

社会開発調査部報告書

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS  
REPUBLIC OF THE PHILIPPINES

No. 32

THE FEASIBILITY STUDY  
ON  
UPGRADING INTER-URBAN HIGHWAY SYSTEM  
ALONG THE PAN-PHILIPPINE HIGHWAY  
(Sta. Rita, Plaridel - San Jose Section)

FINAL REPORT

DRAWINGS

NOVEMBER 1999

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ON  
UPGRADING INTER-URBAN HIGHWAY SYSTEM  
ALONG THE PAN-PHILIPPINE HIGHWAY  
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**FINAL REPORT**

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**NOVEMBER 1999**

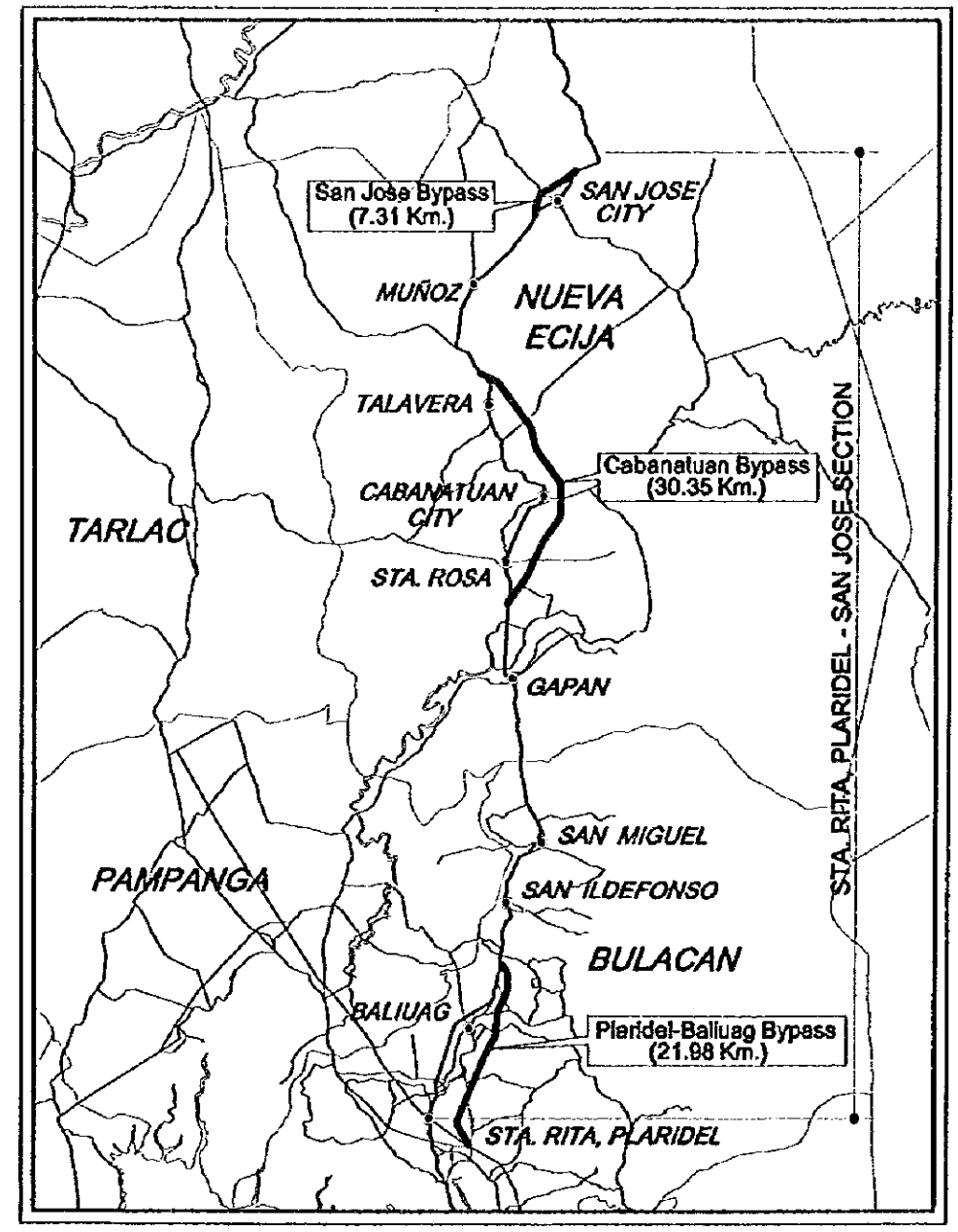
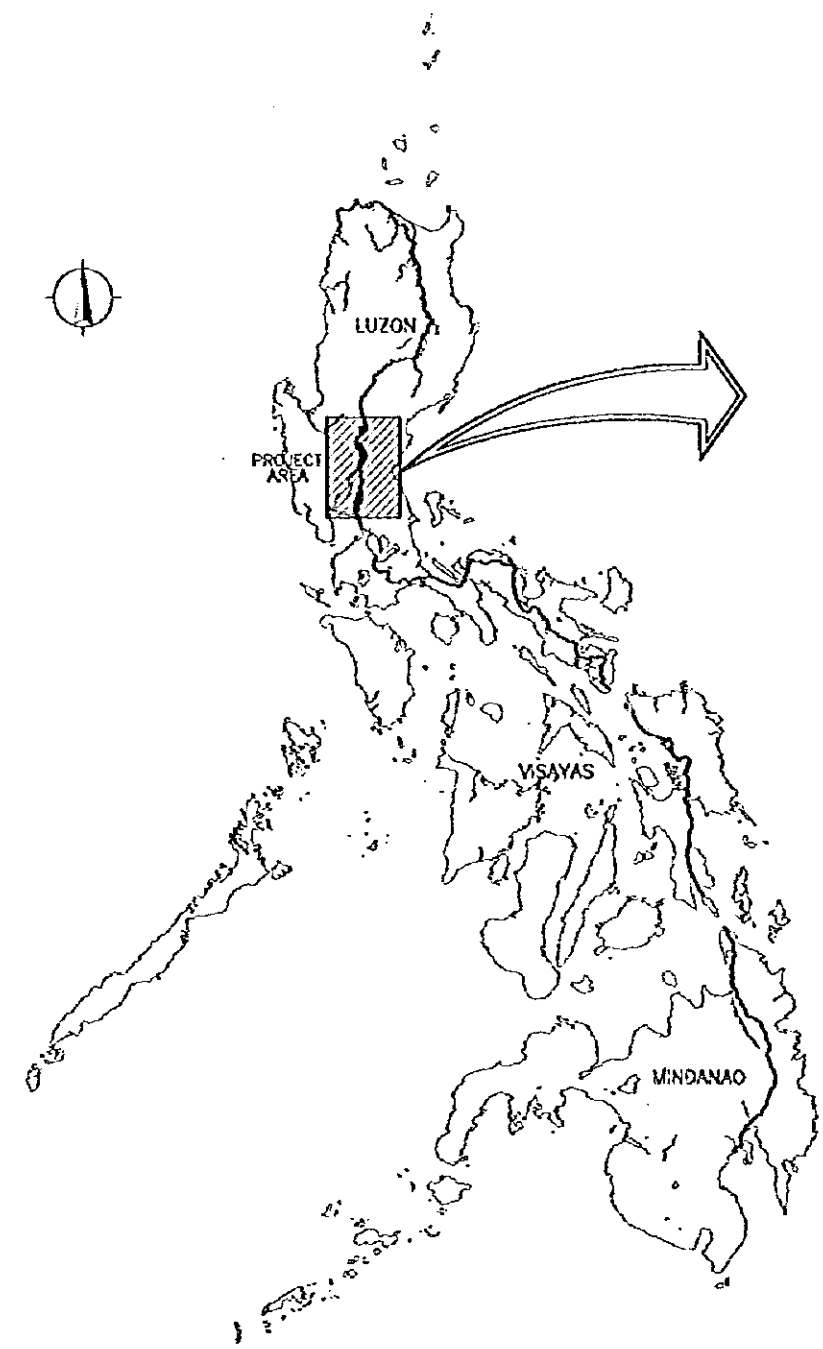
**KATAHIRA & ENGINEERS INTERNATIONAL  
YACHIYO ENGINEERING CO.,LTD.**



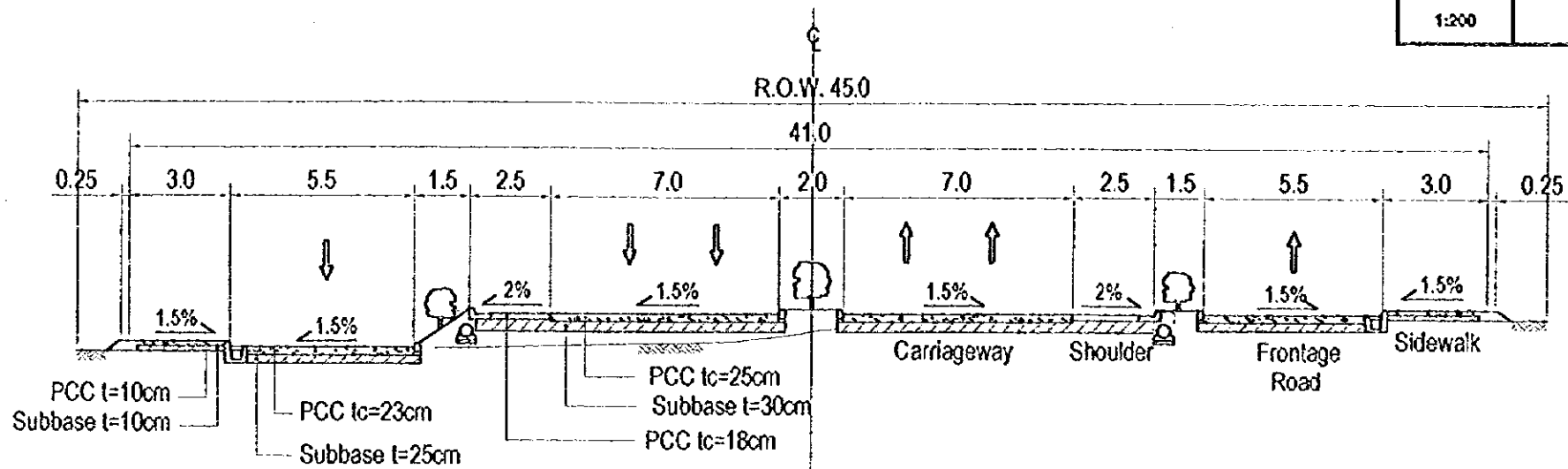
1154105 (9)

## TABLE OF CONTENTS

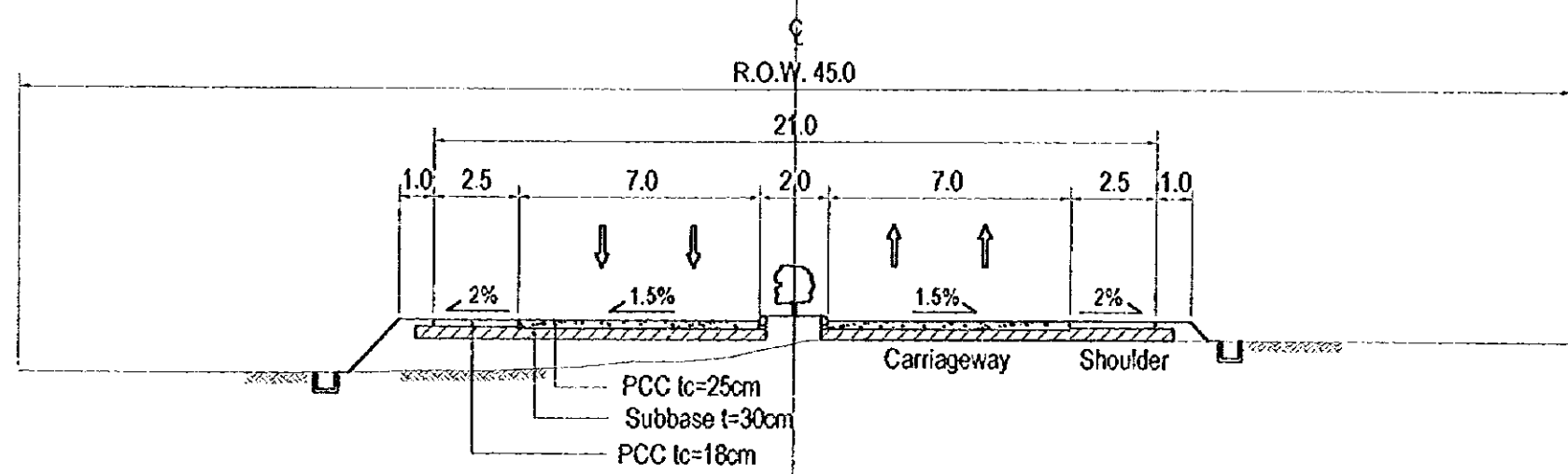
TITLE	DRAWING NO.
LOCATION MAP .....	1
<b>PLARIDEL-BALIUAG BYPASS</b>	
STANDARD CROSS SECTIONS .....	2
PLAN AND PROFILE .....	3-15
INTERSECTIONS .....	16-19
PLAN OF INTERCHANGE .....	20
BRIDGES .....	21-24
ACCESS ROADS .....	25
<b>CABANATUAN BYPASS</b>	
STANDARD CROSS SECTIONS .....	26
PLAN AND PROFILE .....	27-44
INTERSECTIONS .....	45-50
BRIDGES .....	51-56
ACCESS ROADS .....	57
<b>SAN JOSE BYPASS</b>	
STANDARD CROSS SECTIONS .....	58
PLAN AND PROFILE .....	59-63
INTERSECTIONS .....	64-66
BRIDGES .....	67
ACCESS ROADS .....	68



