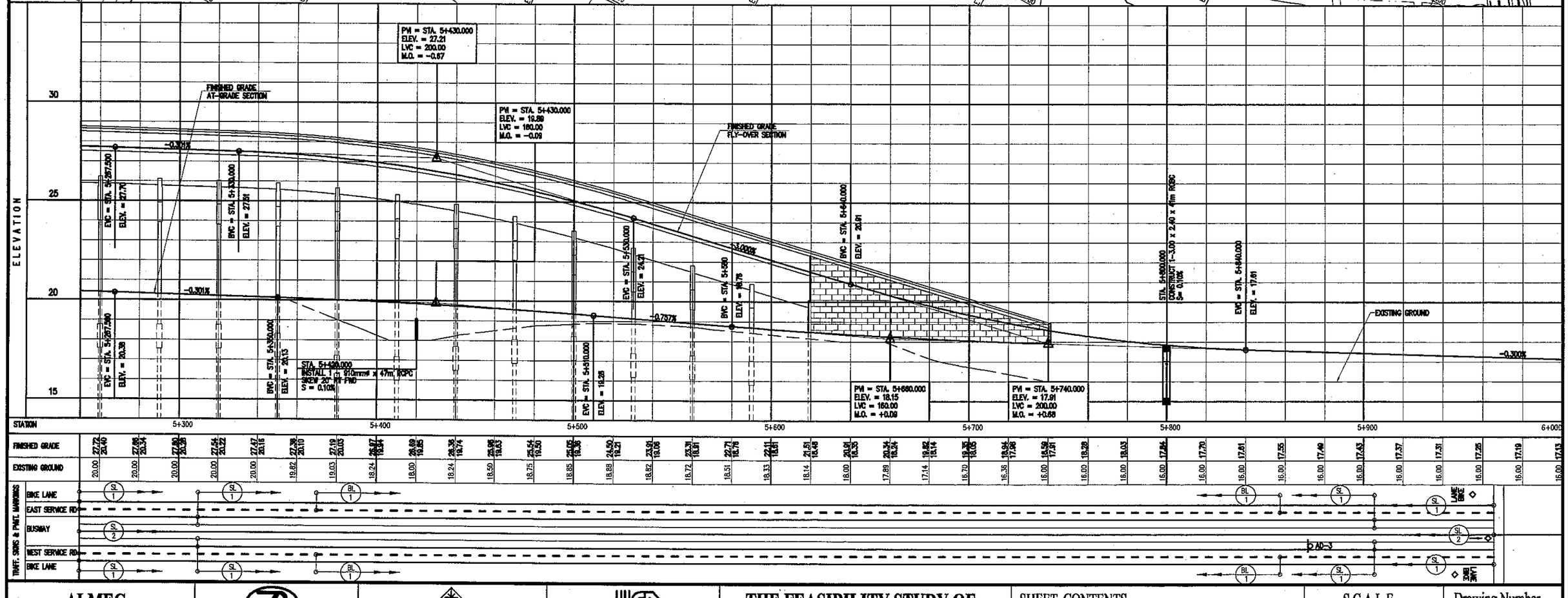
ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JICA JAPAN INTERNATIONAL COOPERATION AGENCY Japan	THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM	SHEET CONTENTS PLAN AND PROFILE STA. 3+750 TO STA. 4+500	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number C-06



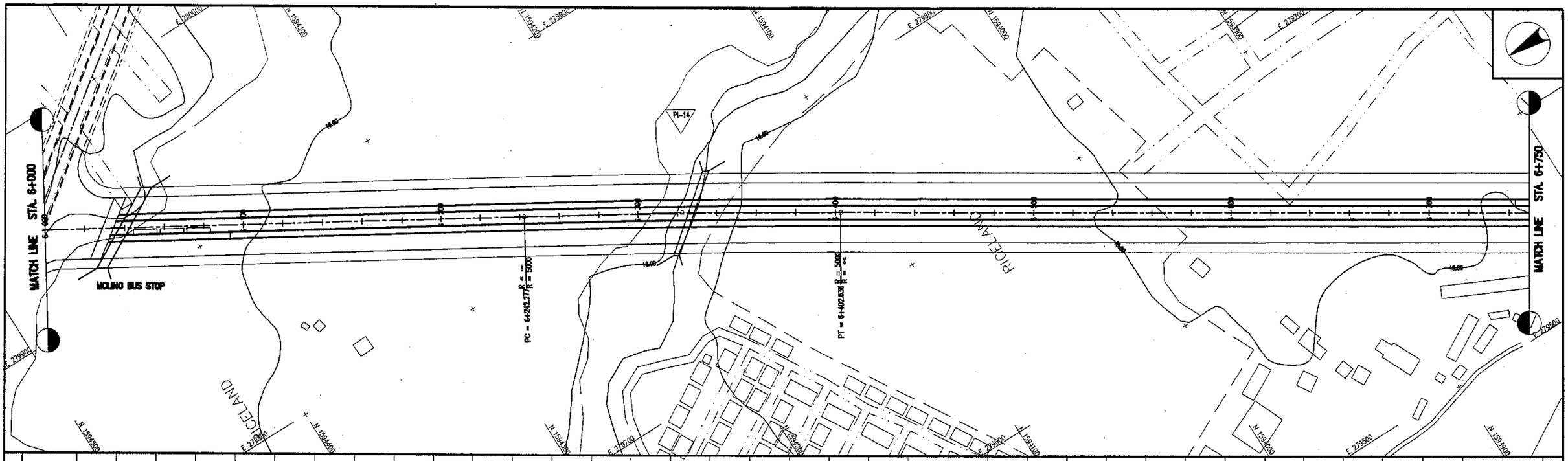


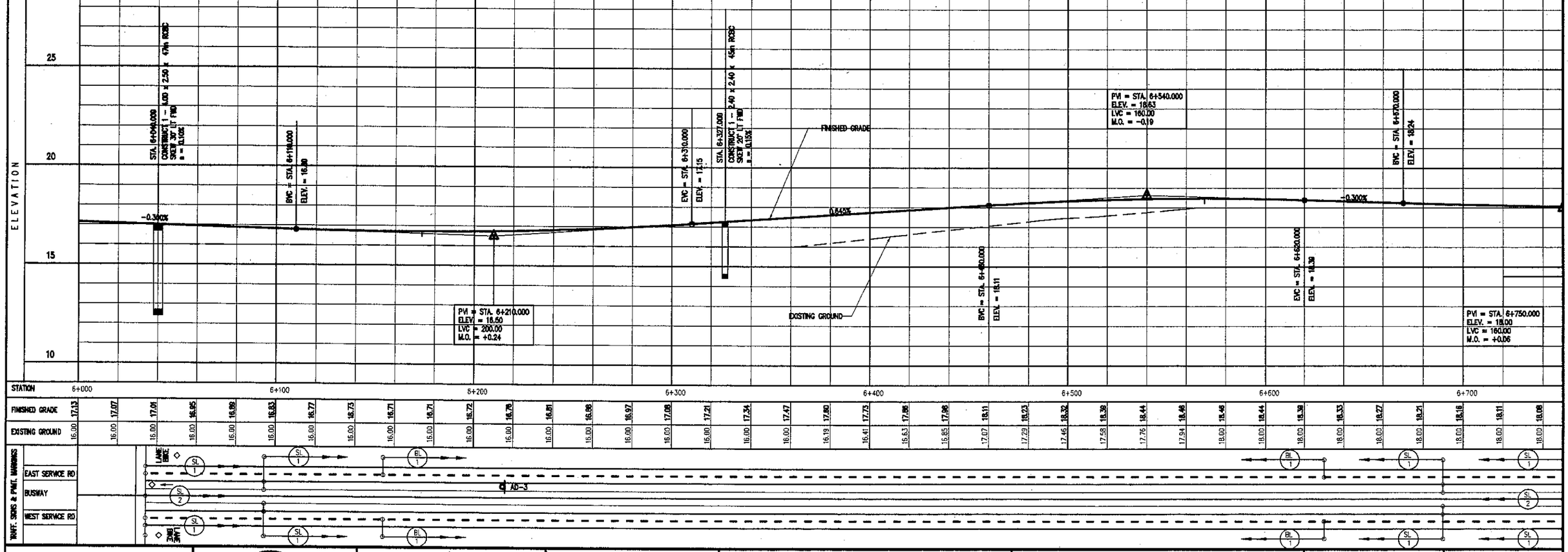
ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 4+500 TO STA. 5+250	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number C-07



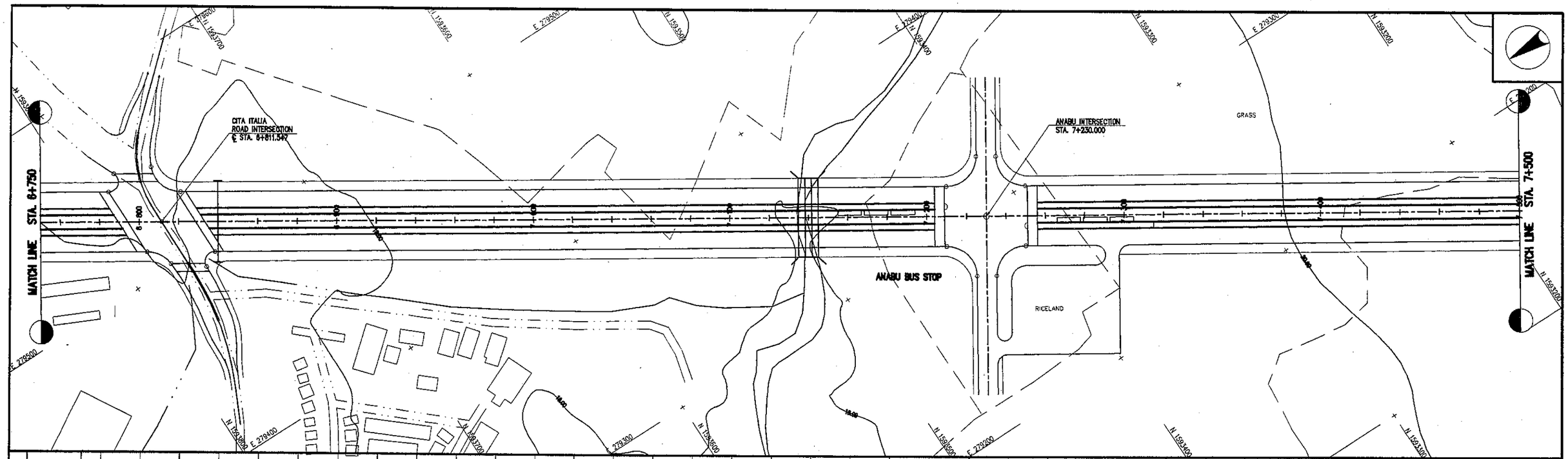


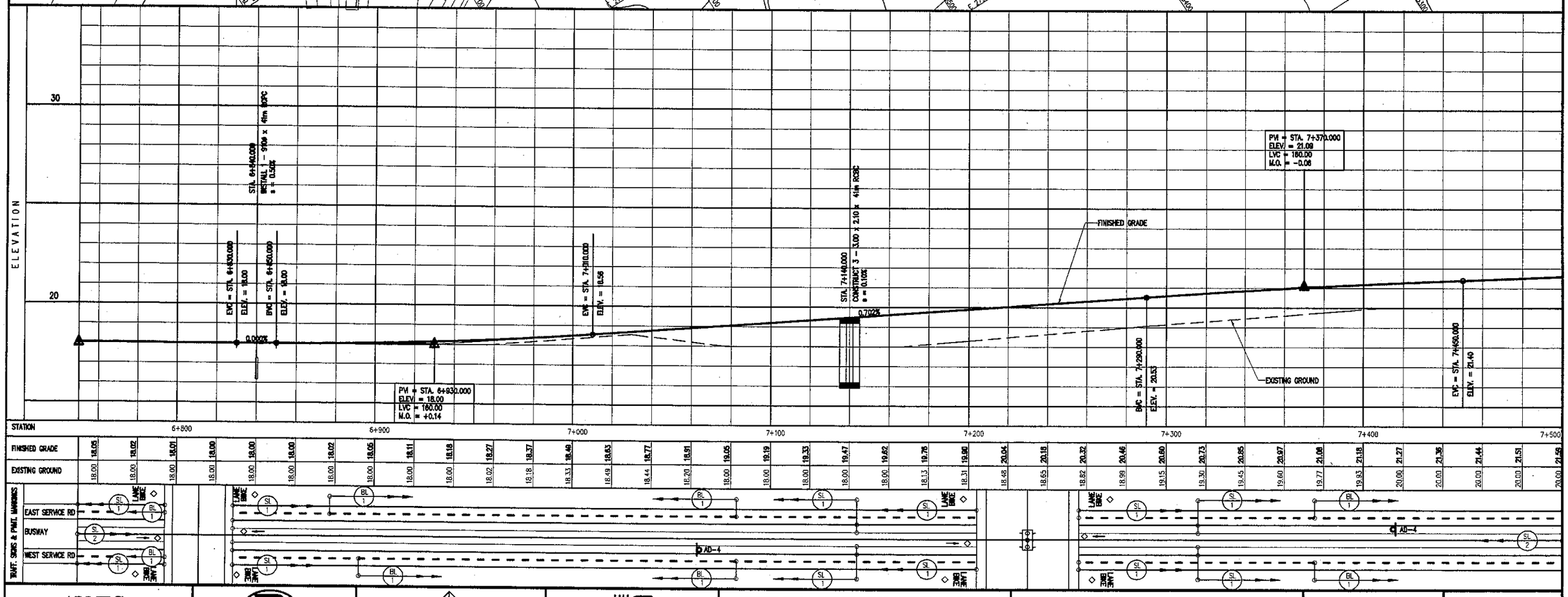
ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 5+250 TO STA. 6+000	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number C-08



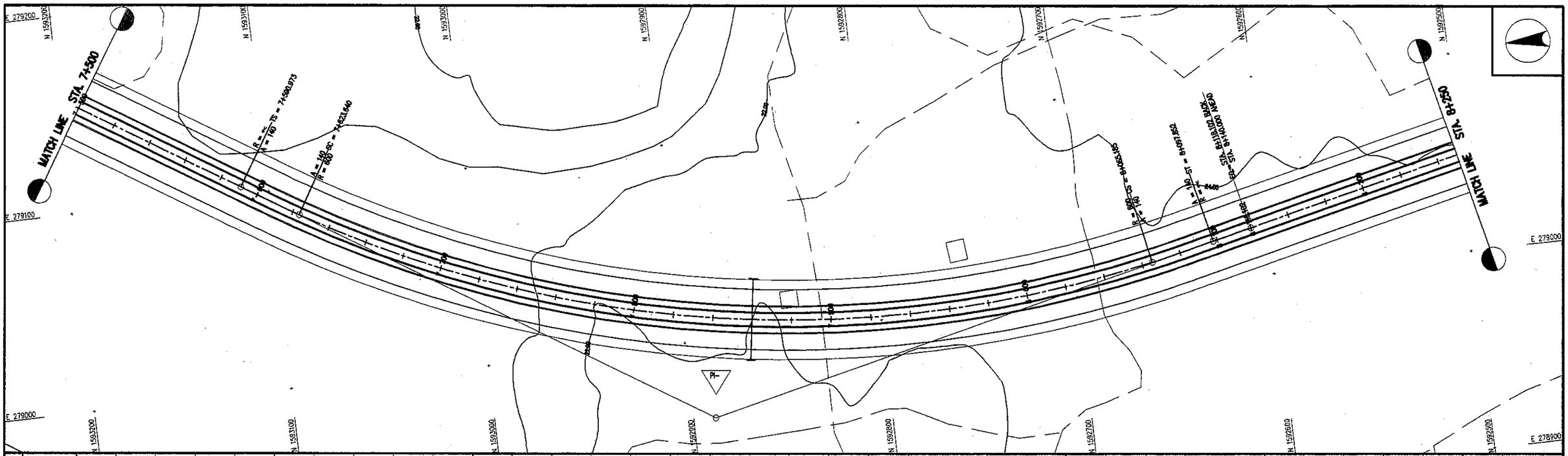


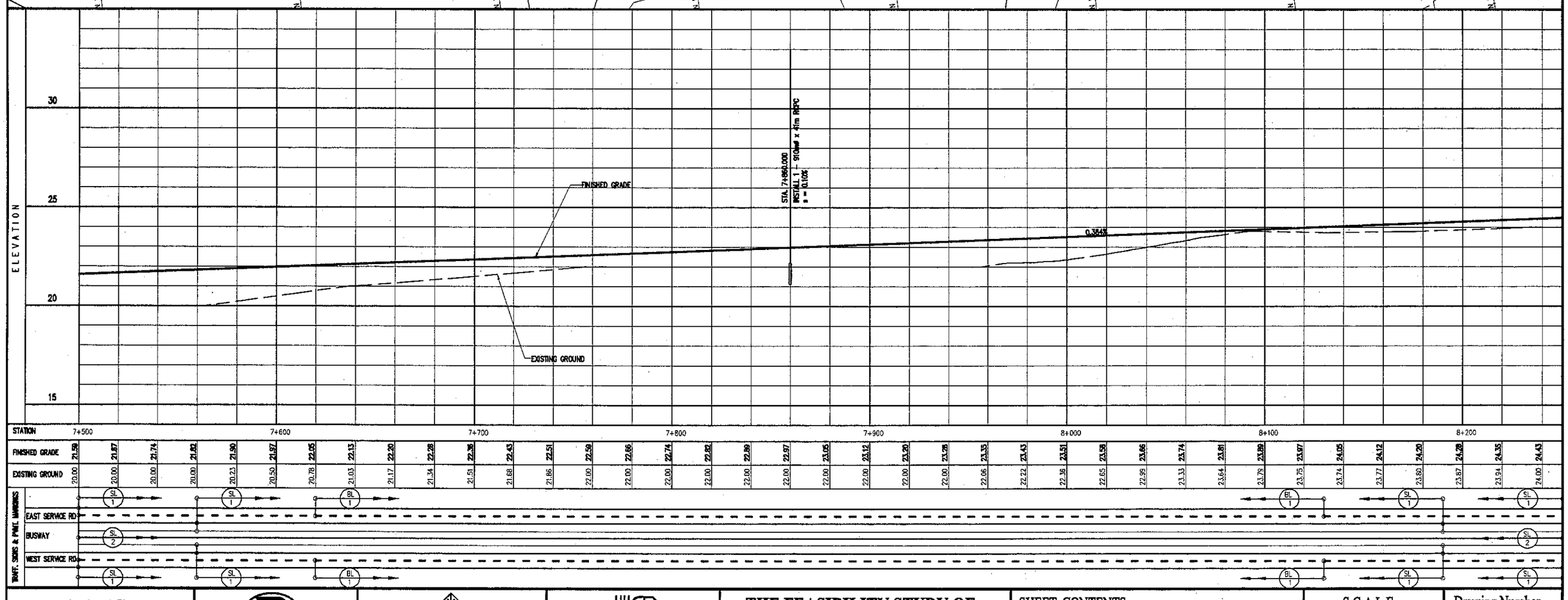
ALMEC ALMEC Corporation	**Pacific Consultants International**	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 6+000 TO STA. 6+750	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number C-09



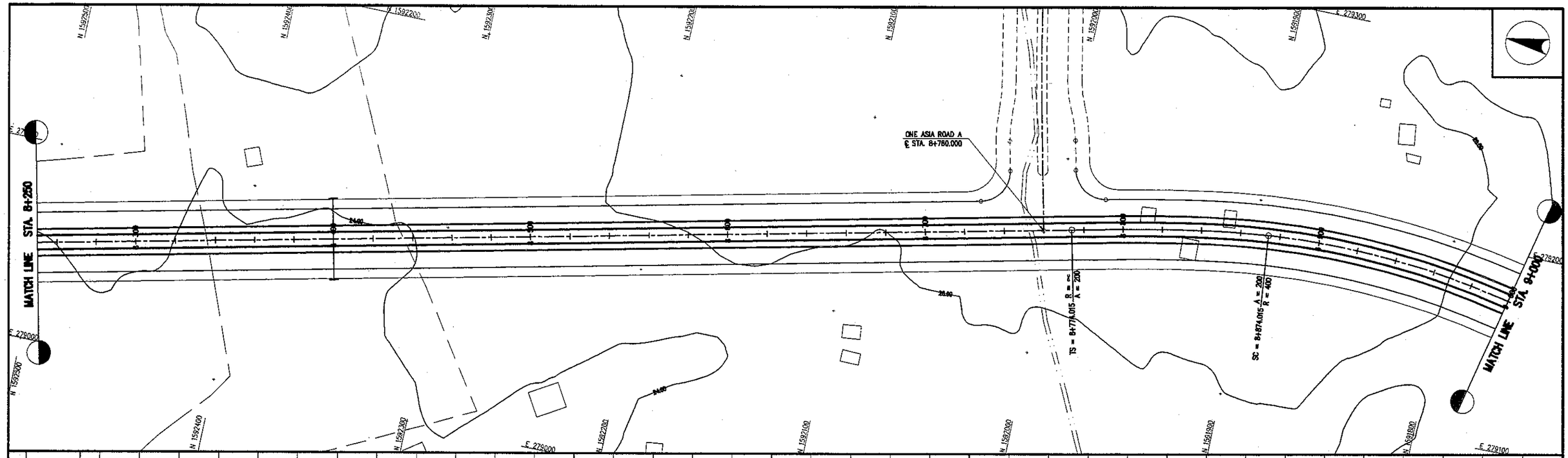


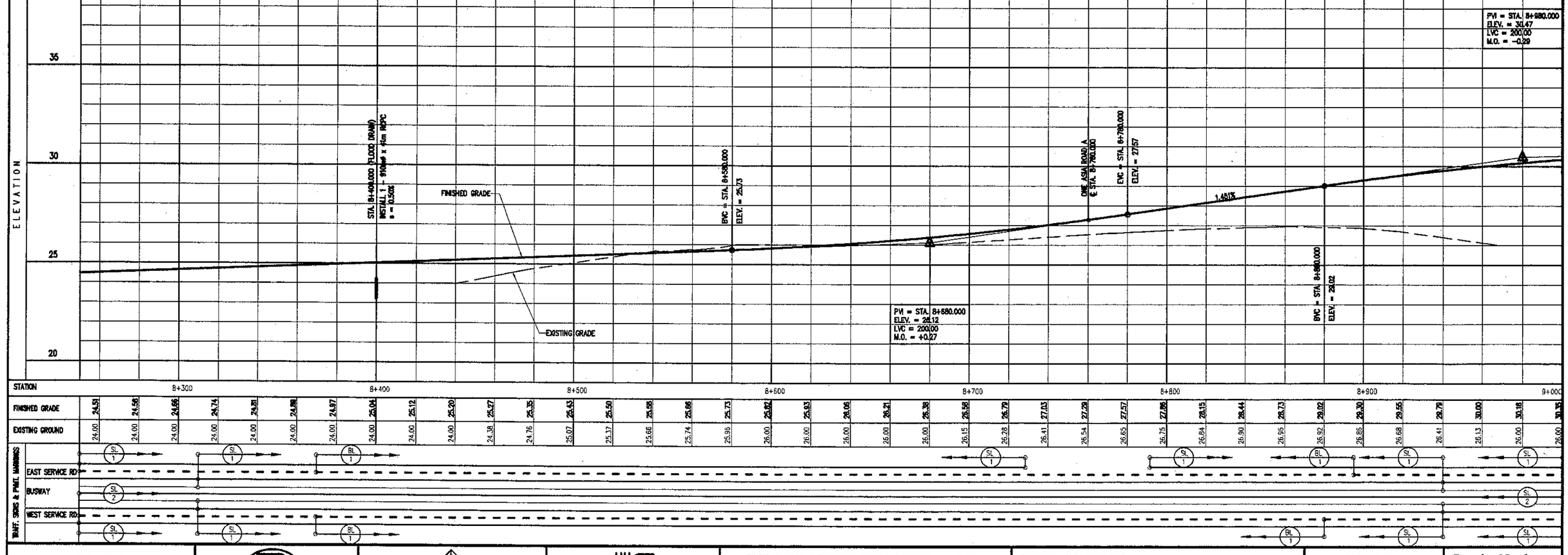
ALMEC ALMEC Corporation	**Pacific Consultants International**	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 6+750 TO STA. 7+500	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number C–10



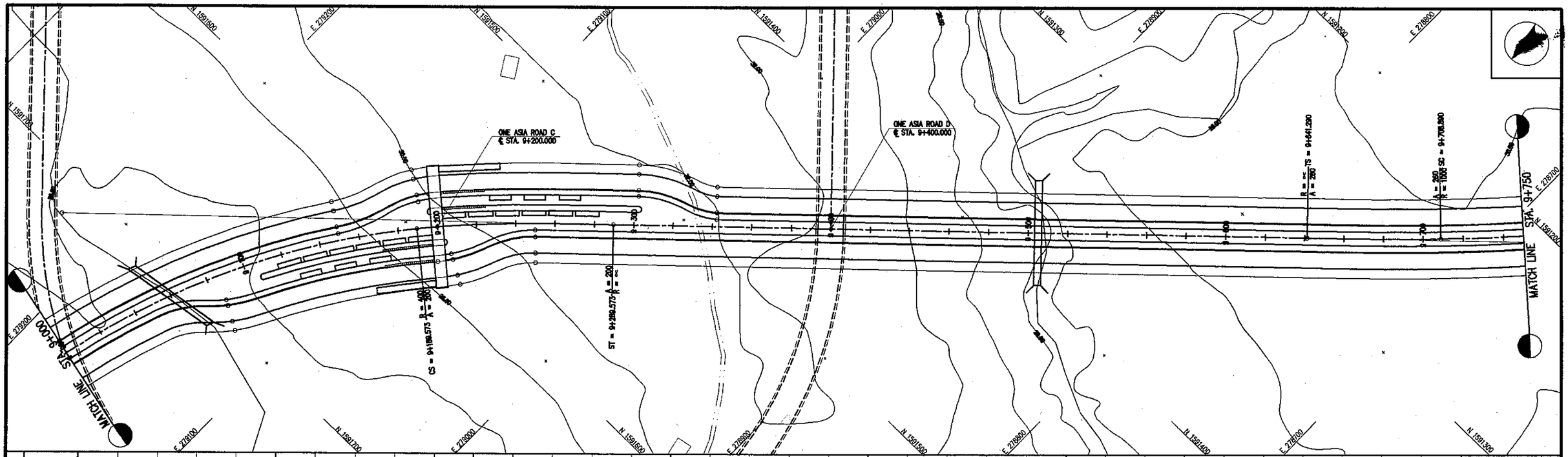


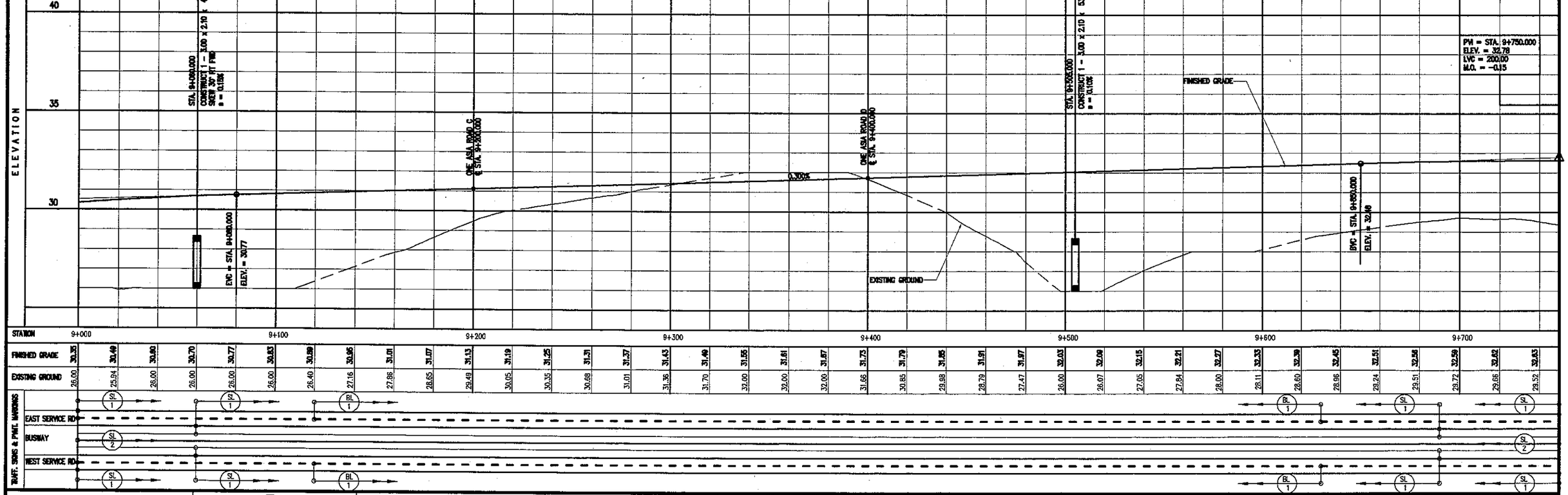
ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JICA JAPAN INTERNATIONAL COOPERATION AGENCY Japan	THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM	SHEET CONTENTS PLAN AND PROFILE STA. 7+500 TO STA. 8+250	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number C-11



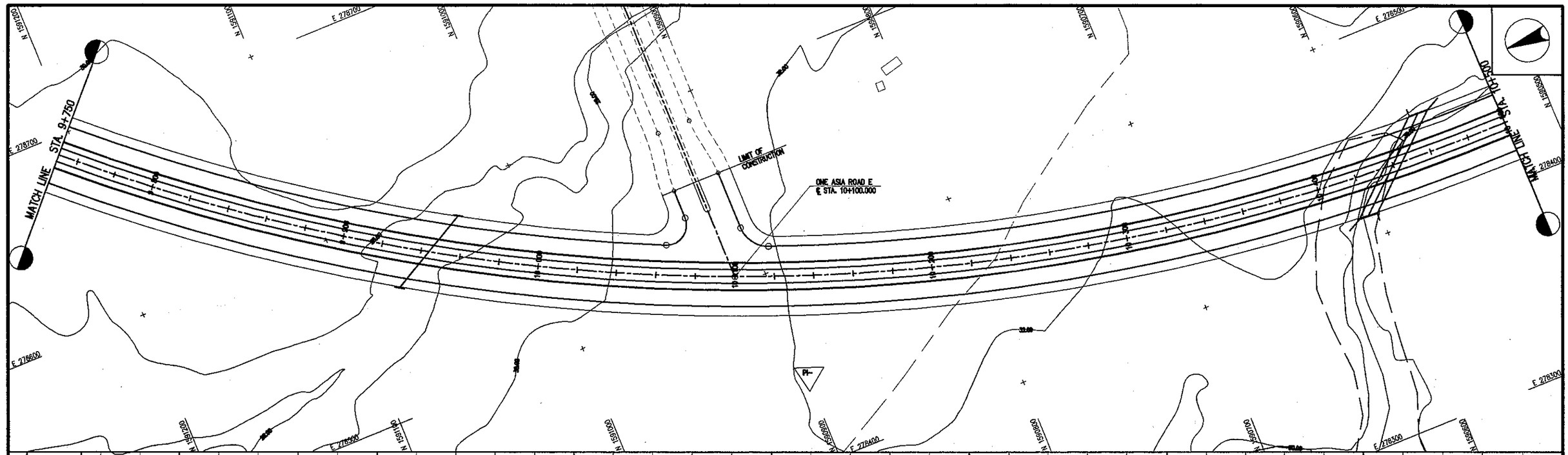


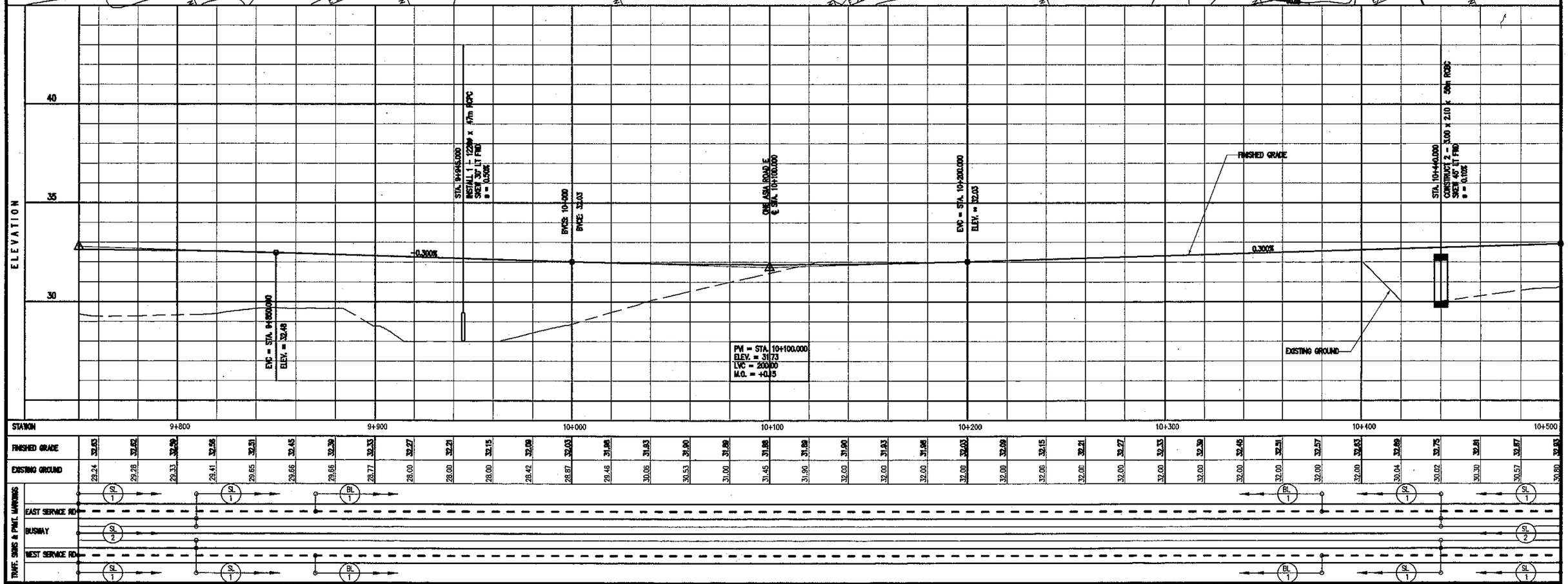
ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 8+250 TO STA. 9+000	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number C–12