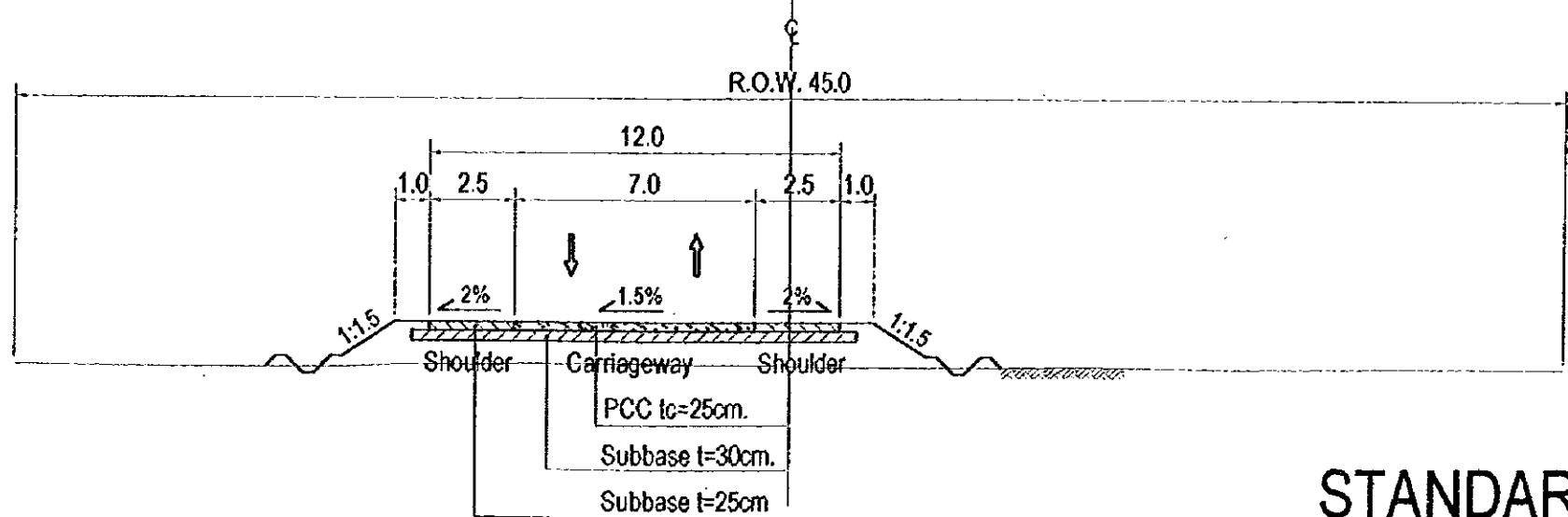
LOCATION MAP  
SCALE 1:400,000



Populated Area ( with Frontage Road )



Non-Populated Area ( without Frontage Road )



Stage Construction (Two-Lane Road)

**STANDARD CROSS SECTION  
PLARIDEL-BALIUAG BYPASS**

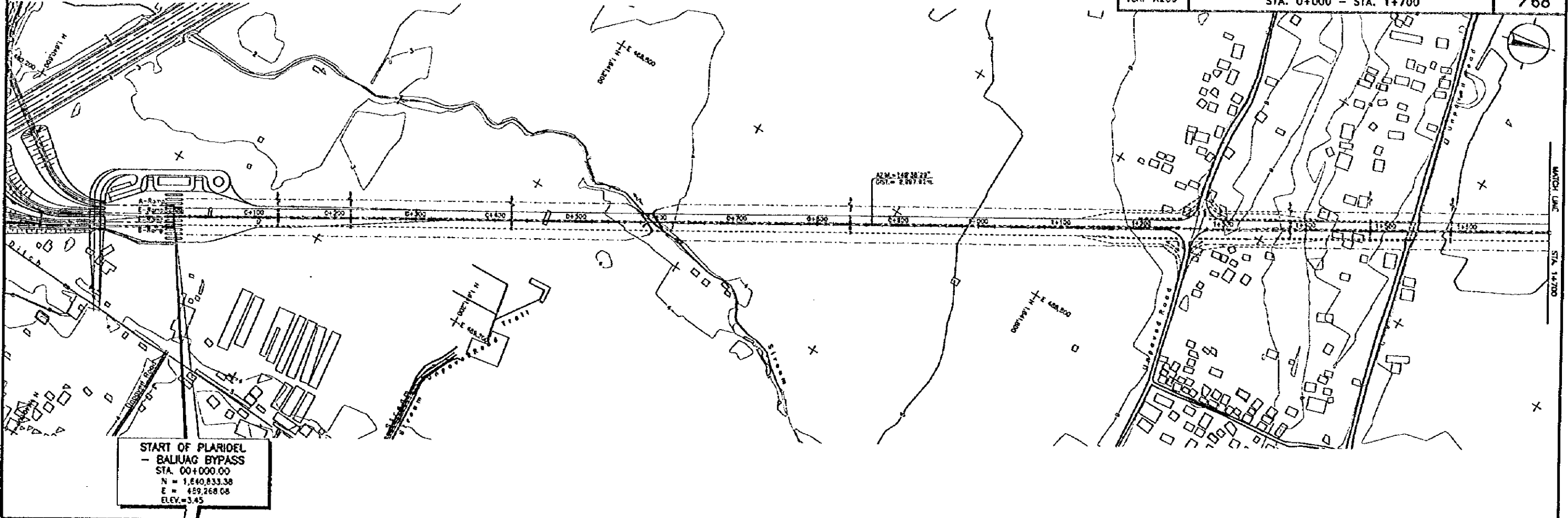


THE FEASIBILITY STUDY ON INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (STA. RITA, PLARIDEL-SAN JOSE SECTION)

SCALE :  
HOR. 1:2500  
VER. 1:250

PLARIDEL - BALIUG BYPASS  
PLAN AND PROFILE  
STA. 0+000 - STA. 1+700

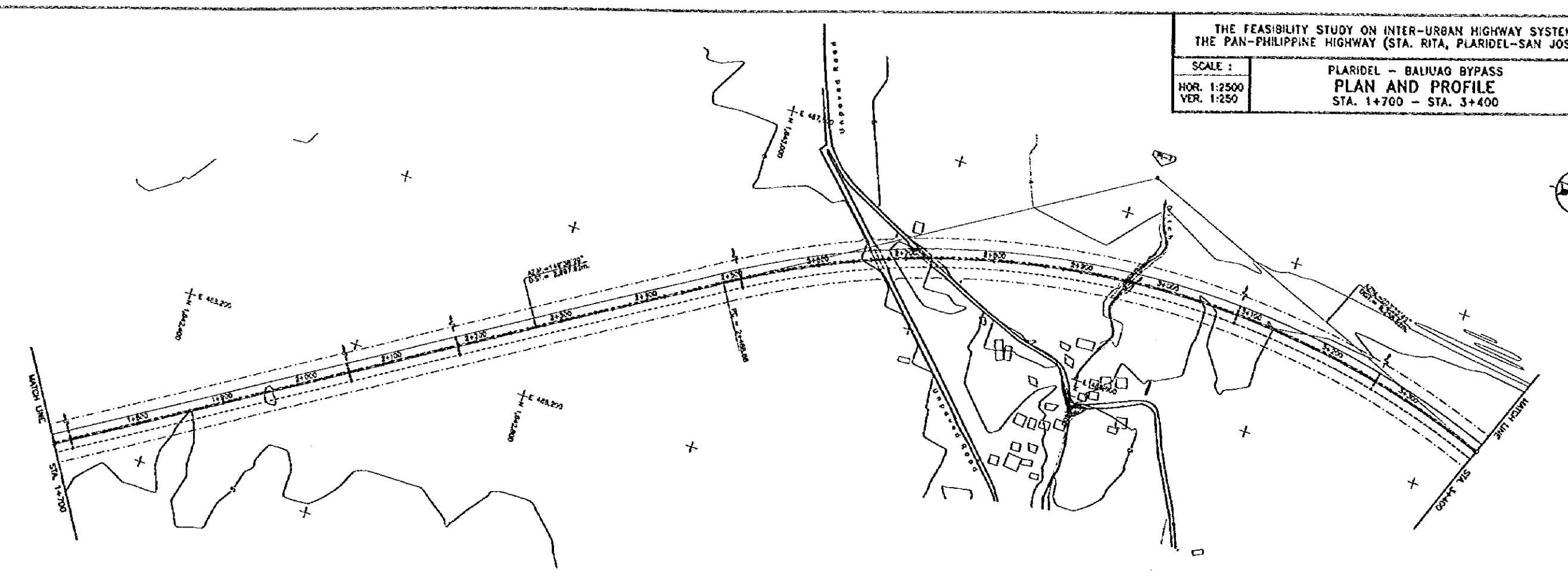
DRAWING NO.  
3/68



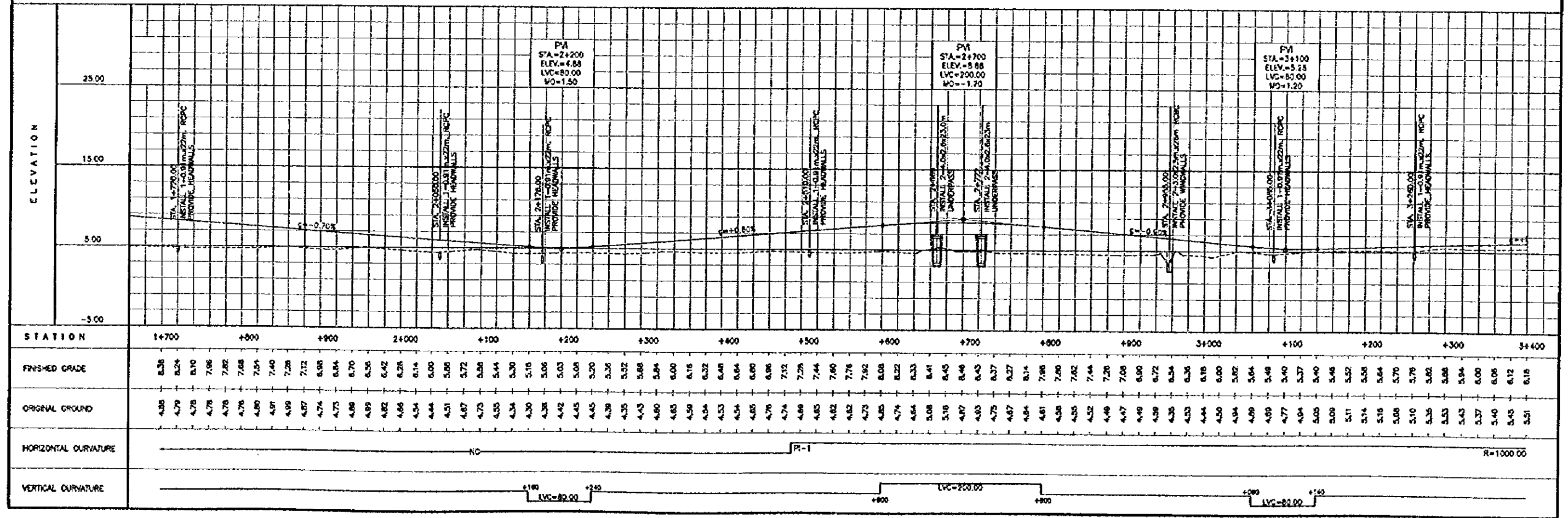
START OF PLARIDEL - BALIUG BYPASS  
STA. 00+000.00  
N = 1,640,833.38  
E = 459,268.08  
ELEV. = 3.45

ELEVATION	STATION																		
	00+000	+100	+200	+300	+400	+500	+600	+700	+800	+900	+1000	1+100	+200	+300	+400	+500	+600	1+700	
23.00																			
15.00																			
5.00																			
-5.00																			
FINISHED GRADE	3.45	3.63	3.81	3.98	4.15	4.33	4.51	4.68	4.85	5.03	5.21	5.38	5.56	5.74	5.92	6.10	6.28	6.46	6.64
ORIGINAL GROUND	3.40	3.42	3.43	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44	3.44
HORIZONTAL CURVATURE	NO																		
VERTICAL CURVATURE	LVC = 200.00																		

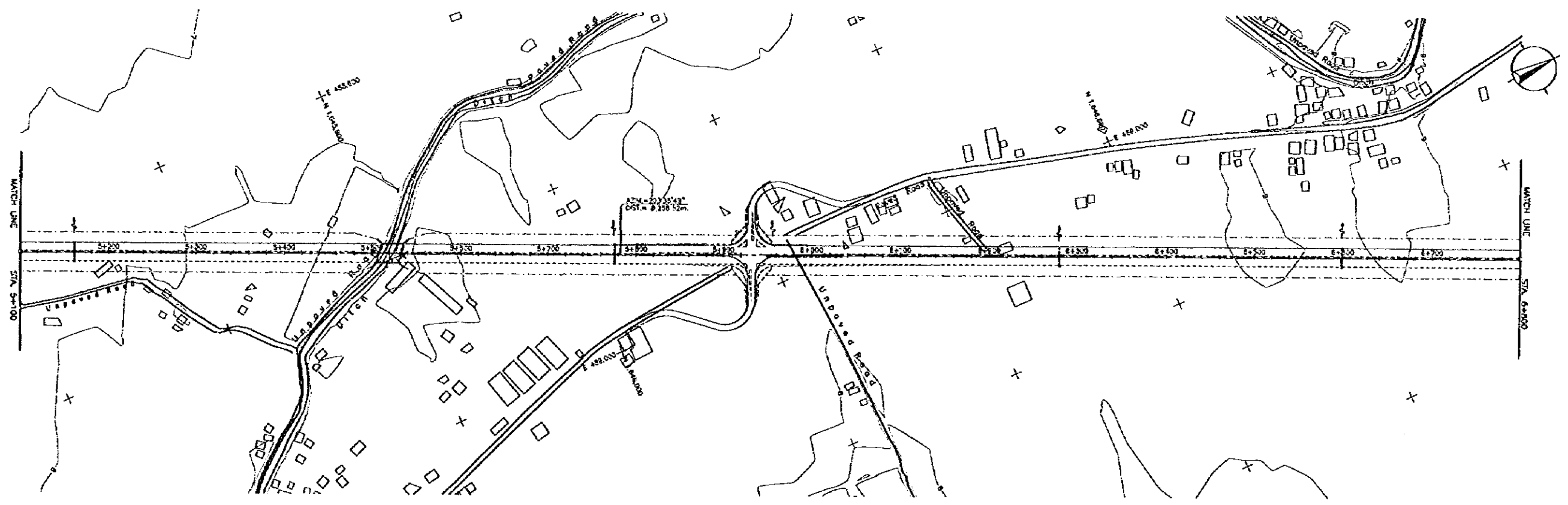
PVI  
STA = 1+530  
ELEV. = 9.57  
LVC = 200.00  
MO = -1.10



P.A. NO.	STATION	COORDINATES OF P.I.		I	R	T	Lc	Ea
		NORTHING	EASTING					
P-1	2+887.82	1,943,420.82	487,752.90	53° 57' 20"	1000.00	828.04	841.70	122.10







ELEVATION	STATION																												
	5+100	5+125	5+150	5+175	5+200	5+225	5+250	5+275	5+300	5+325	5+350	5+375	5+400	5+425	5+450	5+475	5+500	5+525	5+550	5+575	5+600	5+625	5+650	5+675	5+700	5+725	5+750	5+775	5+800
25.00																													
15.00																													
5.00																													
-5.00																													
FINISHED GRADE	8.74	8.88	9.16	9.30	9.44	9.58	9.72	9.86	10.00	10.14	10.28	10.42	10.56	10.70	10.84	10.98	11.12	11.26	11.40	11.54	11.68	11.82	11.96	12.10	12.24	12.38	12.52	12.66	12.80
ORIGINAL GROUND	7.49	7.43	7.43	7.58	7.78	7.90	8.08	8.24	8.40	8.56	8.72	8.88	9.04	9.20	9.36	9.52	9.68	9.84	10.00	10.16	10.32	10.48	10.64	10.80	10.96	11.12	11.28	11.44	11.60
HORIZONTAL CURVATURE	— NO —																												
VERTICAL CURVATURE	LVC = 200.00										LVC = 80.00										LVC = 200.00								

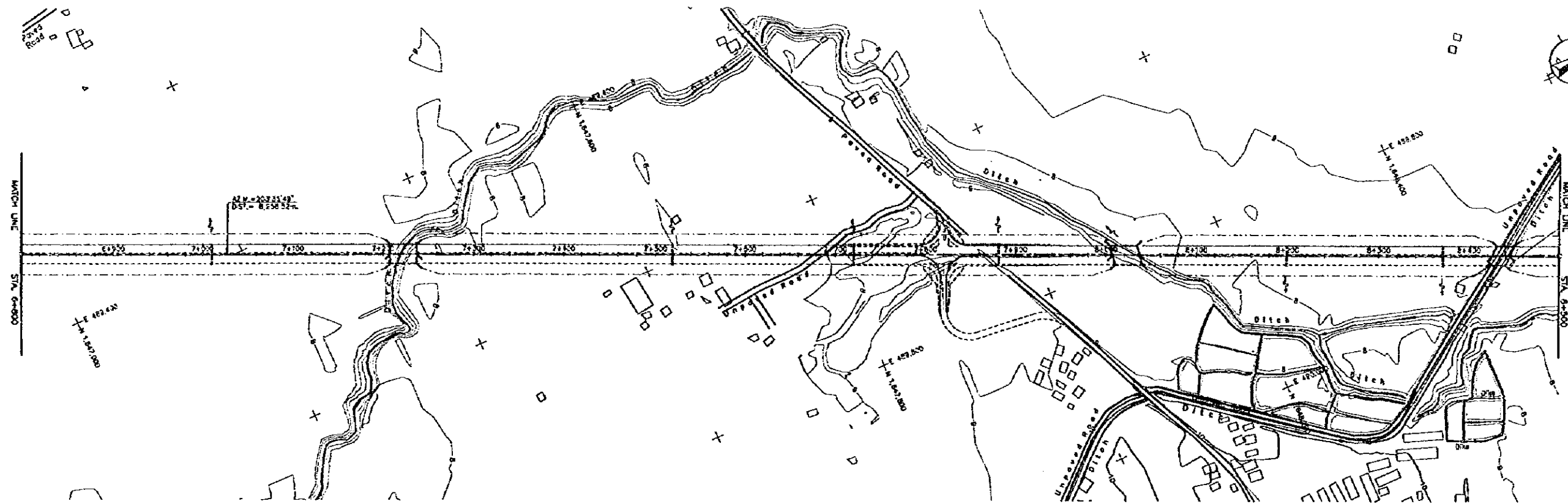
STA. 5+480.00  
 INSTALL CURB/RETAINING WALLS  
 PROVIDE HEADWALLS  
 MO = -1.50

PVI  
 STA = 5+520  
 ELEV. = 11.68  
 LVC = 200.00  
 MO = -1.50

STA. 5+270.00  
 INSTALL CURB/RETAINING WALLS  
 PROVIDE HEADWALLS  
 MO = -0.80

PVI  
 STA = 5+590  
 ELEV. = 9.80  
 LVC = 80.00  
 MO = -1.10

STA. 6+290.00  
 INSTALL CURB/RETAINING WALLS  
 PROVIDE HEADWALLS  
 MO = -0.70



ELEVATION	STATION																			
	6+800	+900	7+000	+100	+200	+300	+400	+500	+600	+700	+800	+900	8+000	+100	+200	+300	+400	8+500		
25.00																				
15.00																				
5.00																				
-5.00																				
FINISHED GRADE	9.61	9.53	9.45	9.37	9.29	9.21	9.13	9.05	8.97	8.89	8.81	8.73	8.65	8.57	8.49	8.41	8.33	8.25	8.17	
ORIGINAL GROUND	8.62	8.51	8.32	8.28	8.26	8.25	8.24	8.22	8.21	8.21	8.21	8.21	8.21	8.21	8.21	8.21	8.21	8.21	8.21	
HORIZONTAL CURVATURE	K=0																			
VERTICAL CURVATURE	LVC=200.00																			

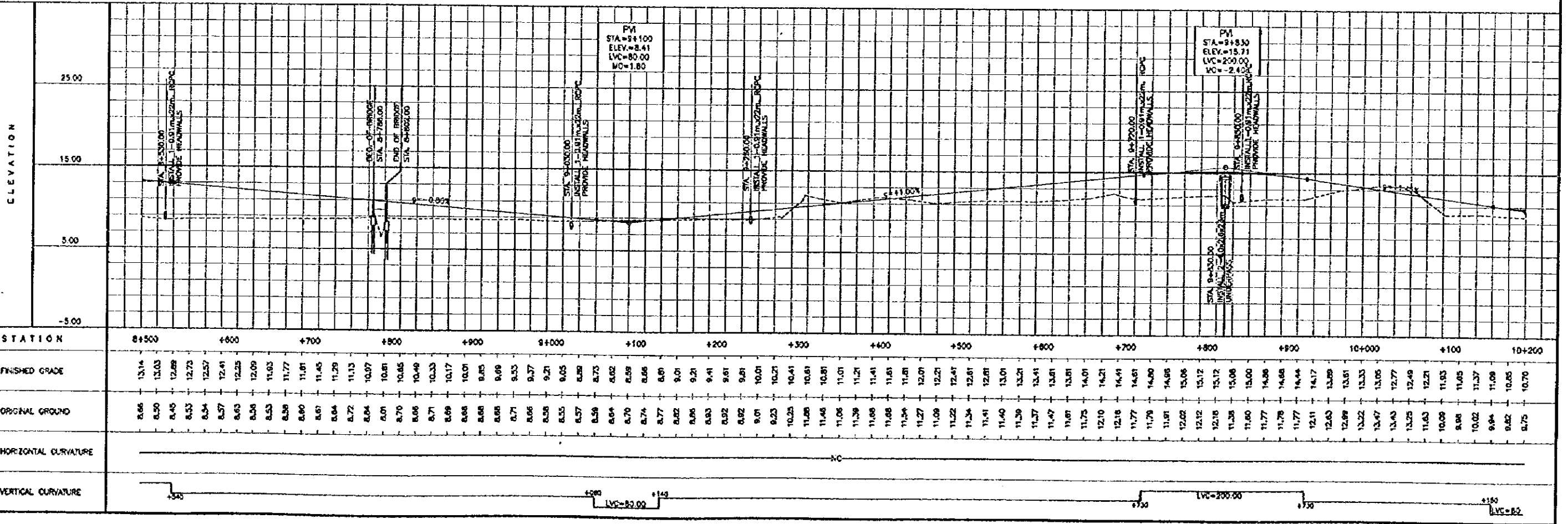
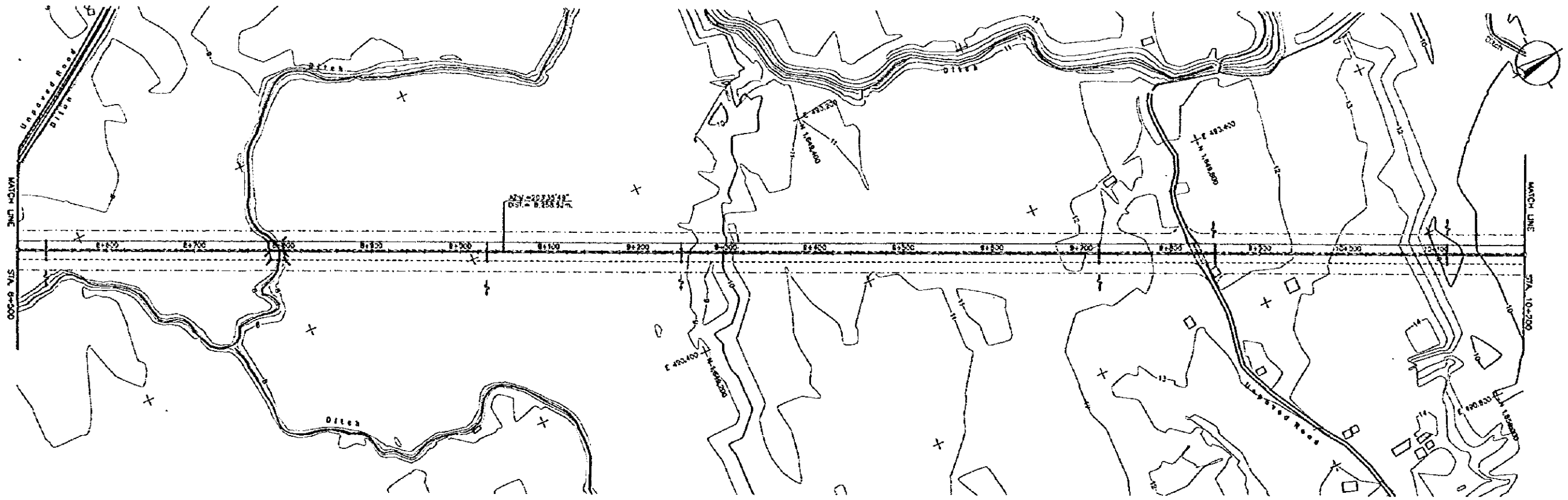
PM STA=74060 ELEV.=8.57 LVC=200.00 MO=1.50  
 PM STA=74220 ELEV.=10.33 LVC=200.00 MO=1.40  
 PM STA=74900 ELEV.=13.69 LVC=200.00 MO=1.30  
 PM STA=8440 ELEV.=13.69 LVC=200.00 MO=1.80

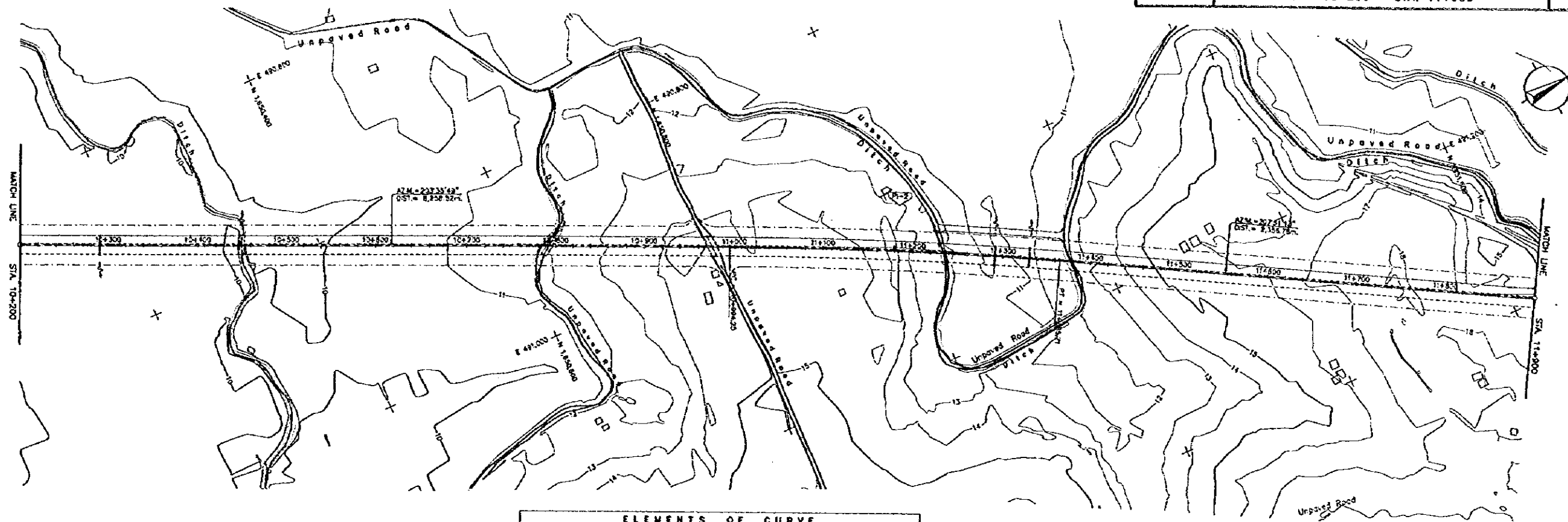
THE FEASIBILITY STUDY ON INTER-URBAN HIGHWAY SYSTEM ALONG  
THE PAN-PHILIPPINE HIGHWAY (STA. RITA, PLARIDEL-SAN JOSE SECTION)

SCALE :  
HOR. 1:2500  
VER. 1:250

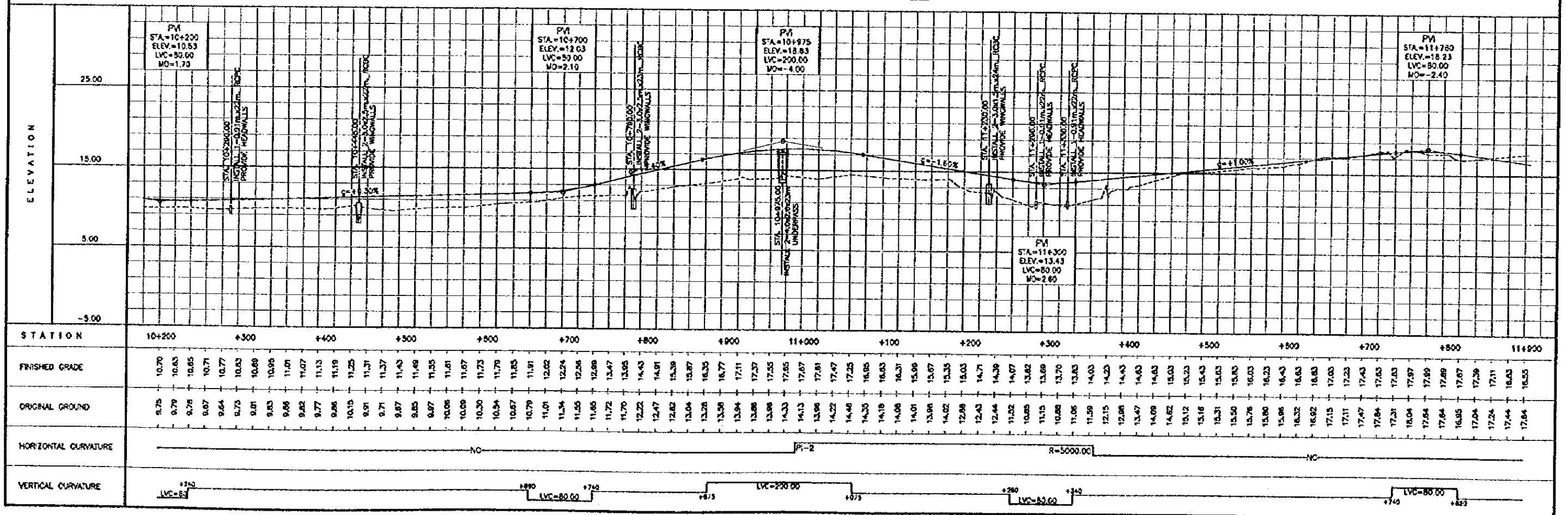
PLARIDEL - BAIUAG BYPASS  
PLAN AND PROFILE  
STA. 8+500 - STA. 10+200