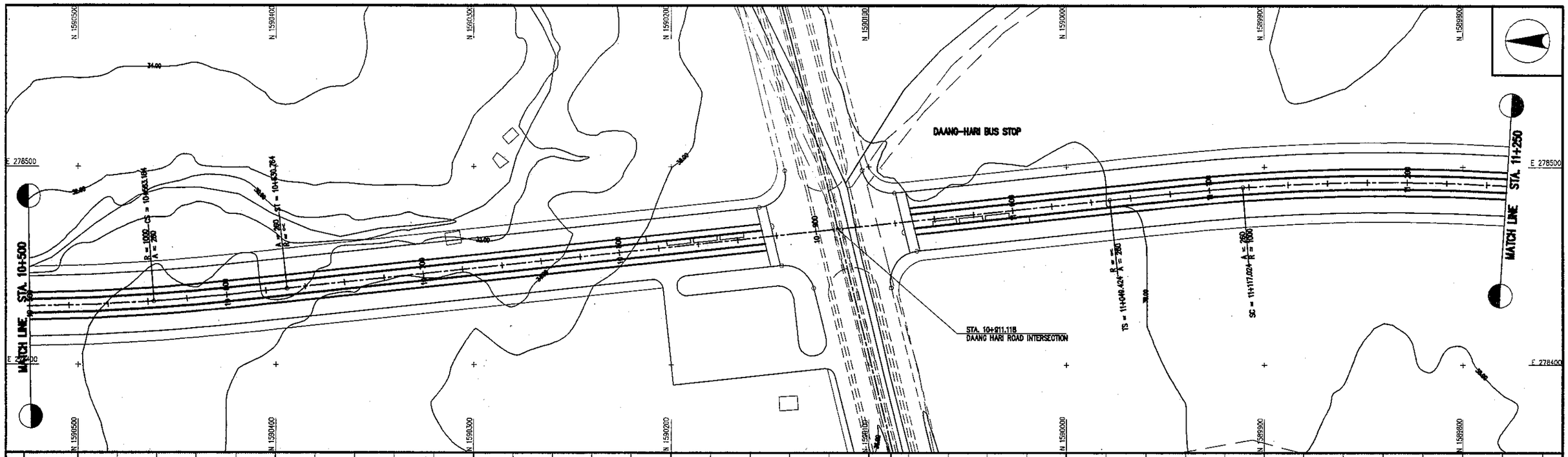
ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 9+000 TO STA. 9+750	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number C–13

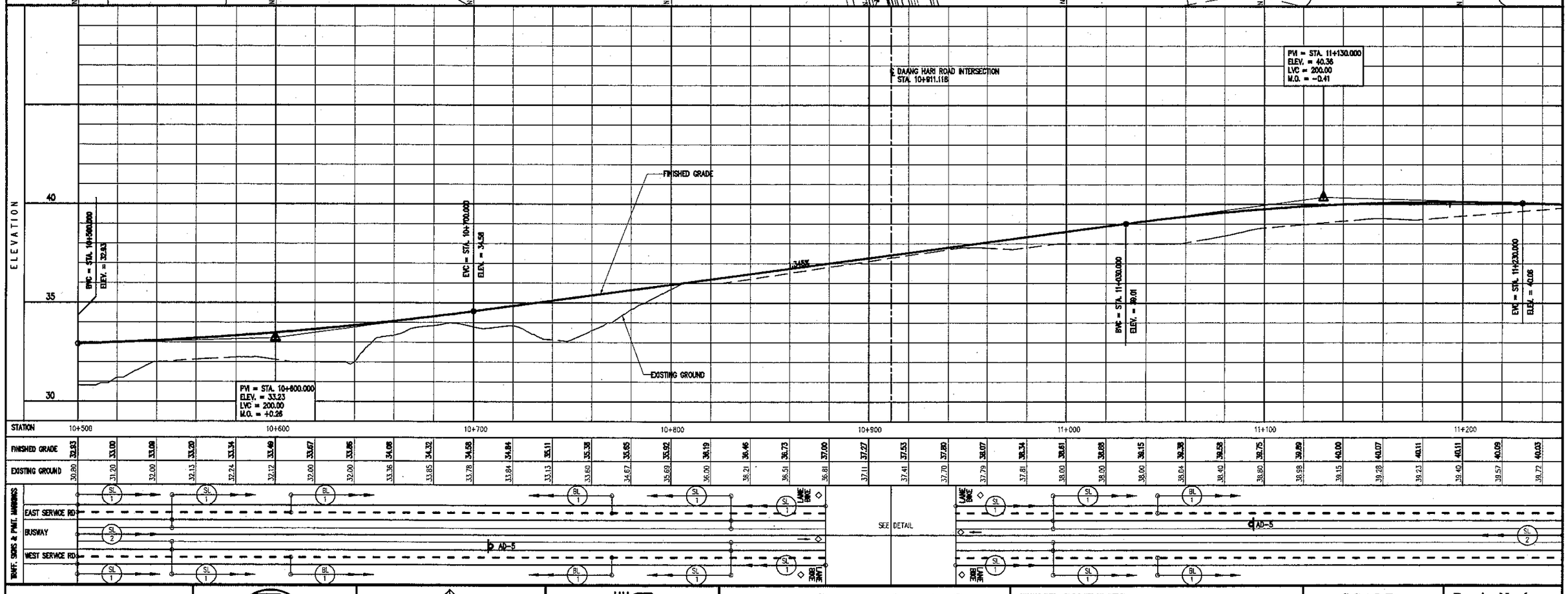




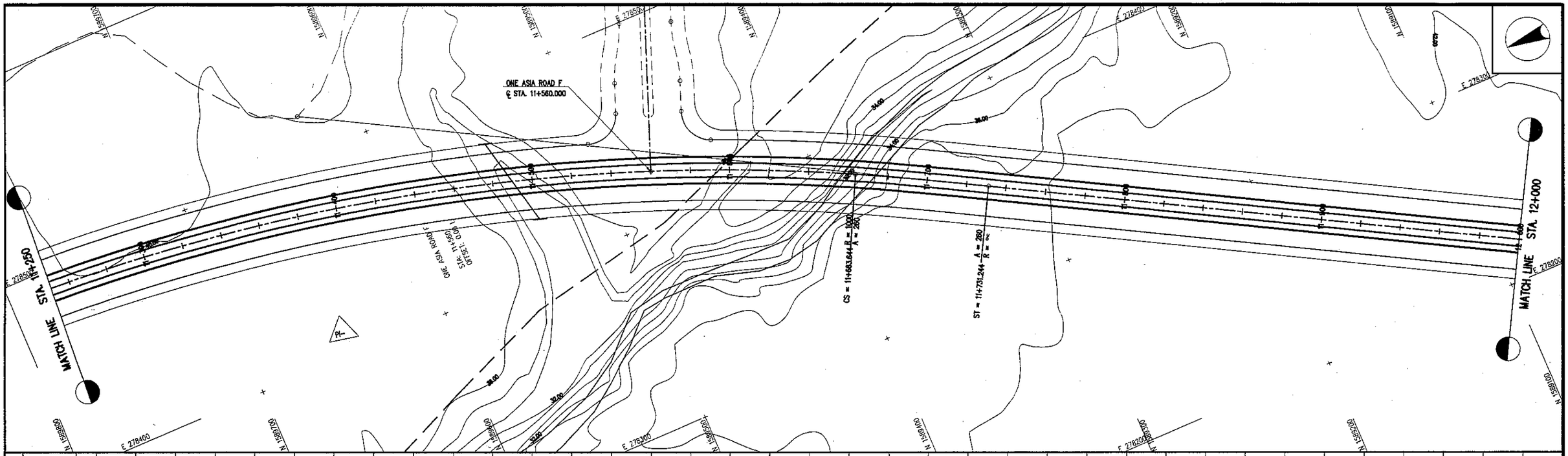
STATION	9+800	9+900	10+000	10+100	10+200	10+300	10+400	10+500
FINISHED GRADE	32.63 32.62 32.59 32.56 32.51 32.45 32.39 32.33 32.27 32.21 32.15 32.09 32.03 31.98 31.93 31.90 31.89 31.88 31.89 31.90 31.93 31.98 32.03 32.09 32.15 32.21 32.27 32.33 32.39 32.45 32.51 32.57 32.63 32.69 32.75 32.81 32.87 32.93							
EXISTING GROUND	29.24 29.28 29.33 29.41 29.65 29.66 29.66 29.77 28.00 28.00 28.00 28.42 28.87 29.46 30.06 30.53 31.00 31.45 31.90 32.00 32.00 32.00 32.00 32.00 32.00 32.00 32.00 32.00 32.00 32.00 32.00 32.00 32.00 32.00 30.04 30.02 30.30 30.57 30.80							
TRAFF. SIGNS & PVMT. MARKINGS	EAST SERVICE RD: SL 1 · BUSWAY: SL 2 · WEST SERVICE RD: SL 1							

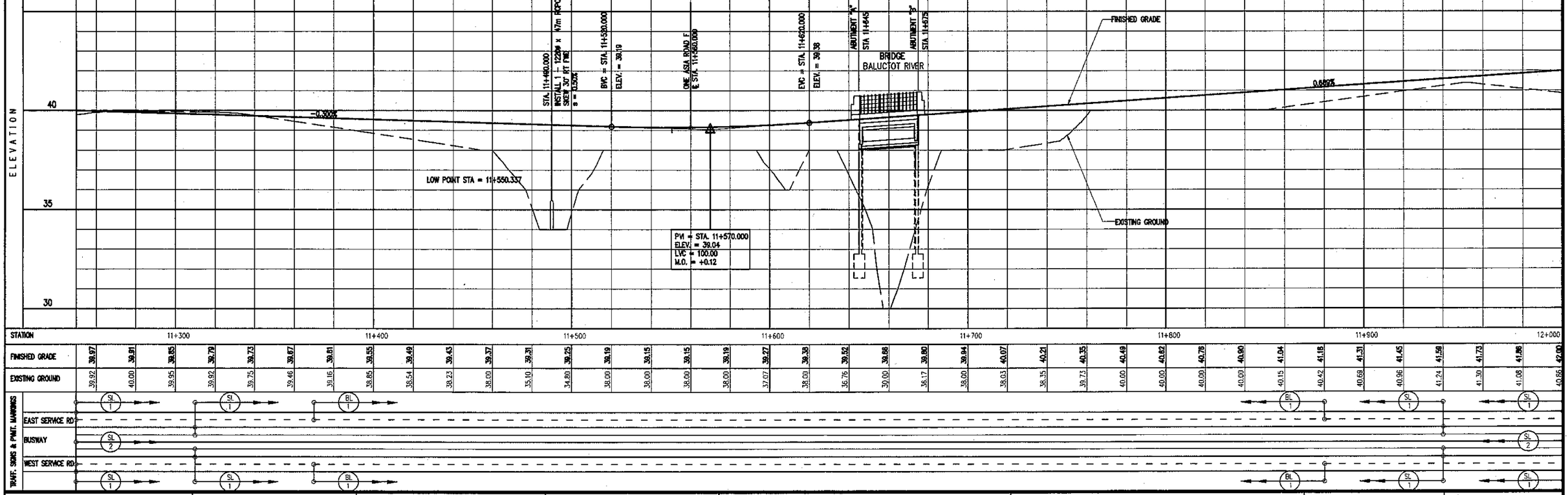
ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JICA JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 9+750 TO STA. 10+500	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number C–14



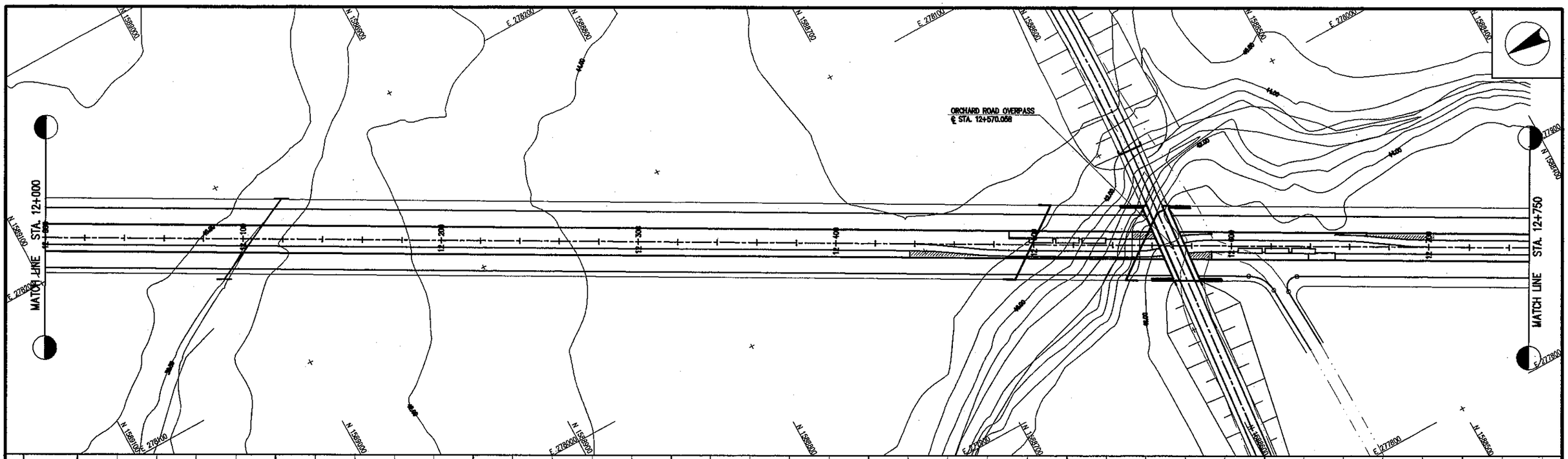


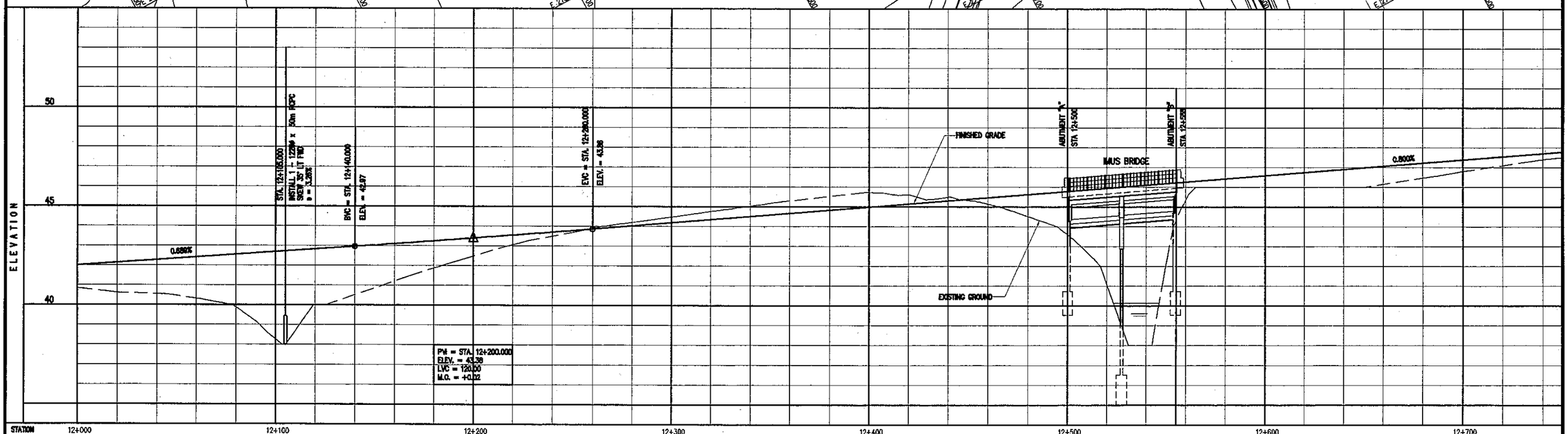
ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 10+500 TO STA. 11+250	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number C-15



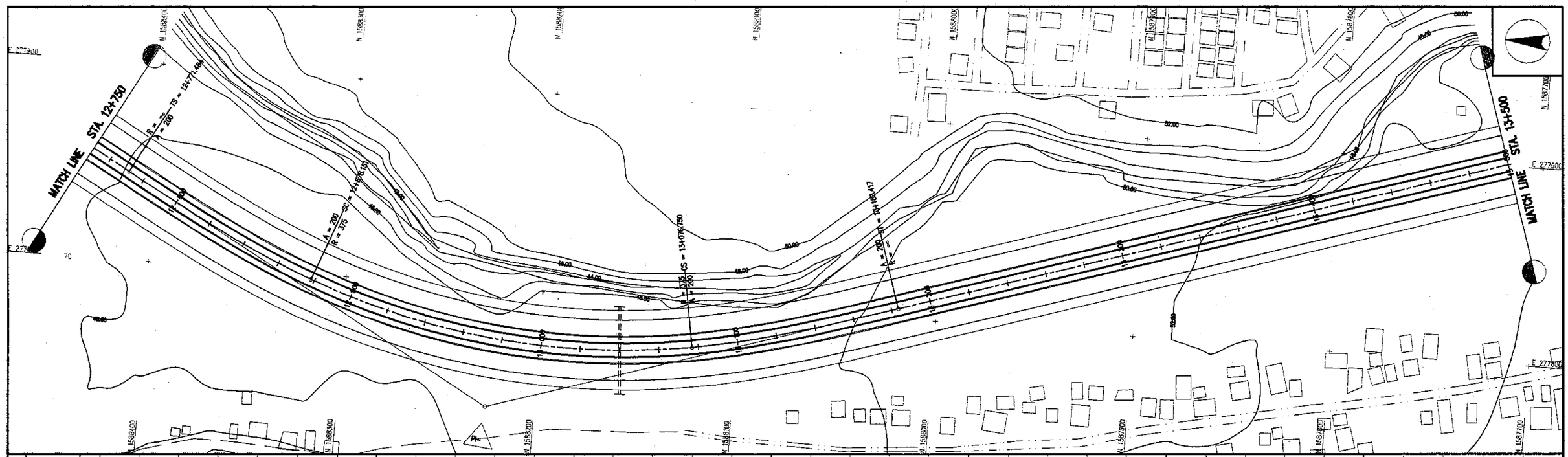


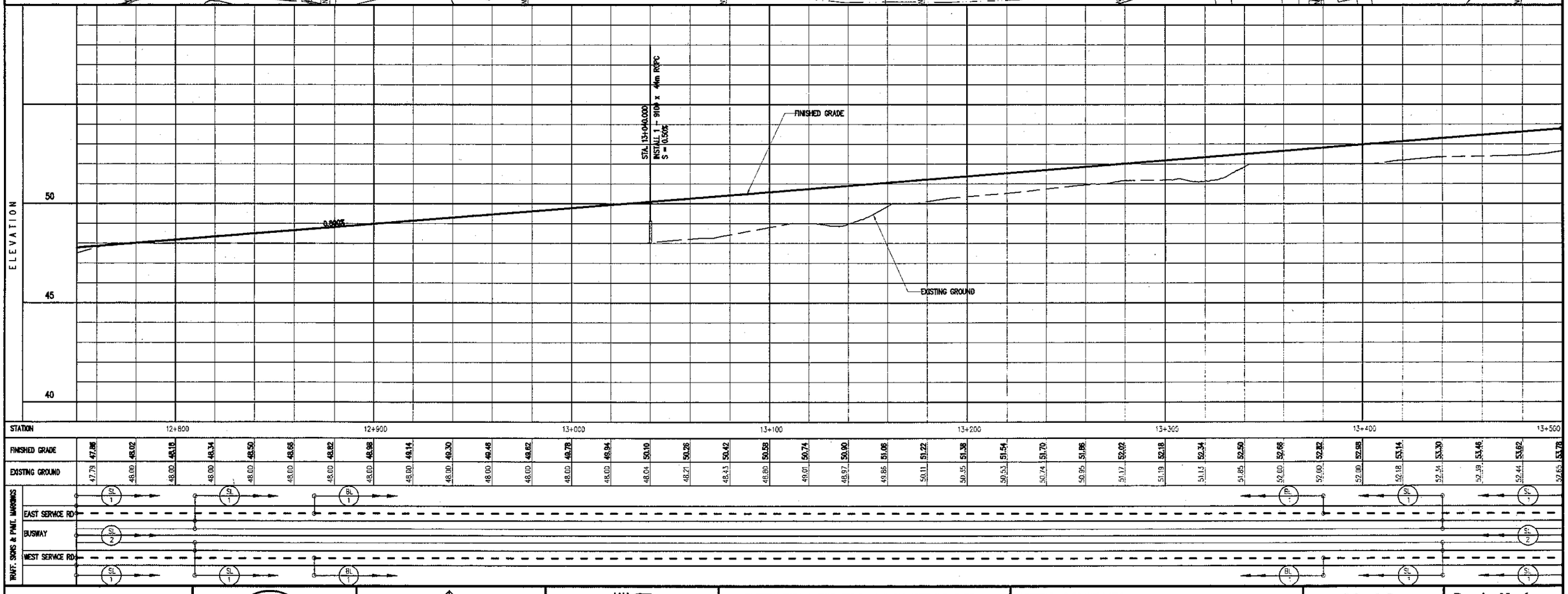
ALMEC ALMEC Corporation	**Pacific Consultants International**	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 11+250 TO STA. 12+000	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number C-16



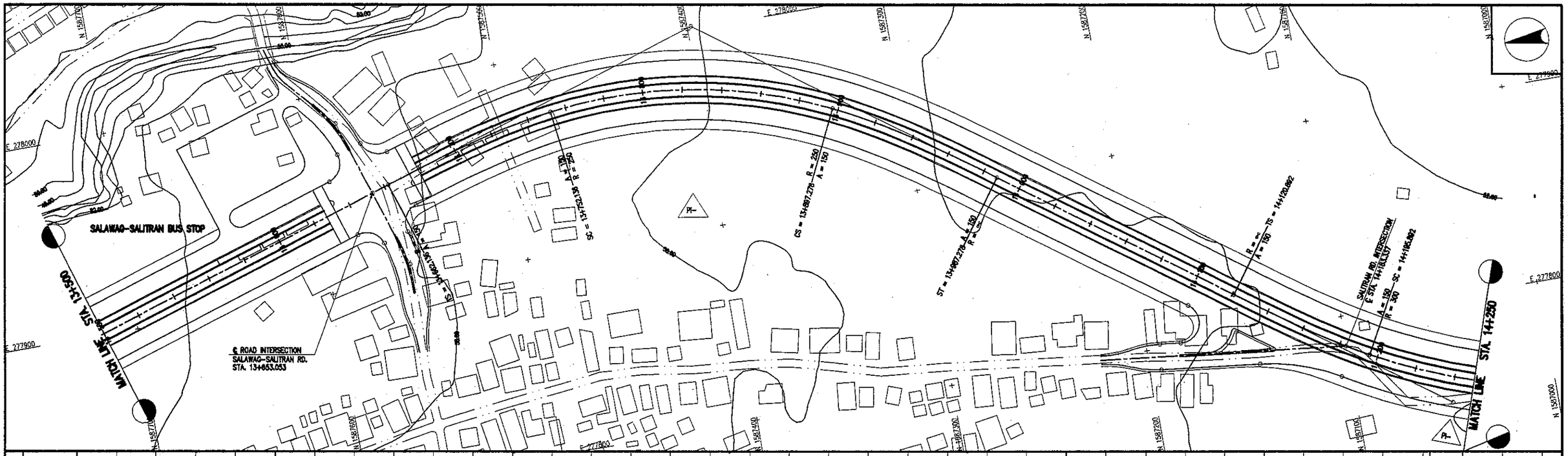


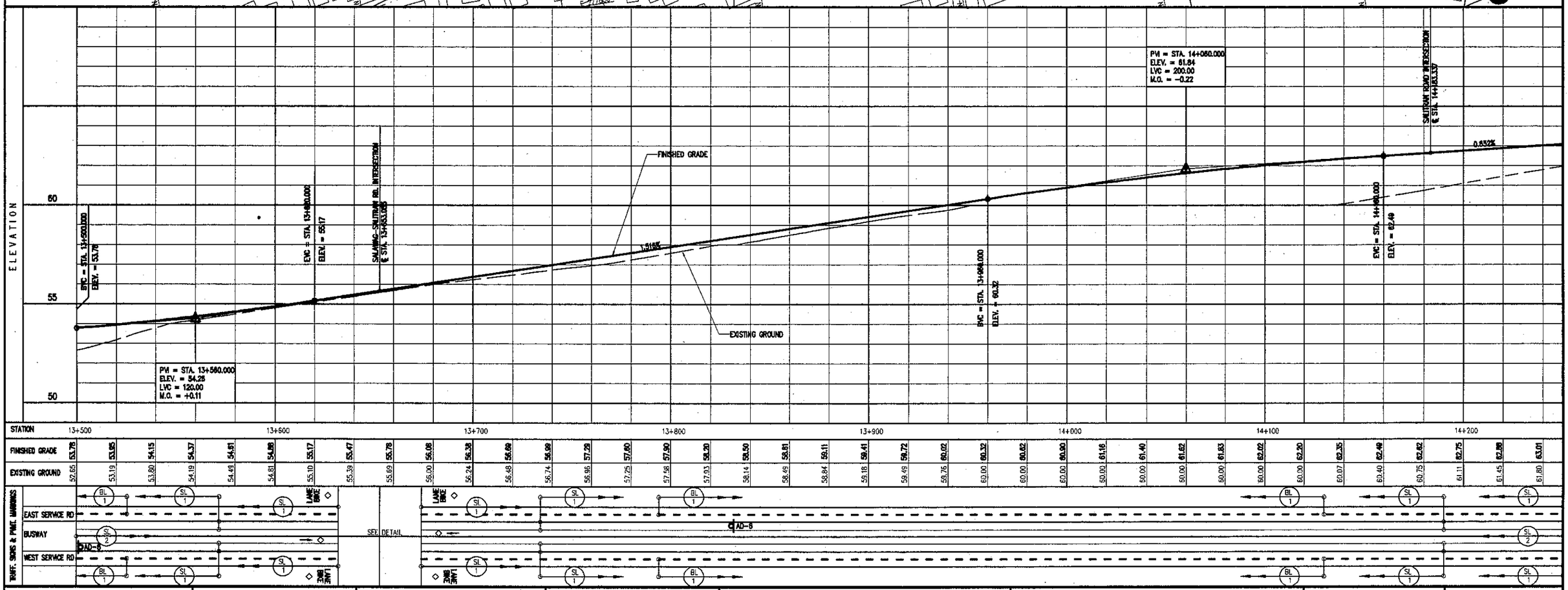
ALMEC ALMEC Corporation	**Pacific Consultants International**	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 12+000 TO STA. 12+750	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number C–17



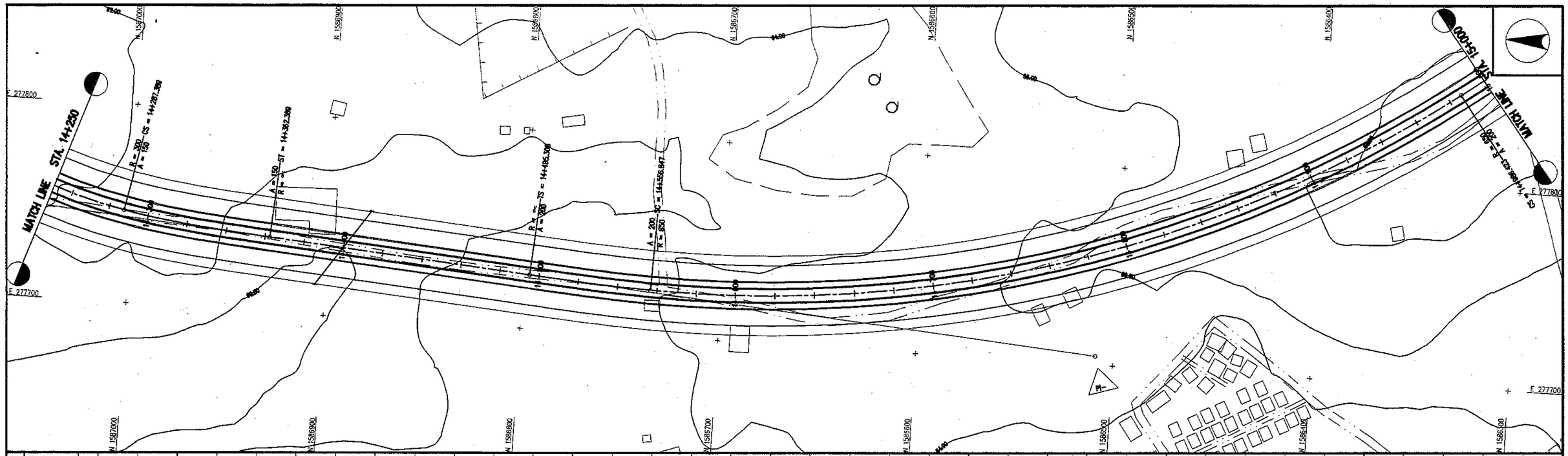


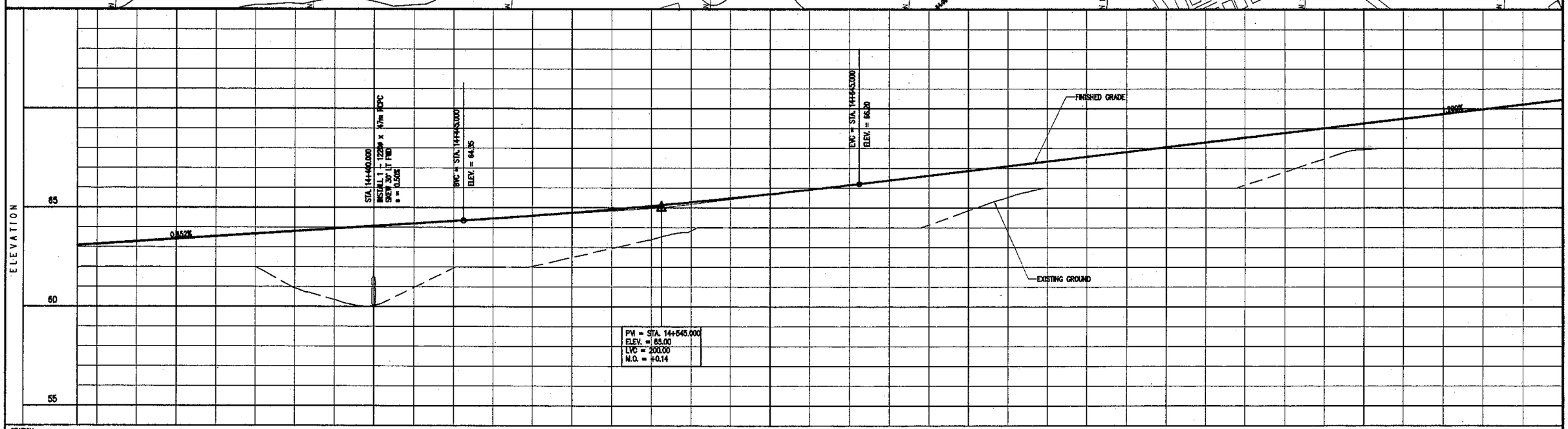
ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 12+750 TO STA. 13+500	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number C–18



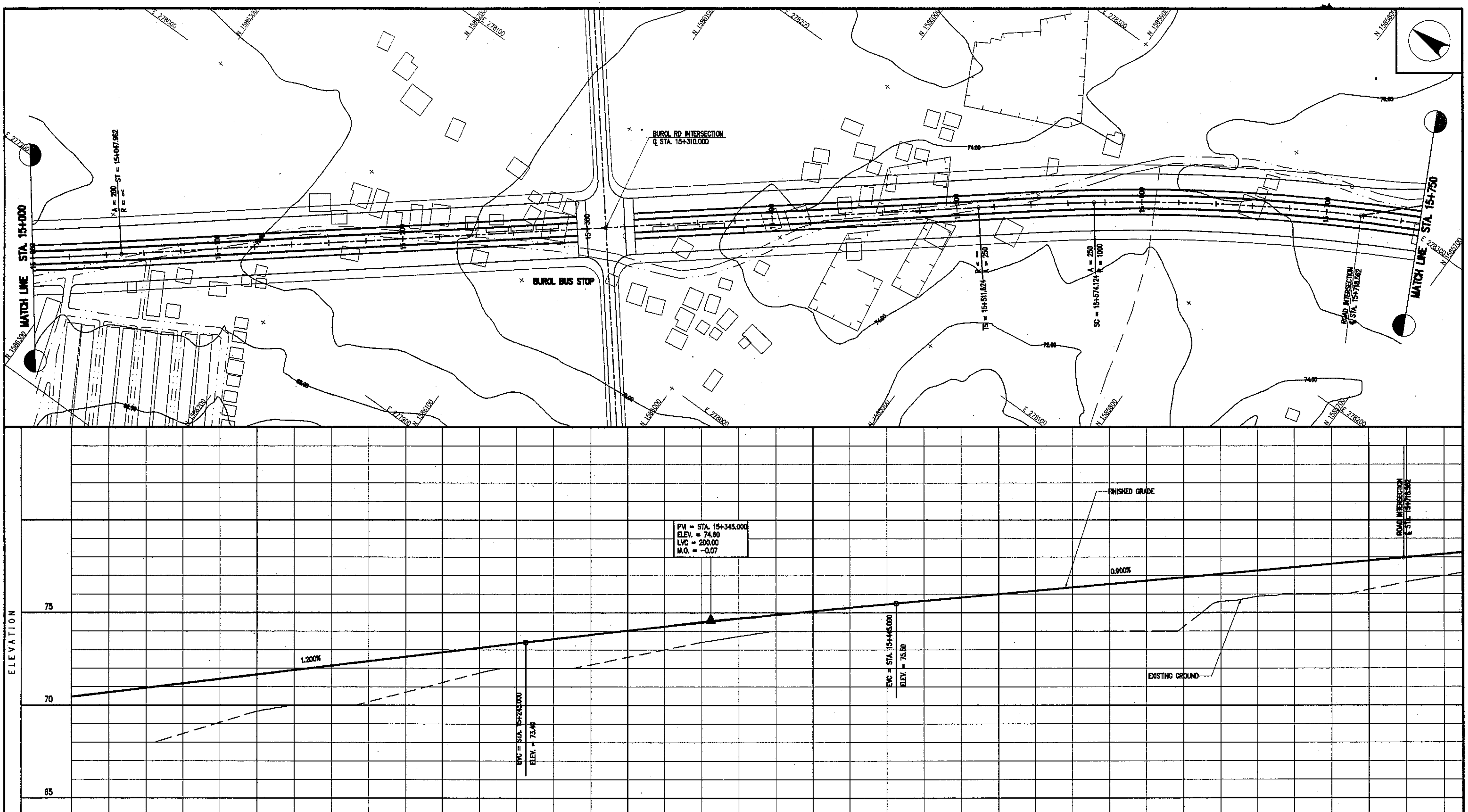


ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 13+500 TO STA. 14+250	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number C–19