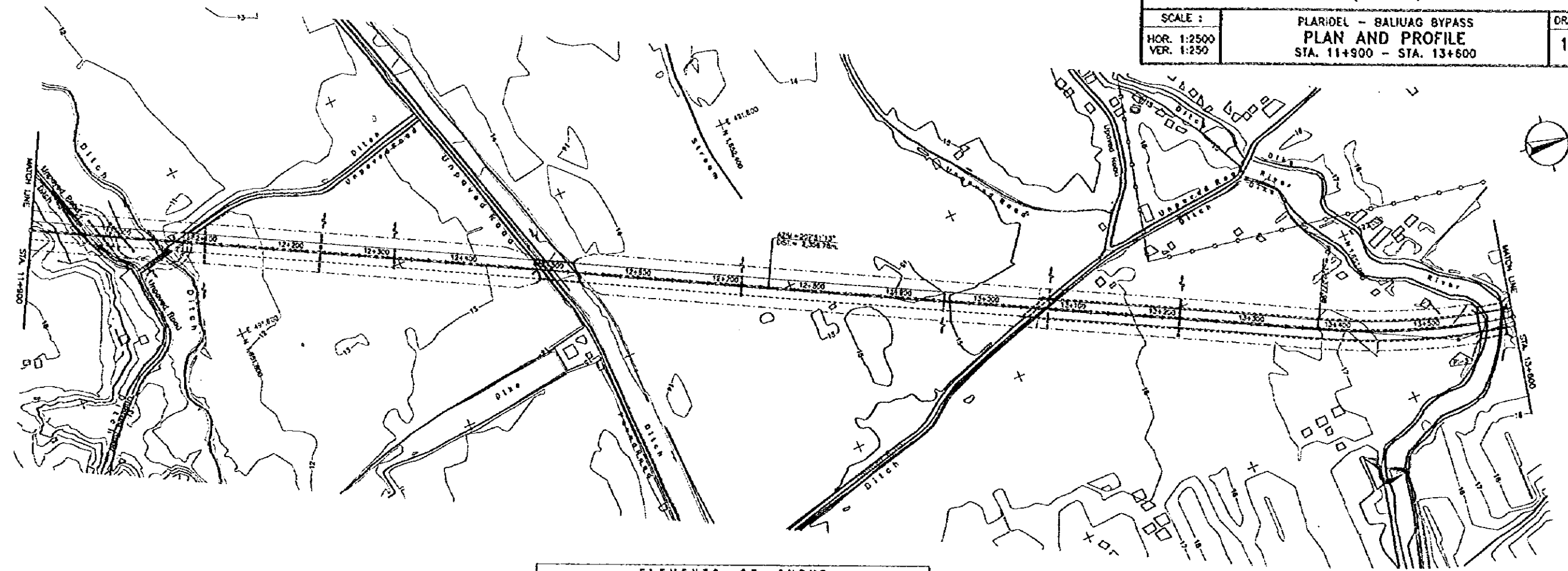
DRAWING NO.  
8/68



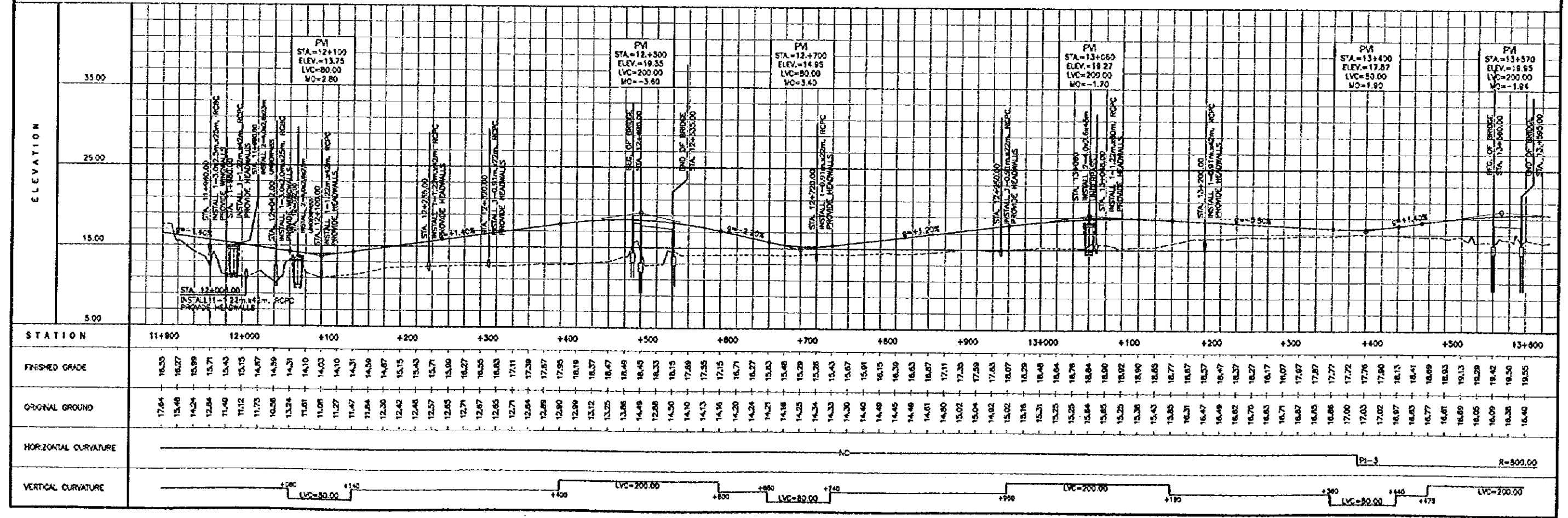


ELEMENTS OF CURVE							
P.I. NO.	STATION	COORDINATES OF P.I.		I	R	Lc	Ea
		NORTHING	EASTING				
P-2	11+182.07	450,898.20	481,658.77	64°19'34"	8000.00	183.82	371.46

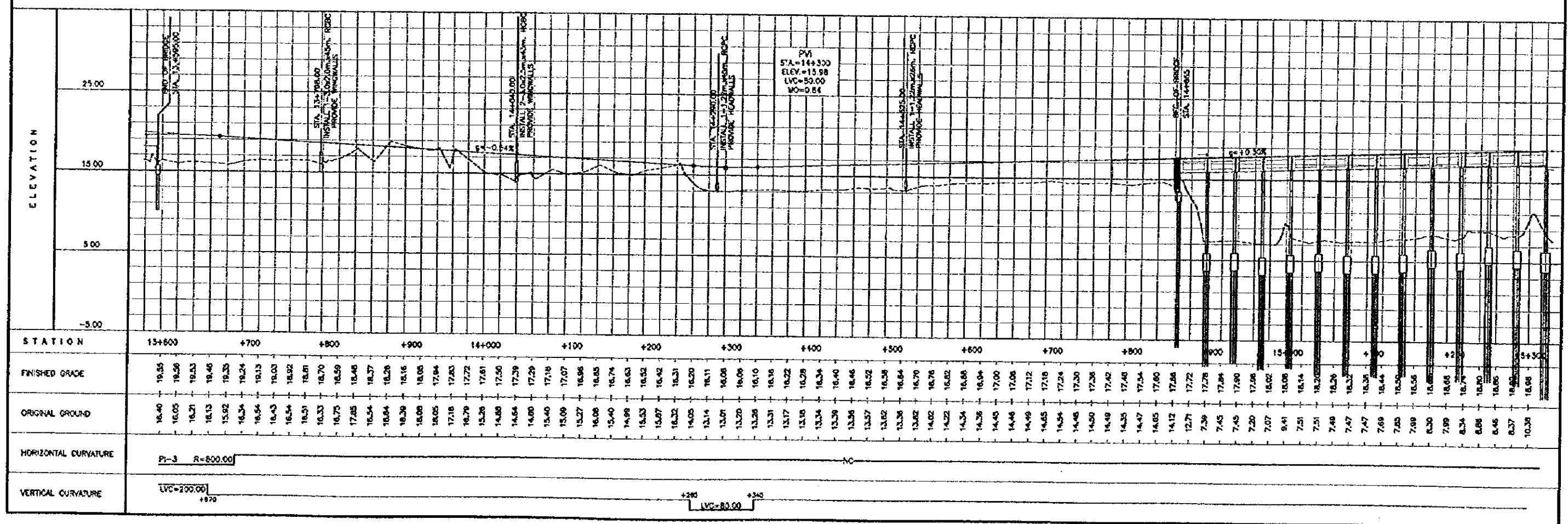
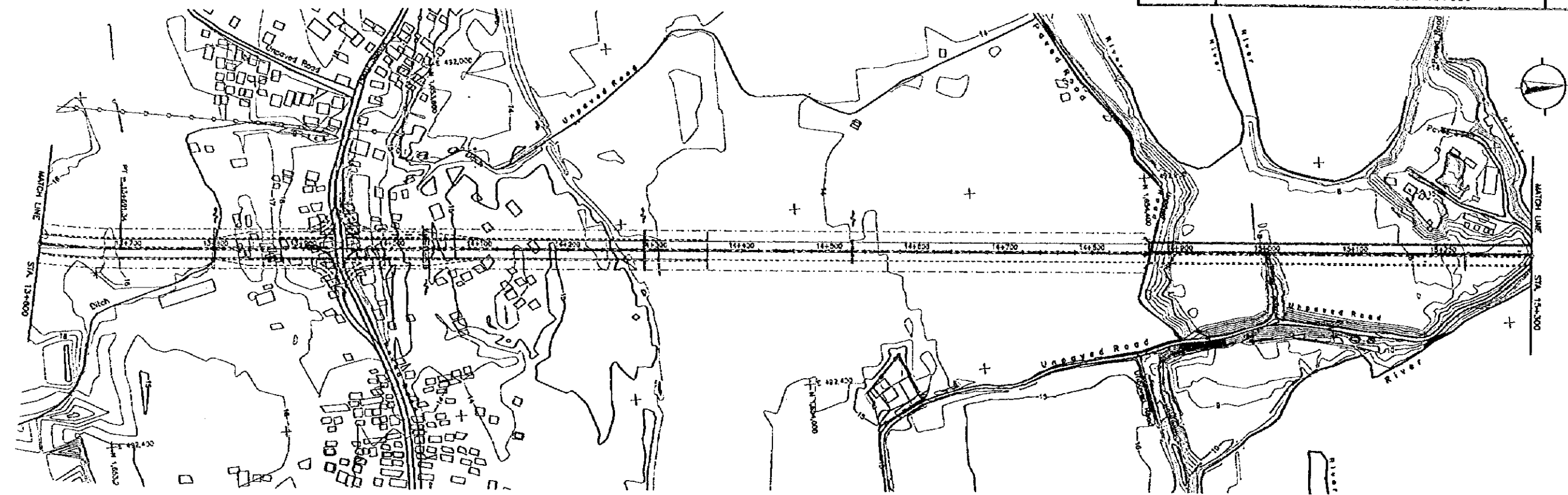




ELEMENTS OF CURVE								
P.L. NO.	STATION	COORDINATES OF P.I.		I	R	T	Lc	Ea
		NORTHING	EASTING					
P1-3	13+558.66	1,833,071.64	492,159.69	(2228'34")	800.00	168.72	313.38	18.58





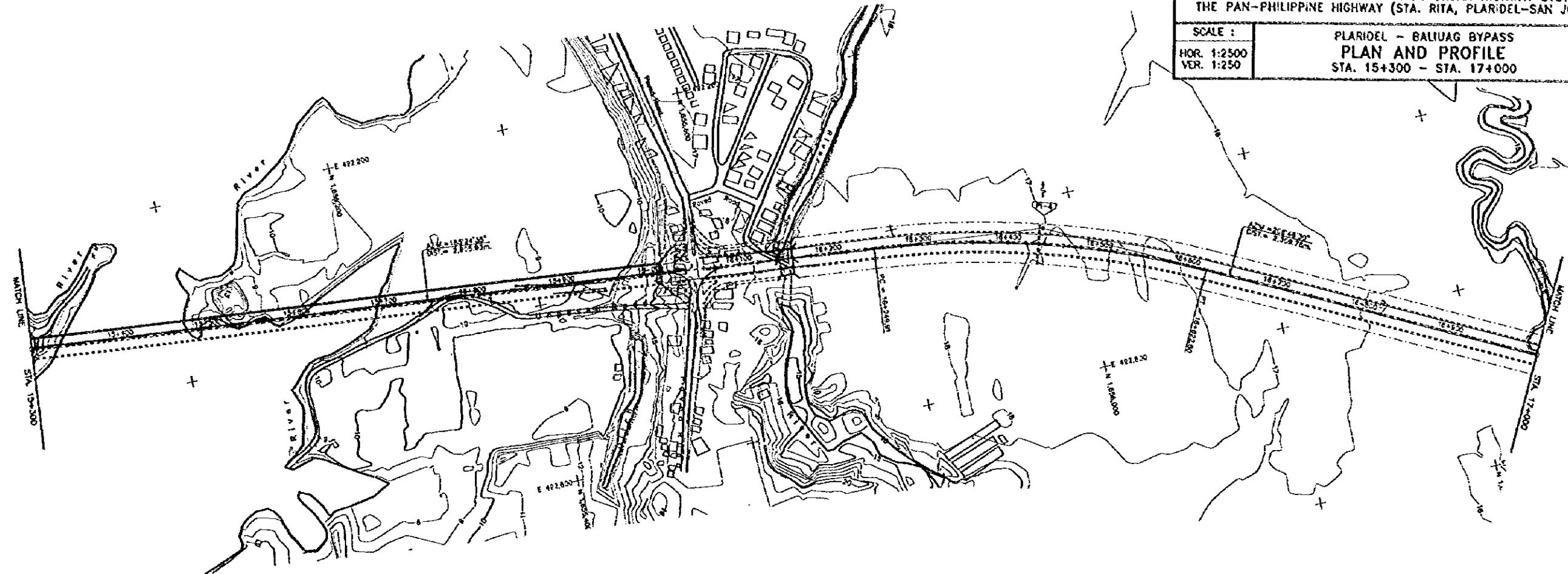


THE FEASIBILITY STUDY ON INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (STA. RITA, PLARIDEL-SAN JOSE SECTION)