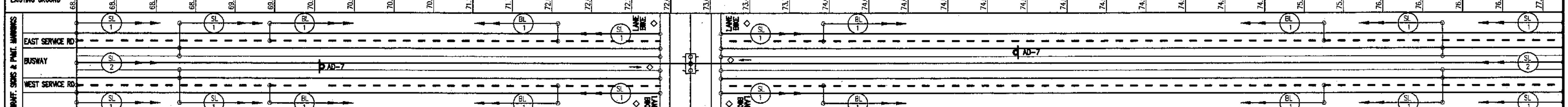




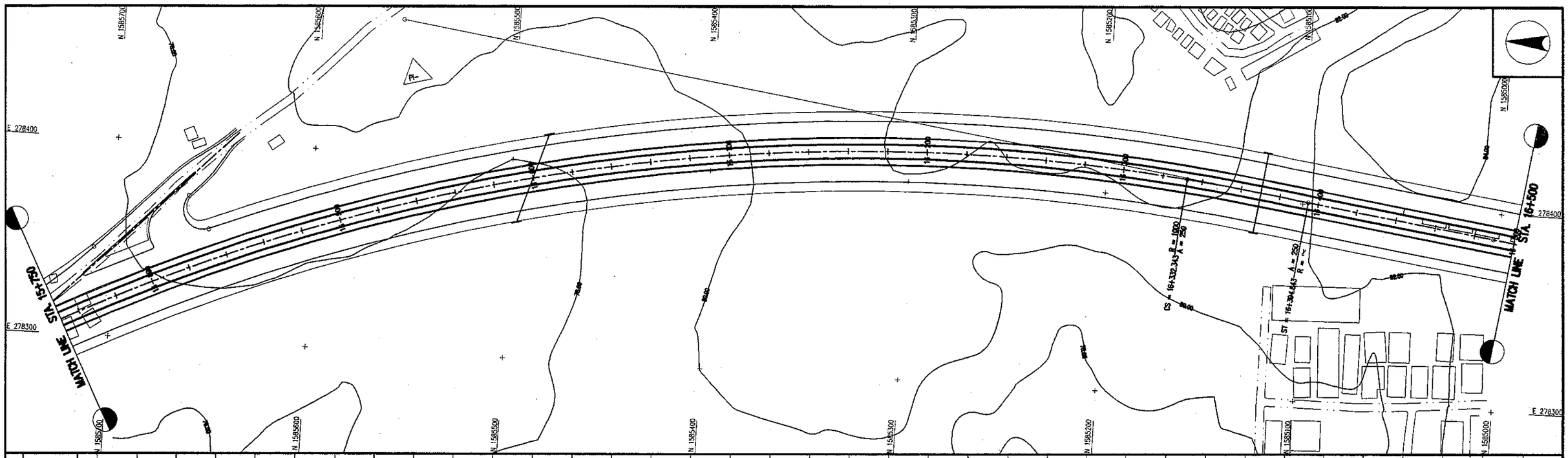
ALMEC ALMEC Corporation	**Pacific Consultants International**	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 14+250 TO STA. 15+000	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number C-20



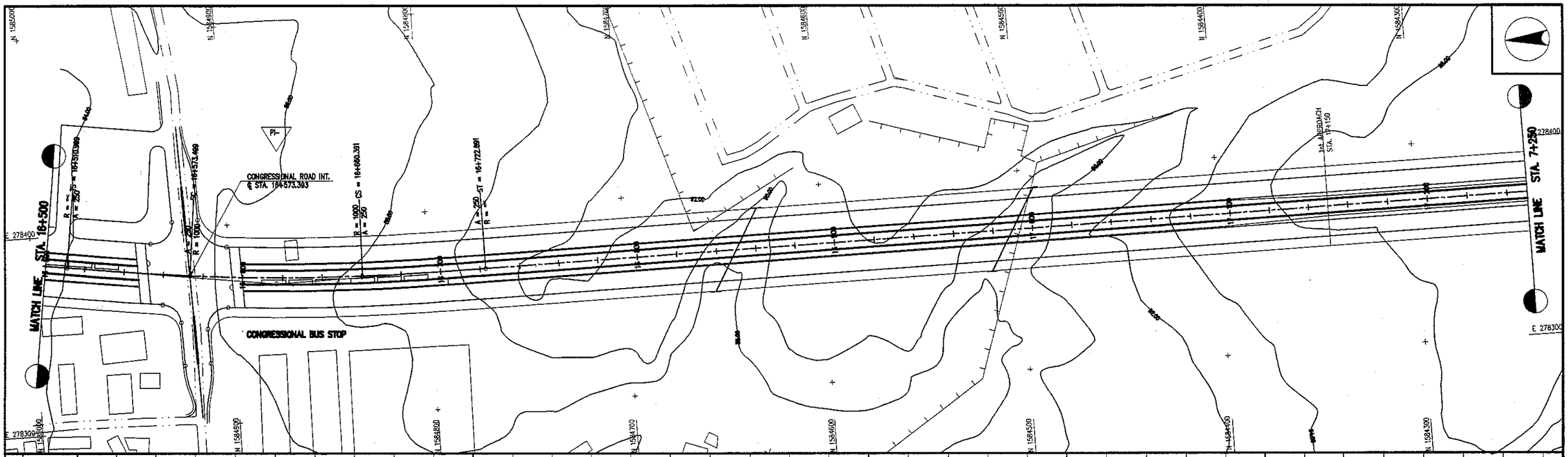
STATION	FINISHED GRADE	EXISTING GROUND
15+000	70.46	68.00
	70.70	68.00
	70.94	68.00
	71.18	68.47
	71.42	69.08
15+100	71.66	69.68
	71.90	70.00
	72.14	70.00
	72.38	70.19
	72.62	70.71
15+200	72.86	71.23
	73.10	71.75
	73.34	72.00
	73.58	72.00
	73.81	72.20
15+300	74.04	72.60
	74.26	73.00
	74.47	73.40
	74.68	73.72
	74.88	74.00
15+400	75.08	74.00
	75.27	74.00
	75.46	74.00
	75.64	74.00
	75.82	74.00
15+500	76.00	74.00
	76.18	74.00
	76.36	74.00
	76.54	74.00
	76.72	74.00
15+600	76.90	74.24
	77.08	75.60
	77.26	75.87
	77.44	76.00
	77.62	76.00
15+700	77.80	76.24
	77.98	76.65
	78.16	77.00

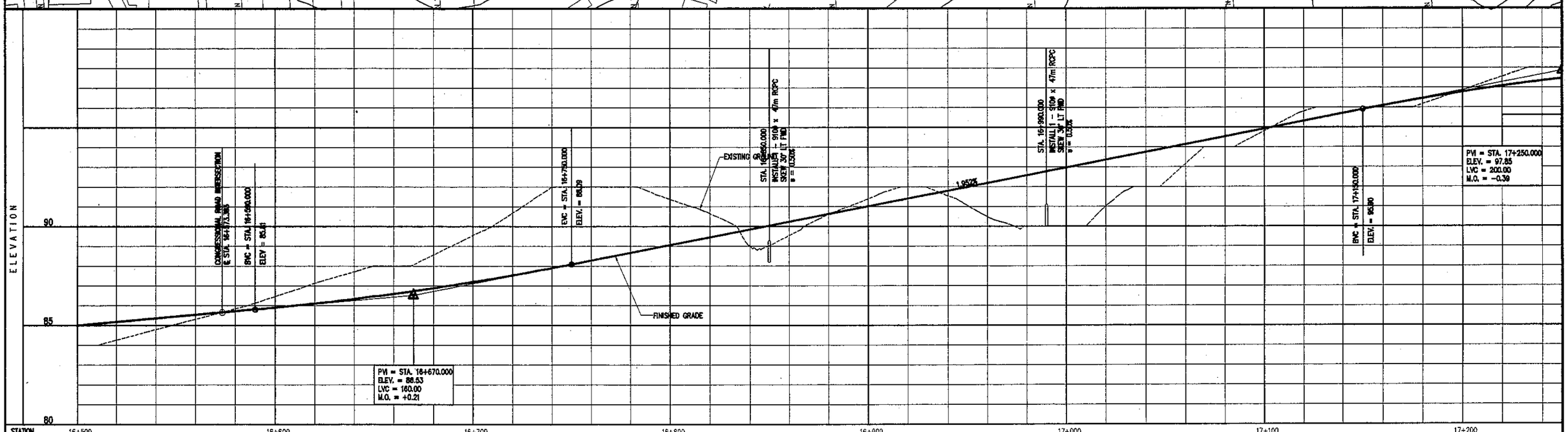


ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JICA JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 15+000 TO STA. 15+750	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number C-21



ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 15+750 TO STA. 16+500	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number C–22





STATION	16+500	16+600	16+700	16+800	16+900	17+000	17+100	17+200
FINISHED GRADE	85.00	85.18 85.36 85.54 85.72 85.90 86.11 86.34 86.60 86.89 87.20 87.54 87.90 88.29 88.68 89.07 89.46 89.85 90.24 90.63 91.02 91.41 91.80 92.19 92.58 92.97 93.36 93.75 94.14 94.53 94.92 95.31 95.70 96.09 96.45 96.78 97.07 97.34						
EXISTING GROUND	84.00	84.27 84.80 85.32 85.84 86.47 87.13 87.71 88.00 88.56 89.55 90.68 92.00 92.00 92.00 91.37 90.55 89.04 89.53 90.61 91.39 92.00 91.54 90.48 90.00 90.00 91.02 92.00 92.00 94.00 94.80 95.80 96.00 96.00 96.16 96.86 97.55 98.00						

TRAFF. SIGNS & PMKT. MARKINGS

EAST SERVICE RD

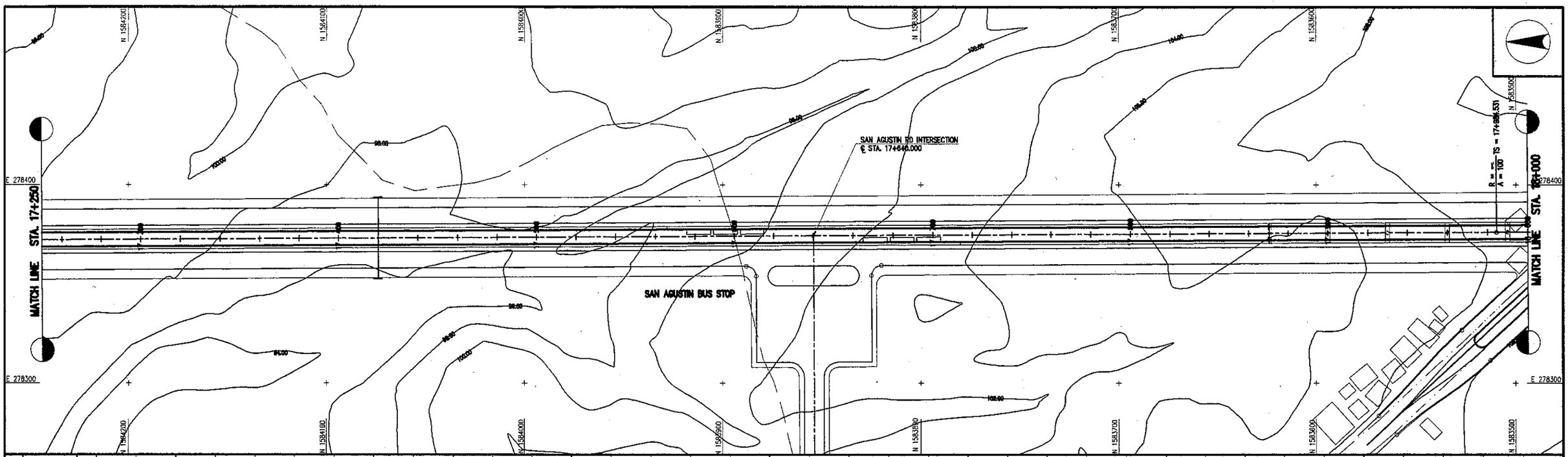
BUSWAY

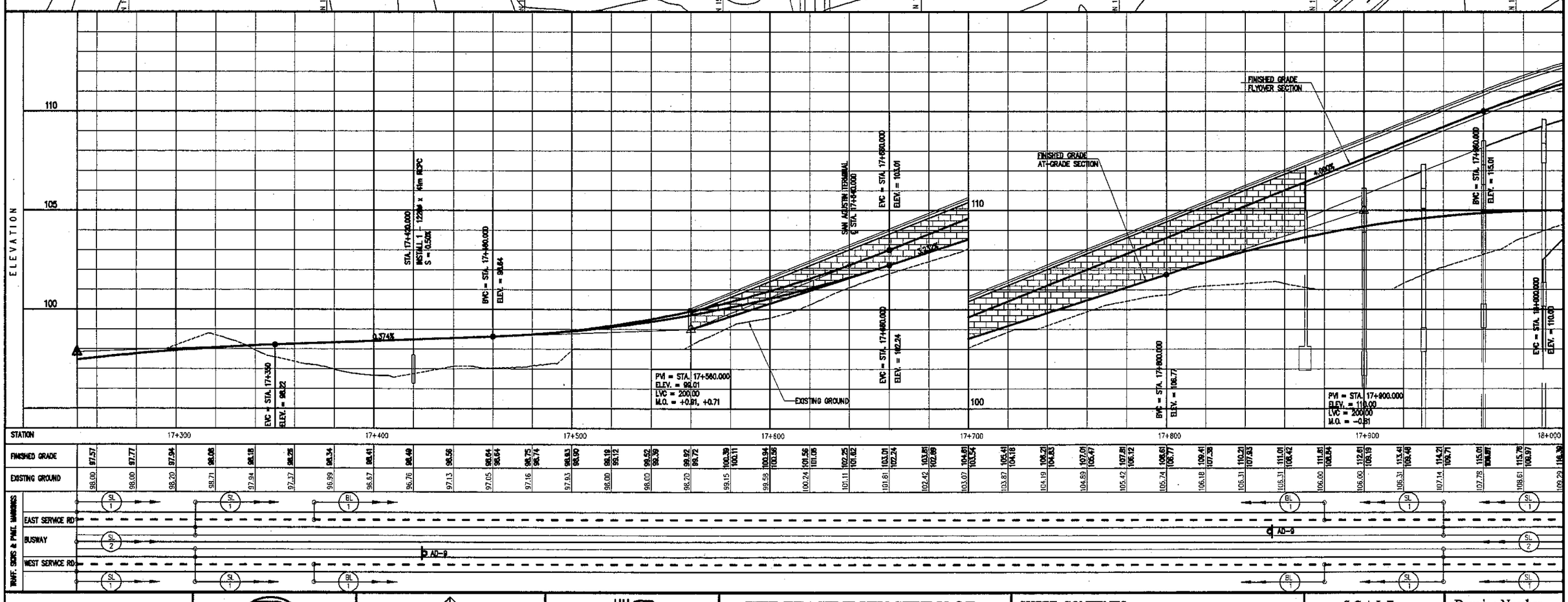
WEST SERVICE RD

SEE DETAIL

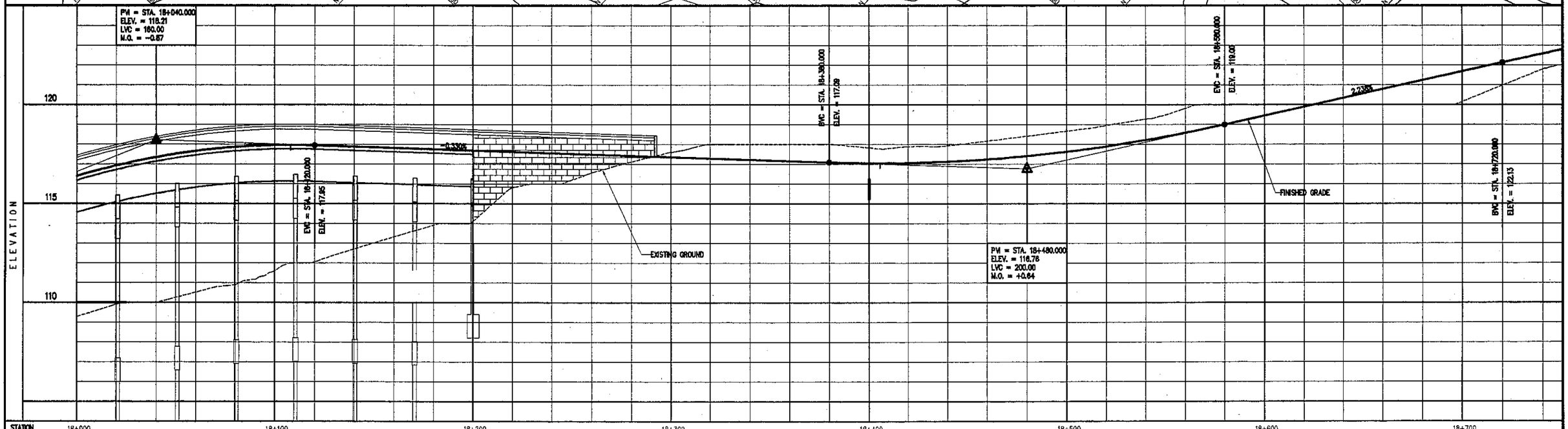
℄ AD-8

ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 16+500 TO STA. 17+250	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number C-23





ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JICA JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 17+250 TO STA. 18+000	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number C−24



STATION	18+000	18+100	18+200	18+300	18+400	18+500	18+600	18+700
FINISHED GRADE	118.39 119.00	118.92 119.00	117.34	117.66	117.86	117.95	117.95	117.88
EXISTING GROUND	109.29	109.99	110.00	110.52	110.99	111.60	112.05	112.71

STATION	18+700	18+800	18+900	19+000	19+100	19+200	19+300	19+400	19+500	19+600	19+700	19+800	19+900	20+000	20+100	20+200	20+300	20+400	20+500	20+600	20+700	20+800	20+900	21+000	21+100	21+200	21+300	21+400	21+500
FINISHED GRADE	117.88	117.81	117.75	117.68	117.62	117.55	117.49	117.42	117.35	117.29	117.22	117.18	117.09	117.05	117.06	117.12	117.24	117.40	117.62	117.89	118.21	118.58	119.00	119.45	119.89	120.34	120.79	121.24	121.68
EXISTING GROUND	112.71	113.32	113.91	114.09	115.81	116.00	116.56	117.11	117.59	118.00	118.00	118.00	118.00	117.82	117.98	117.93	113.16	105.76	117.20	118.95	119.27	119.80	120.00	120.00	120.00	120.00	120.00	120.09	120.14

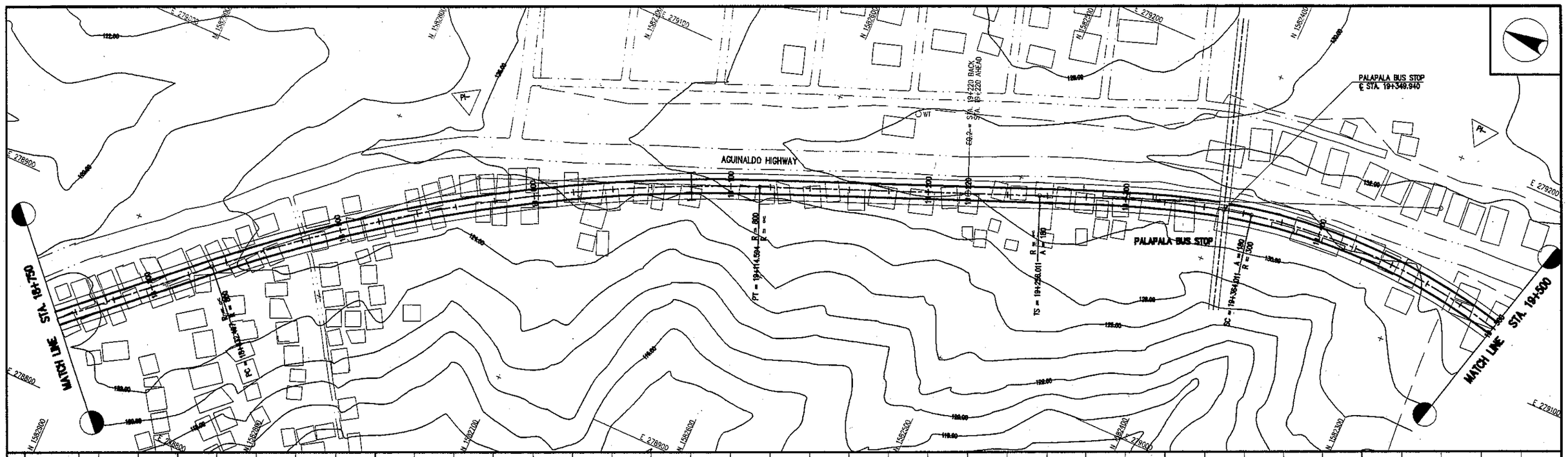
STATION	21+500	21+600	21+700	21+800	21+900	22+000	22+100	22+200	22+300	22+400	22+500	22+600	22+700	22+800	22+900	23+000	23+100	23+200	23+300	23+400	23+500	23+600	23+700	23+800	23+900	24+000	24+100	24+200	24+300
FINISHED GRADE	121.68	122.13	122.57	122.99	123.40	123.80	124.19	124.57	124.94	125.30	125.65	125.99	126.32	126.64	126.95	127.25	127.54	127.82	128.09	128.35	128.60	128.84	129.07	129.29	129.50	129.70	129.89	130.07	130.24
EXISTING GROUND	120.14	120.37	121.73	122.57	123.40	124.23	125.06	125.89	126.72	127.55	128.38	129.21	130.04	130.87	131.70	132.53	133.36	134.19	135.02	135.85	136.68	137.51	138.34	139.17	140.00	140.83	141.66	142.49	143.32

TRAFF. SIGNS & PMT. MARKINGS

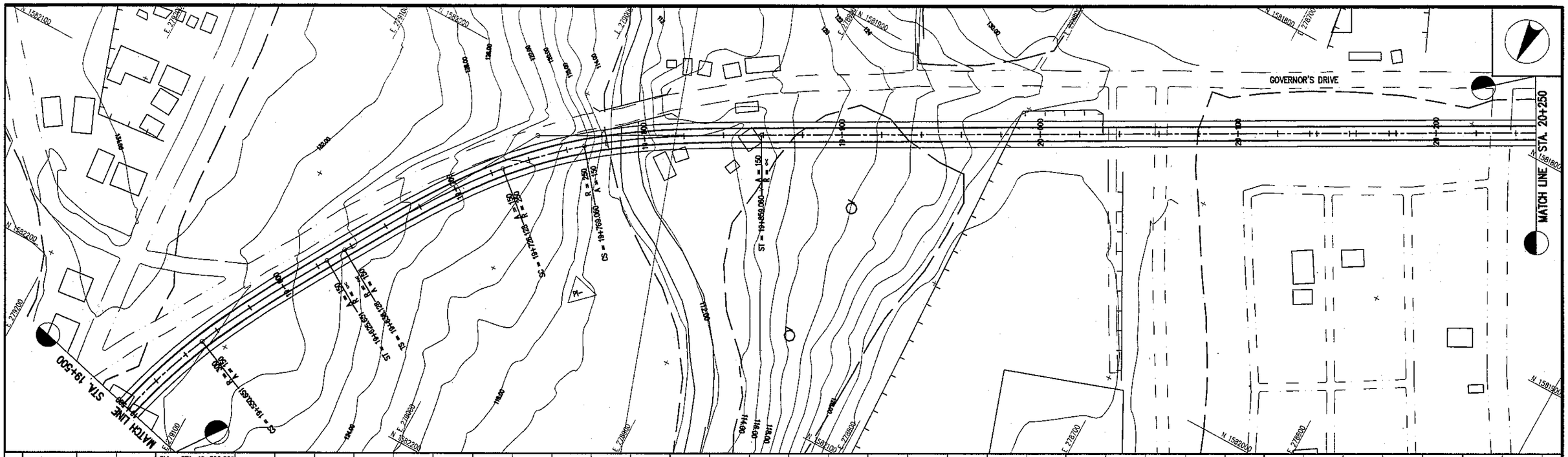
BUSWAY

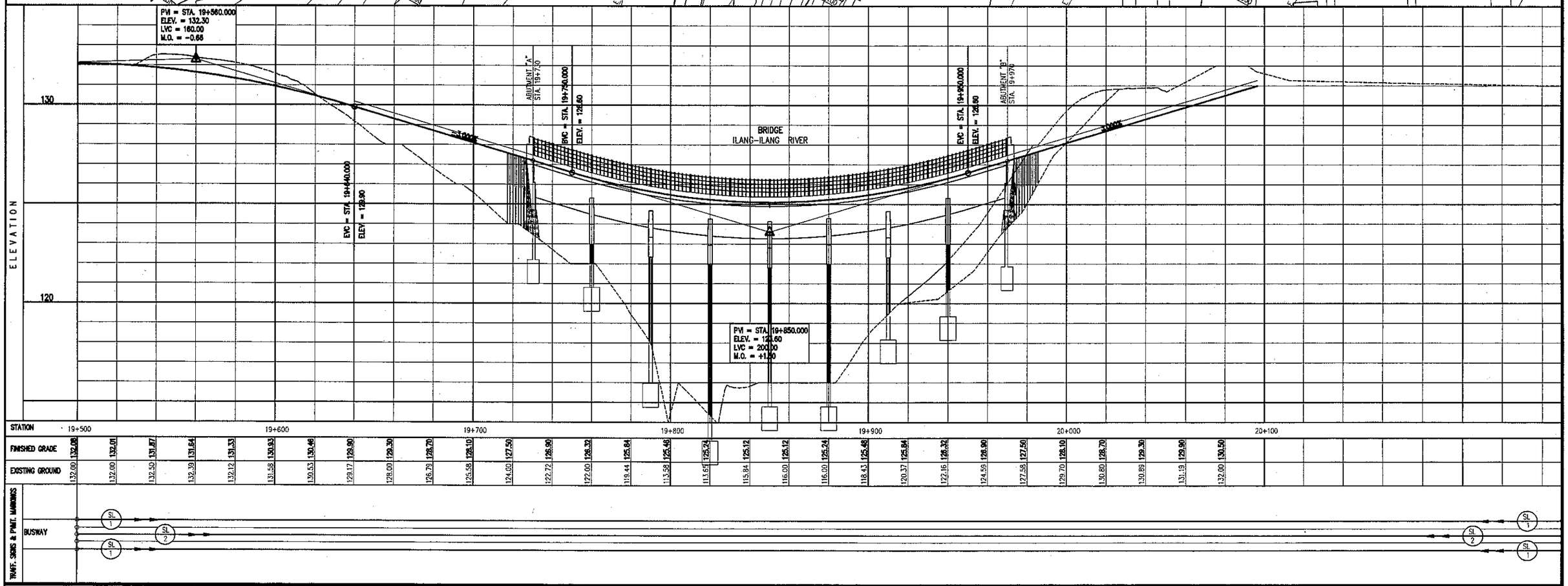
SL-1 SL-2 SL-1

ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JICA JAPAN INTERNATIONAL COOPERATION AGENCY Japan	THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM	SHEET CONTENTS PLAN AND PROFILE STA. 18+000 TO STA. 18+750	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number C-25

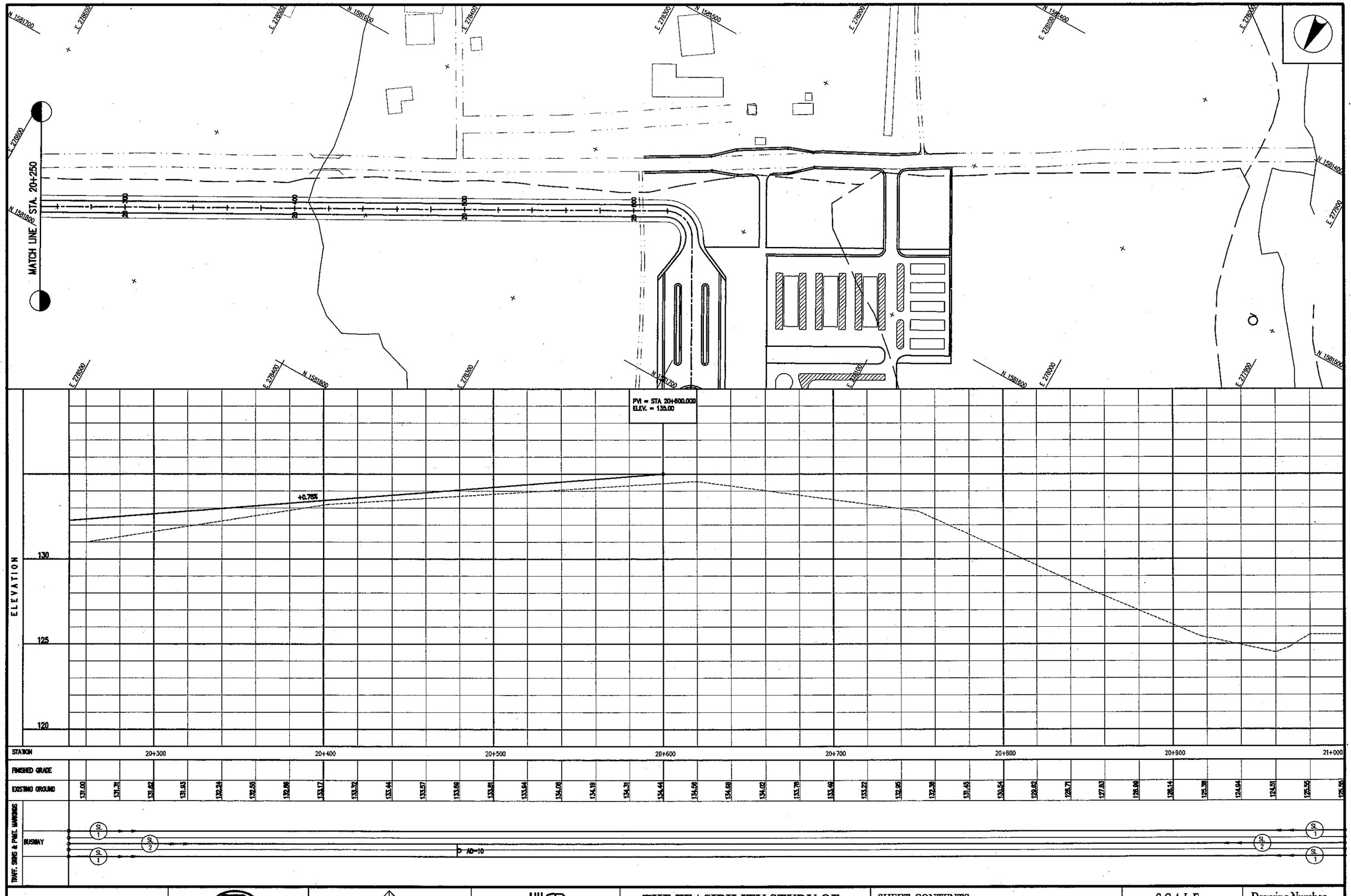


ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 18+750 TO STA. 19+500	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number C−26



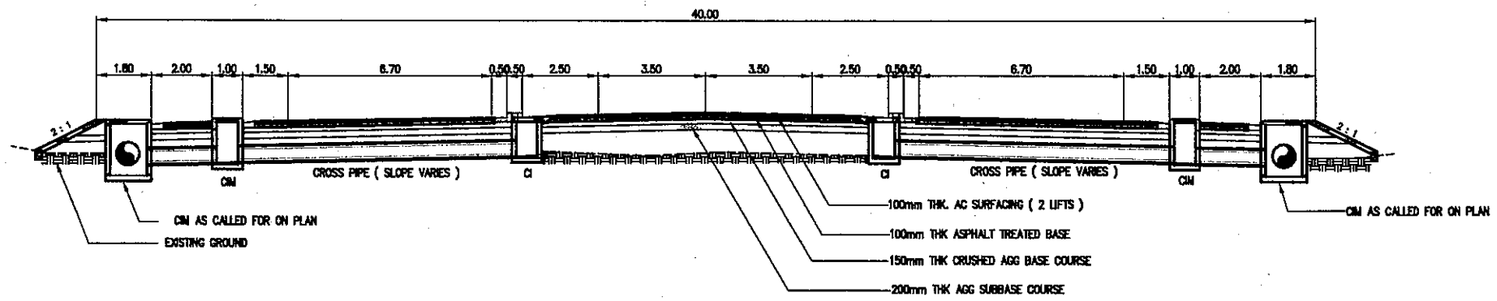


ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 19+500 TO STA. 20+250	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number C-27

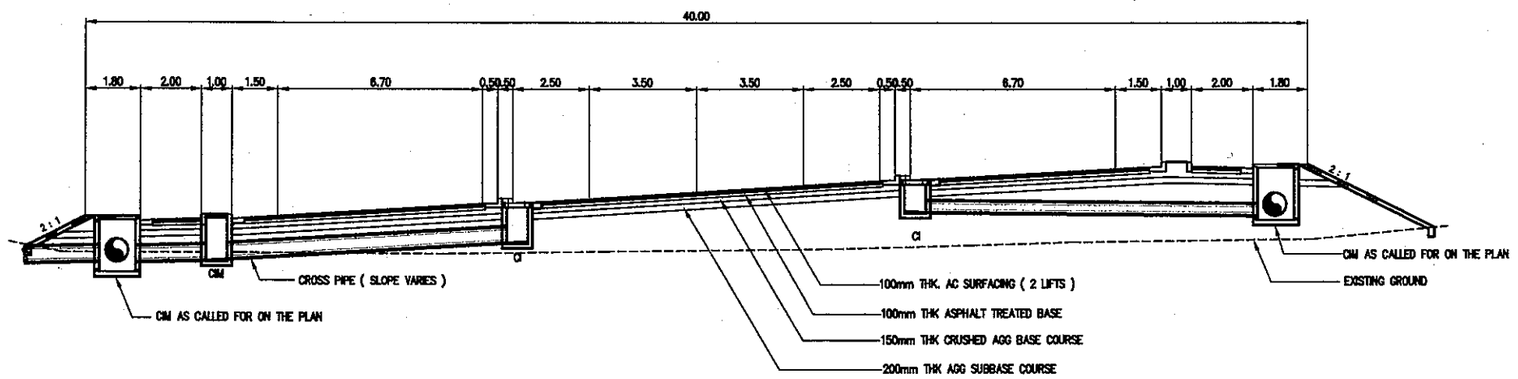


ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 20+250 TO STA. 21+000	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number C-28

D. DRAINAGE SYSTEM

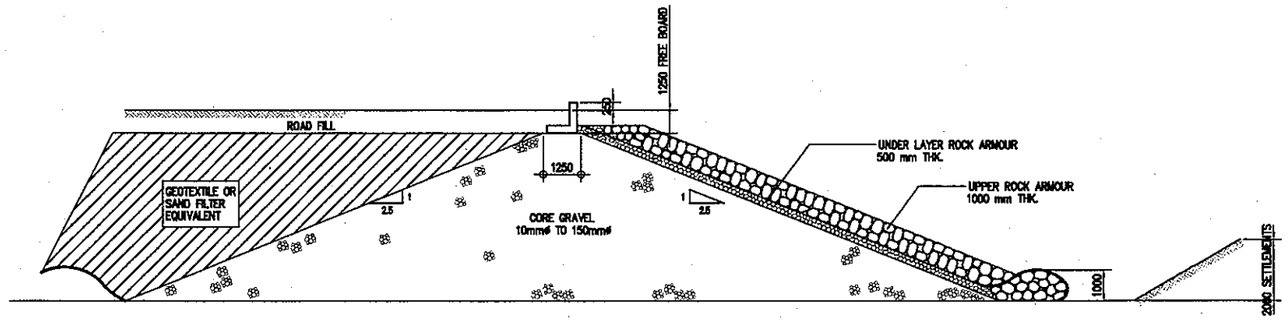


1 / D-01 **ORDINARY SECTION**
SCALE: 1 : 100



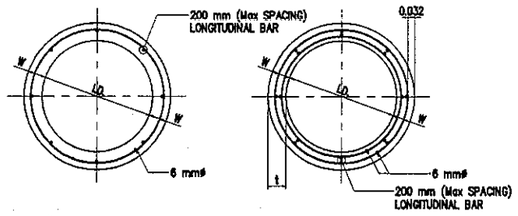
2 / D-01 **SUPERELEVATED SECTION**
SCALE: 1 : 100

ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS **DRAINAGE SECTIONS @ ORDINARY SECTION, SUPERELEVATED SECTION AND FILL SECTION**	SCALE **1 : 100**	Drawing Number **D-01**



1 / D-01A DETAIL(FILL SECTION)
SCALE: AS SHOWN

ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM	SHEET CONTENTS DETAIL (FILL SECTION)	SCALE AS SHOWN	Drawing Number D-01A



ONE LINE OF CIRCULAR REINFORCEMENT

TWO LINES OF CIRCULAR REINFORCEMENT

1A D-02 SECTION N T S

1B D-02 SECTION N T S

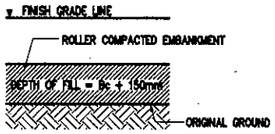
1. FOR 63mm OR LESS, WALL THICKNESS PROTECTIVE COVERING SHALL BE 19mm.
2. FOR 63mm OR GREATER, WALL THICKNESS CIRCULAR REINFORCEMENT SHALL BE PLACED 35 TO 50% OF WALL THICKNESS FROM THE INNER SURFACE

NOTE :

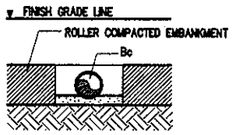
1. THE SPACING CENTER TO CENTER OF ADJACENT RINGS OF CIRCUMFERENTIAL REINFORCEMENT IN A CAGE SHALL NOT EXCEED 101mm.
2. 910mm OR MORE WALL THICKNESS THE BELL OR THE SPIGOT OF THE JOINT SHALL CONTAIN LEAST ONE CIRCUMFERENTIAL REINFOCEMENT.
3. FOR WELDED CONNECTION, THE MINIMUM LAP REQUIREMENT SHALL BE 51mm.
4. FOR TIE WIRE CONNECTION, THE MINIMUM LAP REQUIREMENT SHALL BE-20ø DIAMETER (Deformed bar)& 40ø DIAMETER ( )

PERMISSIBLE VARIATION

1. INTERNAL DIAMETER (I.D.) OF 305 TO 610 MILLIMETER PIPE SHALL VARY NOT MORE THAN ± 1.5% FROM THE DESIGN DIAMETER. THE I.D. OF 760 TO 1220mm PIPE SHALL VARY NOT MORE THAN ± 1% OR 9.5mm WHICHEVER IS GREATER, FROM THE DESIGN DIAMETER.
2. WALL THICKNESS (W)– THE WALL THICKNESS SHALL NOT BE LESS THAN THAT SHOWN IN THE DESIGN BY MORE THAN 3% OR 4.8mm WHICHEVER IS GREATER.
3. LENGTH OF TWO OPPOSITE SIDES – VARIATIONS IN LAYING LENGTHS OF TWO OPPOSITE SIDES OF PIPE SHALL NOT BE MORE THAN 10.4mm/m OF DIAMETER WITH A MAXIMUM OF 16mm IN ANY LENGTH OF PIPE.
4. LENGTH OF PIPE – THE UNDERRUN IN LENGTH OF A SECTION OF PIPE SHALL NOT BE MORE THAN 10.4mm/m WITH A MAXIMUM OF 10.4mm IN ANY LENGTH OF PIPE.