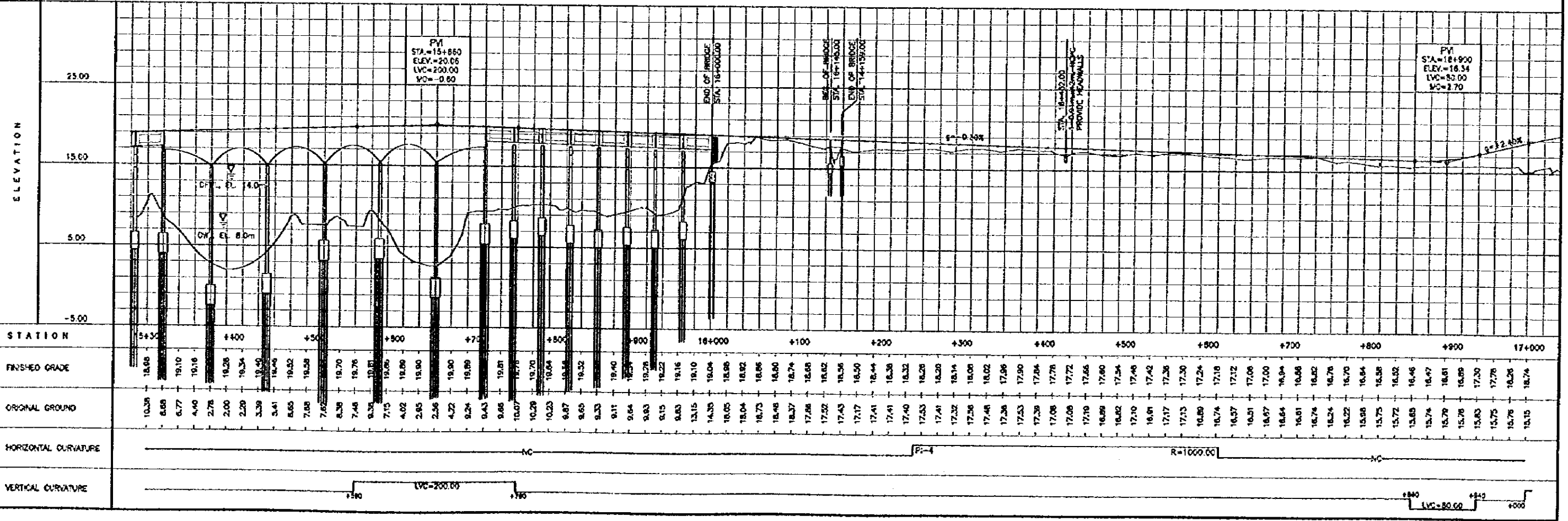
SCALE :  
HOR. 1:2500  
VER. 1:250

PLARIDEL - BALIUG BYPASS  
PLAN AND PROFILE  
STA. 15+300 - STA. 17+000

DRAWING NO.  
12/68



ELEMENTS OF CURVE							
P.I. NO.	STATION	COORDINATES OF P.I.		I	R	Lc	Ea
		NORTHING	EASTING				
P-6	16+438.55	455,654.64	422,433.85	21°21'55"	1000.00	158.64	372.80





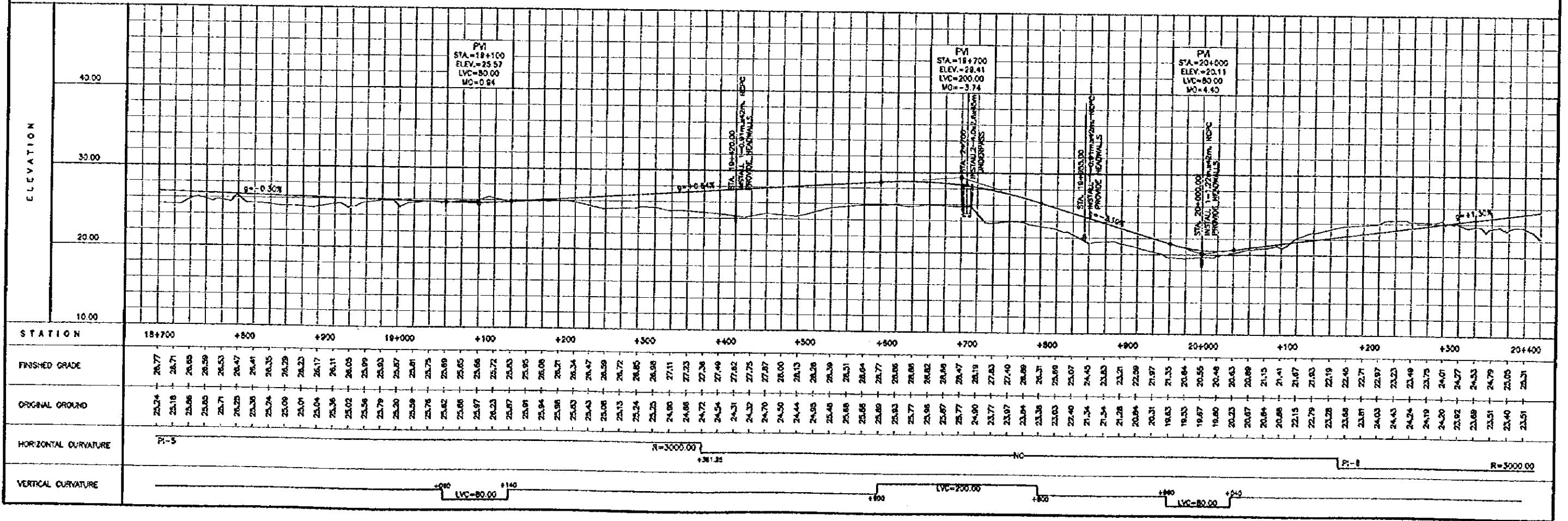
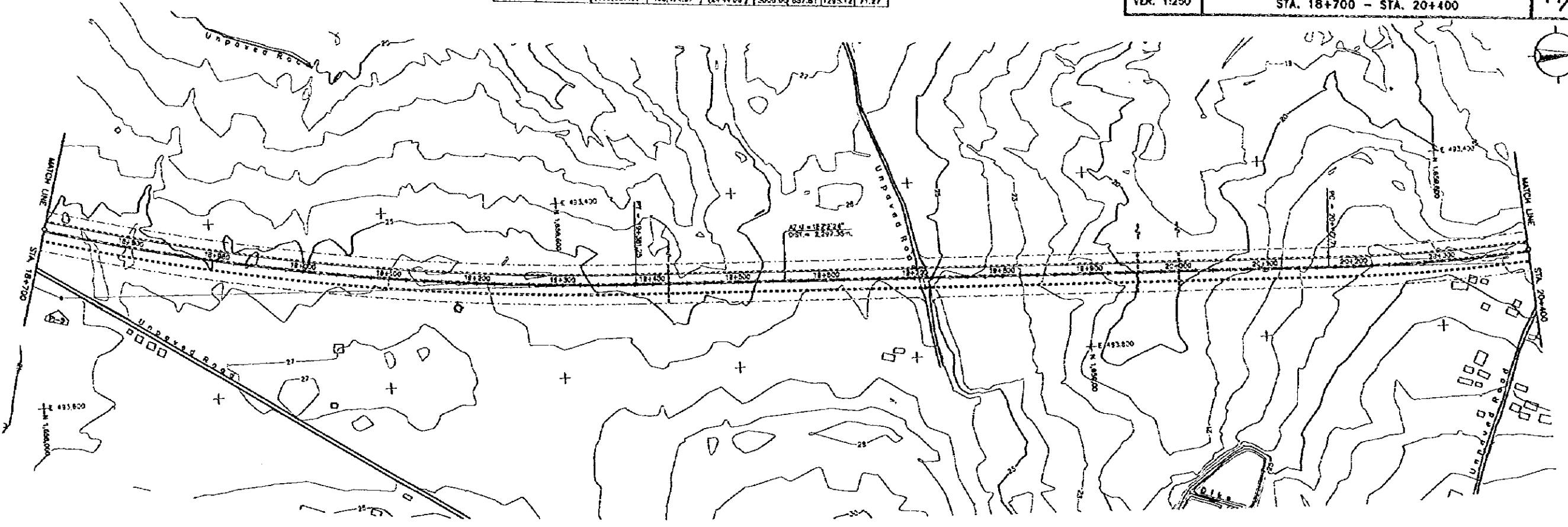
THE FEASIBILITY STUDY ON INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (STA. RITA, PLARIDEL-SAN JOSE SECTION)

SCALE :  
HOR. 1:2500  
VER. 1:250

PLARIDEL - BALIUAG BYPASS  
PLAN AND PROFILE  
STA. 18+700 - STA. 20+400

DRAWING NO.  
14/68

ELEMENTS OF CURVE							
P.I. NO.	STATION	COORDINATES OF P.I.		I	R	L	E <sub>s</sub>
		NORTHING	EASTING				
P-5	18+743.84	433,027.07	493,474.37	(24°44'08")	5553.00	657.81	1225.12



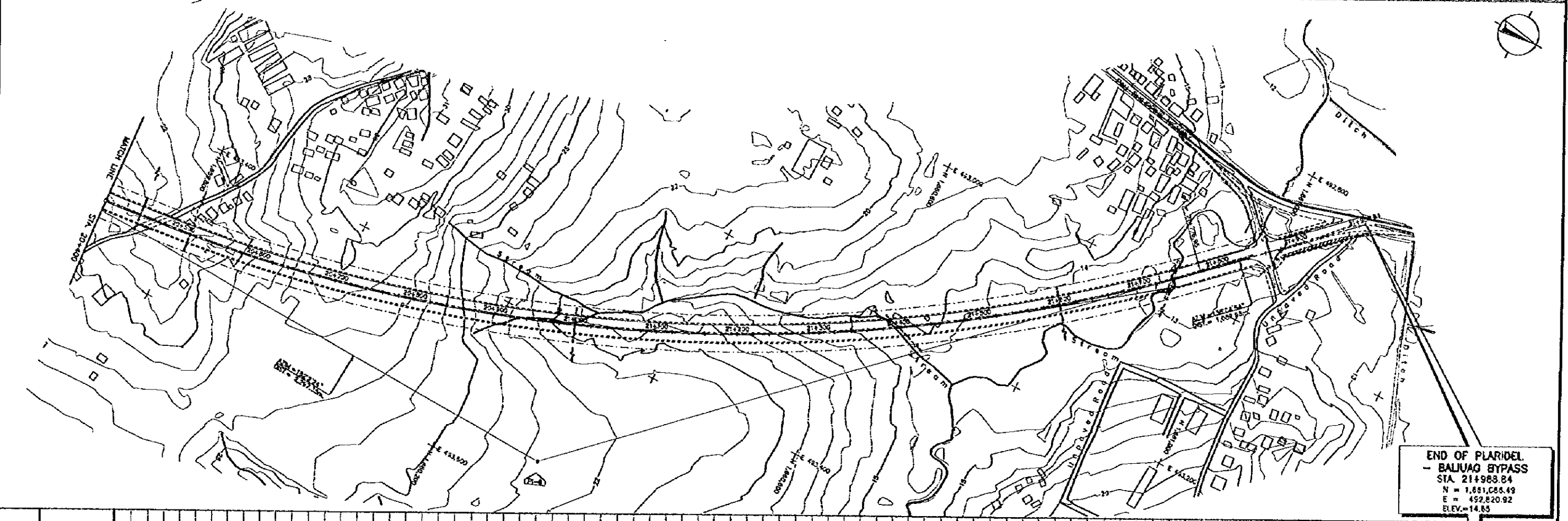
THE FEASIBILITY STUDY ON INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (STA. RITA, PLARIDEL-SAN JOSE SECTION)

SCALE :  
 HOR. 1:2500  
 VER. 1:250

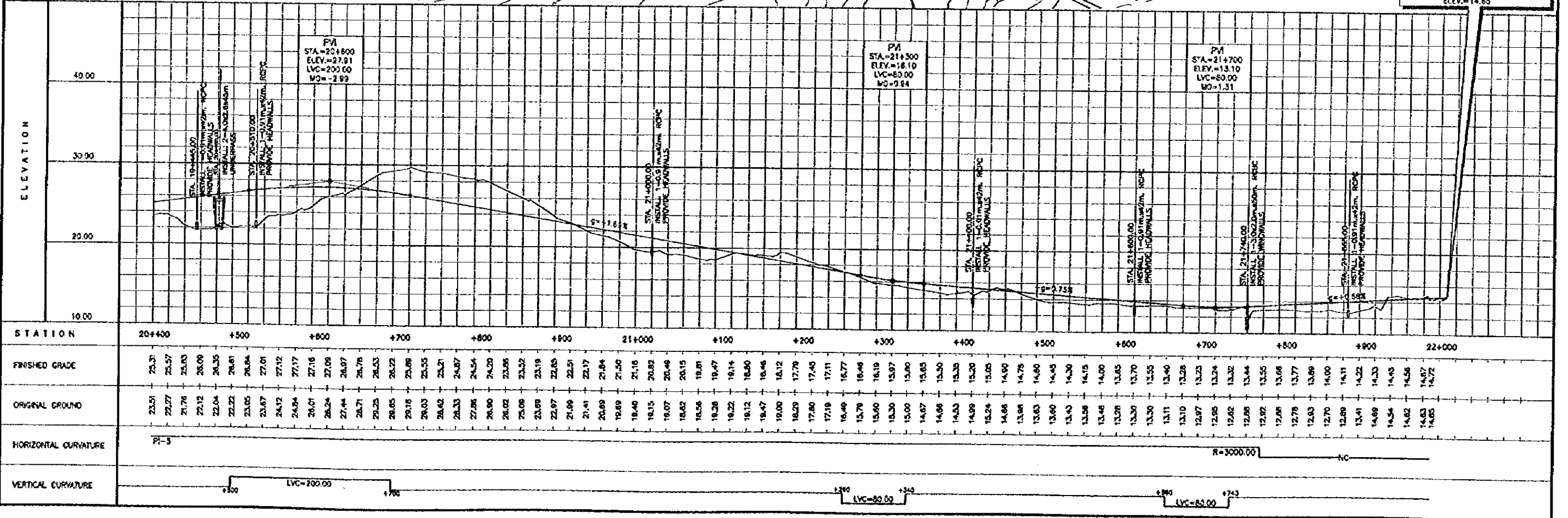
PLARIDEL - BALIAG BYPASS  
 PLAN AND PROFILE  
 STA. 20+400 - STA. 21+988.84