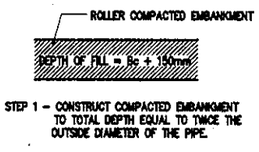
STEP 1 – CONSTRUCT COMPACTED EMBANKMENT TO AN ELEVATION 150mm ABOVE TOP OF PROPOSED PIPE.



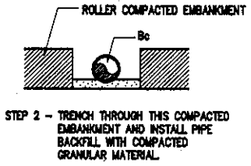
STEP 2 – TRENCH THROUGH THIS COMPACTED EMBANKMENT AND INSTALL PIPE OVER GRANULAR BEDDING BACKFILL WITH COMPACTED GRANULAR MATERIAL.

STEP 3 – COMPLETE EMBANKMENT IN NORMAL MANNER

2A D-02 CALIFORNIA METHOD A

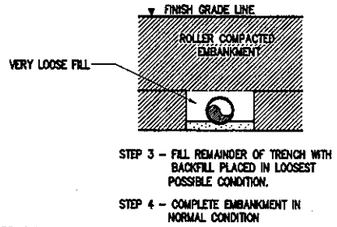


STEP 1 – CONSTRUCT COMPACTED EMBANKMENT TO TOTAL DEPTH EQUAL TO TWICE THE OUTSIDE DIAMETER OF THE PIPE.



STEP 2 – TRENCH THROUGH THIS COMPACTED EMBANKMENT AND INSTALL PIPE BACKFILL WITH COMPACTED GRANULAR MATERIAL.

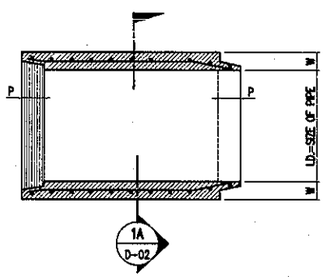
2B D-02 CALIFORNIA METHOD B



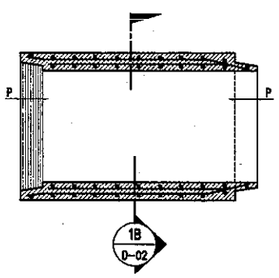
STEP 3 – FILL REMAINDER OF TRENCH WITH BACKFILL PLACED IN LOOSEST POSSIBLE CONDITION.

STEP 4 – COMPLETE EMBANKMENT IN NORMAL CONDITION

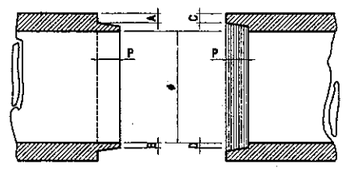
2 D-02 METHOD OF PIPE INSTALLATION
NOT TO SCALE



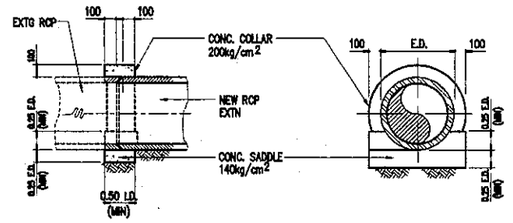
ONE LINE OF CIRCULAR REINFORCEMENT



TWO LINES OF CIRCULAR REINFORCEMENT



TONGUE AND GROOVE DIMENSIONS



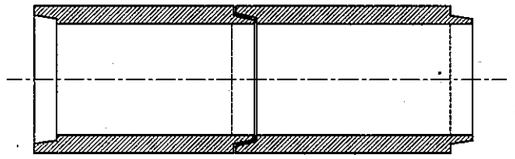
DET–EXTG RCP NEW RCP CONNECTION
NOT TO SCALE

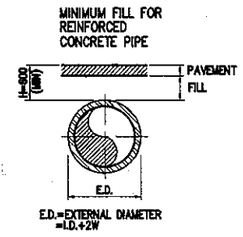
1 D-02 LONGITUDINAL SECTION (TONGUE & GROOVE TYPE)
NOT TO SCALE

ALL DIMENSIONS ARE IN (mm)	TONGUE		GROOVE	
P	A	B	C	D
45/51	23	20	20	23
63	33	30	30	33

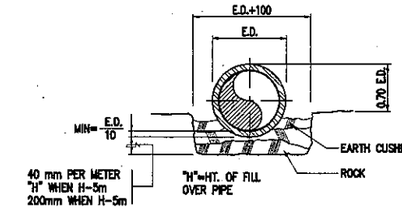
NOTE :

1. H–MORE THAN 600mm OF COVER, USE STANDARD RCP CLASS OR FLEXIBLE PAVEMENT ON TRAFFIC LOADED LANES.
2. H–LESS THAN 600mm OF COVER, USE EXTRA STRENGTH RCP CLASS IV FOR FLEXIBLE PVMT ON TRAFFIC LOADED LANES.
3. CONC. CRADLE BEDDING SHALL BE USE WHENEVER RCP CROSSES ROADWAY WITH H–LESS THAN 600mm.
4. FOR NON–LOAD TRAFFIC AREAS SUCH AS SIDEWALKS, GRASS OR SODDING COVER, SIDE–STRIP, AND SIDE PLANTING STRIP, USE MINIMUM COVER, OF H–0.30m FOR CLASS II RCP AND CLASS IV RCP FOR H LESS THAN 0.30m.

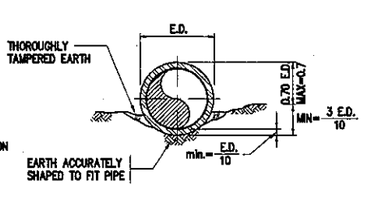




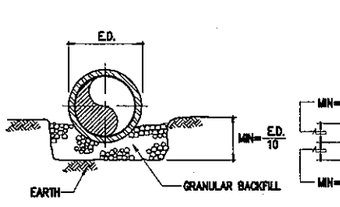
3 D-02 DETAIL OF PIPE JOINTS
NOT TO SCALE



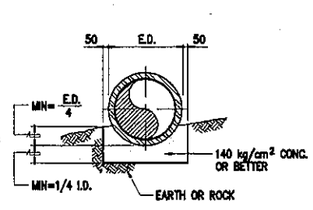
EARTH CUSHION BEDDING
N T S



SHAPED EARTH BEDDING
N T S



GRANULAR MATERIAL BEDDING
N T S



SHAPED EARTH BEDDING
N T S

INTERNAL DIAMETER OF PIPE (mm)	CLASS II STANDARD RCP											
	WALL THICKNESS A CONCRETE STRENGTH, 280 kg/cm² (4000psi)					WALL THICKNESS B CONCRETE STRENGTH, 280 kg/cm² (4000psi)					STRENGTH TEST REQUIREMENTS KILOGRAM PER LINEAR METER OF PIPE	
	WALL THICKNESS (mm)	CIRCULAR REINFORCEMENT cm²/m INNER CAGE	CIRCULAR REINFORCEMENT cm²/m OUTER CAGE	ELLIPTICAL REINFORCEMENT cm²/m	DEPTH P (mm)	WALL THICKNESS (mm)	CIRCULAR REINFORCEMENT cm²/m INNER CAGE	CIRCULAR REINFORCEMENT cm²/m OUTER CAGE	ELLIPTICAL REINFORCEMENT cm²/m	DEPTH P (mm)	THREE – EDGE BEARING METHOD LOAD TO PROVIDE 0.25mm CRACK	THREE – EDGE BEARING METHOD ULTIMATE LOAD
460 (18)	51	1.5	–	1.5	45	63	1.5		1.5	45	2250	3400
610 (24)	63	2.8	–	2.3	45	76	1.5		1.5	45	3000	4500
760 (30)	70	3.2	–	3.0	51	89	3.0		2.5	51	3700	5500
910 (36)	76	3.0	2.1	3.2	63	101	2.5	1.9	2.5	63	4500	6700
1070 (42)	89	3.4	2.5	3.8	63	114	3.2	2.5	3.8	63	5200	7800
1220 (48)	101	4.5	3.4	4.9	63	127	3.8	3.0	4.2	63	6000	8900
1520 (60)	127	5.4	4.7	7.0	63	152	5.3	4.0	5.9	63	7500	11000

CLASS IV STRENGTH RCP						
WALL THICKNESS B CONCRETE STRENGTH, 280 kg/cm² (4000psi)					STRENGTH TEST REQUIREMENTS KILOGRAM PER LINEAR METER OF PIPE	
WALL THICKNESS (mm)	CIRCULAR REINFORCEMENT cm²/m INNER CAGE	CIRCULAR REINFORCEMENT cm²/m OUTER CAGE	ELLIPTICAL REINFORCEMENT cm²/m	DEPTH P (mm)	THREE – EDGE BEARING METHOD LOAD TO PROVIDE 0.25mm CRACK	THREE – EDGE BEARING METHOD ULTIMATE LOAD
76	3.0	–	2.3	45	4500	6800
76	5.7	–	4.9	45	6000	9000
89	7.4	–	5.9	51	7400	11100
101	6.3	4.7	7.0	63	8900	13400
114	7.4	5.5	8.3	63	10500	15700
127	8.9	6.8	9.9	63	12000	17900
CONCRETE STRENGTH, 350 kg/cm² (4000psi)					14900	22400
152	12.5	9.5	14.0	63		

SAFE OVERFILLS ON COMMERCIAL GRAVITY–CAST MAXIMUM

NOTE :

IN THE PRACTICAL APPLICATION OF THE ABOVE TABLES THE OVERFILL VALUES ARE NOT TO BE CONSIDERED CLOSER THAN THE NEAREST 50 CM DECIMALS OF A METRE ARE SHOWN TO FACILITATE PLOTTING OF DESIGN CURVES, IF DESIRED

INSIDE DIAMETER (mm)	SPEC CRACKING D–LOAD, KILOGRAM/ LINEAR METER PER MILLIMETER OF PIPE		SAFE HEIGHTS OF OVERFILL IN METERS			
			STANDARD STRENGTH		EXTRA STRENGTH	
	CLASS II	CLASS IV	METHOD A	METHOD B	METHOD A	METHOD B
610 (24)	7.32	9.77	8.4	NO LIMIT	10.0	NO LIMIT
760 (30)	6.59	9.77	7.8	NO LIMIT	10.2	NO LIMIT
910 (36)	6.59	9.77	7.6	NO LIMIT	10.3	NO LIMIT
1070 (42)	6.59	9.77	7.3	30.5	10.4	NO LIMIT
1220 (48)	6.59	9.77	7.0	11.6	10.5	NO LIMIT
1520 (60)	4.85	7.32	7.1	9.6	10.5	NO LIMIT

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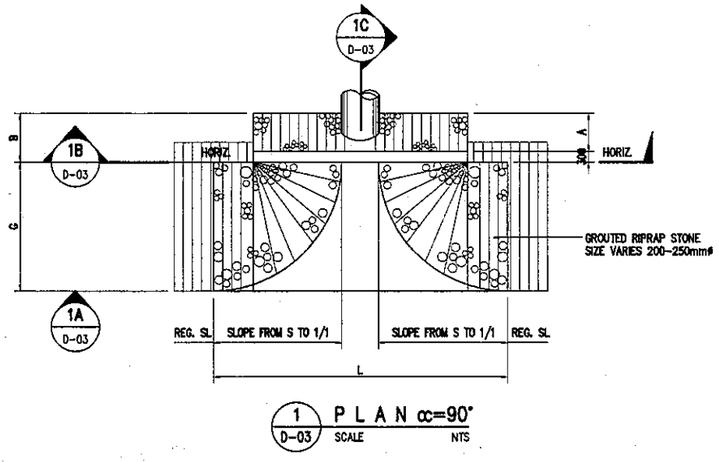
Japan

THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM

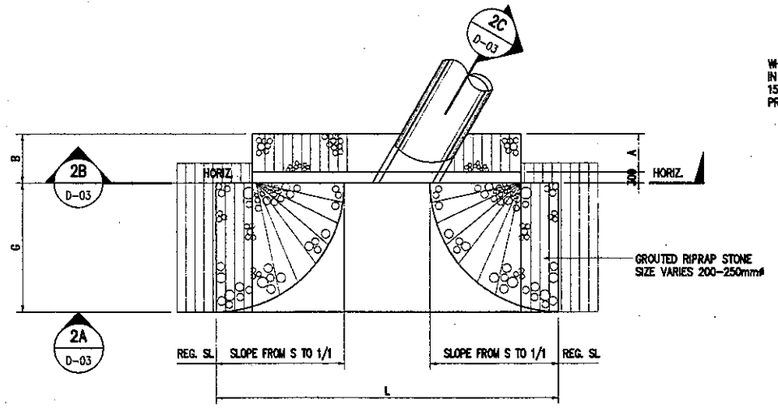
SHEET CONTENTS
LONGITUDINAL SECTIONS
STANDARD CLASS II AND CLASS IV RCP
METHOD OF PIPE INSTALLATION
DETAIL OF PIPE JOINTS

SCALE
N T S

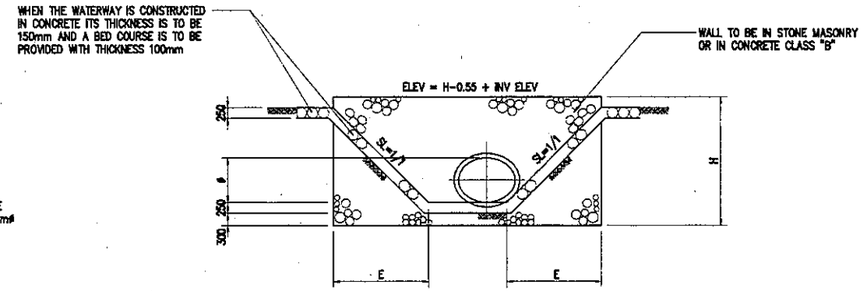
Drawing Number
D–02



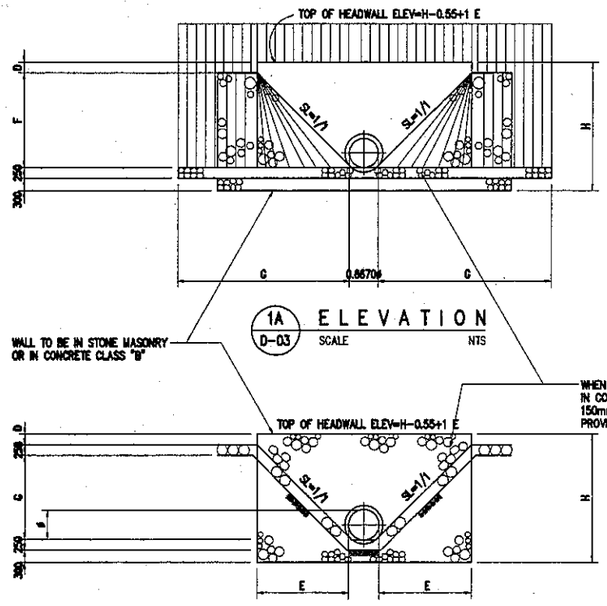
1 D-03 PLAN ∝=90° SCALE NTS



2 D-03 PLAN ∝=60° SCALE NTS

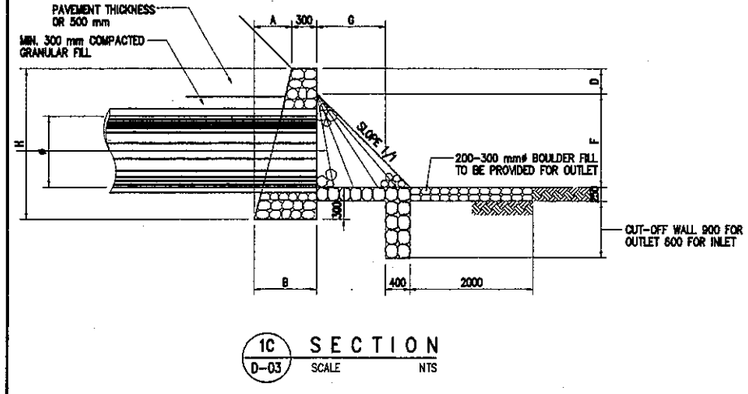


1B D-03 SECTION SCALE NTS

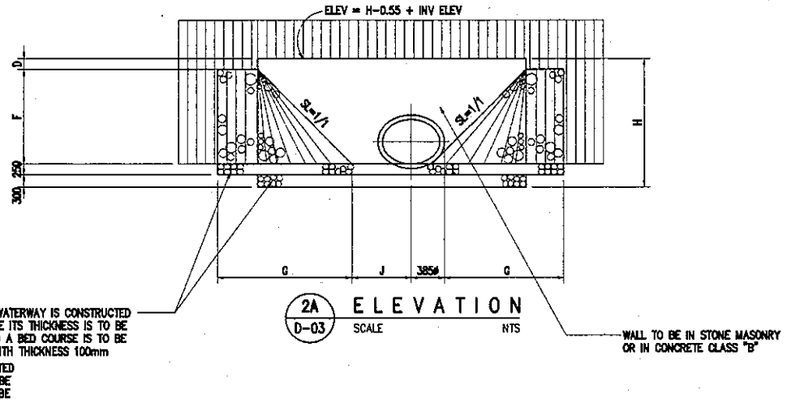


1A D-03 ELEVATION SCALE NTS

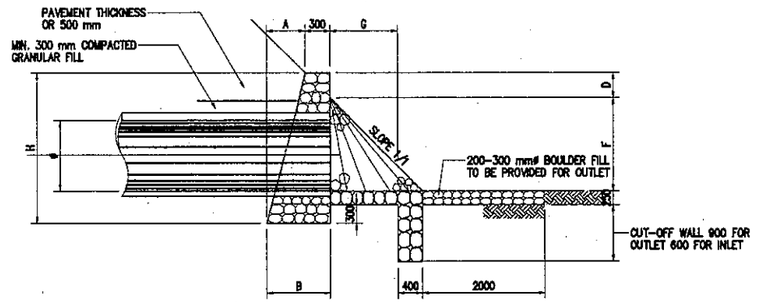
1B D-03 SECTION SCALE NTS



1C D-03 SECTION SCALE NTS



2A D-03 ELEVATION SCALE NTS



2C D-03 SECTION SCALE NTS

TYPE A_1 ∝ = 90° INLET OR OUTLET FRONTWALL DIMENSION IN MILLIMETERS

PIPE DIAMETER (mm)		910	1070	1220	1520
H		2360	2520	2670	2970
A		780	830	880	980
B		1080	1130	1180	1280
0.8670 ø		810	710	810	1010
SLOPE 3/2	C	3830	4250	4650	5450
	D	200	200	200	200
	E	1610	1770	1920	2220
	F	1610	1770	1920	2220
	G	2415	2685	2880	3330
	L	5440	6020	6570	7670
SLOPE 2/1	C	3930	4350	4750	5550
	D	150	150	150	150
	E	1660	1820	1970	2270
	F	1660	1820	1970	2270
	G	3320	3640	3940	4540
	L	7250	7990	8690	10090
SLOPE 4/1	C	4080	4500	4900	5700
	D	75	75	75	75
	E	1735	1895	2045	2345
	F	1735	1895	2045	2345
	G	6940	7580	8180	9380
	L	14490	15870	17170	19770

TYPE A_1 ∝ = 60° INLET OR OUTLET FRONTWALL DIMENSION IN MILLIMETERS

PIPE DIAMETER (mm)		910	1070	1220	1520
1.1547 ø		1050	1240	1310	1250
H		2360	2520	2670	2970
A		780	830	880	980
B		1080	1130	1180	1280
0.385 ø		350	410	470	590
SLOPE 3/2	J	1010	1140	1260	1510
	C	4580	5090	5570	6550
	D	200	200	200	200
	E/F	1610	1770	1920	2220
	G	2415	2655	2880	3330
	L	6190	6860	7490	8780
SLOPE 2/1	J	1150	1290	1430	1690
	C	4820	5340	5840	6830
	D	150	150	150	150
	E/F	1660	1820	1970	2270
	G	3320	3640	3940	4540
	L	8140	8980	9780	11360
SLOPE 4/1	J	1710	1900	2080	2440
	C	5330	6100	6640	7730
	D	75	75	75	75
	E/F	1735	1895	2045	2345
	G	6940	7580	8180	9380
	L	15940	17470	18910	21790

TYPE A_1 ∝ = 45° INLET OR OUTLET FRONTWALL DIMENSION IN MILLIMETERS

PIPE DIAMETER (mm)		910	1070	1220	1520
1.4142 ø		1290	1510	1730	2150
H		2360	2520	2670	2970
A		780	830	880	980
B		1080	1130	1180	1280
0.4713 ø		430	500	570	720
SLOPE 3/2	J	1780	2000	2200	2600
	C	5430	6040	6620	7780
	D	200	200	200	200
	E/F	1610	1770	1920	2220
	G	2415	2655	2880	3330
	L	7040	7810	8540	9980
SLOPE 2/1	J	2160	2400	2640	3100
	C	5910	6540	7160	8360
	D	150	150	150	150
	E/F	1660	1820	1970	2270
	G	3320	3640	3940	4540
	L	9230	10180	11100	12900
SLOPE 4/1	J	3680	4040	4390	5100
	C	7580	8330	9060	10510
	D	75	75	75	75
	E/F	1735	1895	2045	2345
	G	6940	7580	8180	9380
	L	17970	19700	21320	24580

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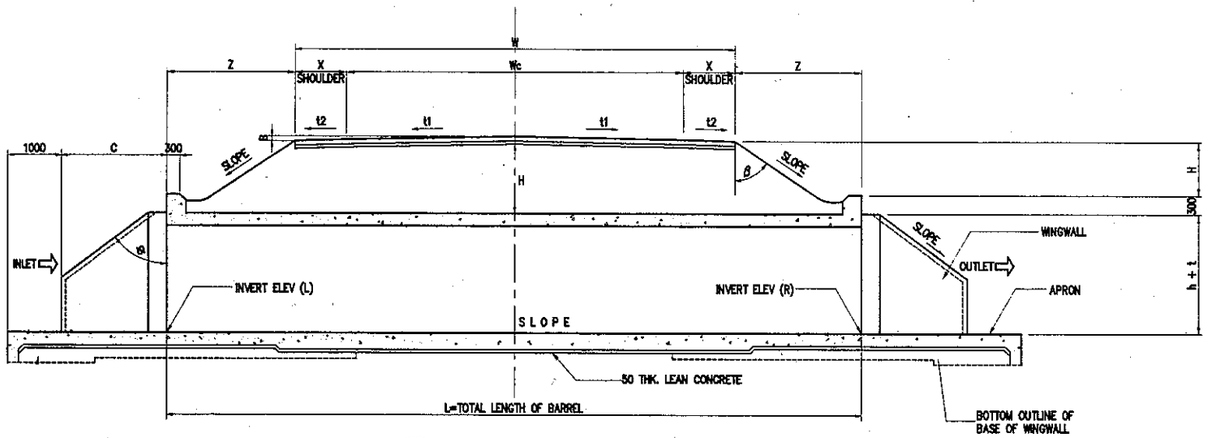
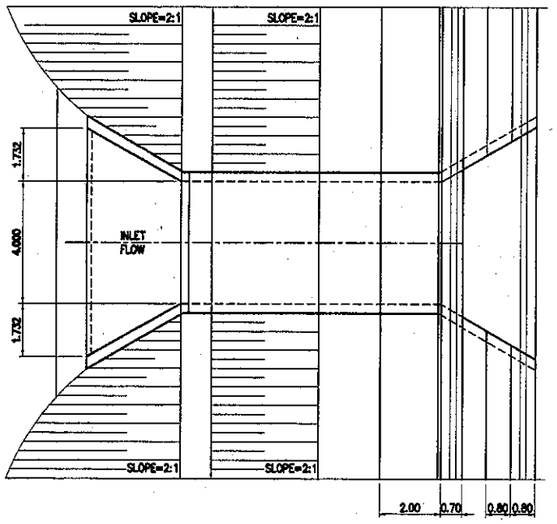


1 / D-04 TYPICAL CULVERT CROSS SECTION
SCALE 1:50

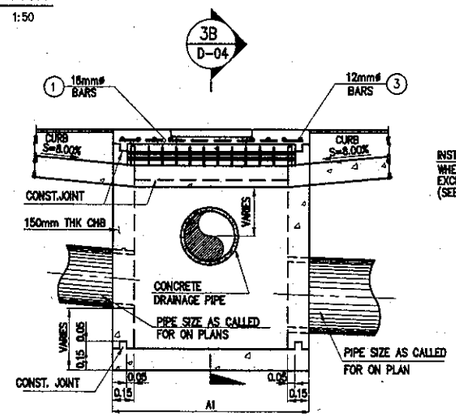
HORIZONTAL SKEW ANGLE ∝		L (mm)	
	90°		W+2z
	60°		1.1547 (w+2z)
	45°		1.4142 (W+2z)

LEGEND :

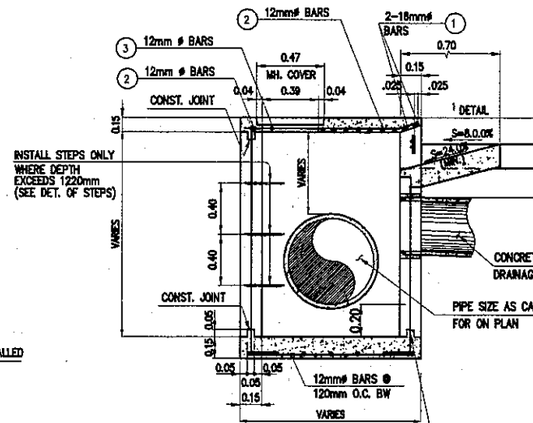
- W – WIDTH OF ROADWAY FORMATION
- X – WIDTH OF SHOULDER
- Wc – WIDTH OF CARRIAGE WAY
- H – COVER ABOVE THE CULVERT
- L – TOTAL LENGTH OF BARREL
- t1 – SLOPE OF CARRRIAGE WAY
- t2 – SLOPE OF SHOULDER
- Z – (H–B–200)tanβ +300
- B – 0 0.5Wct1 + Xt2
- h – HEIGHT OF CULVERT OPENING
- t – THICKNESS OF CULVERT WALL OR SLAB
- β – ANGLE OF INCLINATION OF EMBANKMENT
- ∝C – ANGLE OF SKEW



2 / D-04 P L A N – 4.00 X 2.50m BOX CULVERT
SCALE 1:100



3A / D-04 E L E V A T I O N
SCALE NTS



3B / D-04 S E C T I O N
SCALE 1:20

REBAR SCHEDULE

REINFORCING BARS FOR CURB INLET

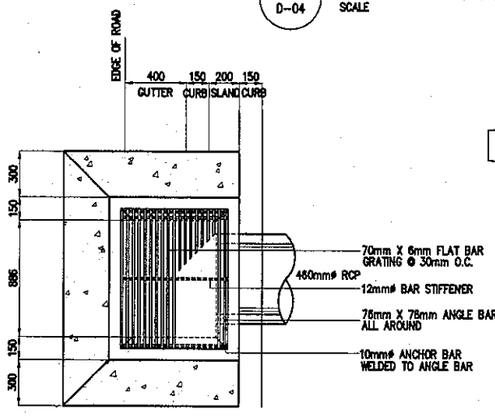
TYPE OF CI	SIZE OF PIPE (mm)	A1 (mm)	BAR LIST NO. OF BARS 1	SPACING (mm)	NO. OF BARS 2	SPACING (mm)	NO. OF BARS 3	SPACING (mm)
T–1	460	1190	2	1090	6	1270	8	1090
T–2	610	1370	2	1270	8	1270	8	1270
T–3	760	1540	2	1270	10	1270	8	1440
T–4	910	1730	2	1270	11	1270	8	1630

DEPTH "D"	TYPE OF CONSTRUCTION	REINFORCEMENT
1.20 – SHALLOWER	CHB (t=8")	12mmø HOR. BARS @ EVERY 3rd COURSE 12mmø @ 450 O.C.
1.21 – 2.00	REINF. CONCRETE	12mmø @ 450 O.C. V.B. 12mmø @ 300 O.C. HB
2.001 – DEEPER	REINF. CONCRETE	12mmø @ 225mm O.C. B.W.

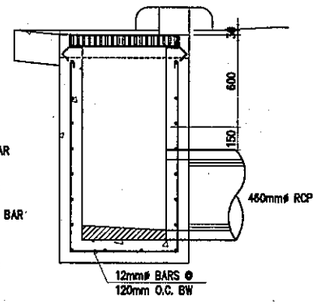
3 / D-04 DETAIL COMBINATION CURB INLET / MANHOLE
SCALE AS SHOWN

GENERAL NOTES:

1. MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGES, REVISED 1988.
2. ALL DIMENSIONS ARE IN METERS (m) UNLESS INDICATED OTHERWISE .
3. ALL CONCRETE SHALL BE CLASS "A" MIX. ALL EXPOSED SURFACES SHALL BE TROWEL FINISHED WITHOUT MORTAR COAT AND ALL EDGES ARE TO BE FINISHED WITH SUITABLE EDGER.
4. REINFORCING SHALL BE OF INTERMEDIATE GRADE. STEEL STEPS SHALL BE GRAY IRON OR STEEL.
5. INSIDE SURFACES AND EXPOSED OUTSIDE SURFACES OF ALL MASONRY SHALL HAVE A PLASTER COAT 13mm THICK.
6. POSITIONS, SIZES AND NUMBER OF SEWER AND STORMDRAIN CONDUITS ENTERING MANHOLE SHALL BE AS INDICATED IN THE GENERAL PLANS OR AS DETERMINED BY THE ENGINEER TO SUIT FIELD CONDITIONS.
7. REINFORCED CONCRETE TYPE OF MANHOLE COVER SHALL BE USED ONLY IN CASES WHERE MANHOLE IS LOCATED WITHIN THE RIDING SURFACES.
8. WHEN HEIGHT OF STRUCTURE EXCEEDS 1220mm (4'–0") STAGGERED STEPS AT 400mm INTERVAL SHALL BE PROVIDED.
9. MANHOLES SHALL NOT BE CONSTRUCTED WITHIN THE RIDING SURFACE.

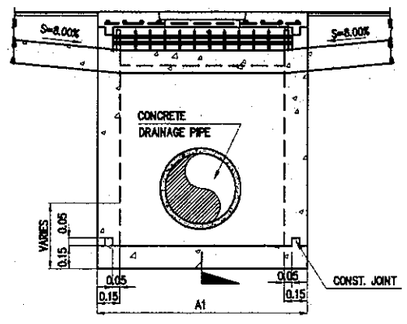


4A / D-04 PLAN
SCALE NTS

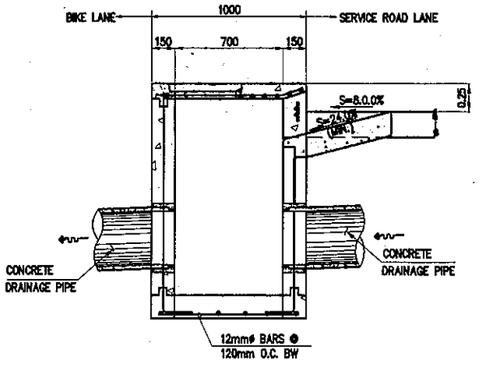


4B / D-04 SECTION
SCALE NTS

4 / D-04 CURB INLET (CI–1) DETAIL
SCALE NTS



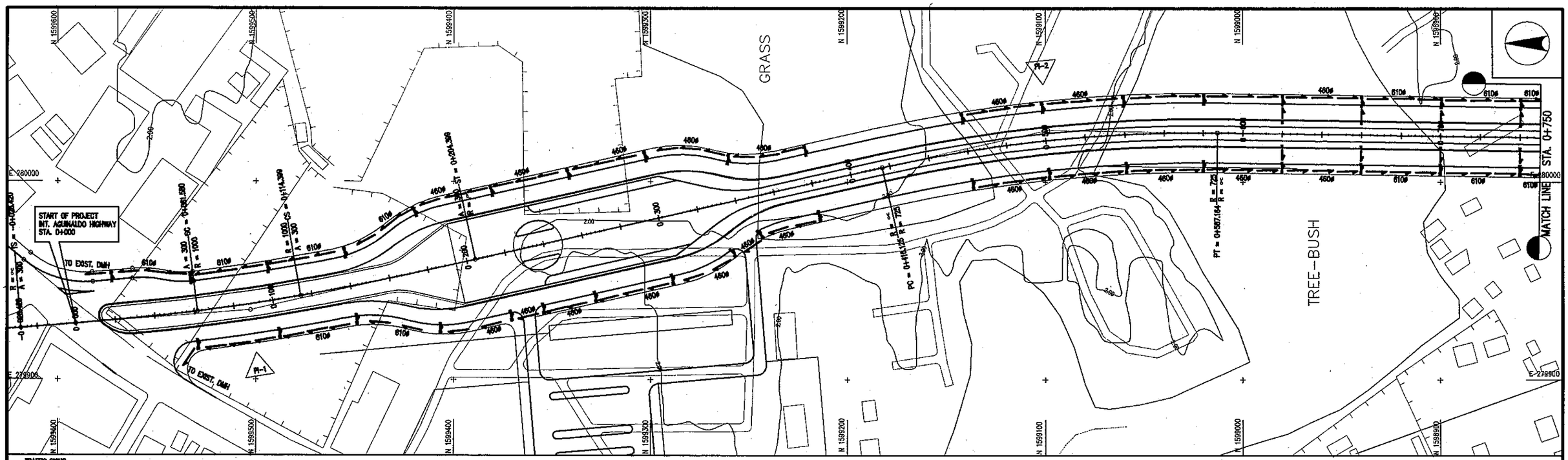
5A / D-04 SECTION
SCALE NTS



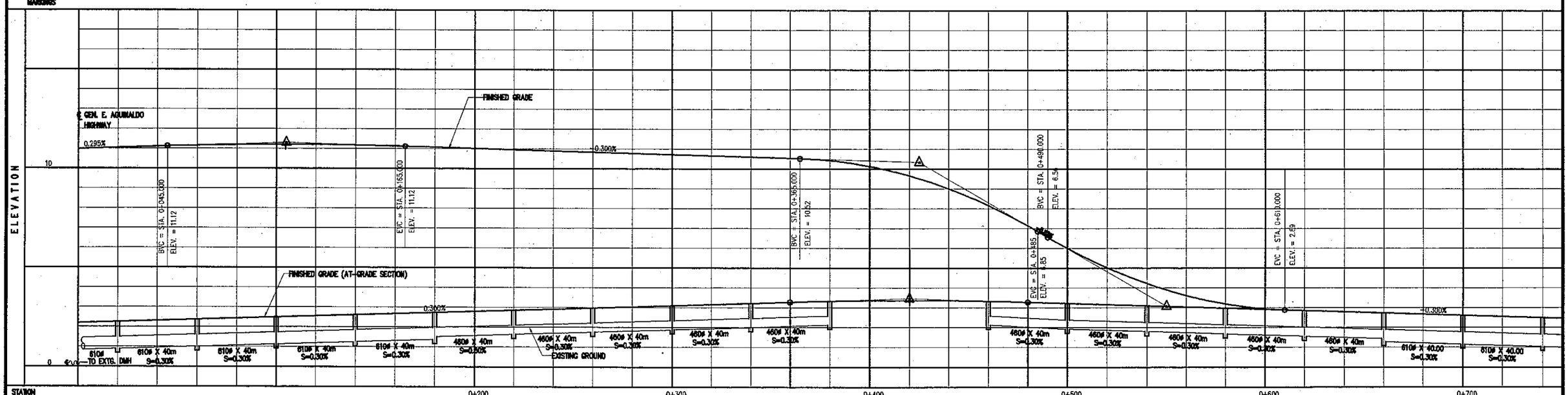
5B / D-04 SECTION
SCALE NTS

5 / D-04 CURB INLET (CI–2) DETAIL
SCALE NTS

ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JICA JAPAN INTERNATIONAL COOPERATION AGENCY Japan	THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM	SHEET CONTENTS TYPICAL CULVERT CROSS SECTION PLAN – 4.00 X 2.50m BOX CULVERT DETAIL COMBINATION CURB INLET / MANHOLE CURB INLET (CI–1) & CI–2 DETAIL	SCALE N T S	Drawing Number D–04

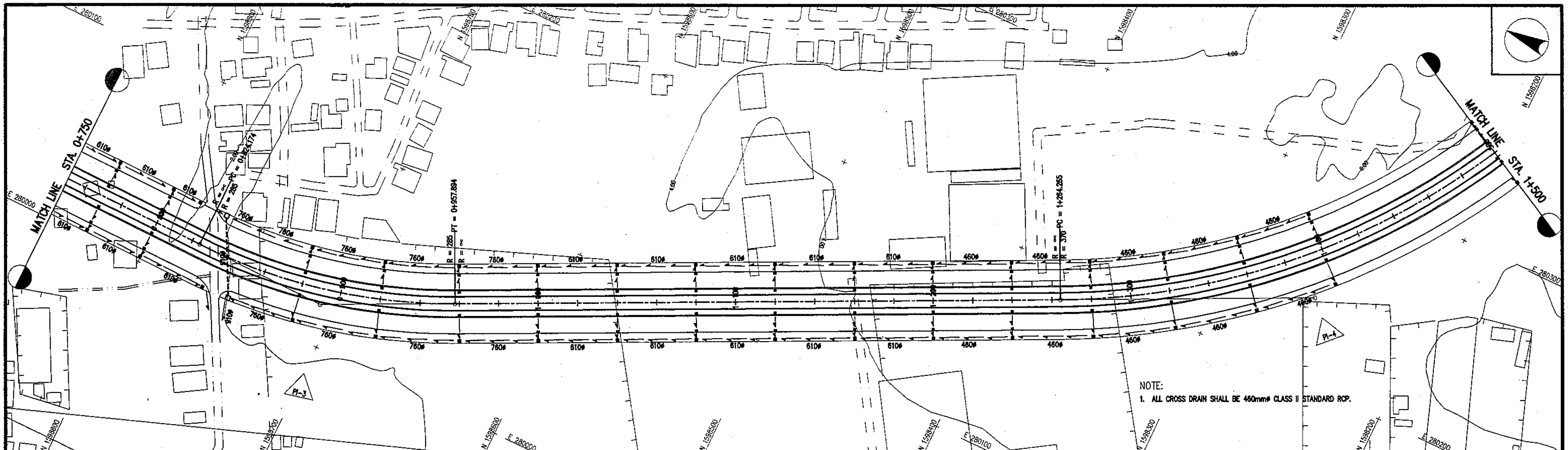


TRAFFIC SIGNS AND PAVEMENT MARKINGS

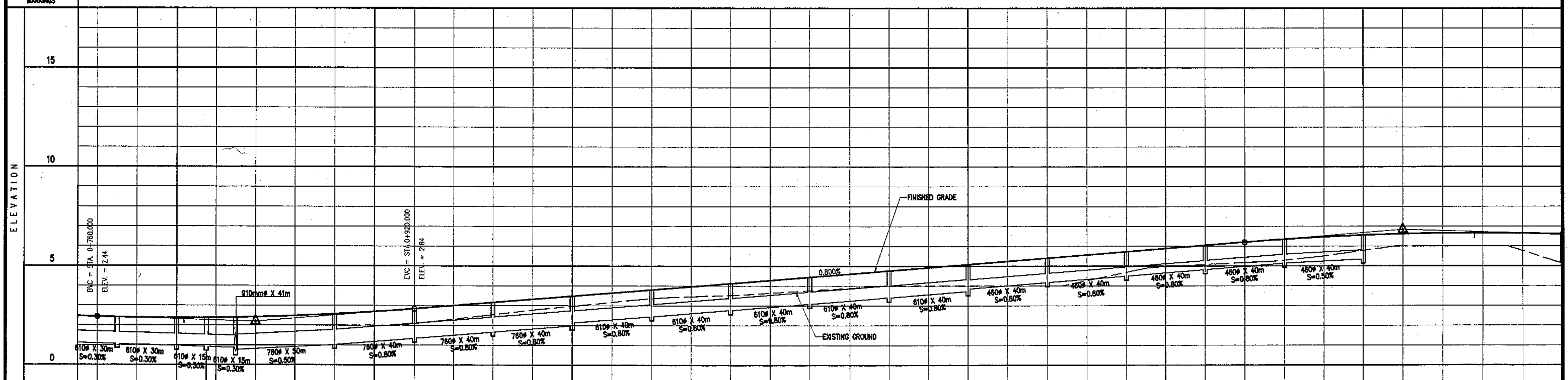


STATION	0+200	0+300	0+400	0+500	0+600	0+700
FINISHED GRADE	11.18 2.82	11.13 2.88	11.08 2.74	11.02 2.88	10.96 2.88	10.90 2.92	10.84 2.98	10.78 3.04	10.72 3.10	10.66 3.16	10.60 3.22	10.54 3.26	10.48 3.33	10.42 3.36	9.86 3.37	9.00 3.36	8.16 3.33	7.14 3.28	6.00	5.02	4.23	3.61	3.19	2.94	2.86	2.80	2.74	2.68	2.62	2.58	2.50
EXISTING GROUND	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
HORIZONTAL ALIGNMENT																															
VERTICAL ALIGNMENT																															
SUPERELEVATION																															
WIDENING																															

ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JICA JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 0+000 TO STA. 0+750	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number D-05



TRAFFIC SIGNS AND PAVEMENT MARKINGS



STATION	FINISHED GRADE	EXISTING GROUND
	2.44	2.00
	2.39	2.00
0+800	2.37	2.00
	2.38	2.00
	2.42	2.00
	2.48	2.00
	2.58	2.00
0+900	2.69	2.00
	2.84	2.09
	3.00	2.31
	3.16	2.54
	3.32	2.77
1+000	3.48	2.97
	3.64	3.17
	3.80	3.36
	3.96	3.45
	4.12	3.52
1+100	4.28	3.64
	4.44	3.76
	4.60	3.89
	4.76	4.00
	4.92	4.00
1+200	5.08	4.00
	5.24	4.00
	5.40	4.00
	5.56	4.27
	5.72	4.68
1+300	5.88	4.97
	6.04	5.07
	6.20	5.17
	6.35	5.29
	6.46	5.51
1+400	6.56	5.78
	6.62	6.00
	6.66	6.00
	6.66	6.00
	6.64	5.76
1+500	6.60	5.12

HORIZONTAL ALIGNMENT

VERTICAL ALIGNMENT

SUPERELEVATION

WIDENING

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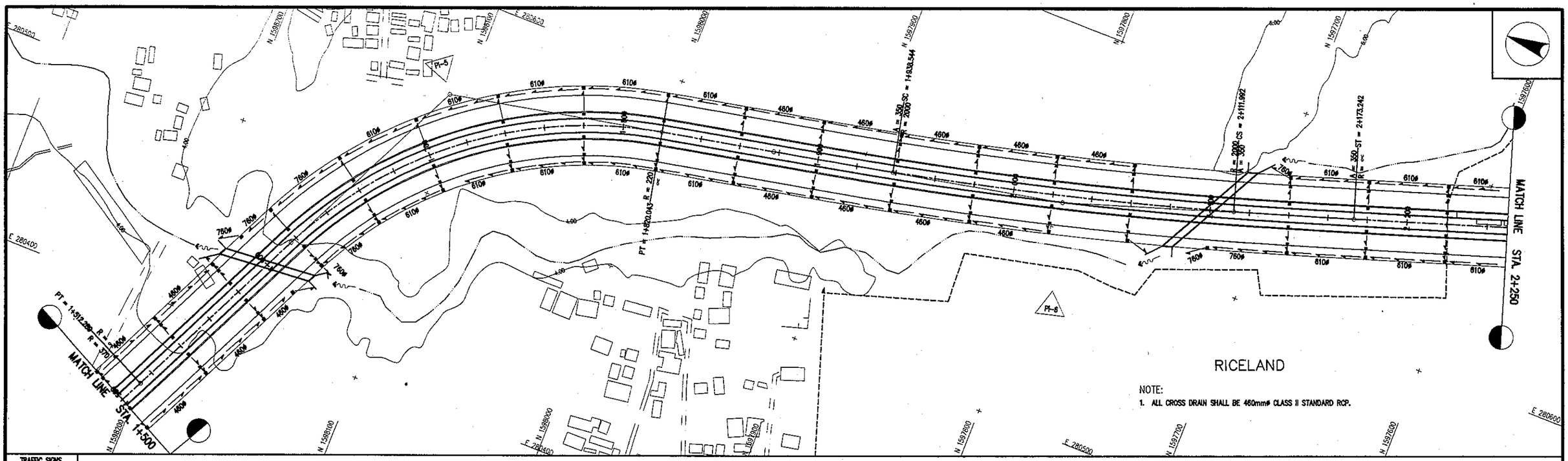
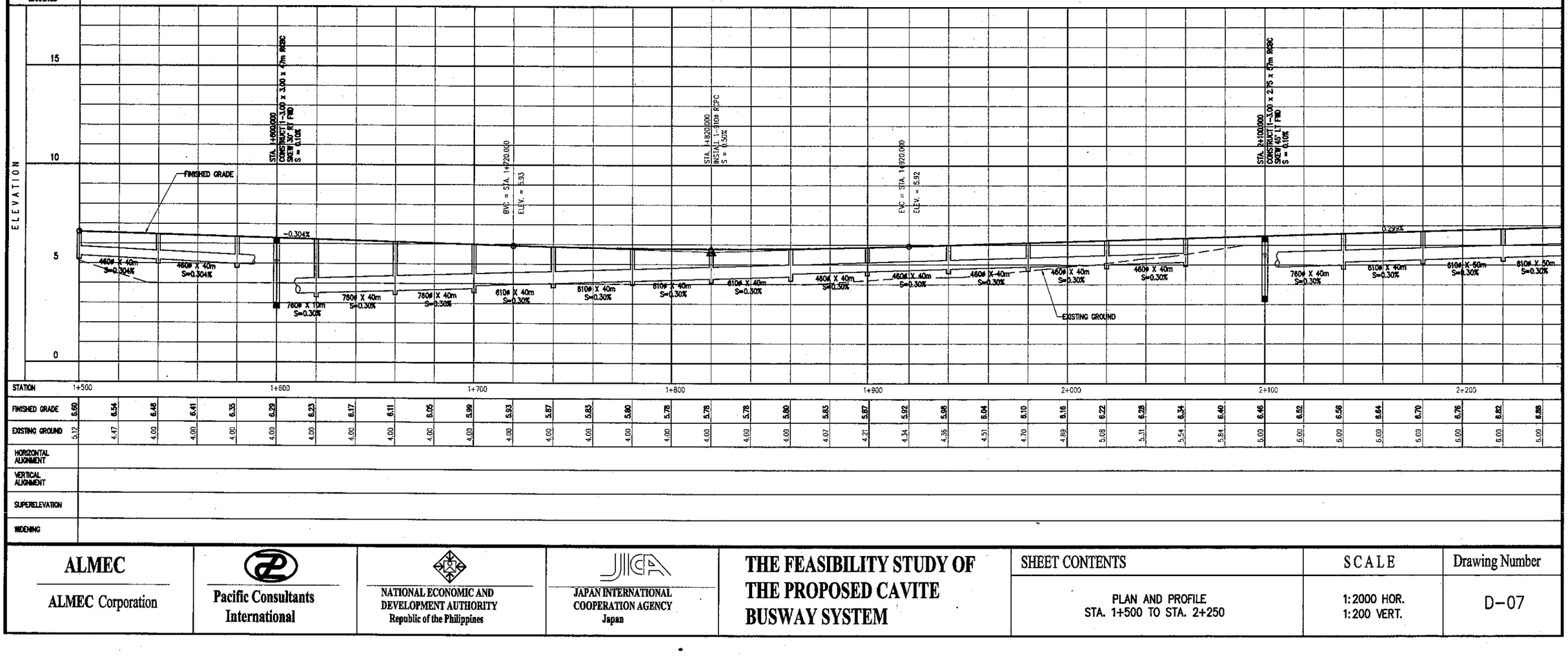
ALMEC Corporation					PLAN AND PROFILE STA. 0+750 TO STA. 1+500	1:2000 HOR. 1:200 VERT.	D-06

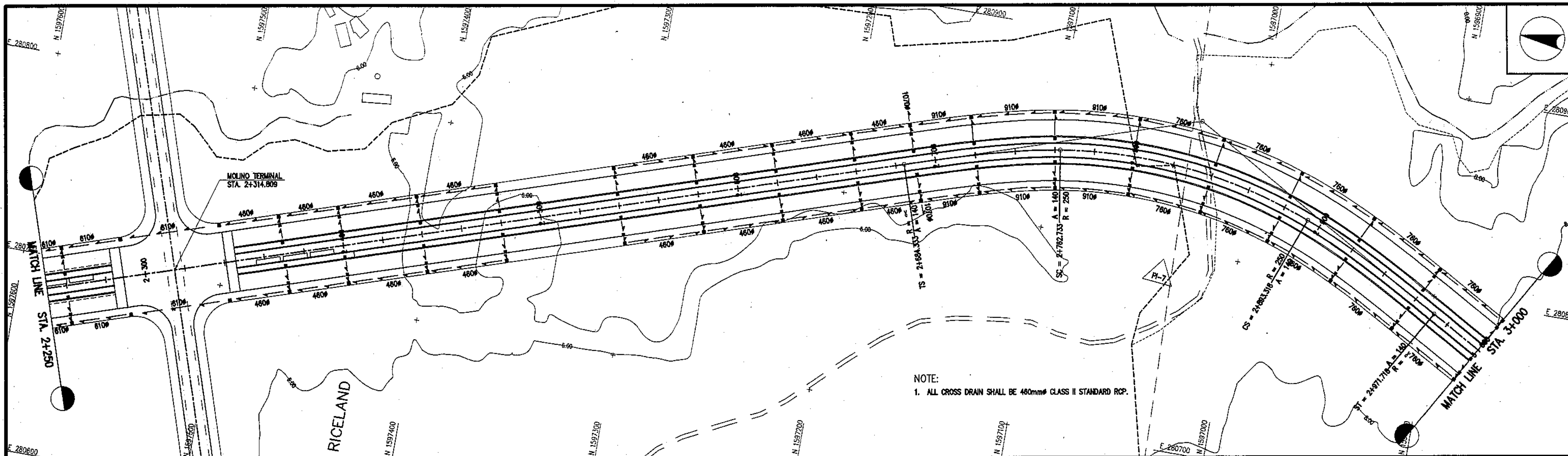


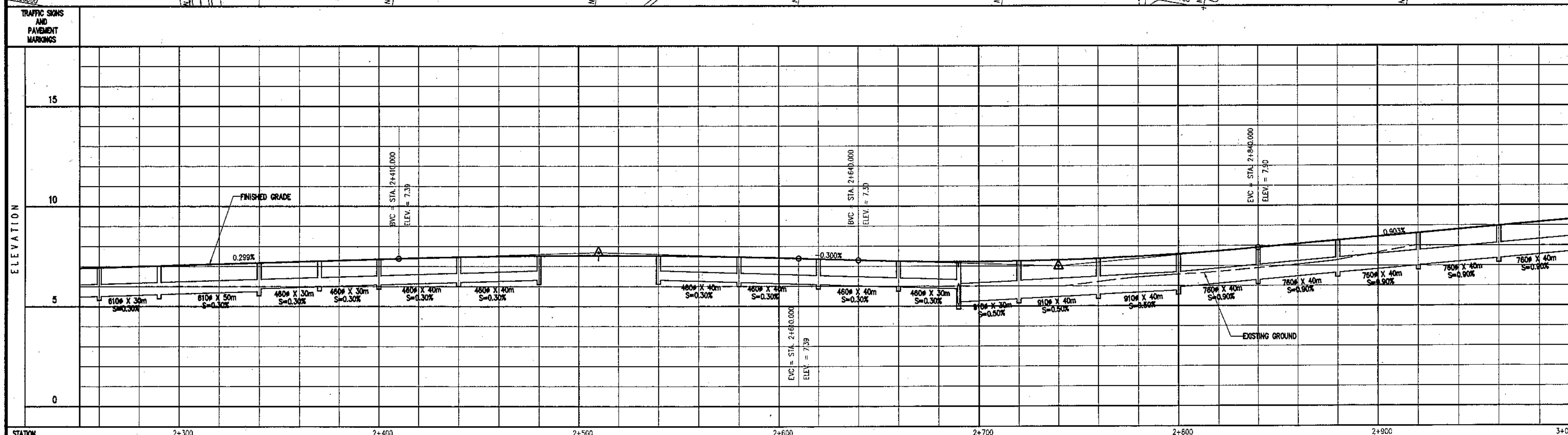


STATION	1+500						1+600						1+700						1+800						1+900						2+000						2+100						2+200
FINISHED GRADE	6.60	6.54	6.48	6.41	6.35	6.29	6.23	6.17	6.11	6.05	5.99	5.93	5.87	5.83	5.80	5.78	5.78	5.78	5.80	5.83	5.87	5.92	5.98	6.04	6.10	6.16	6.22	6.28	6.34	6.40	6.46	6.52	6.58	6.64	6.70	6.76	6.82	6.88					
EXISTING GROUND	5.12	4.47	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.07	4.21	4.34	4.36	4.51	4.70	4.89	5.08	5.31	5.54	5.84	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00					
HORIZONTAL ALIGNMENT																																											
VERTICAL ALIGNMENT																																											
SUPERELEVATION																																											
WIDENING																																											

TRAFFIC SIGNS AND PAVEMENT MARKINGS

ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JICA JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 1+500 TO STA. 2+250	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number D-07





FINISHED GRADE	EXISTING GROUND
6.94	6.00
7.00	6.00
7.06	6.00
7.12	6.00
7.18	6.00
7.24	6.00
7.30	6.00
7.36	6.00
7.42	6.00
7.47	6.00
7.50	6.00
7.53	6.00
7.54	6.00
7.54	6.00
7.53	6.00
7.50	6.00
7.47	6.00
7.42	6.00
7.36	6.00
7.30	6.00
7.25	6.00
7.23	6.00
7.23	6.00
7.25	6.00
7.30	6.00
7.37	6.21
7.47	6.44
7.59	6.57
7.73	6.70
7.90	6.88
8.08	7.05
8.26	7.28
8.45	7.66
8.63	8.00
8.81	8.00
8.99	8.00
9.17	8.00
9.35	8.00

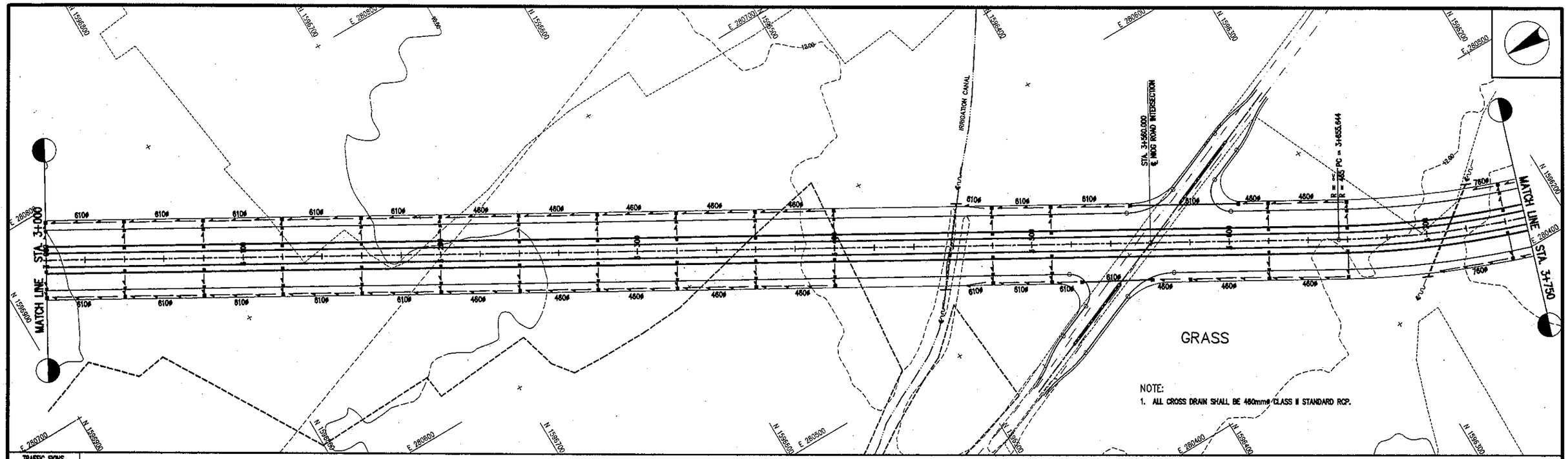
HORIZONTAL ALIGNMENT

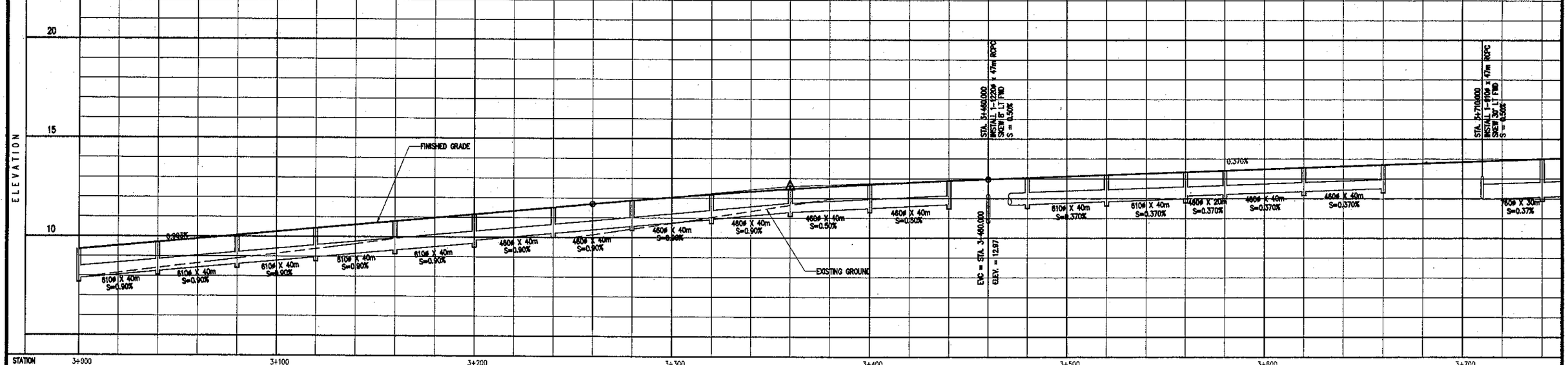
VERTICAL ALIGNMENT

SUPERELEVATION

WIDENING

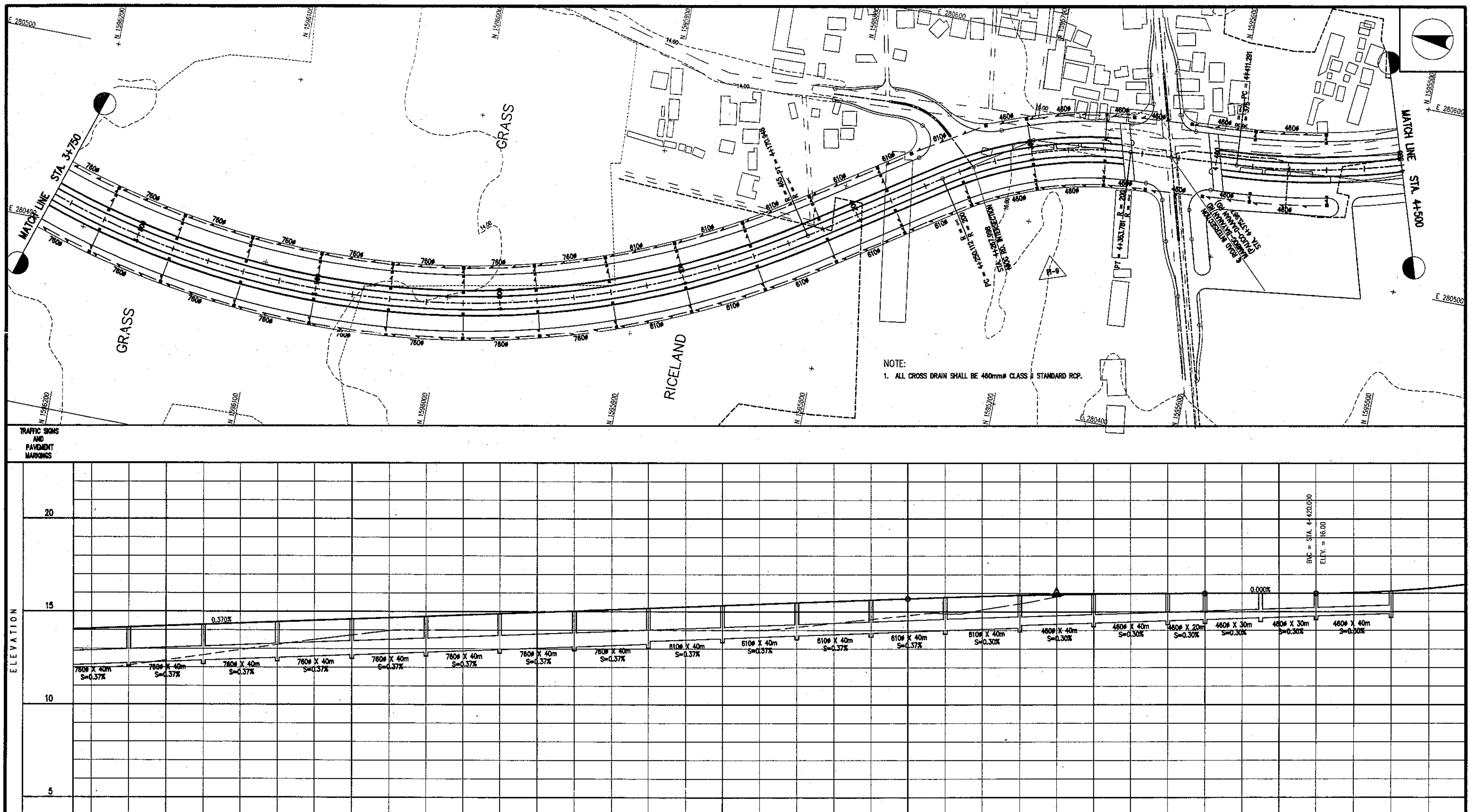
ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JICA JAPAN INTERNATIONAL COOPERATION AGENCY Japan	THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM	SHEET CONTENTS PLAN AND PROFILE STA. 2+250 TO STA. 3+000	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number D-08





STATION	3+000					3+100					3+200					3+300					3+400					3+500					3+600					3+700	
FINISHED GRADE	9.35	9.53	9.71	9.89	10.07	10.25	10.43	10.61	10.79	10.97	11.15	11.34	11.52	11.70	11.87	12.04	12.19	12.33	12.47	12.59	12.70	12.80	12.89	12.97	13.04	13.12	13.19	13.27	13.34	13.41	13.49	13.56	13.63	13.71	13.78	13.86	13.93	14.00
EXISTING GROUND	8.00	8.16	8.41	8.65	8.90	9.14	9.39	9.64	9.92	10.00	10.00	10.00	10.00	10.14	10.43	10.73	11.03	11.34	11.64	11.95	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
HORIZONTAL ALIGNMENT																																						
VERTICAL ALIGNMENT																																						
SUPERELEVATION																																						
WIDENING																																						

ALMEC						
ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS: PLAN AND PROFILE STA. 3+000 TO STA. 3+750	SCALE: 1:2000 HOR. 1:200 VERT.	Drawing Number: D-09



STATION: 3+800, 3+900, 4+000, 4+100, 4+200, 4+300, 4+400, 4+500

FINISHED GRADE	14.08	14.15	14.23	14.30	14.37	14.45	14.52	14.60	14.67	14.74	14.82	14.89	14.97	15.04	15.11	15.19	15.26	15.33	15.41
EXISTING GROUND	12.00	12.10	12.38	12.66	12.94	13.22	13.49	13.73	13.98	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00

FINISHED GRADE	15.48	15.56	15.63	15.70	15.77	15.83	15.88	15.93	15.96	15.98	16.00	16.00	16.00	16.00	16.00	16.03	16.12	16.27	16.47
EXISTING GROUND	14.17	14.38	14.59	14.80	14.90	15.11	15.43	15.82	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00