DRAWING NO.  
 15/68

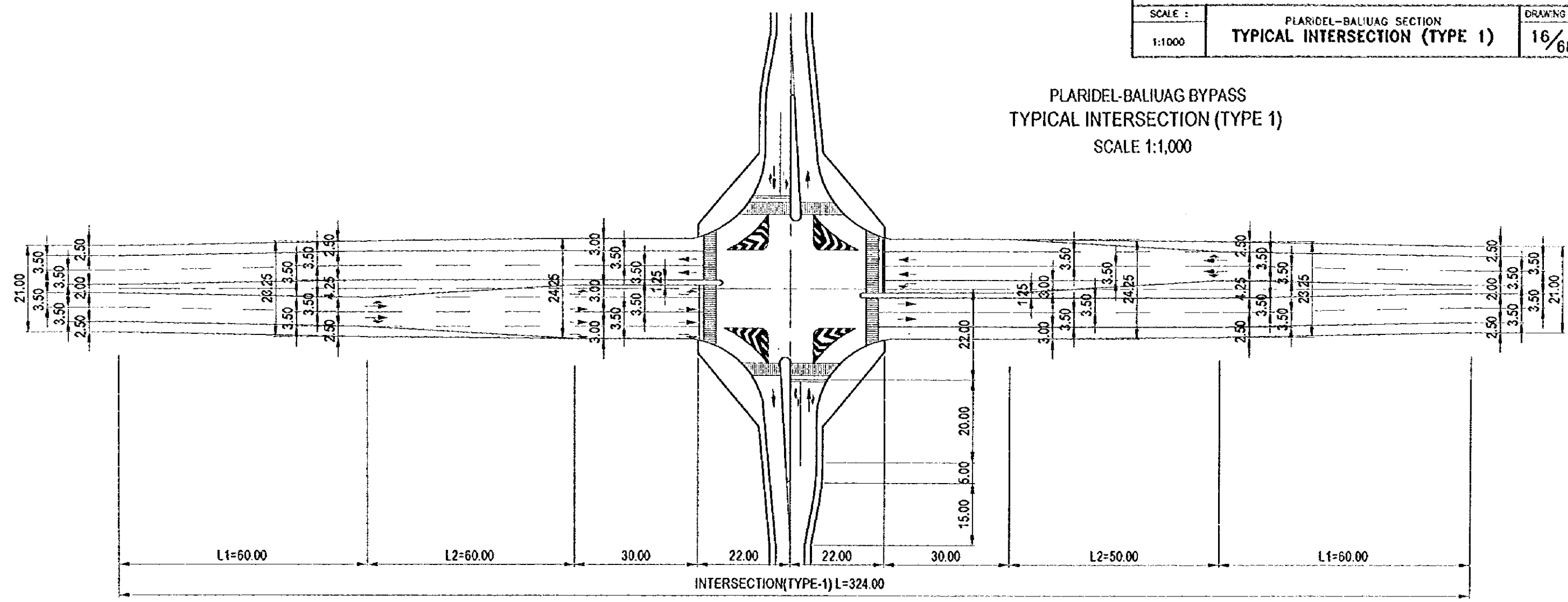
ELEMENTS OF CURVE						
P.A. NO.	STATION	COORDINATES OF P.I.		L	R	T
		NORTHING	EASTING			
Pi-5	21+029.80	450,322.88	493,358.15	(4337.237)	3000.00	248.68



END OF PLARIDEL - BALIAG BYPASS  
 STA. 21+988.84  
 N = 1,551,086.49  
 E = 452,820.92  
 ELEV = 14.85

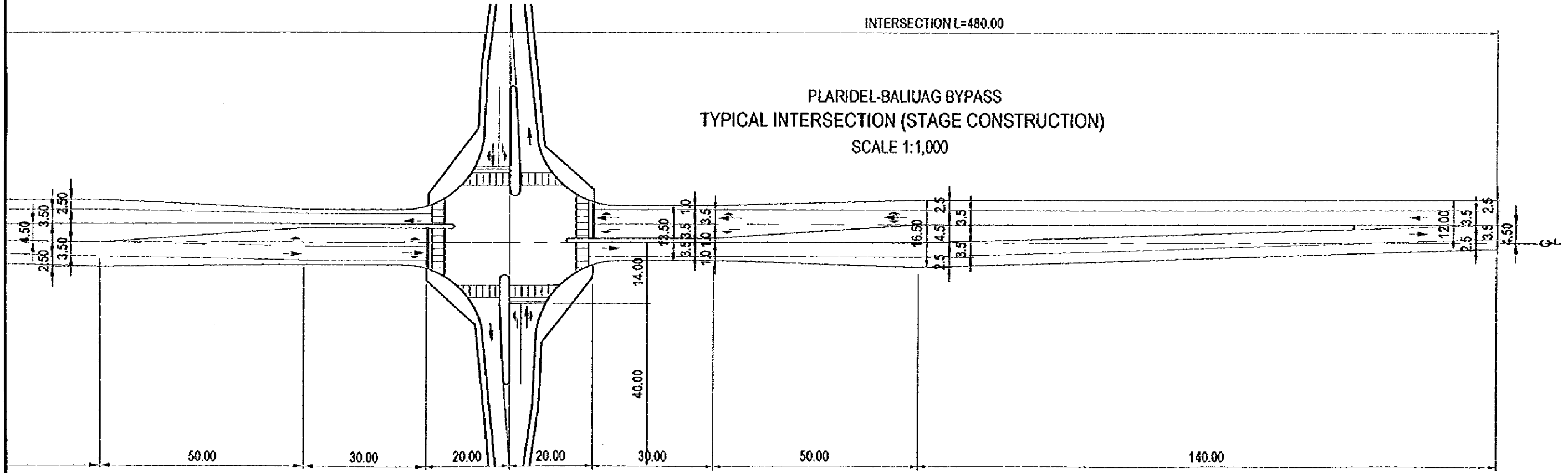


PLARIDEL-BALIUG BYPASS  
 TYPICAL INTERSECTION (TYPE 1)  
 SCALE 1:1,000

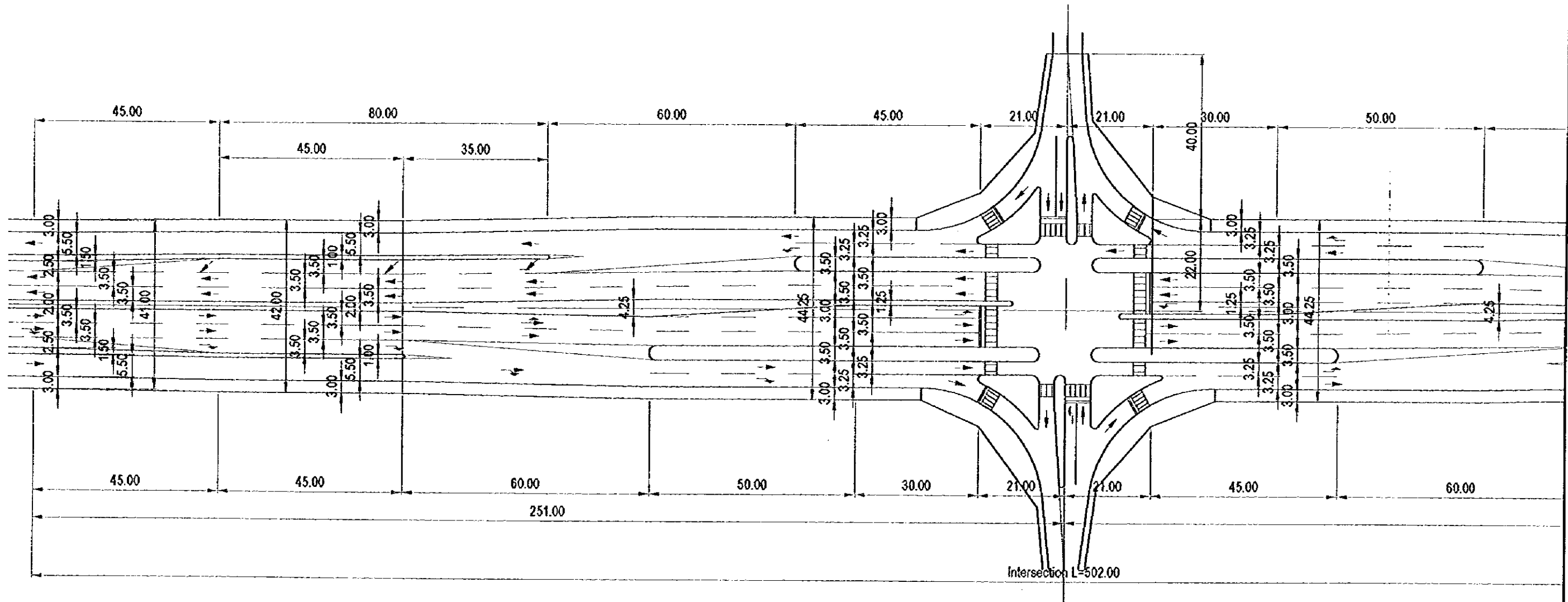


INTERSECTION L=480.00

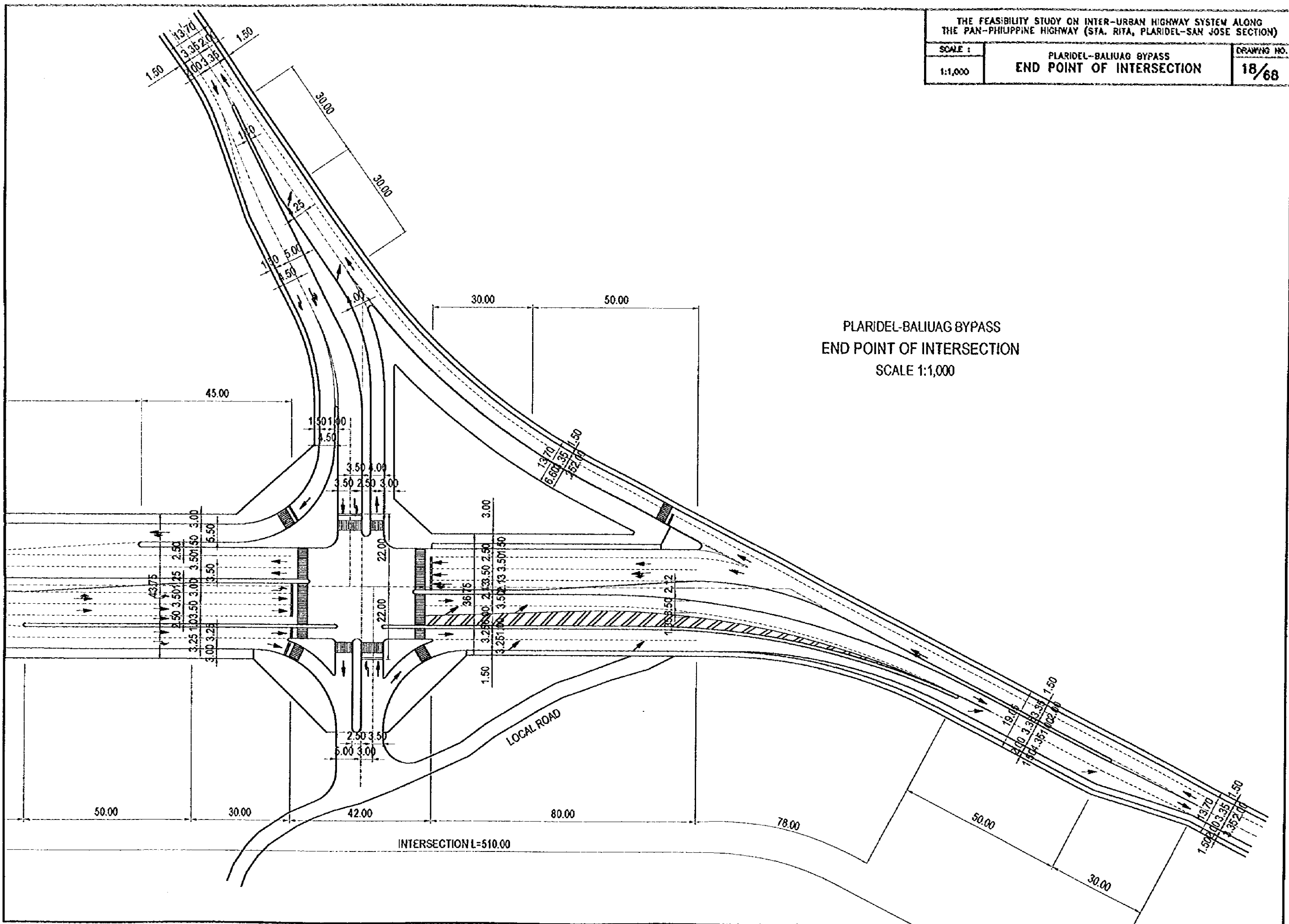
PLARIDEL-BALIUG BYPASS  
 TYPICAL INTERSECTION (STAGE CONSTRUCTION)  
 SCALE 1:1,000



THE FEASIBILITY STUDY ON INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (STA. RITA, PLARIDEL-SAN JOSE SECTION)		
SCALE :	PLARIDEL-BALIUG BYPASS	DRAWING NO.
1:1,000	TYPICAL INTERSECTION (TYPE 2)	17/68



PLARIDEL-BALIUG BYPASS  
TYPICAL INTERSECTION (TYPE 2)  
SCALE 1:1,000



PLARIDEL-BALIUAG BYPASS  
END POINT OF INTERSECTION  
SCALE 1:1,000

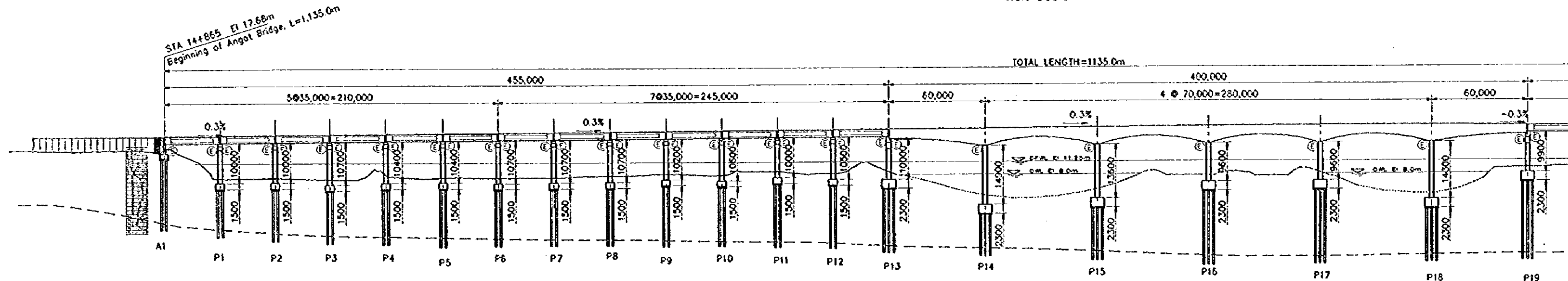






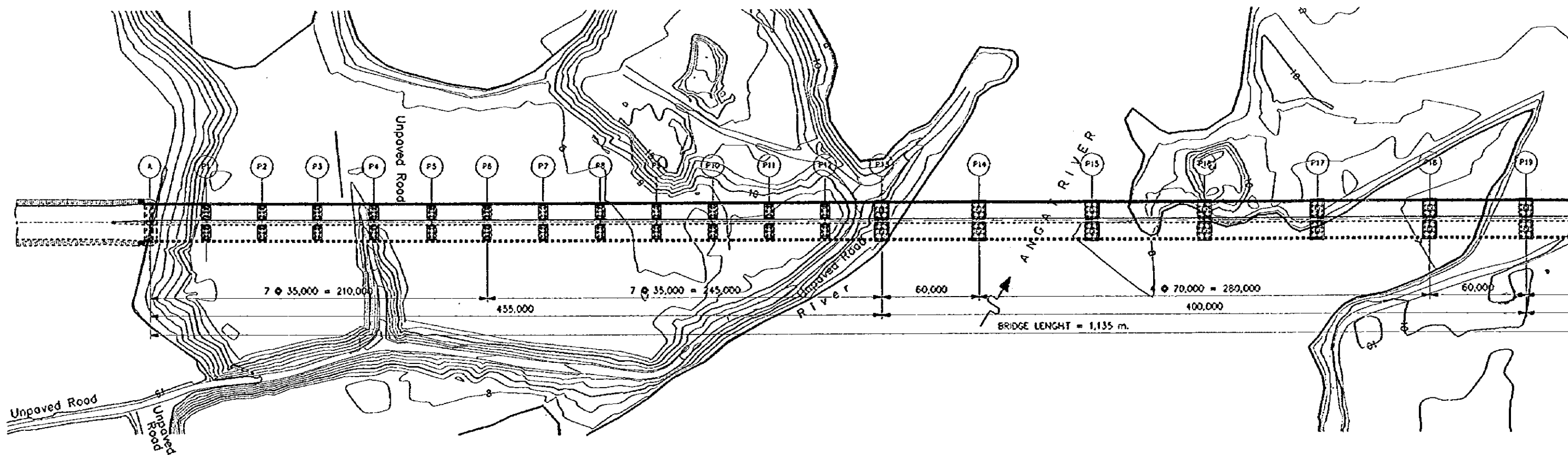
# PROFILE

Vert. Scale 1:1000  
Hor. Scale 1:2500



# PLAN

Scale 1:2000

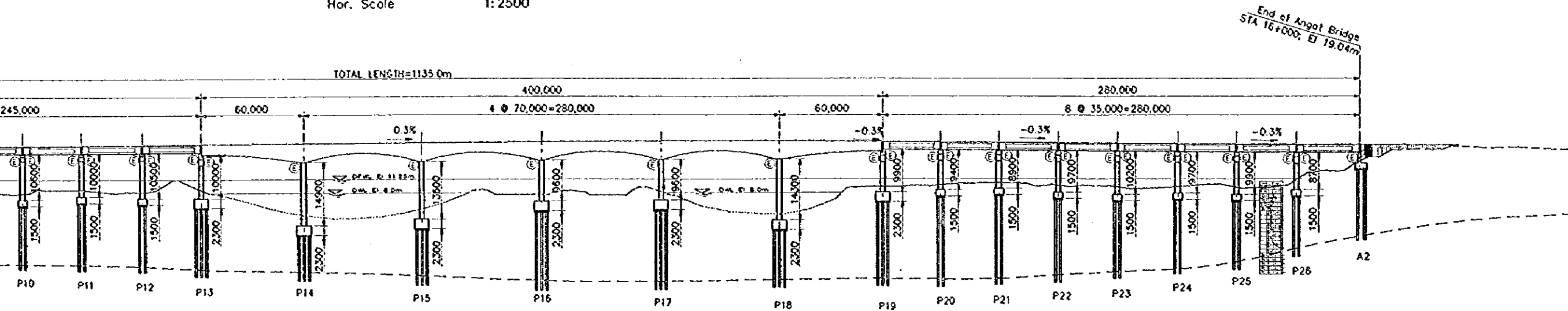


A FEASIBILITY STUDY ON UPGRADING OF INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY

SCALE	STRUCTURAL GENERAL VIEW OF ANGAT BR. (1/2) (PLARIDEL-BALIUAG BYPASS)	DRAWING NO.
Ver. 1:1000		21/68
Hor. 1:2500		

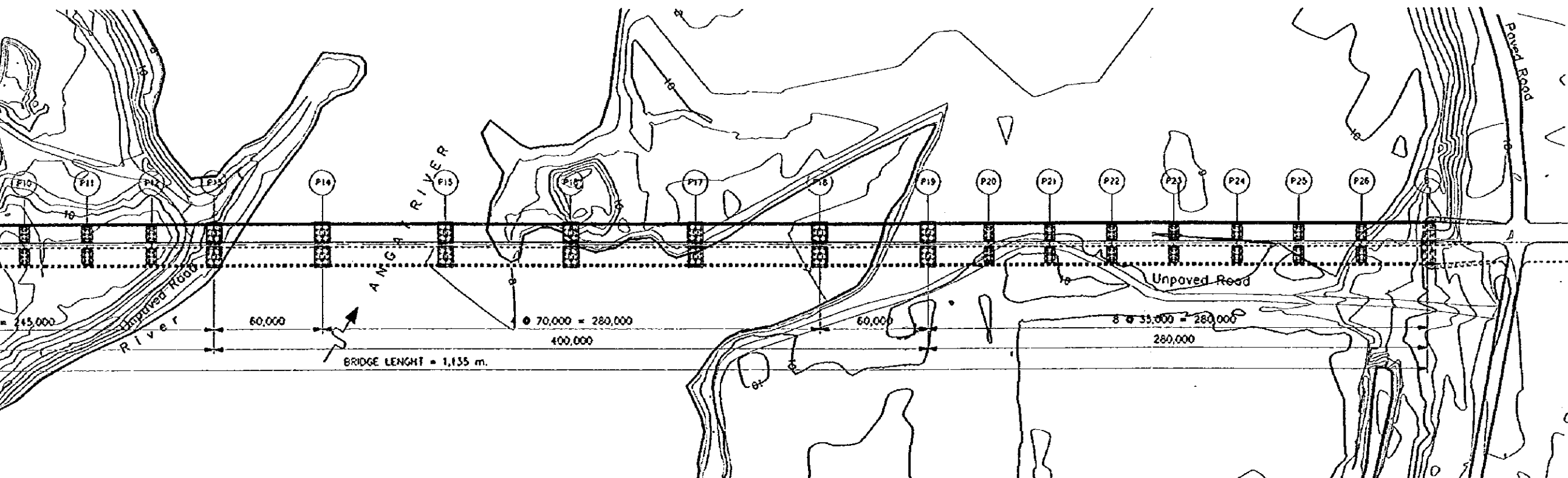
# PROFILE

Vert. Scale 1:1000  
Hor. Scale 1:2500



# PLAN

Scale 1:2000

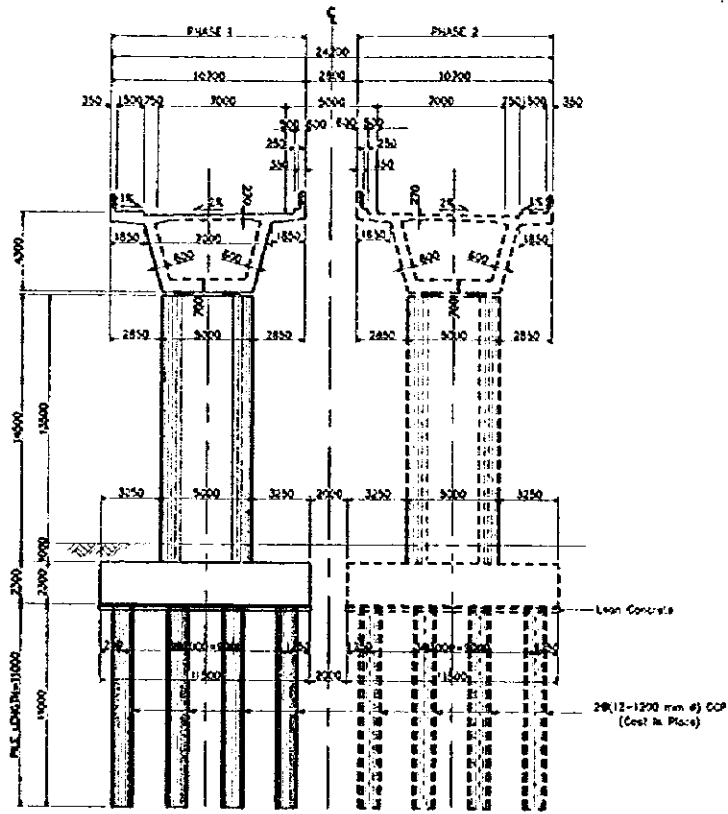


A FEASIBILITY STUDY ON UPGRADING OF INTER-URBAN HIGHWAY  
SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY

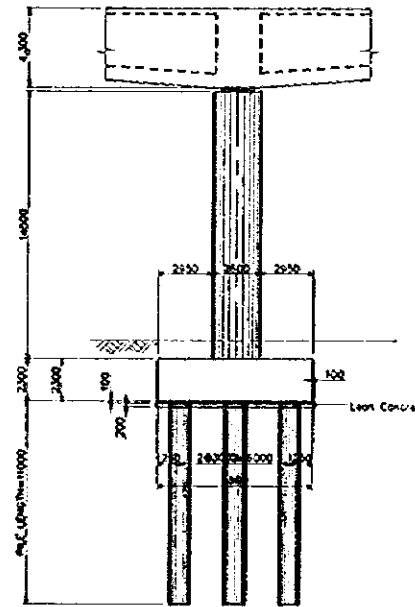
SCALE  
1:400  
1:40

STRUCTURAL GENERAL VIEW OF ANGAT BR. (2/2)  
(PLARIDEL-BALIUG BYPASS)

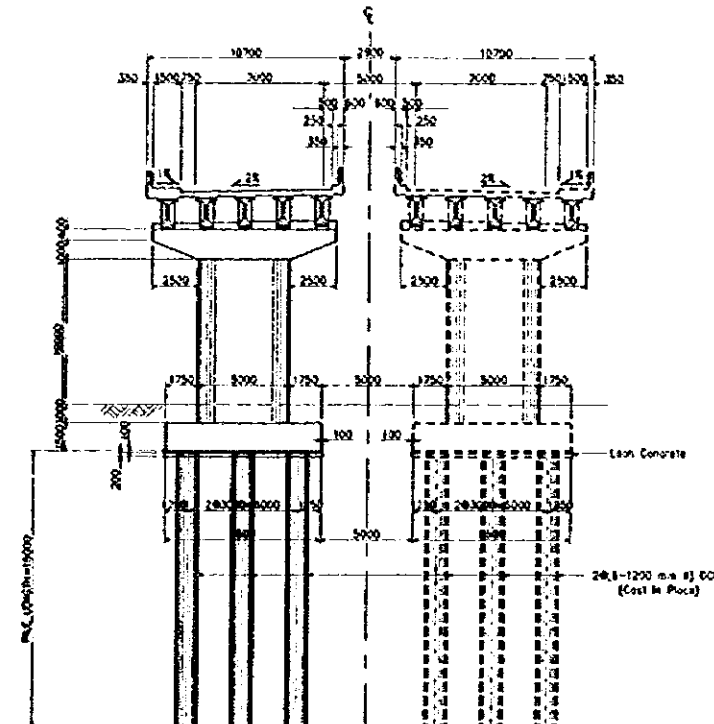
DRAWING NO.  
22/68



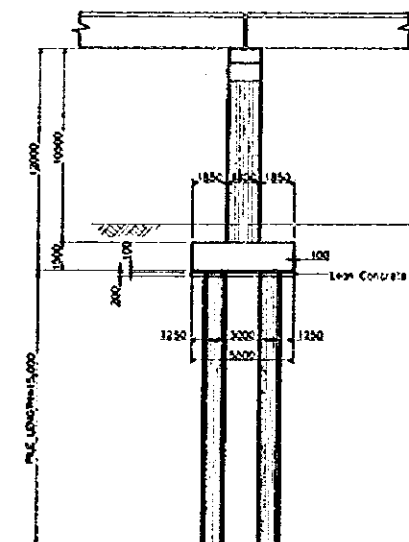
TYPICAL BOX GIRDER SECTION @ SUPPORT  
SCALE 1:400



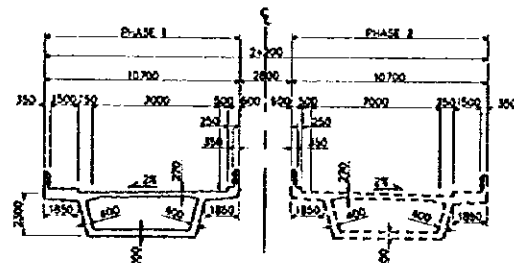
SIDE VIEW  
SCALE 1:400



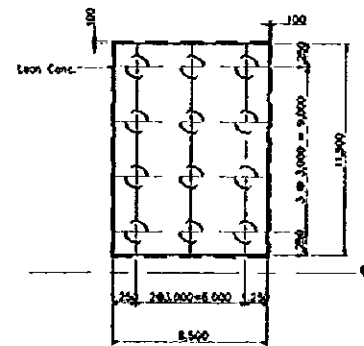
TYPICAL CROSS SECTION OF APPROACH BRIDGE  
SCALE 1:400



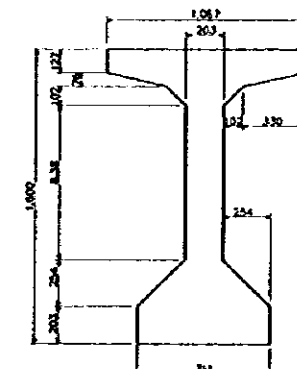
SIDE VIEW  
SCALE 1:400



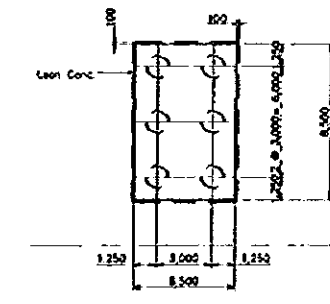
TYPICAL BOX GIRDER SECTION @ CENTER SPAN  
SCALE 1:400