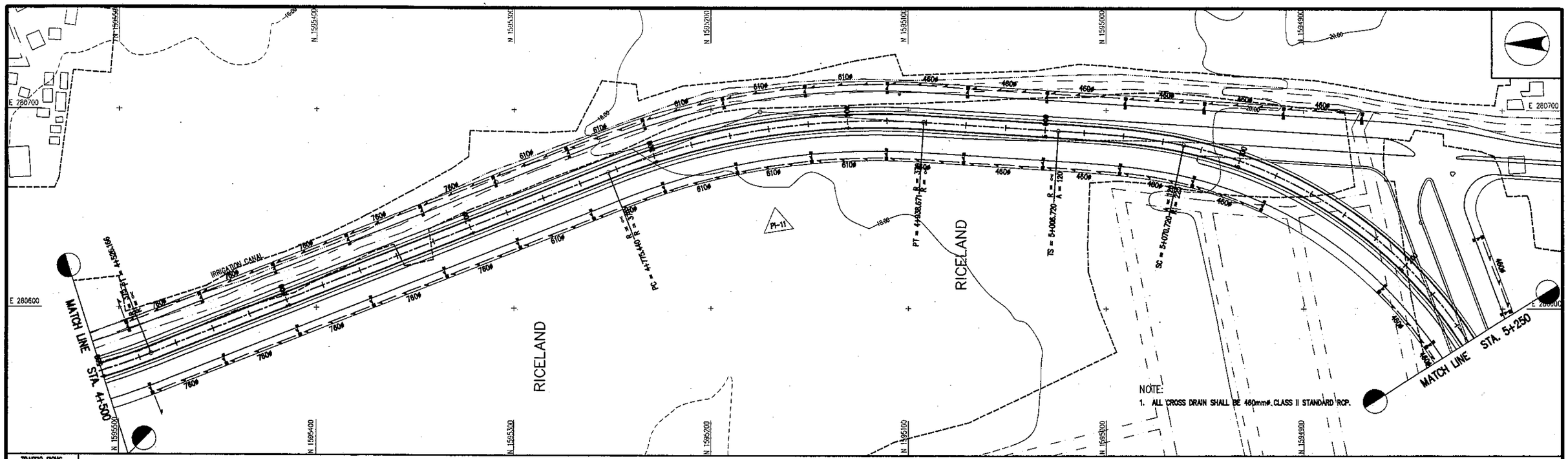
HORIZONTAL ALIGNMENT

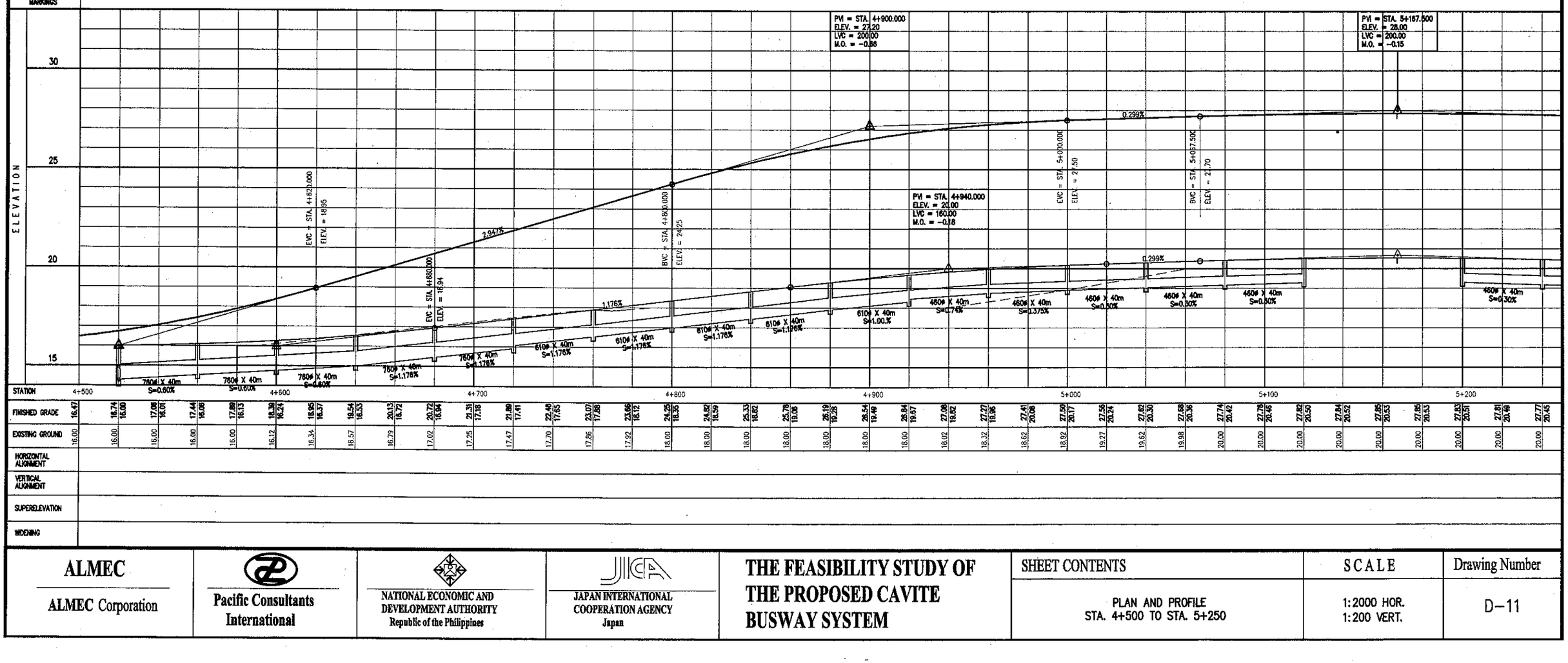
VERTICAL ALIGNMENT

SUPERELEVATION

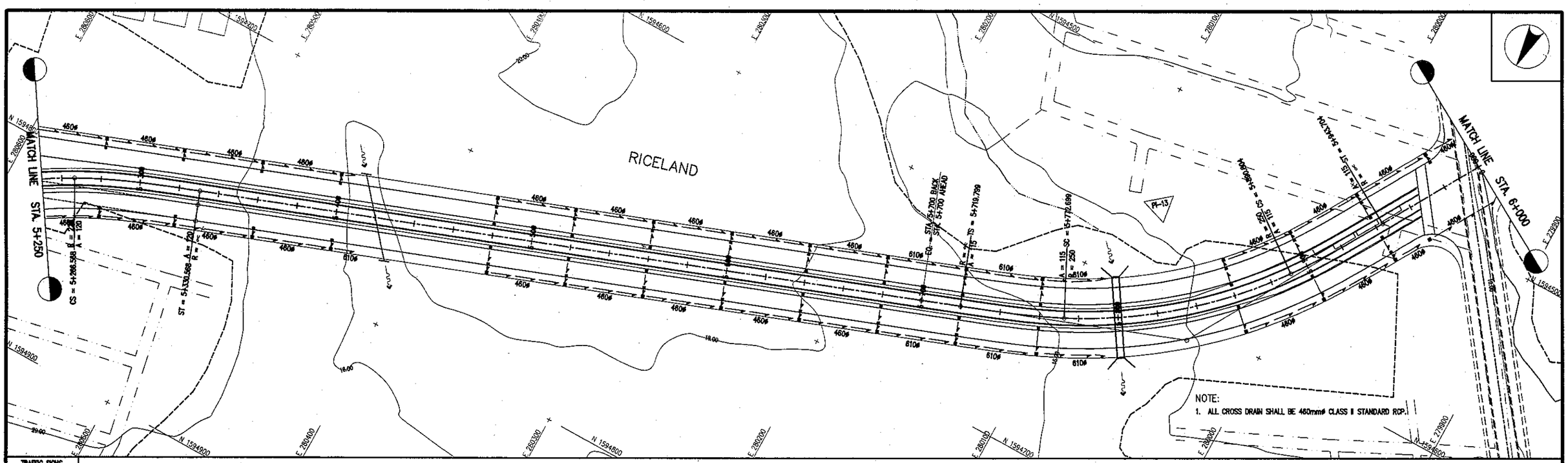
WIDENING

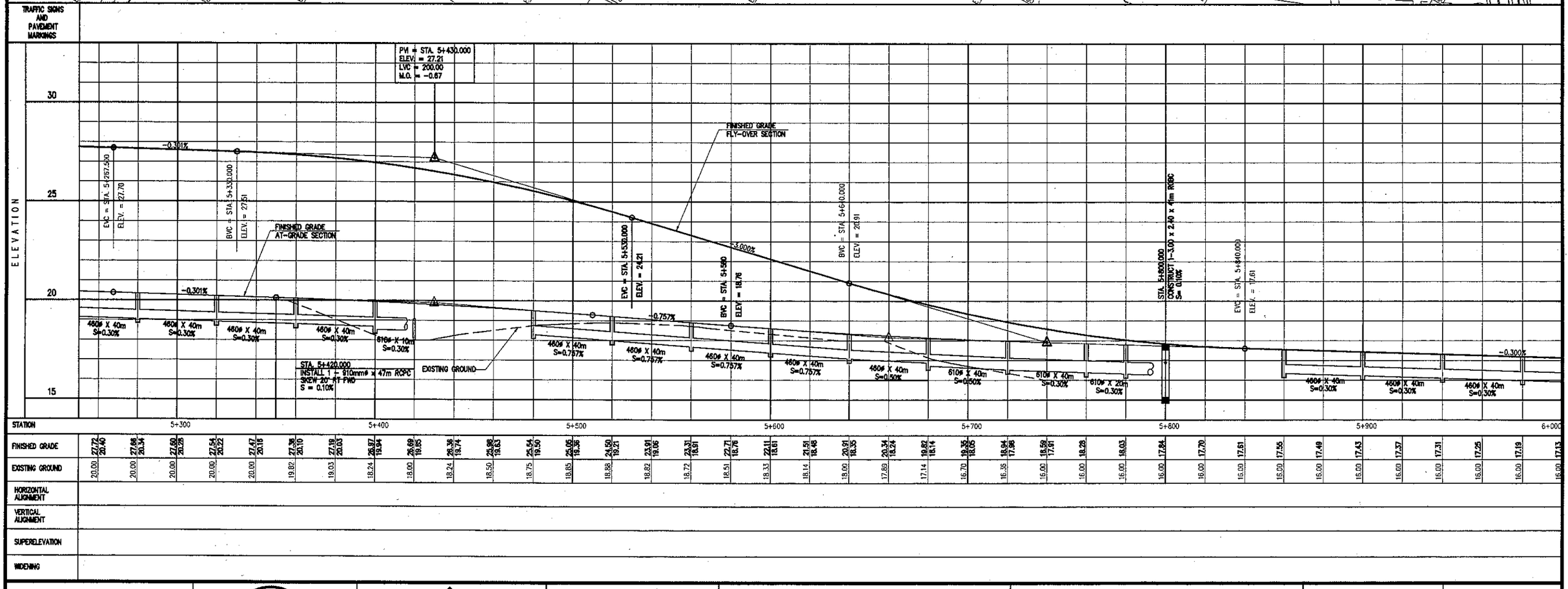
ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JICA JAPAN INTERNATIONAL COOPERATION AGENCY Japan	THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM	SHEET CONTENTS PLAN AND PROFILE STA. 3+750 TO STA. 4+500	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number D-10



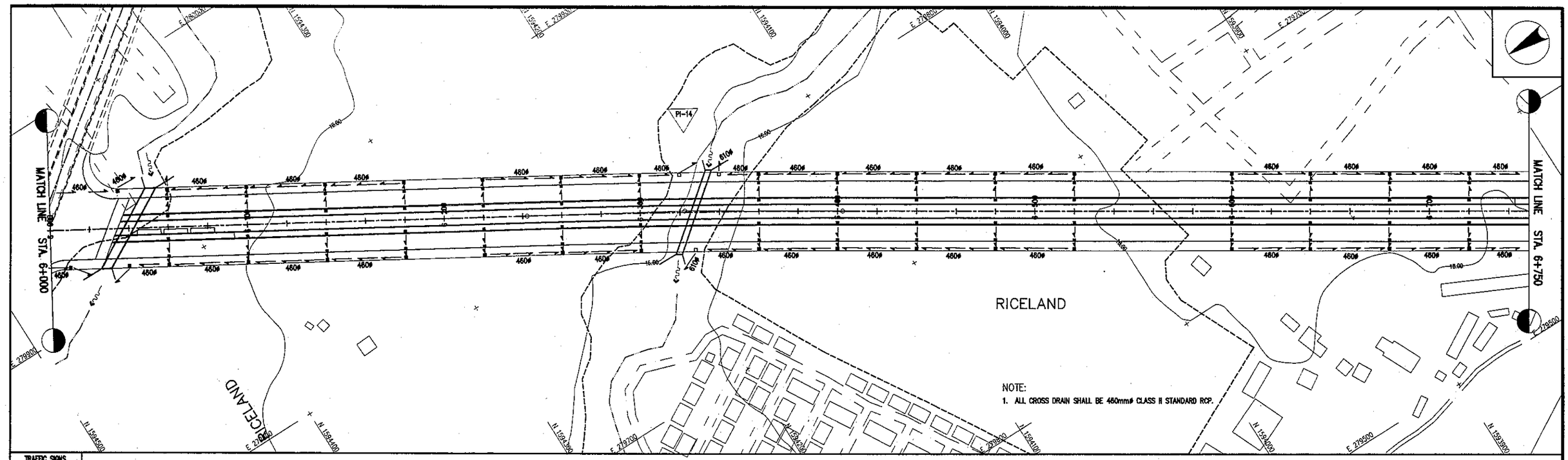


ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 4+500 TO STA. 5+250	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number D−11

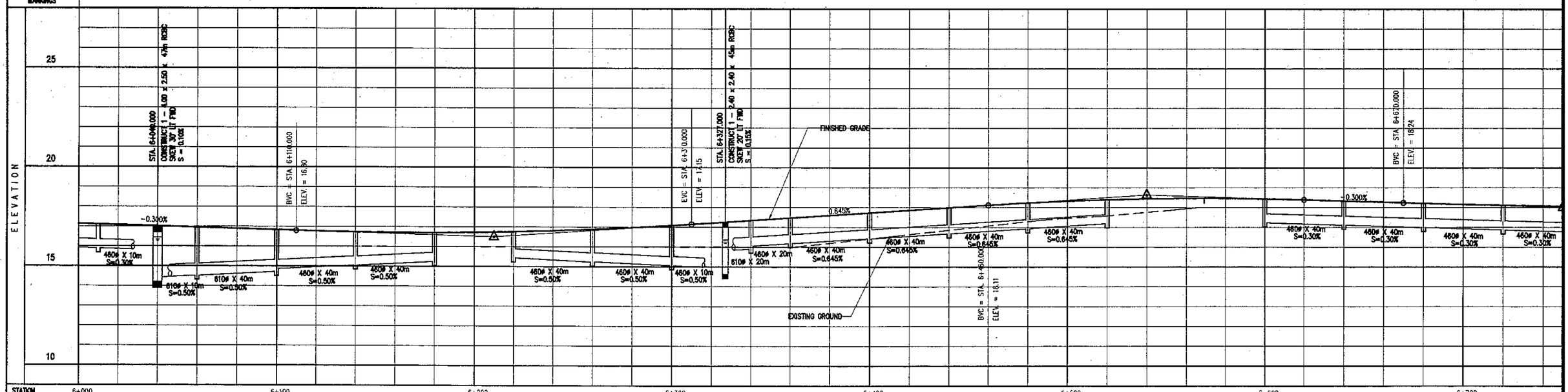




ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JICA JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 5+250 TO STA. 6+000	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number D-12

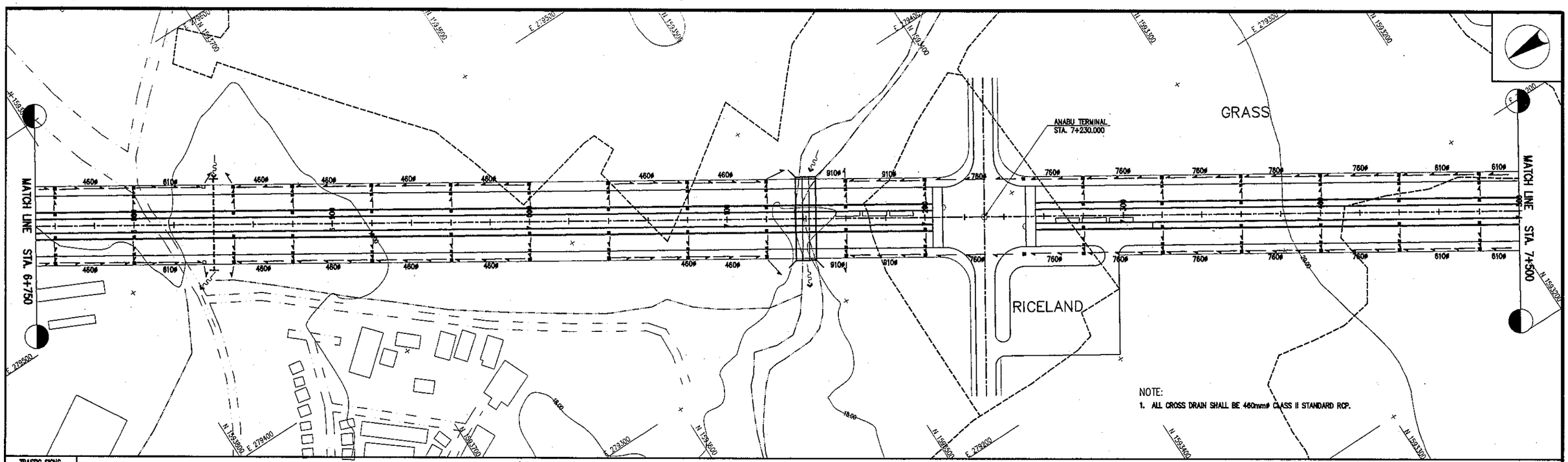


TRAFFIC SIGNS AND PAVEMENT MARKINGS



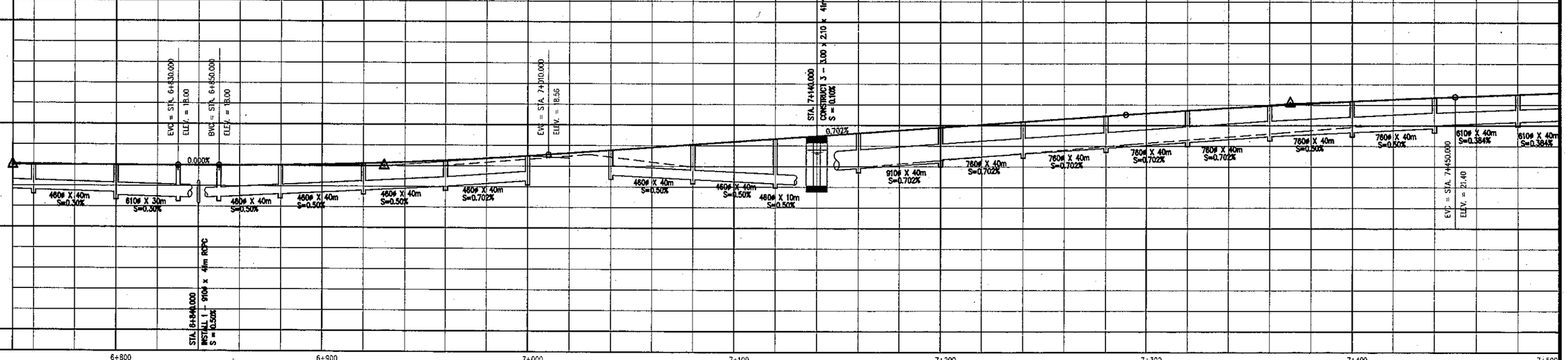
STATION	6+000					6+100					6+200					6+300					6+400					6+500					6+600					6+700
FINISHED GRADE	17.13	17.07	17.01	16.95	16.89	16.83	16.77	16.73	16.71	16.71	16.72	16.76	16.81	16.88	16.97	17.08	17.21	17.34	17.47	17.60	17.73	17.86	17.98	18.11	18.23	18.32	18.39	18.44	18.46	18.46	18.44	18.39	18.33	18.27	18.21	18.15	18.11	18.08
EXISTING GROUND	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.19	16.41	16.63	16.85	17.07	17.29	17.46	17.58	17.76	17.94	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00
HORIZONTAL ALIGNMENT																																						
VERTICAL ALIGNMENT																																						
SUPERELEVATION																																						
WIDENING																																						

ALMEC ALMEC Corporation	**Pacific Consultants International**	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 6+000 TO STA. 6+750	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number D–13



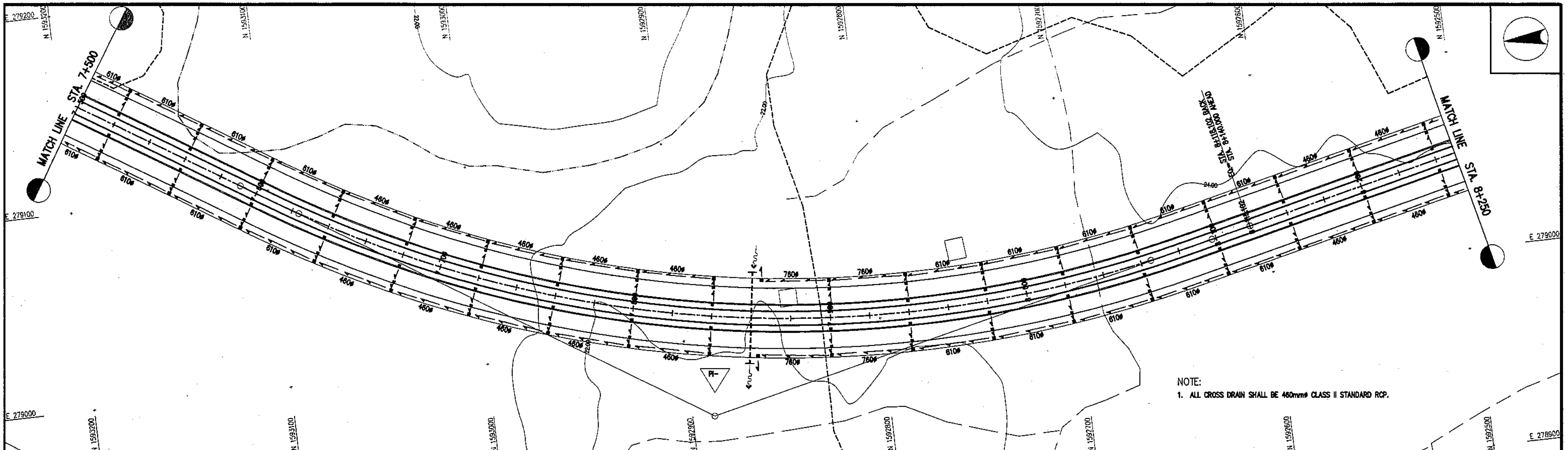
TRAFFIC SIGNS AND PAVEMENT MARKINGS

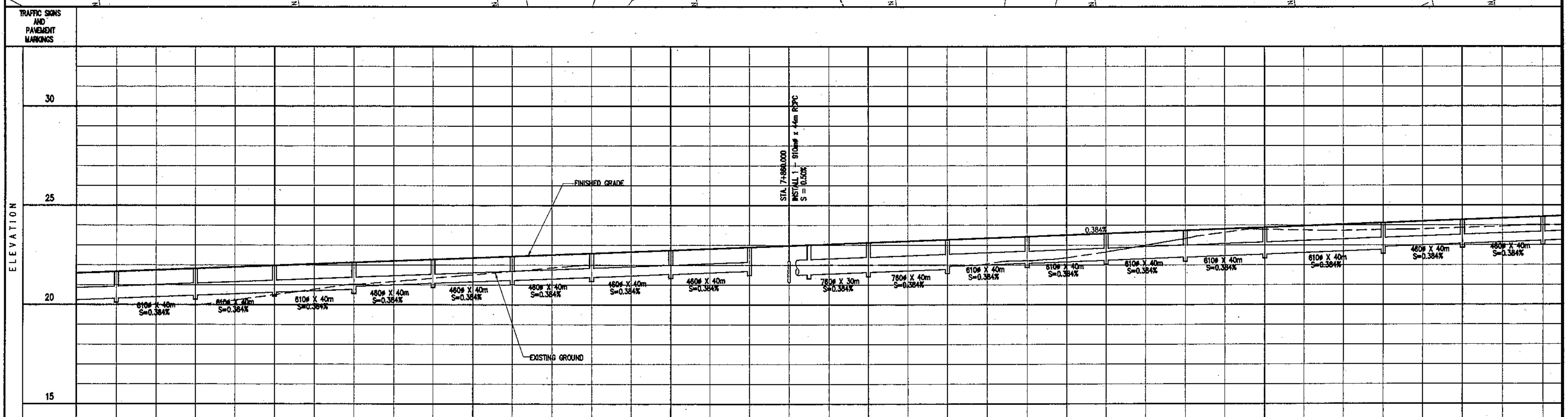
ELEVATION



STATION	6+800	6+900	7+000	7+100	7+200	7+300	7+400	7+500
FINISHED GRADE	18.05 18.02 18.01 18.00 18.00 18.00 18.02 18.05 18.11 18.18 18.27 18.37 18.49 18.63 18.77 18.91 19.05 19.19 19.33 19.47 19.62 19.76 19.90 20.04 20.18 20.32 20.46 20.60 20.73 20.85 20.97 21.08 21.18 21.27 21.38 21.44 21.51 21.59							
EXISTING GROUND	18.00 18.00 18.00 18.00 18.00 18.00 18.00 18.00 18.00 18.00 18.02 18.18 18.33 18.49 18.44 18.20 18.00 18.00 18.00 18.00 18.00 18.13 18.31 18.48 18.65 18.82 18.99 19.15 19.30 19.45 19.60 19.77 19.93 20.00 20.00 20.00 20.00 20.00							
HORIZONTAL ALIGNMENT								
VERTICAL ALIGNMENT								
SUPERELEVATION								
WIDENING								

ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JICA JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 6+750 TO STA. 7+500	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number D-14





STATION	FINISHED GRADE	EXISTING GROUND
7+500	21.59	20.00
	21.67	20.00
	21.74	20.00
	21.82	20.00
	21.90	20.23
7+600	21.97	20.50
	22.05	20.78
	22.13	21.03
	22.20	21.17
	22.28	21.34
7+700	22.36	21.51
	22.43	21.68
	22.51	21.86
	22.59	22.00
	22.66	22.00
7+800	22.74	22.00
	22.82	22.00
	22.89	22.00
	22.97	22.00
	23.05	22.00
7+900	23.12	22.00
	23.20	22.00
	23.28	22.00
	23.35	22.06
	23.43	22.22
8+000	23.51	22.36
	23.58	22.65
	23.66	22.99
	23.74	23.33
	23.81	23.64
8+100	23.89	23.79
	23.97	23.75
	24.05	23.74
	24.12	23.77
	24.20	23.80
8+200	24.28	23.87
	24.35	23.94
	24.43	24.00

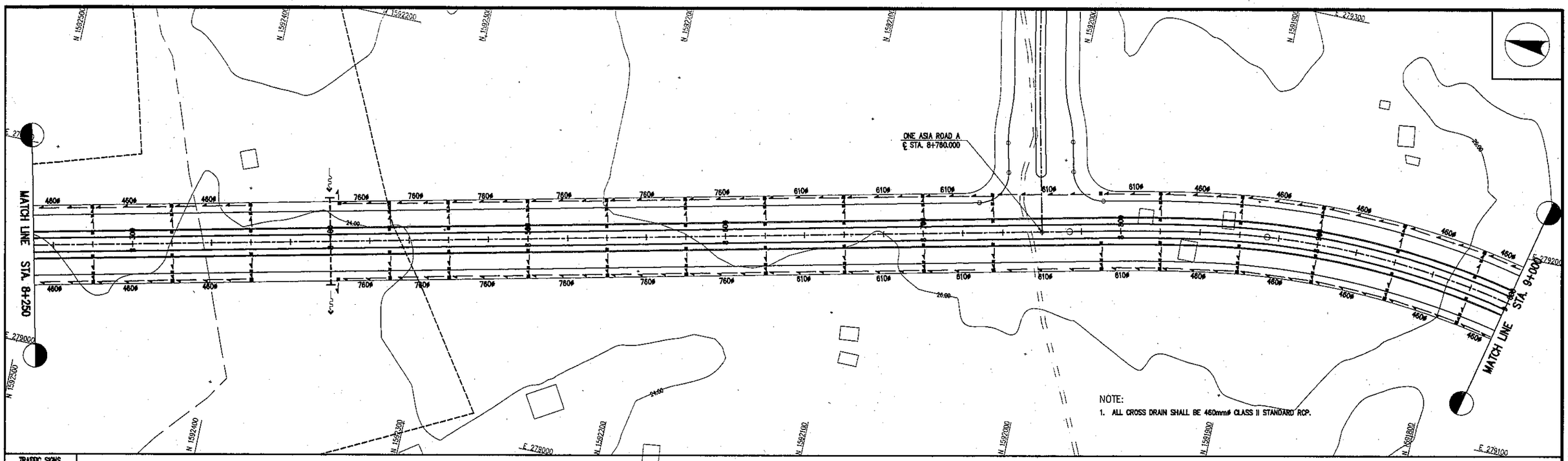
HORIZONTAL ALIGNMENT

VERTICAL ALIGNMENT

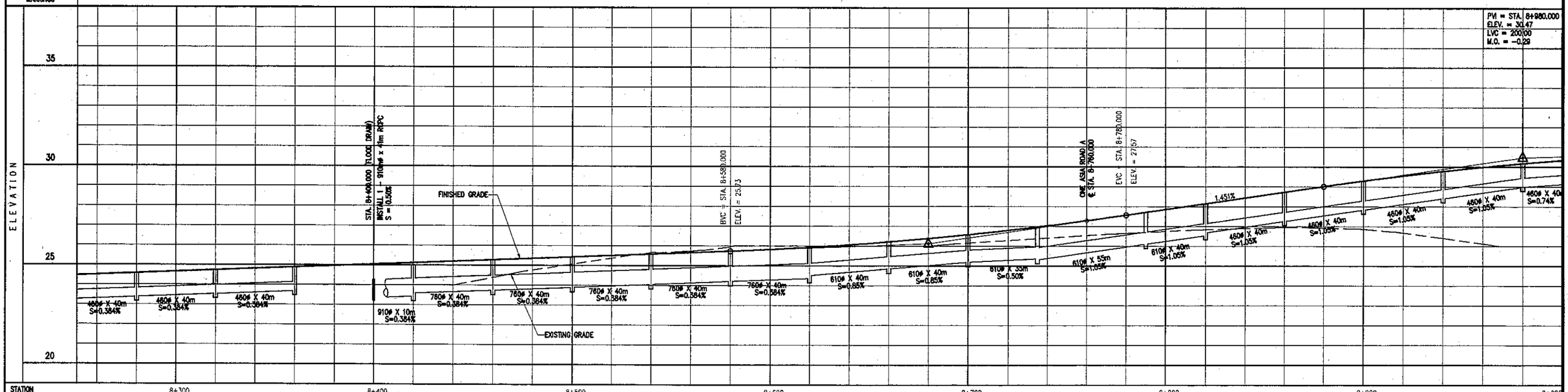
SUPERELEVATION

WIDENING

ALMEC	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM	SHEET CONTENTS	SCALE	Drawing Number
ALMEC Corporation					PLAN AND PROFILE STA. 7+500 TO STA. 8+250	1:2000 HOR. 1:200 VERT.	D-15

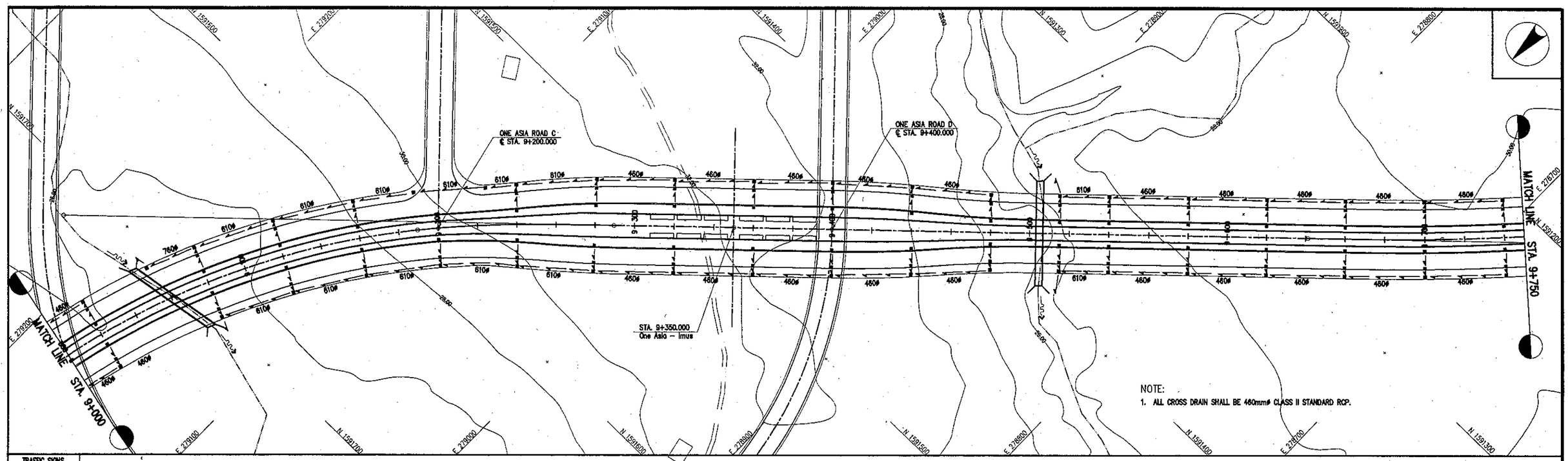


TRAFFIC SIGNS AND PAVEMENT MARKINGS

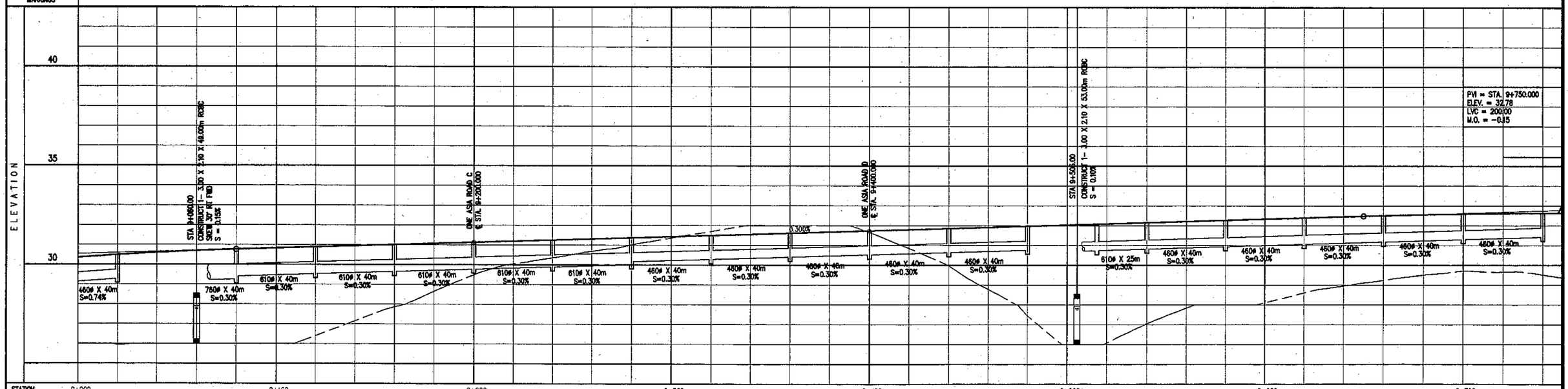


STATION	8+300							8+400							8+500							8+600							8+700							8+800							8+900							9+000
FINISHED GRADE	24.51	24.58	24.88	24.74	24.81	24.89	24.97	25.04	25.12	25.20	25.27	25.35	25.43	25.50	25.58	25.66	25.73	25.82	25.83	26.06	26.21	26.38	26.58	26.79	27.03	27.29	27.57	27.86	28.15	28.44	28.73	29.02	29.30	29.55	29.79	30.00	30.18	30.33
EXISTING GROUND	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.38	24.76	25.07	25.37	25.66	25.74	25.96	26.00	26.00	26.00	26.00	26.00	26.15	26.28	26.41	26.54	26.65	26.75	26.84	26.90	26.96	26.92	26.86	26.68	26.41	26.13	26.00	26.00
HORIZONTAL ALIGNMENT																																						
VERTICAL ALIGNMENT																																						
SUPERELEVATION																																						
WIDENING																																						

ALMEC ALMEC Corporation	**Pacific Consultants International**	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 8+250 TO STA. 9+000	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number D–16