FOUNDATION PLAN  
SCALE 1:400

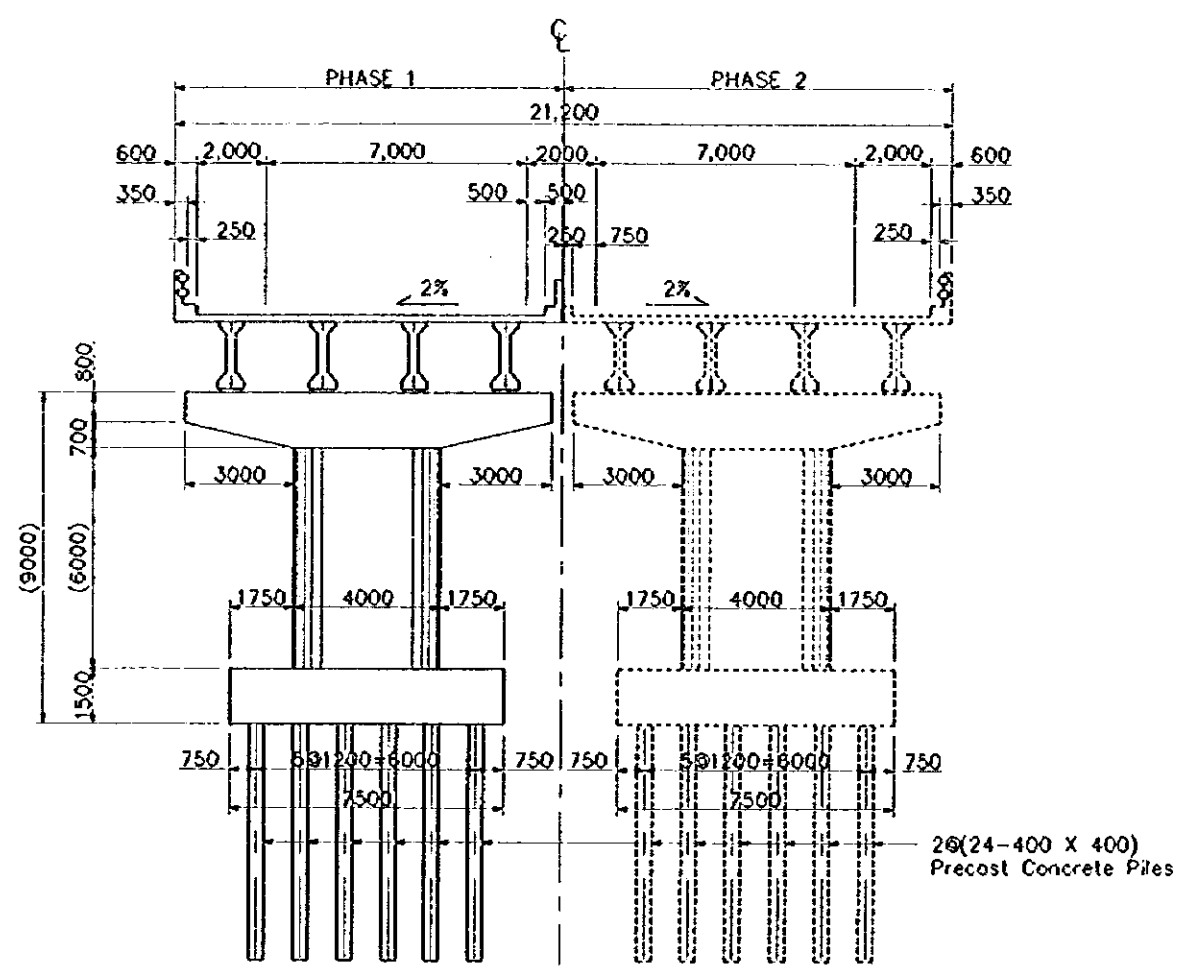


AASHTO-TYPE V GIRDER  
SCALE 1:40

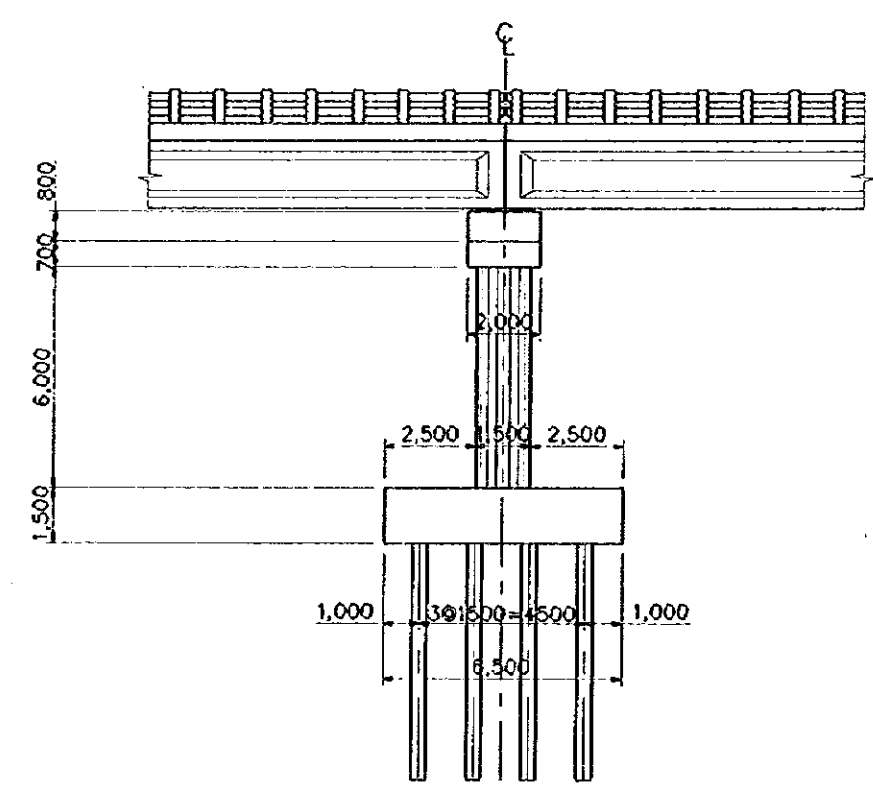


PILE FOUNDATION PLAN  
SCALE 1:400

A FEASIBILITY STUDY ON UPGRADING OF INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY		
SCALE	TYPICAL CROSS SECTION OF BRIDGES IN PLARIDEL-BALIUAG BYPASS	DRAWING NO.
1:200	1) MAIN ROAD ONLY (WITHOUT FRONTAGE ROAD)	23/68

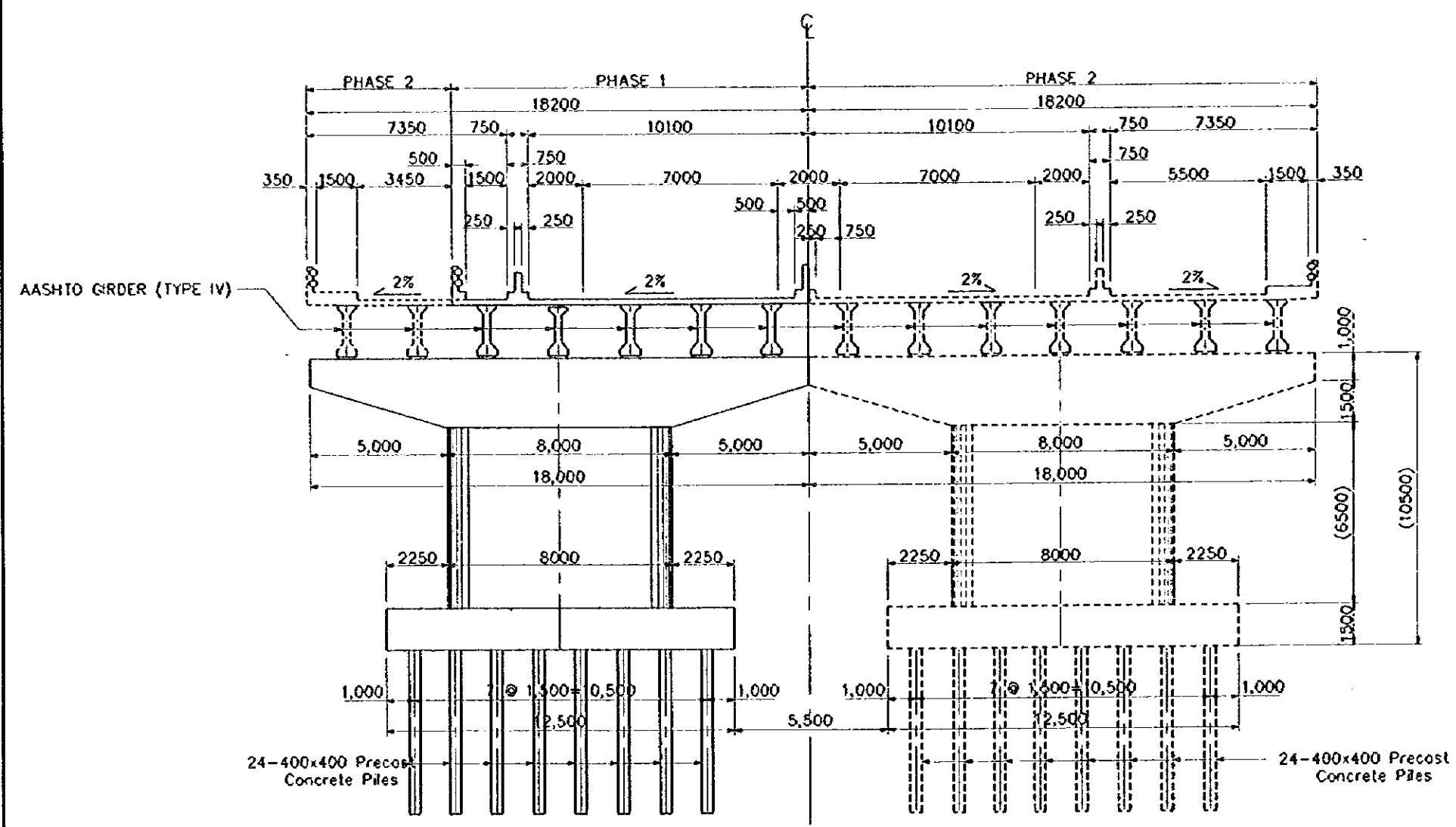


CROSS SECTION @ SUPPORT  
SCALE 1:200

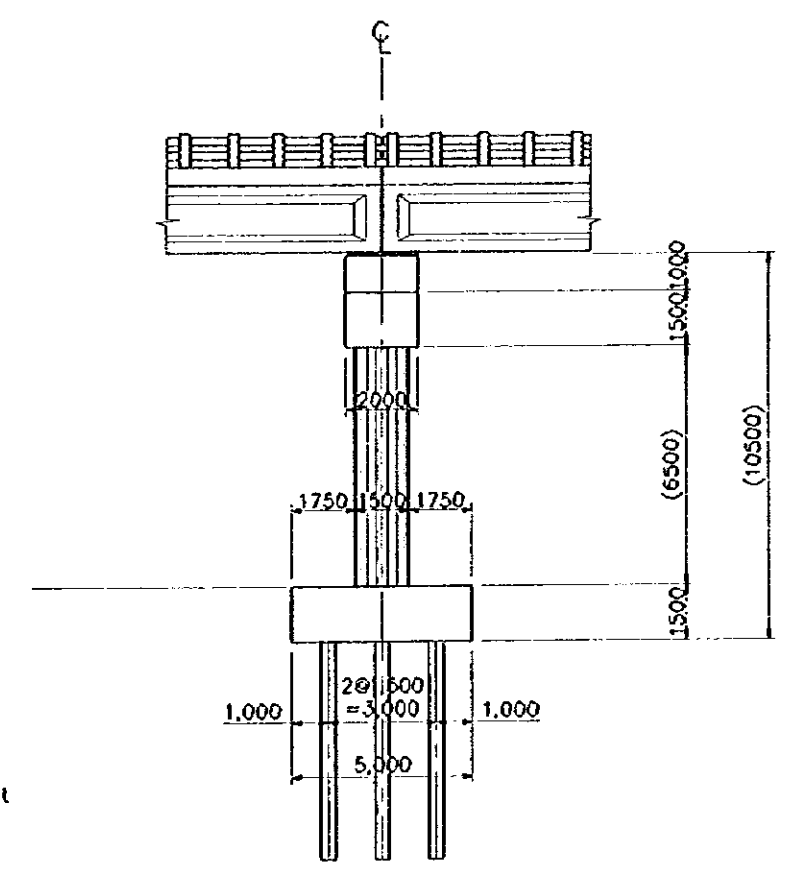


SIDE VIEW  
SCALE 1:200

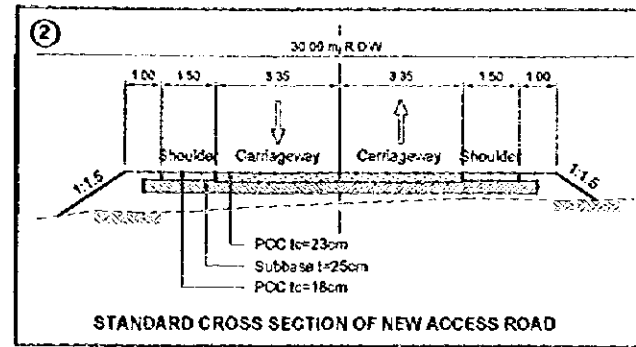
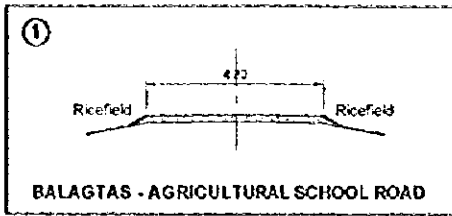
A FEASIBILITY STUDY ON UPGRADING OF INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY		
SCALE	TYPICAL CROSS SECTION OF BRIDGES IN PLARIDEL-BALIUAG BYPASS	DRAWING NO.
1:200	2) MAIN ROAD AND FRONTAGE ROAD	24/68



CROSS SECTION @ SUPPORT  
SCALE 1:200



SIDE VIEW  
SCALE 1:200



LIST OF ACCESS ROAD						
ROAD NO.	ROAD NAME	LENGTH (km)	WIDTH (m)	NO. OF LANE	PAVEMENT TYPE	REMARKS
①	BALAGTAS - AGRICULTURAL SCHOOL ROAD	1.90	4.8	2	PCC	DIVINE GRACE VILLAGE
②	NEW ACCESS ROAD	2.48	9.7	2	PCC	
③	BALAGTAS - BUSTOS ROAD	2.45	5.65	2	ASPHALT	PROVINCIAL ROAD
④	SAN JOSE - CAMACHILIHAN ROAD	1.00	6.0	2	PCC	PROVINCIAL ROAD
⑤	BUSTOS - ANGAT ROAD	2.45	7.1	2	ASPHALT	NATIONAL ROAD
⑥	BALIUAG - SAN RAFAEL ROAD	2.65	6.8	2	PCC	PROVINCIAL ROAD
⑦	SAMPALOC - SAN RAFAEL ROAD	1.80	6.0	2	PCC	PROVINCIAL ROAD