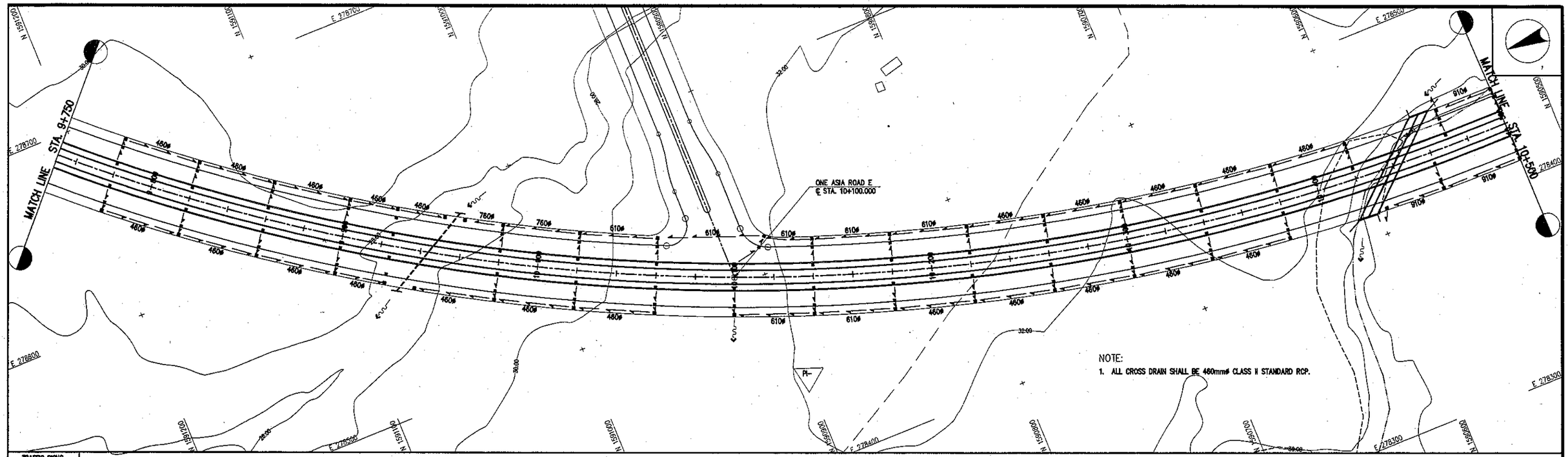


TRAFFIC SIGNS AND PAVEMENT MARKINGS

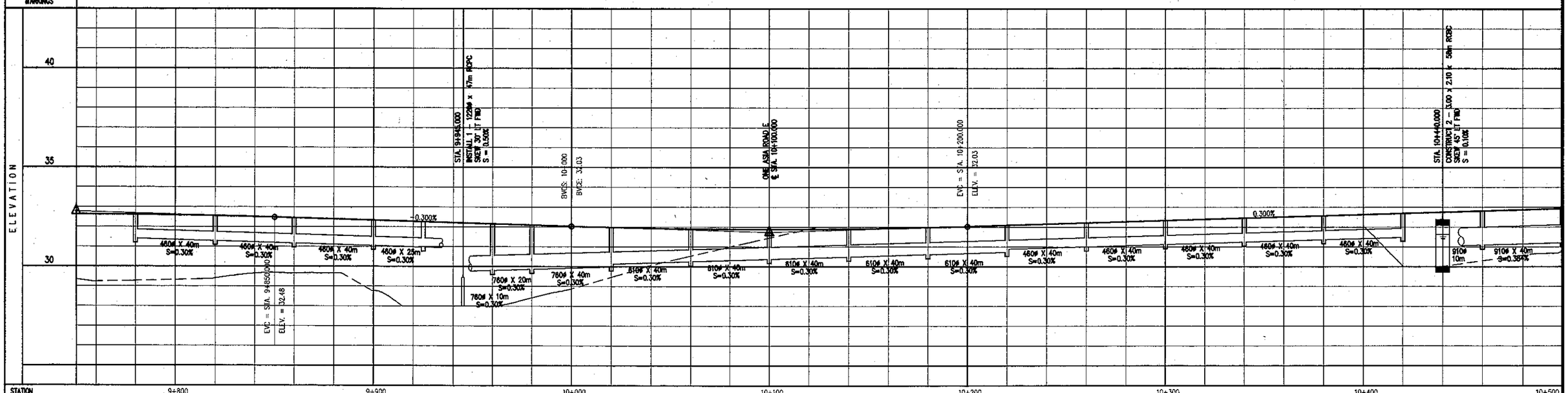


STATION	9+000				9+100					9+200					9+300					9+400					9+500					9+600					9+700
FINISHED GRADE	30.35	30.48	30.60	30.70	30.77	30.83	30.89	30.95	31.01	31.07	31.13	31.19	31.25	31.31	31.37	31.43	31.49	31.55	31.61	31.67	31.73	31.79	31.85	31.91	31.97	32.03	32.09	32.15	32.21	32.27	32.33	32.39	32.45	32.51	32.58	32.59	32.62	32.63
EXISTING GROUND	28.00	25.94	26.00	26.00	26.00	26.00	26.40	27.16	27.85	28.65	29.49	30.05	30.35	30.68	31.01	31.36	31.70	32.00	32.00	32.00	31.66	30.85	29.98	28.79	27.47	26.00	26.07	27.05	27.84	28.03	28.11	28.69	28.98	29.24	29.51	29.72	29.66	29.52
HORIZONTAL ALIGNMENT																																						
VERTICAL ALIGNMENT																																						
SUPERELEVATION																																						
WIDENING																																						

ALMEC ALMEC Corporation	**Pacific Consultants International**	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 9+000 TO STA. 9+750	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number D–17

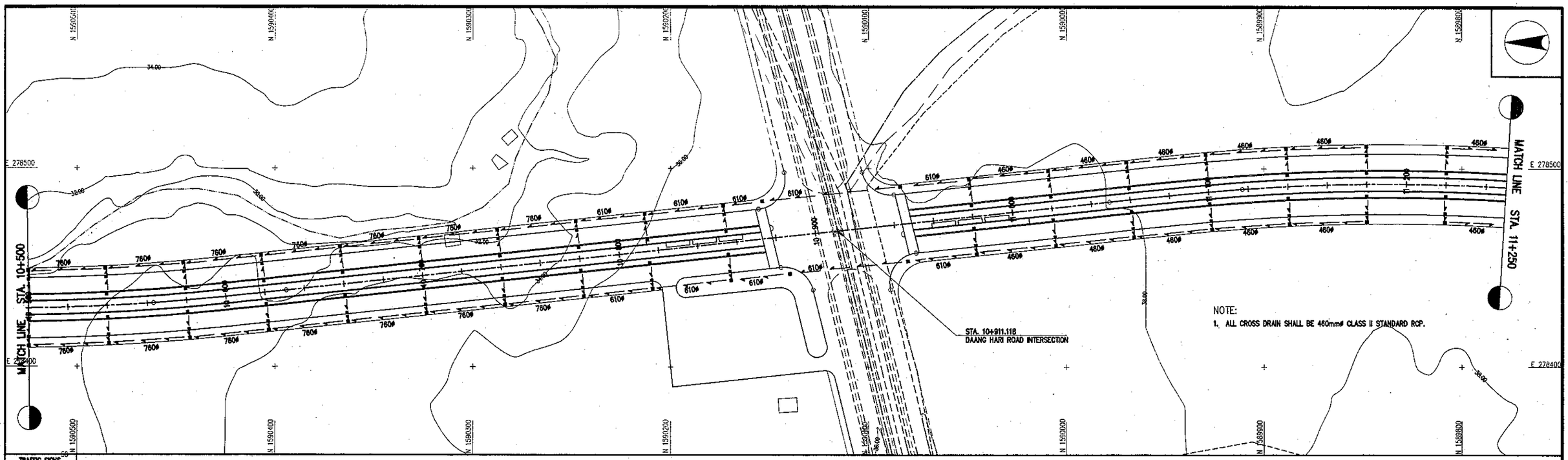


TRAFFIC SIGNS AND PAVEMENT MARKINGS

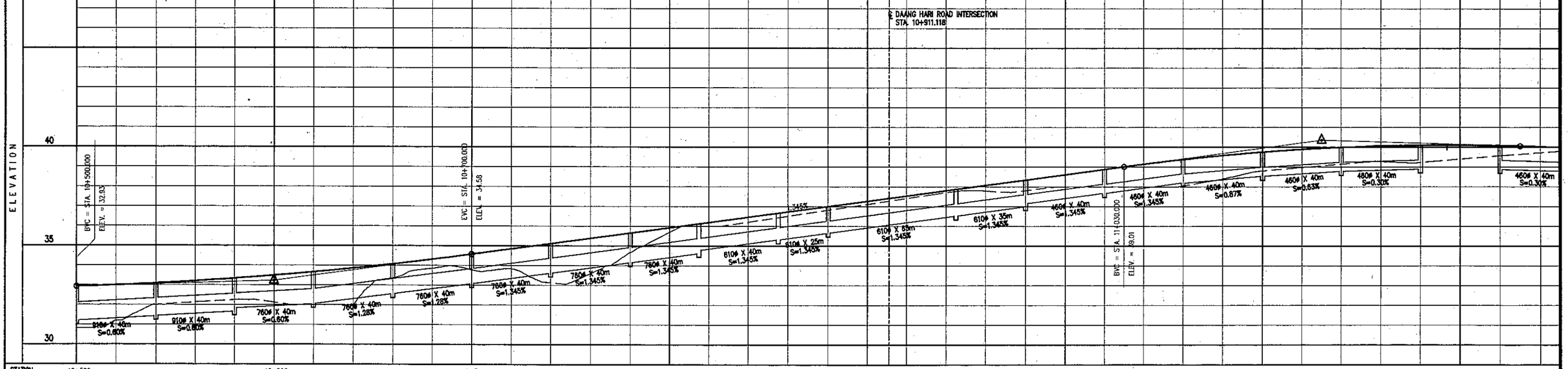


STATION	9+800	9+900	10+000	10+100	10+200	10+300	10+400	10+500
FINISHED GRADE	32.63 32.62 32.59 32.56 32.51 32.45 32.38 32.33 32.27 32.21 32.15 32.09 32.03 31.96 31.93 31.90 31.89 31.88 31.89 31.90 31.93 31.98 32.03 32.09 32.15 32.21 32.27 32.33 32.39 32.45 32.51 32.57 32.63 32.69 32.75 32.81 32.87 32.93							
EXISTING GROUND	29.24 29.28 29.33 29.41 29.65 29.66 29.86 28.77 28.00 28.00 28.00 28.42 28.87 29.46 30.06 30.53 31.00 31.45 31.90 32.00 32.00 32.00 32.00 32.00 32.00 32.00 32.00 32.00 32.00 32.00 32.00 32.00 32.00 30.04 30.02 30.30 30.57 30.80							
HORIZONTAL ALIGNMENT								
VERTICAL ALIGNMENT								
SUPERELEVATION								
WIDENING								

ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JICA JAPAN INTERNATIONAL COOPERATION AGENCY Japan	THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM	SHEET CONTENTS PLAN AND PROFILE STA. 9+750 TO STA. 10+500	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number D–18

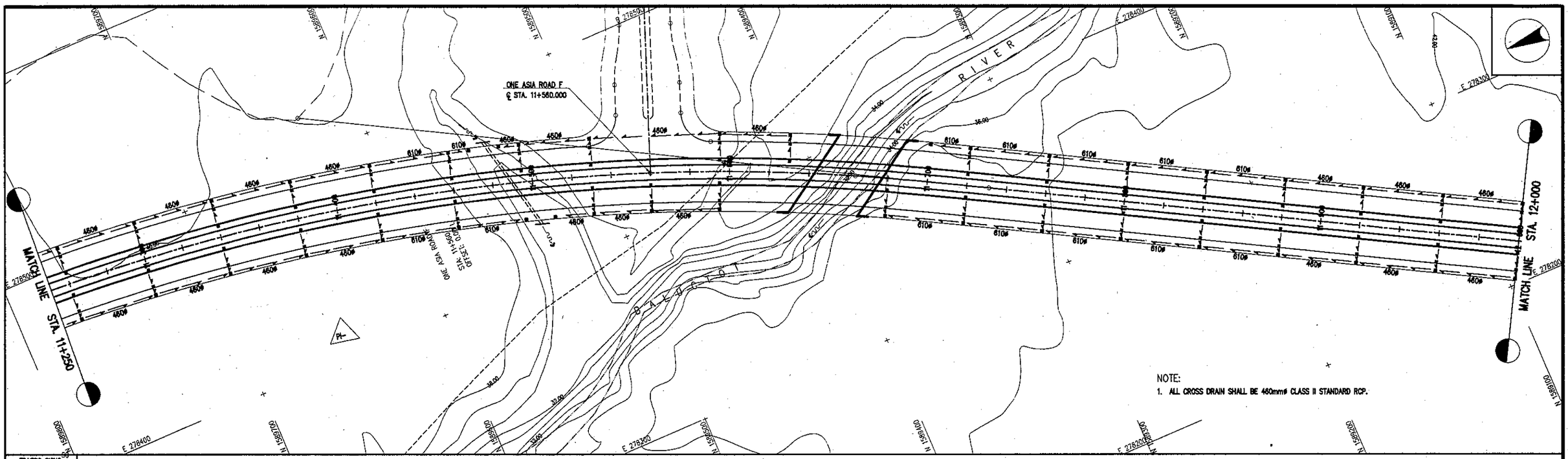


TRAFFIC SIGNS AND PAVEMENT MARKINGS

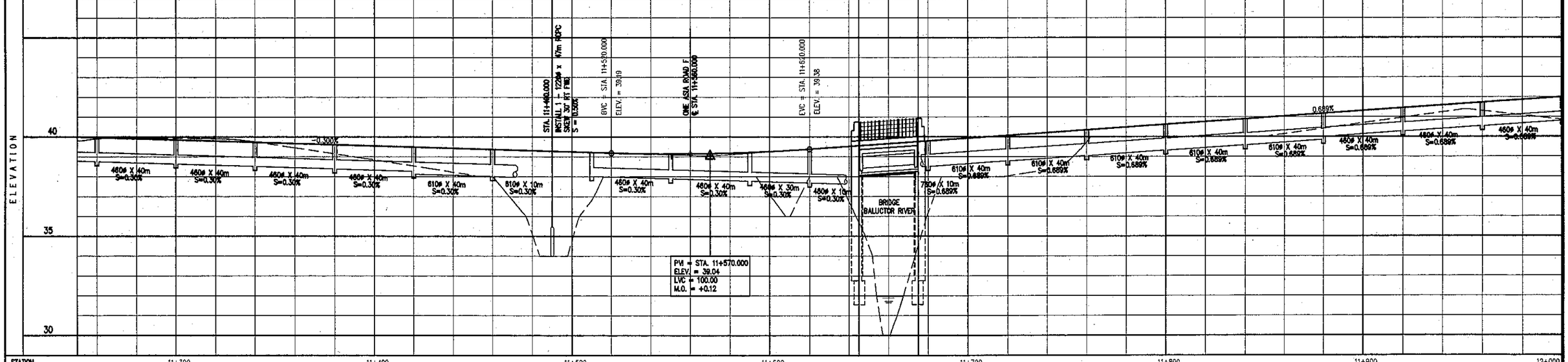


STATION	10+500							10+600							10+700							10+800							10+900							11+000							11+100							11+200	
FINISHED GRADE	32.93	33.00	33.09	33.20	33.34	33.49	33.67	33.86	34.06	34.32	34.58	34.84	35.11	35.39	35.65	35.92	36.19	36.46	36.73	37.00	37.27	37.53	37.80	38.07	38.34	38.61	38.88	39.15	39.38	39.58	39.75	39.88	39.98	40.00	40.07	40.11	40.11	40.09	40.03								
EXISTING GROUND	30.80	31.20	32.00	32.13	32.24	32.12	32.00	32.00	33.36	33.85	33.78	33.84	33.13	33.60	34.67	35.69	36.00	36.21	36.51	36.81	37.11	37.41	37.70	37.79	37.81	38.00	38.00	38.09	38.04	38.40	38.80	38.98	39.15	39.28	39.23	39.40	39.57	39.72									
HORIZONTAL ALIGNMENT																																																		
VERTICAL ALIGNMENT																																																		
SUPERELEVATION																																																		
WIDENING																																																		

ALMEC ALMEC Corporation	**Pacific Consultants International**	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 10+500 TO STA. 11+250	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number D–19

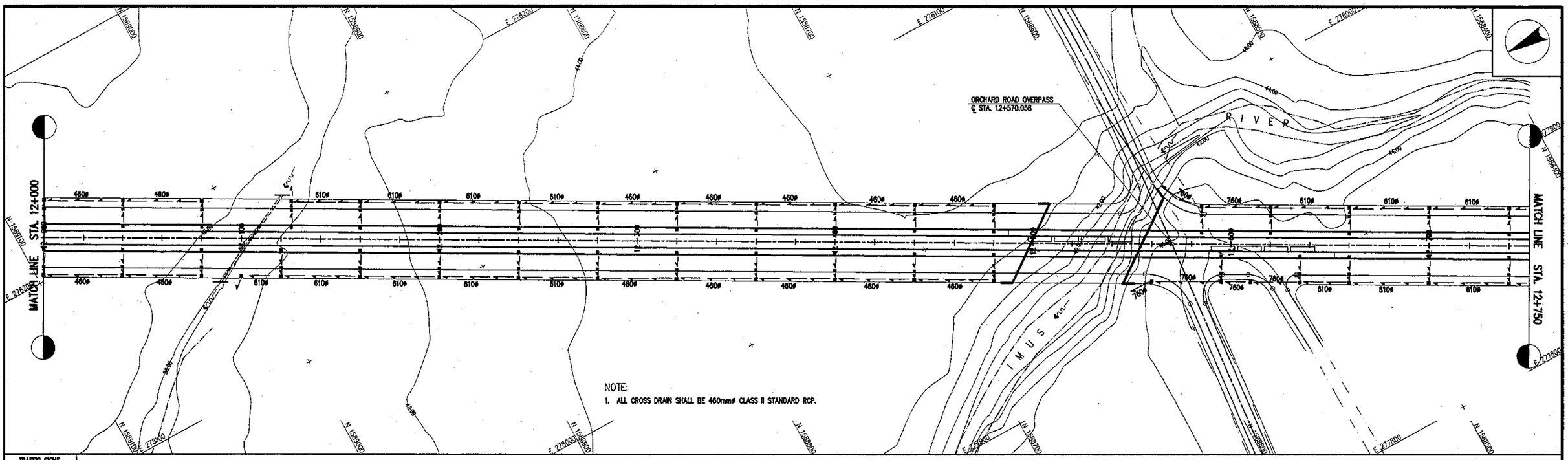


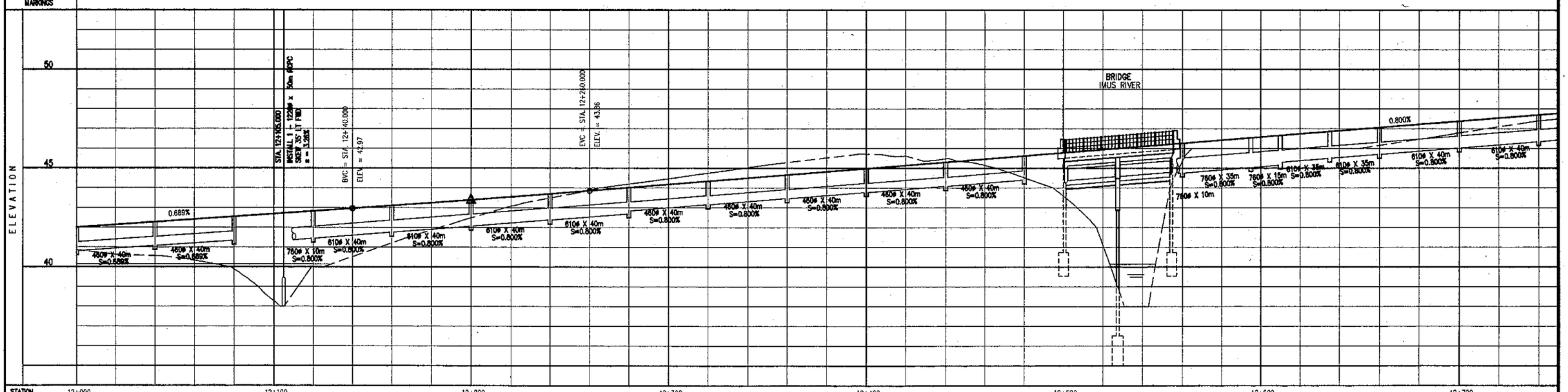
TRAFFIC SIGNS AND PAVEMENT MARKINGS



STATION	11+300												11+400												11+500												11+600												11+700												11+800												11+900												12+000
FINISHED GRADE	39.87	39.91	39.85	39.79	39.73	39.67	39.61	39.55	39.49	39.43	39.37	39.31	39.25	39.19	39.15	39.15	39.19	39.27	39.33	39.52	39.66	39.80	39.94	40.07	40.21	40.35	40.49	40.62	40.76	40.90	41.04	41.18	41.31	41.45	41.59	41.73	41.86	42.00
EXISTING GROUND	39.92	40.00	39.95	39.92	39.75	39.46	39.16	38.85	38.54	38.23	38.00	35.10	34.80	38.00	38.00	38.00	38.00	37.07	38.00	35.76	36.00	35.17	38.00	38.03	38.35	39.73	40.00	40.00	40.00	40.00	40.15	40.42	40.69	40.96	41.24	41.39	41.08	40.86
HORIZONTAL ALIGNMENT																																						
VERTICAL ALIGNMENT																																						
SUPERELEVATION																																						
WIDENING																																						

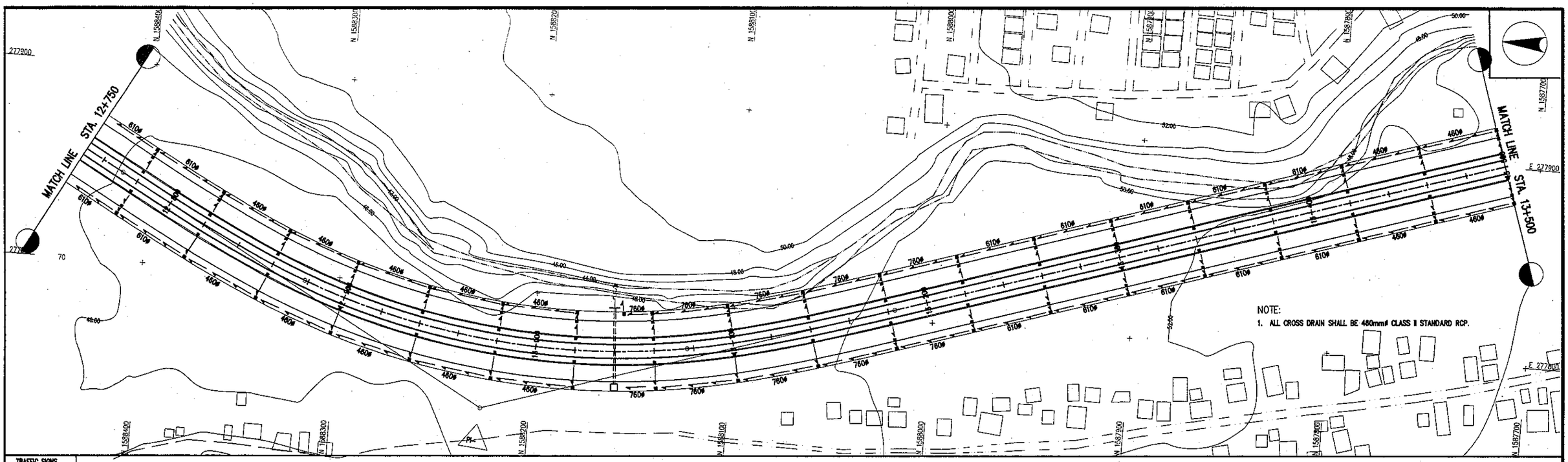
ALMEC ALMEC Corporation	**Pacific Consultants International**	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 11+250 TO STA. 12+000	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number D–20



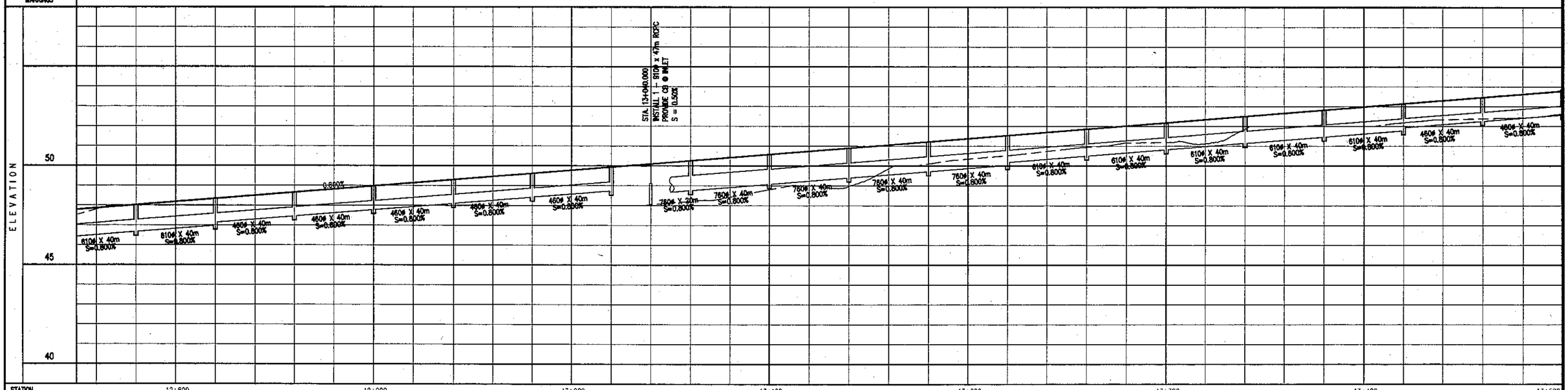


STATION	12+000						12+100						12+200						12+300						12+400						12+500						12+600						12+700	
FINISHED GRADE	42.00	42.14	42.28	42.42	42.55	42.69	42.83	42.97		43.25	43.40	43.55	43.70	43.86	44.02	44.18	44.34	44.50	44.66	44.82	44.98	45.14	45.30	45.46	45.62	45.78	45.94	46.10	46.26	46.42	46.58	46.74	46.90	47.06	47.22	47.38	47.54	47.70						
EXISTING GROUND	40.86	40.63	40.56	40.33	39.98	38.29	40.00	40.51	41.23	41.67	42.49	43.07	43.49	43.90	44.20	44.47	44.75	45.03	45.29	45.52	45.72	45.62	45.49	45.13	44.52	45.61	45.11	38.00	45.34	46.00	46.00	46.00	46.00	45.15	46.47	45.79	47.10	47.40						
HORIZONTAL ALIGNMENT																																											
VERTICAL ALIGNMENT																																											
SUPERELEVATION																																											
WIDENING																																											

ALMEC ALMEC Corporation	**Pacific Consultants International**	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 12+000 TO STA. 12+750	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number D–21

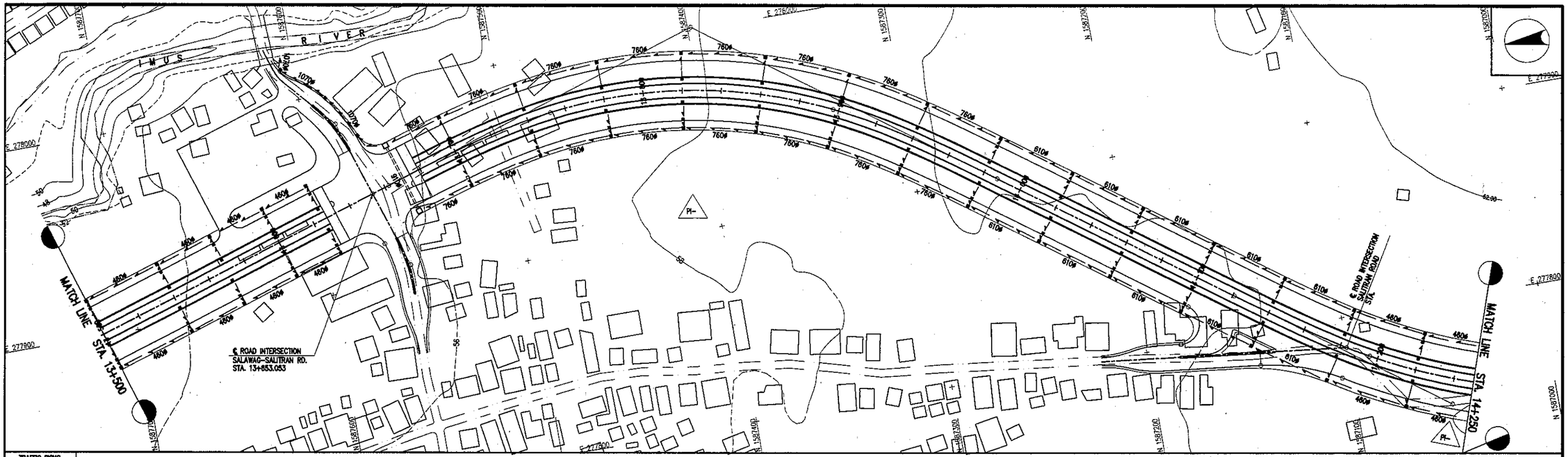


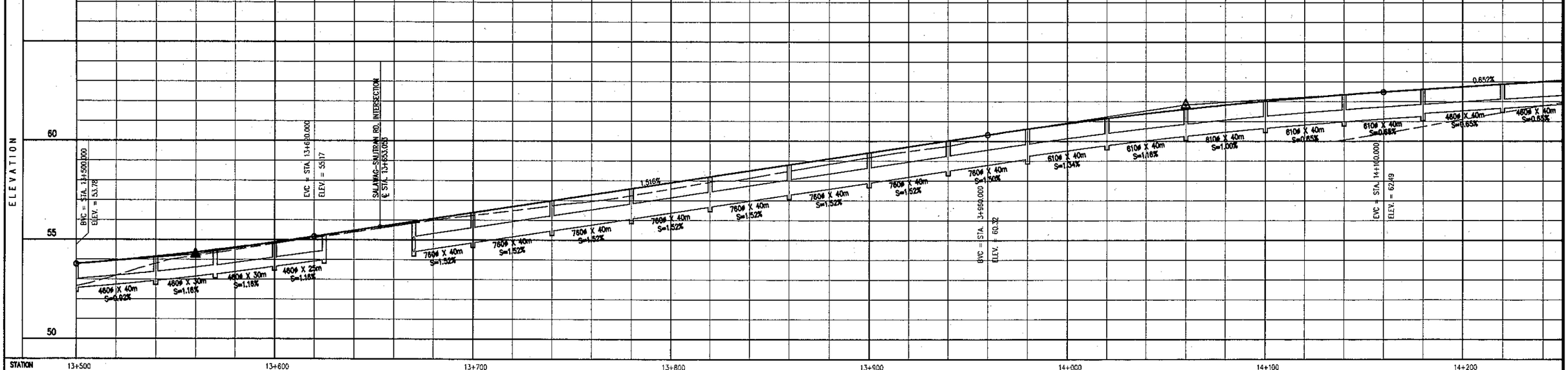
TRAFFIC SIGNS AND PAVEMENT MARKINGS



STATION	12+800	12+900	13+000	13+100	13+200	13+300	13+400	13+500
FINISHED GRADE	47.86 48.02 48.18 48.34 48.50 48.66 48.82 48.98 49.14 49.30 49.46 49.62 49.78 49.94 50.10 50.26 50.42 50.58 50.74 50.90 51.06 51.22 51.38 51.54 51.70 51.86 52.02 52.18 52.34 52.50 52.66 52.82 52.98 53.14 53.30 53.46 53.62 53.78							
EXISTING GROUND	47.79 48.00 48.00 48.00 48.00 48.00 48.00 48.00 48.00 48.00 48.00 48.00 48.00 48.00 48.04 48.21 48.43 48.80 49.01 48.97 49.86 50.11 50.35 50.53 50.74 50.95 51.17 51.19 51.13 51.85 52.00 52.00 52.00 52.18 52.34 52.39 52.44 52.65							
HORIZONTAL ALIGNMENT								
VERTICAL ALIGNMENT								
SUPERELEVATION								
WIDENING								

ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JICA JAPAN INTERNATIONAL COOPERATION AGENCY Japan	THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM	SHEET CONTENTS PLAN AND PROFILE STA. 12+750 TO STA. 13+500	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number D–22



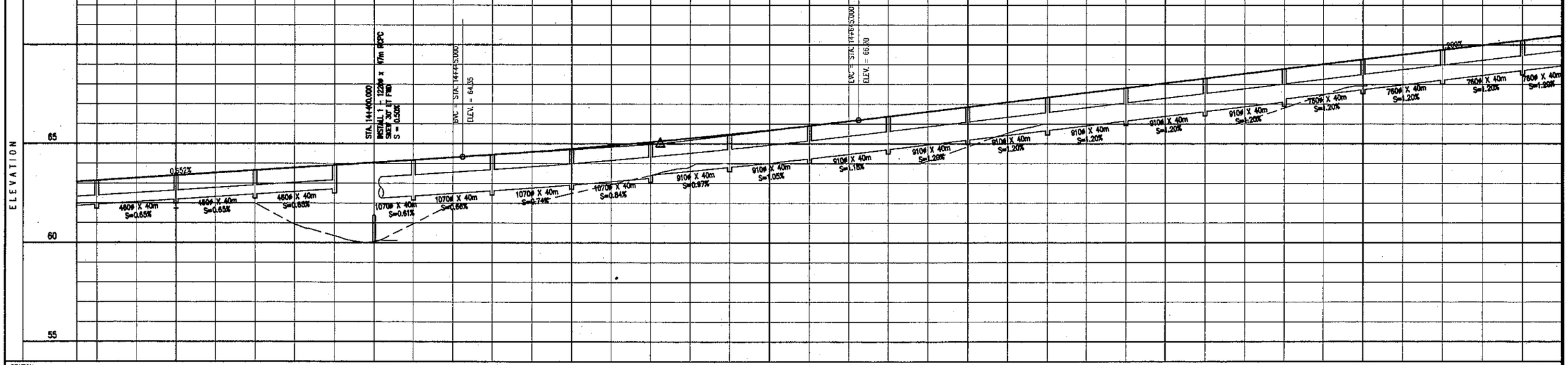


STATION	13+500	13+600	13+700	13+800	13+900	14+000	14+100	14+200
FINISHED GRADE	53.78 53.95 54.15 54.37 54.61 54.89 55.17 55.47 55.78 56.08 56.38 56.69 56.99 57.29 57.60 57.90 58.20 58.50 58.81 59.11 59.41 59.72 60.02 60.32 60.62 60.90 61.16 61.40 61.62 61.83 62.02 62.20 62.35 62.49 62.62 62.75 62.88 63.01							
EXISTING GROUND	52.65 53.19 53.80 54.19 54.49 54.81 55.10 55.39 55.69 56.00 56.24 56.48 56.74 56.96 57.25 57.58 57.93 58.14 58.49 58.84 59.18 59.49 59.76 60.00 60.00 60.00 60.00 60.00 60.00 60.00 60.00 60.00 60.07 60.40 60.75 61.11 61.45 61.80							
HORIZONTAL ALIGNMENT								
VERTICAL ALIGNMENT								
SUPERELEVATION								
WIDENING								

TRAFFIC SIGNS AND PAVEMENT MARKINGS

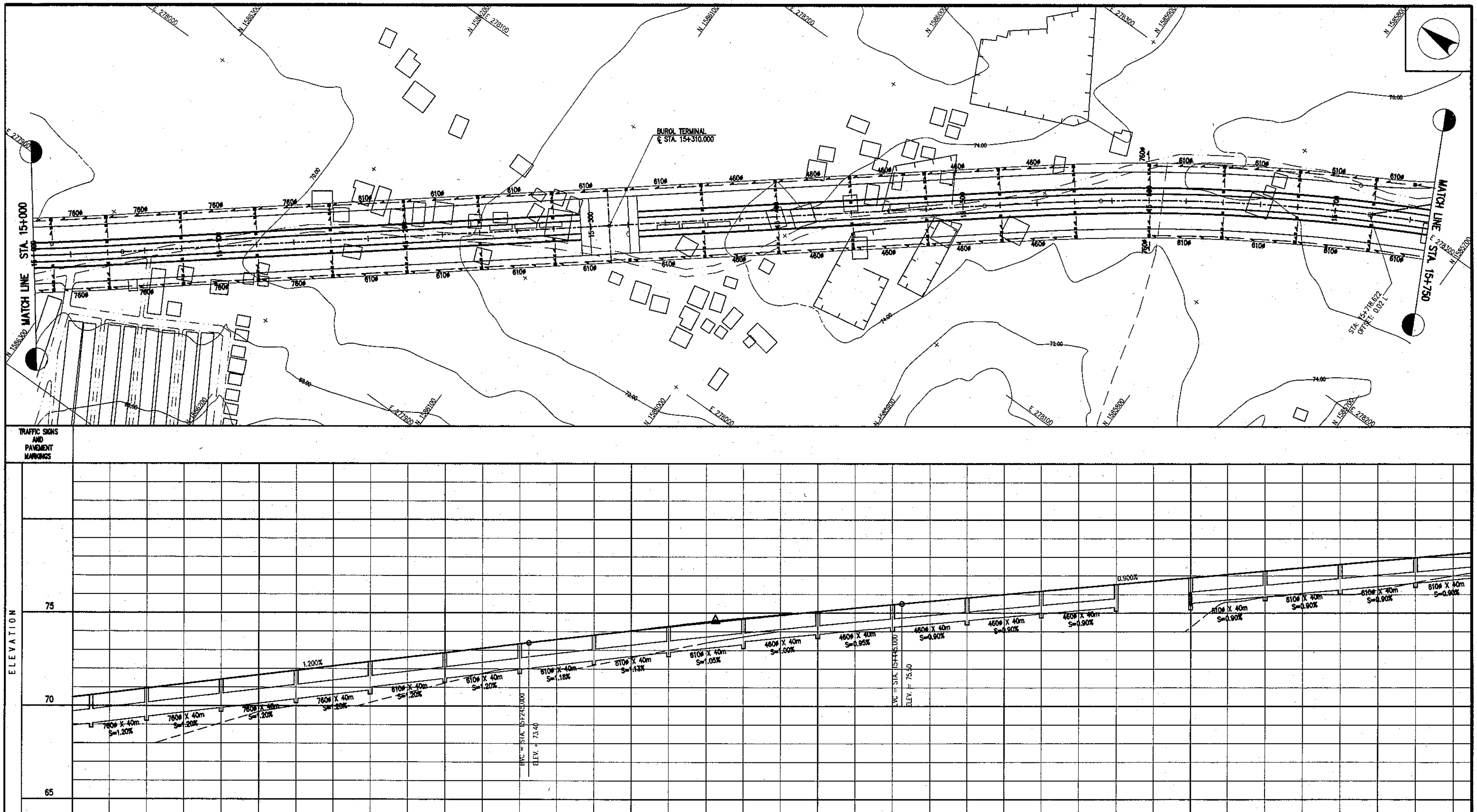
ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JICA JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 13+500 TO STA. 14+250	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number D-23

TRAFFIC SIGNS AND PAVEMENT MARKINGS



STATION	14+300							14+400							14+500							14+600							14+700							14+800							14+900							15+000
FINISHED GRADE	63.14	63.27	63.40	63.53	63.66	63.79	63.92	64.06	64.19	64.32	64.45	64.59	64.75	64.91	65.08	65.28	65.48	65.68	65.91	66.14	66.38	66.62	66.88	67.10	67.34	67.58	67.82	68.06	68.30	68.54	68.78	69.02	69.26	69.50	69.74	69.98	70.22	70.46
EXISTING GROUND	62.00	62.00	62.00	62.00	62.00	60.94	60.35	60.05	60.96	61.85	62.00	62.04	62.49	62.95	63.39	63.83	64.00	64.00	64.00	64.00	64.00	64.13	64.85	65.54	66.00	66.00	66.00	66.00	66.00	66.14	66.81	67.47	67.92	68.00	68.00	68.00	68.00	68.00
HORIZONTAL ALIGNMENT																																						
VERTICAL ALIGNMENT																																						
SUPERELEVATION																																						
WIDENING																																						

ALMEC ALMEC Corporation	**Pacific Consultants International**	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 14+250 TO STA. 15+000	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number D-24



STATION	FINISHED GRADE	EXISTING GROUND
15+000	70.46	68.00
	70.70	68.00
	70.94	68.00
	71.18	68.47
	71.42	69.08
15+100	71.66	69.58
	71.90	70.00
	72.14	70.00
	72.38	70.19
	72.62	70.71
15+200	72.86	71.23
	73.10	71.75
	73.34	72.00
	73.58	72.00
	73.81	72.20
15+300	74.04	72.60
	74.26	73.00
	74.47	73.40
	74.68	73.72
	74.88	74.00
15+400	75.06	74.00
	75.27	74.00
	75.46	74.00
	75.64	74.00
	75.82	74.00
15+500	76.00	74.00
	76.18	74.00
	76.36	74.00
	76.54	74.00
	76.72	74.00
15+600	76.90	74.24
	77.08	75.60
	77.26	75.87
	77.44	76.00
	77.62	76.00
15+700	77.80	76.24
	77.98	76.65
	78.16	77.00

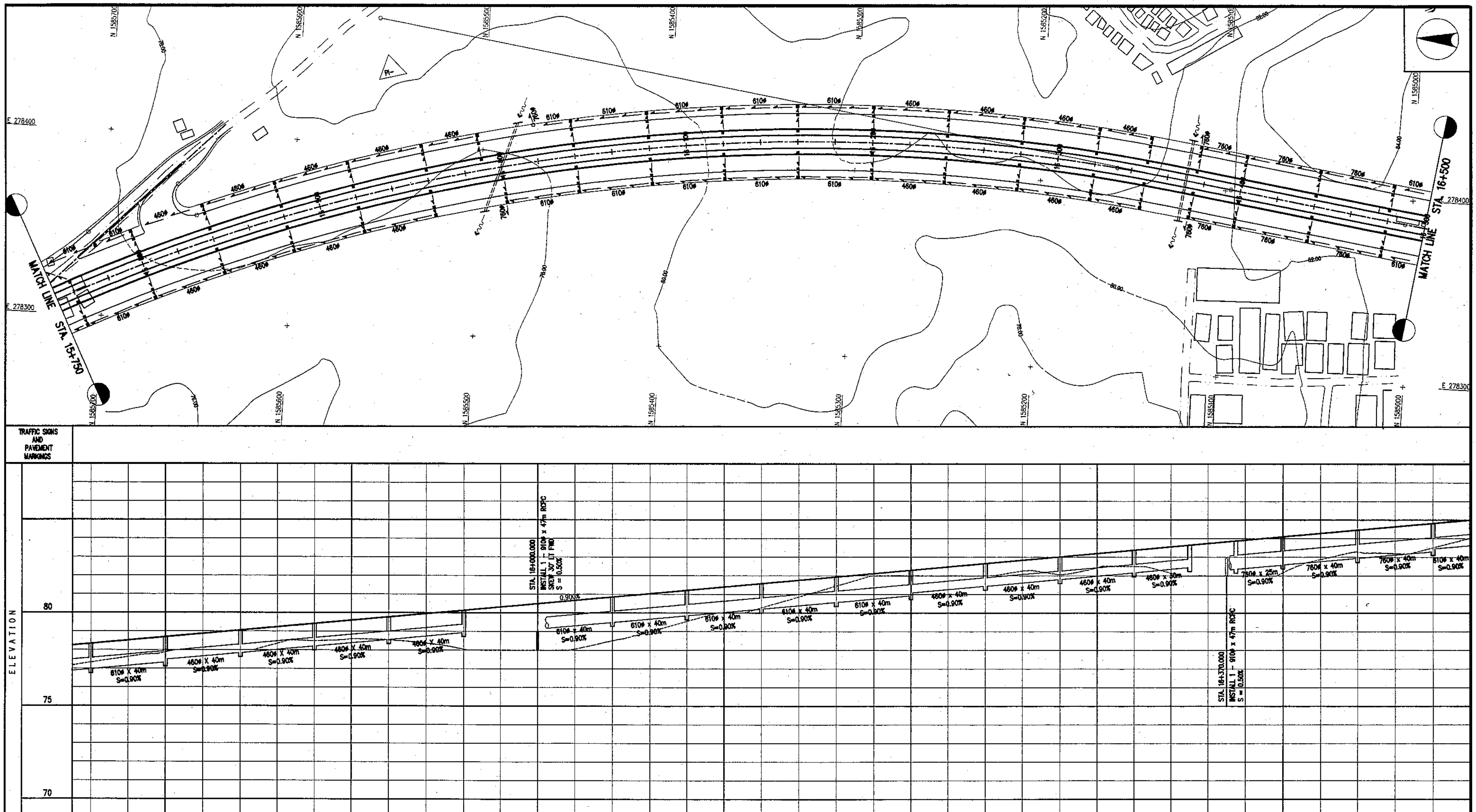
HORIZONTAL ALIGNMENT

VERTICAL ALIGNMENT

SUPERELEVATION

WIDENING

ALMEC / ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JICA JAPAN INTERNATIONAL COOPERATION AGENCY Japan	THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM	SHEET CONTENTS: PLAN AND PROFILE STA. 15+000 TO STA. 15+750	SCALE: 1:2000 HOR. 1:200 VERT.	Drawing Number: D−25



STATION	FINISHED GRADE	EXISTING GROUND
	78.34	77.33
	78.52	77.63
15+800	78.70	77.88
	78.88	78.00
	79.06	78.00
	79.24	78.35
	79.42	78.49
15+900	79.60	78.60
	79.78	78.55
	79.96	78.37
	80.14	78.05
	80.32	78.00
16+000	80.50	78.00
	80.68	78.06
	80.86	78.51
	81.04	79.00
	81.22	79.55
16+100	81.40	80.00
	81.58	80.28
	81.76	80.86
	81.94	81.45
	82.12	82.00
16+200	82.30	82.00
	82.48	82.00
	82.66	82.00
	82.84	82.26
	83.02	82.07
16+300	83.20	82.44
	83.38	82.50
	83.56	82.15
	83.74	82.00
	83.92	82.00
16+400	84.10	82.17
	84.28	82.88
	84.46	83.28
	84.64	83.20
	84.82	83.51
16+500	85.00	84.00

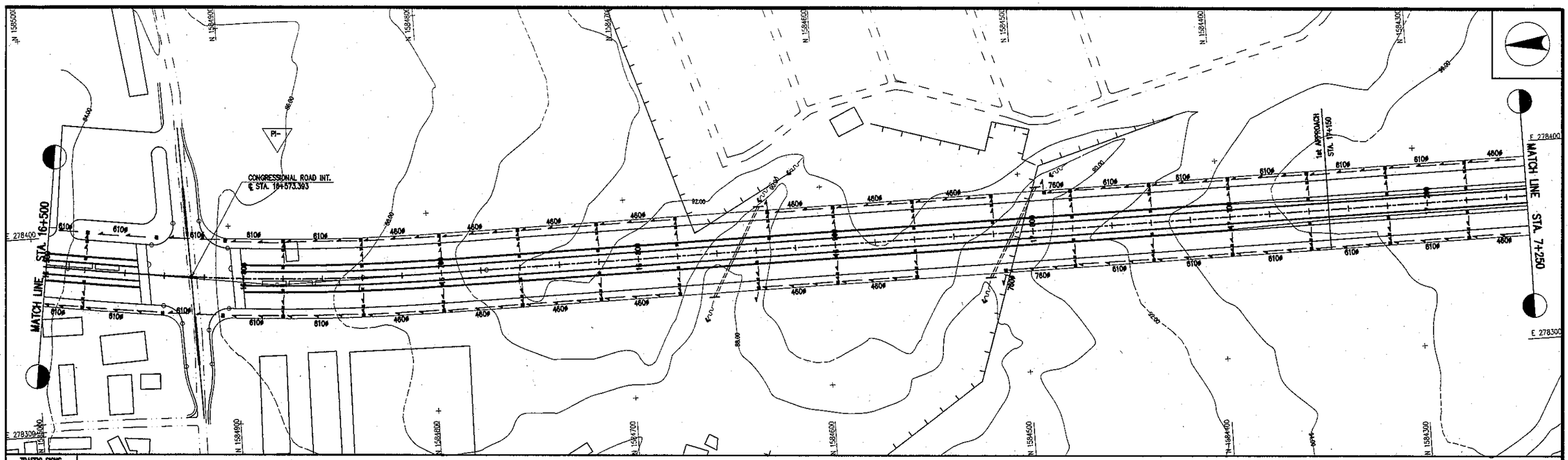
HORIZONTAL ALIGNMENT

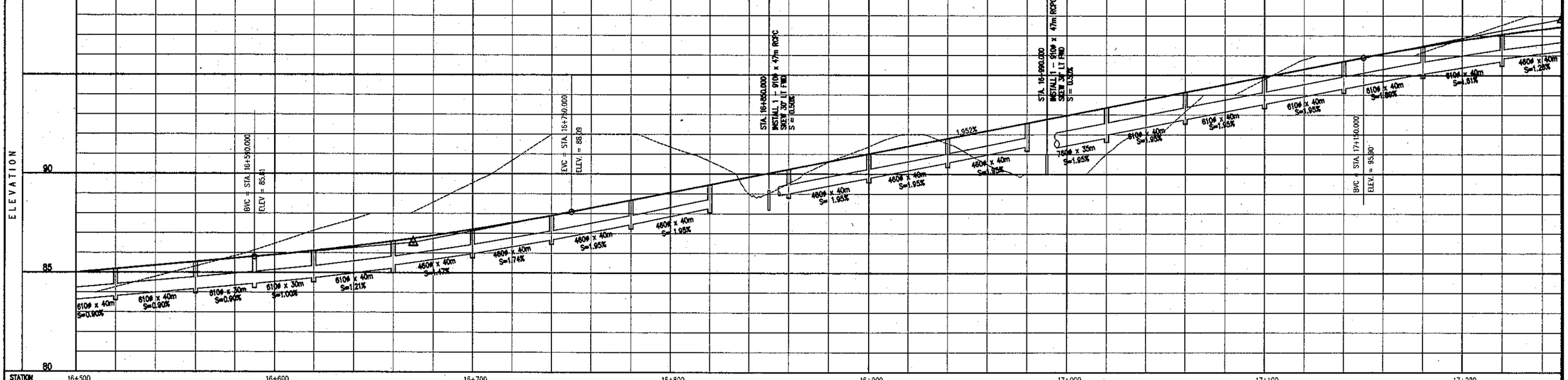
VERTICAL ALIGNMENT

SUPERELEVATION

WIDENING

ALMEC	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM	SHEET CONTENTS	SCALE	Drawing Number
ALMEC Corporation					PLAN AND PROFILE STA. 15+750 TO STA. 16+500	1:2000 HOR. 1:200 VERT.	D–26

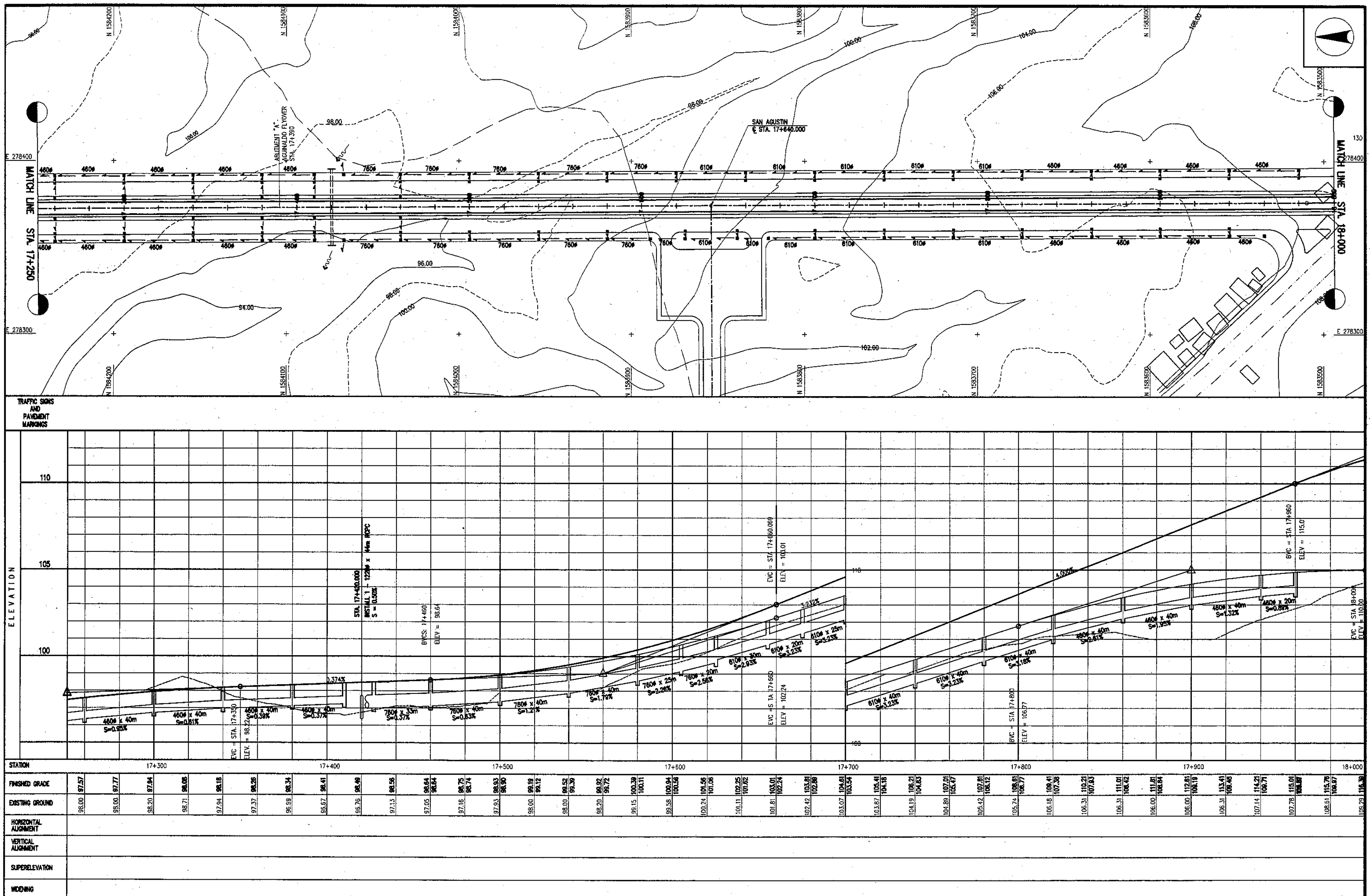




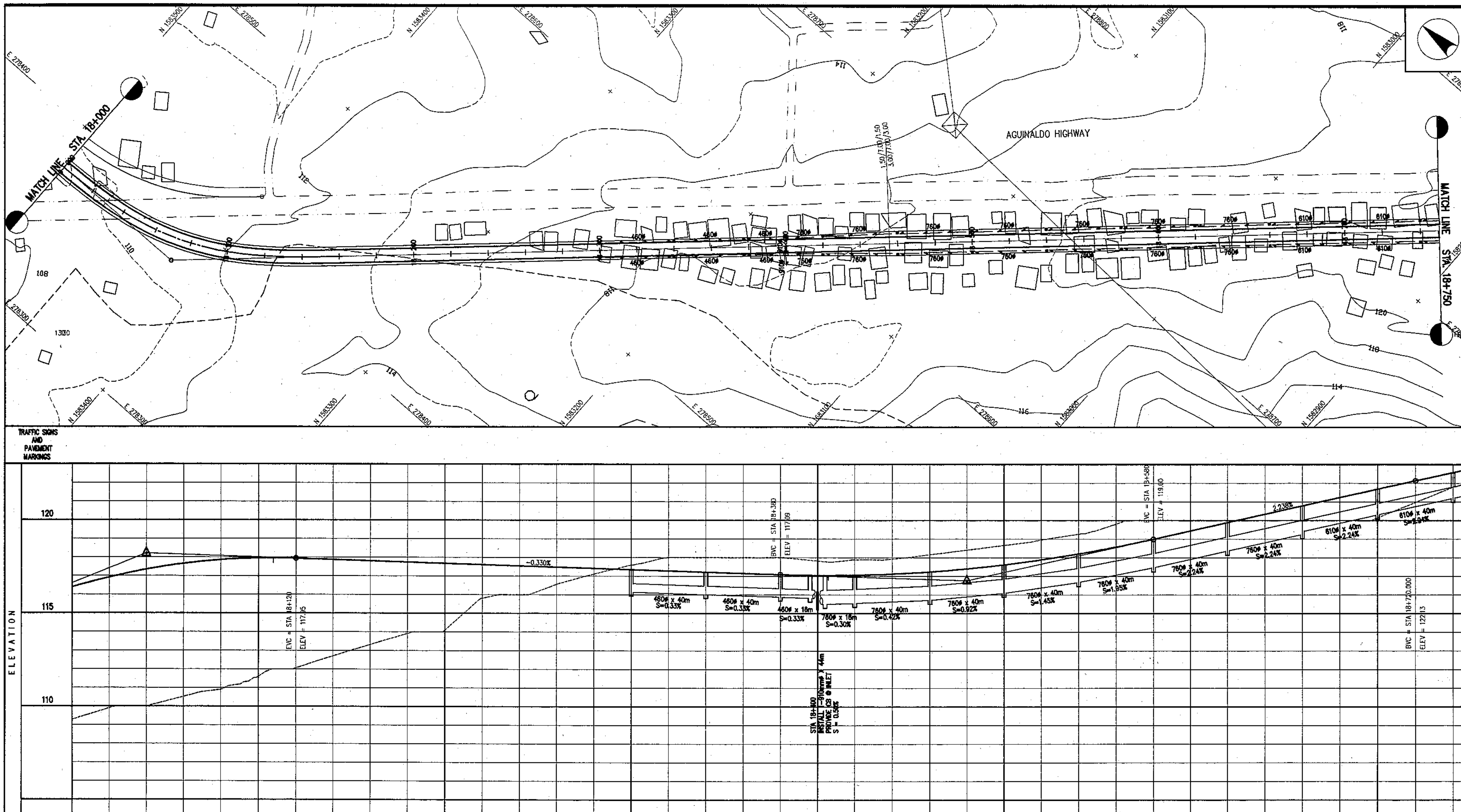
TRAFFIC SIGNS AND PAVEMENT MARKINGS

STATION	16+500					16+600					16+700					16+800					16+900					17+000					17+100					17+200
FINISHED GRADE	85.00	85.18	85.36	85.54	85.72	85.90	86.11	86.34	86.60	86.89	87.20	87.54	87.90	88.29	88.68	89.07	89.46	89.85	90.24	90.63	91.02	91.41	91.80	92.19	92.58	92.97	93.36	93.75	94.14	94.53	94.92	95.31	95.70	96.09	96.45	96.78	97.07	97.34
EXISTING GROUND	84.00	84.27	84.80	85.32	85.84	86.47	87.13	87.71	88.00	88.56	89.55	90.68	92.00	92.00	92.00	91.37	90.65	89.04	89.53	90.61	91.39	92.00	91.54	90.48	90.00	90.00	91.02	92.00	93.15	94.00	94.80	95.80	96.00	96.00	96.16	96.86	97.55	98.00
HORIZONTAL ALIGNMENT																																						
VERTICAL ALIGNMENT																																						
SUPERELEVATION																																						
WIDENING																																						

ALMEC ALMEC Corporation	**Pacific Consultants International**	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	SHEET CONTENTS PLAN AND PROFILE STA. 16+500 TO STA. 17+250	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number D–27



ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JICA JAPAN INTERNATIONAL COOPERATION AGENCY Japan	THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM	PLAN AND PROFILE STA. 17+250 TO STA. 18+000	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number D-28



STATION	FINISHED GRADE	EXISTING GROUND
18+000	116.39	109.29
	116.92	109.90
	117.34	110.00
	117.66	110.52
	117.86	110.90
18+100	117.96	111.60
	117.95	112.05
	117.88	112.71
	117.81	113.32
	117.75	113.91
18+200	117.68	114.09
	117.62	115.81
	117.55	116.00
	117.49	116.56
	117.42	117.11
18+300	117.35	117.59
	117.29	118.00
	117.22	118.00
	117.16	118.00
	117.09	118.00
18+400	117.05	117.82
	117.06	117.88
	117.12	117.93
	117.24	113.16
	117.40	105.76
18+500	117.62	112.70
	117.89	118.95
	118.21	119.27
	118.58	119.80
	119.00	120.00
18+600	119.45	120.00
	119.89	120.00
	120.34	120.00
	120.79	120.00
	121.24	120.00
18+700	121.68	120.14
	122.13	120.97
	122.57	121.79

HORIZONTAL ALIGNMENT

VERTICAL ALIGNMENT

SUPERELEVATION

WIDENING

ALMEC
ALMEC Corporation

Pacific Consultants International

NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY
Republic of the Philippines

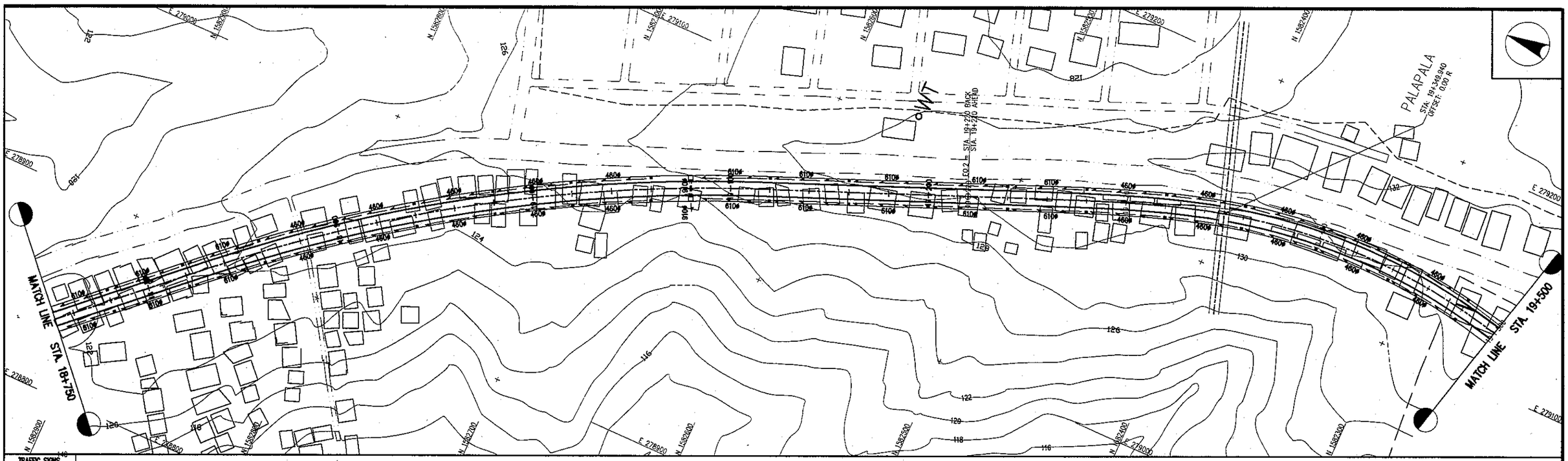
JAPAN INTERNATIONAL COOPERATION AGENCY
Japan

THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM

PLAN AND PROFILE
STA. 18+000 TO STA. 18+750

SCALE
1:2000 HOR.
1:200 VERT.

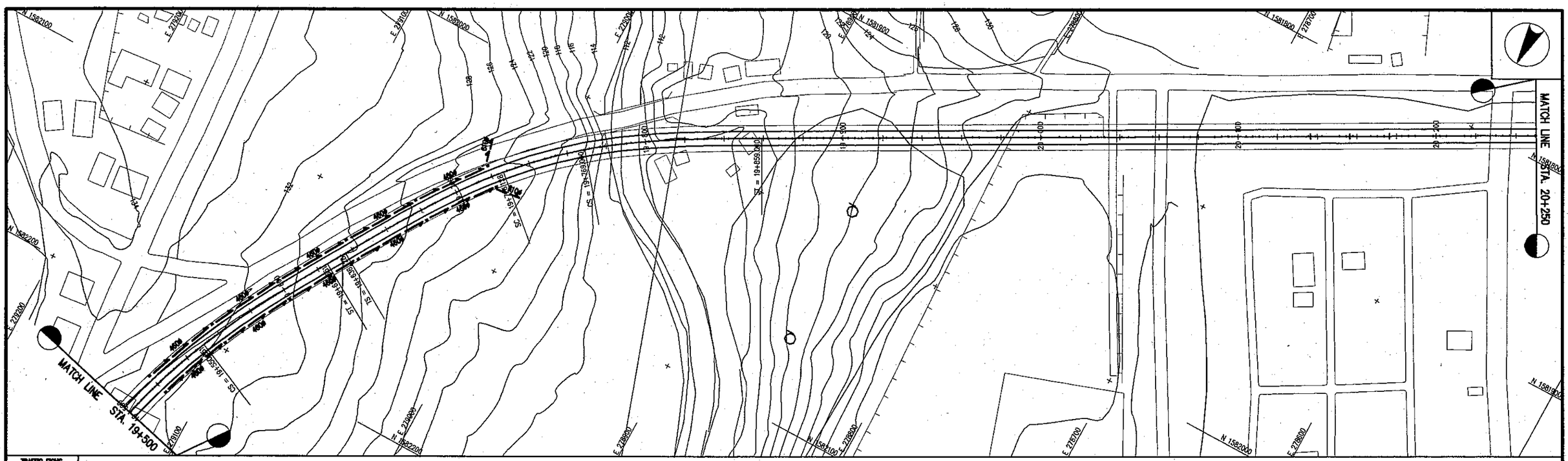
Drawing Number
D-29



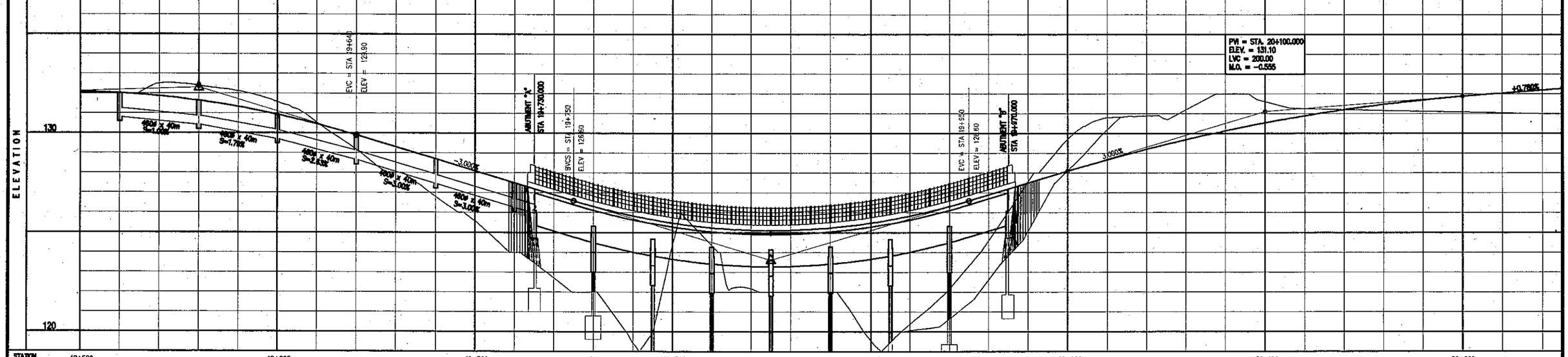
STATION	18+800	18+900	19+000	19+100	19+200	19+300	19+400	19+500
FINISHED GRADE	123.00 123.43 123.84 124.24 124.63 125.01 125.38 125.75	126.11 126.48 126.84 127.21 127.57 127.94 128.30 128.67	129.03 129.39 129.74 130.06 130.35 130.61 130.84 131.04	131.20 131.34 131.44 131.52 131.58 131.64 131.70 131.76	131.82 131.88 131.94 132.00 132.06 132.06			
EXISTING GROUND	122.00 122.00 122.30 122.80 123.31 123.89 124.02 124.50	124.93 124.85 125.00 124.92 125.45 125.83 126.39 126.66	126.81 126.88 128.21 128.44 128.99 129.48 129.94 130.00	130.00 130.00 130.00 130.00 130.00 130.90 131.82 131.53	131.52 131.70 132.00 132.00 132.00 132.00			
HORIZONTAL ALIGNMENT								
VERTICAL ALIGNMENT								
SUPERELEVATION								
WIDENING								

TRAFFIC SIGNS AND PAVEMENT MARKINGS

ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JAPAN INTERNATIONAL COOPERATION AGENCY Japan	**THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM**	PLAN AND PROFILE STA. 18+750 TO STA. 19+500	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number D-30



TRAFFIC SIGNS AND PAVEMENT MARKINGS



STATION	19+500	19+600	19+700	19+800	19+900	20+000	20+100	20+200
FINISHED GRADE	132.00 132.01 131.67 131.44 131.33 130.53 130.46 129.90 129.30 128.70 128.10 127.50 126.90 126.32 125.84 125.48 125.24 125.12 125.12 125.24 125.48 125.84 126.32 126.90 127.50 128.10 128.70 129.30 129.90 130.50							
EXISTING GROUND	132.00 132.00 132.50 132.39 132.12 131.58 130.53 130.46 129.17 128.00 126.79 125.58 124.00 122.72 122.00 119.44 113.50 113.65 115.84 116.00 116.00 118.43 120.37 122.16 124.59 127.59 129.70 130.88 130.89 131.19 132.00							
HORIZONTAL ALIGNMENT								
VERTICAL ALIGNMENT								
SUPERELEVATION								
WIDENING								

ALMEC ALMEC Corporation	Pacific Consultants International	NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY Republic of the Philippines	JICA JAPAN INTERNATIONAL COOPERATION AGENCY Japan	THE FEASIBILITY STUDY OF THE PROPOSED CAVITE BUSWAY SYSTEM	PLAN AND PROFILE STA. 19+500 TO STA. 20+250	SCALE 1:2000 HOR. 1:200 VERT.	Drawing Number D-31