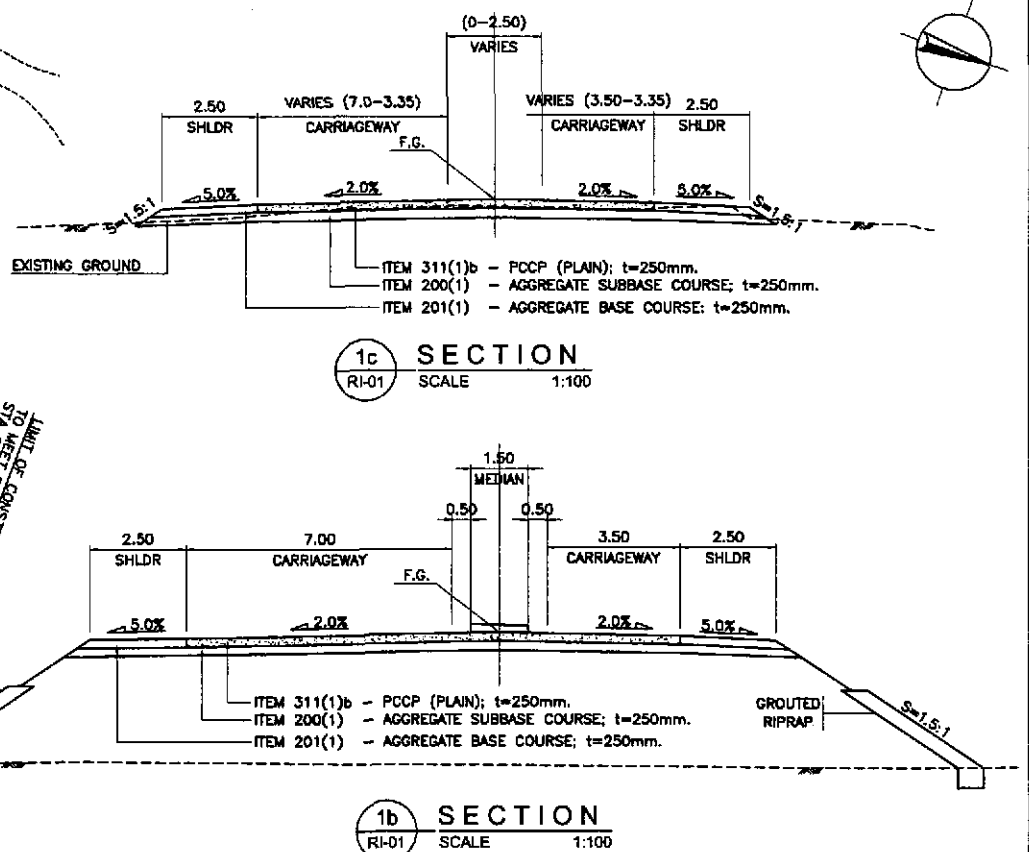
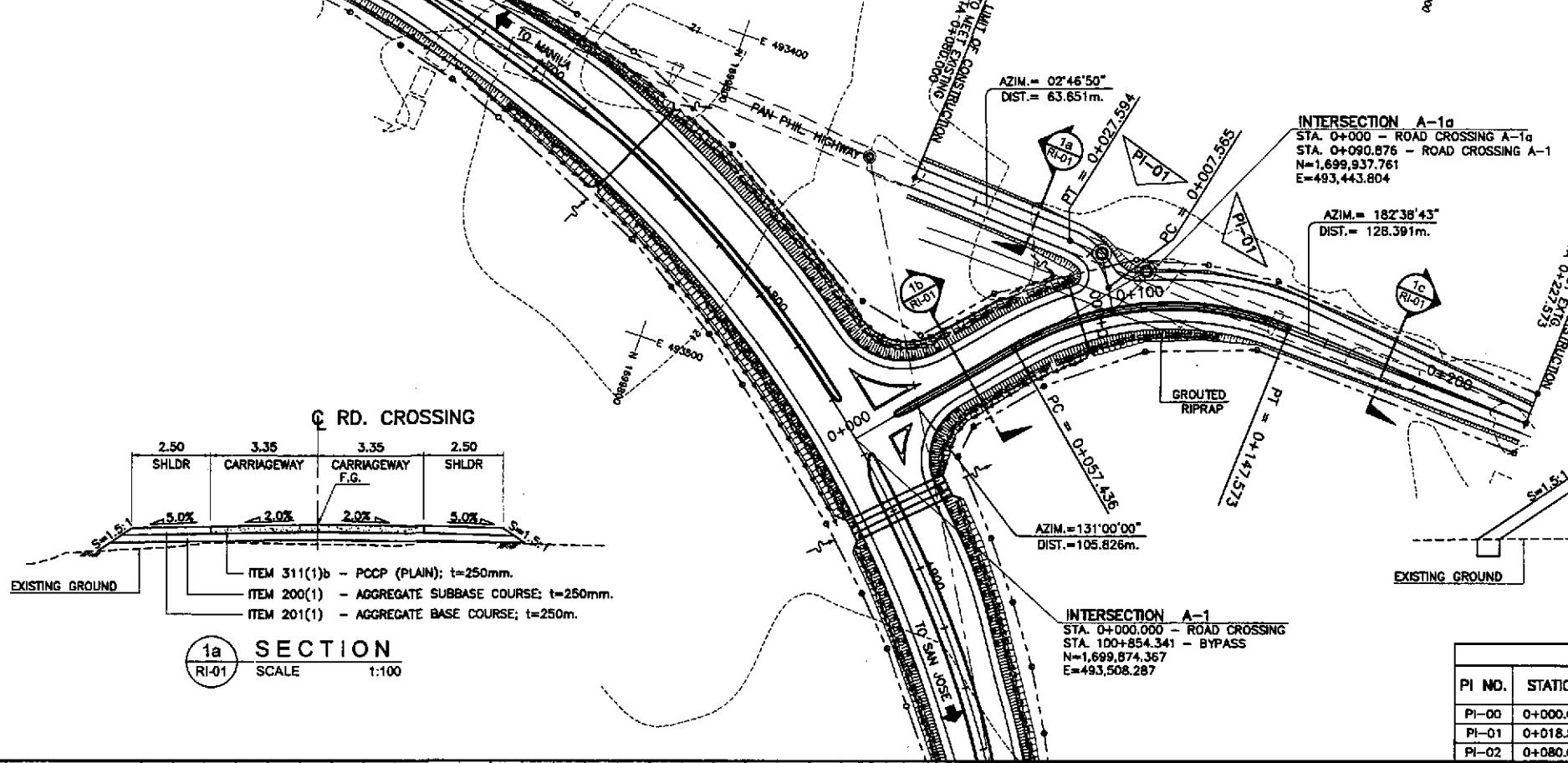
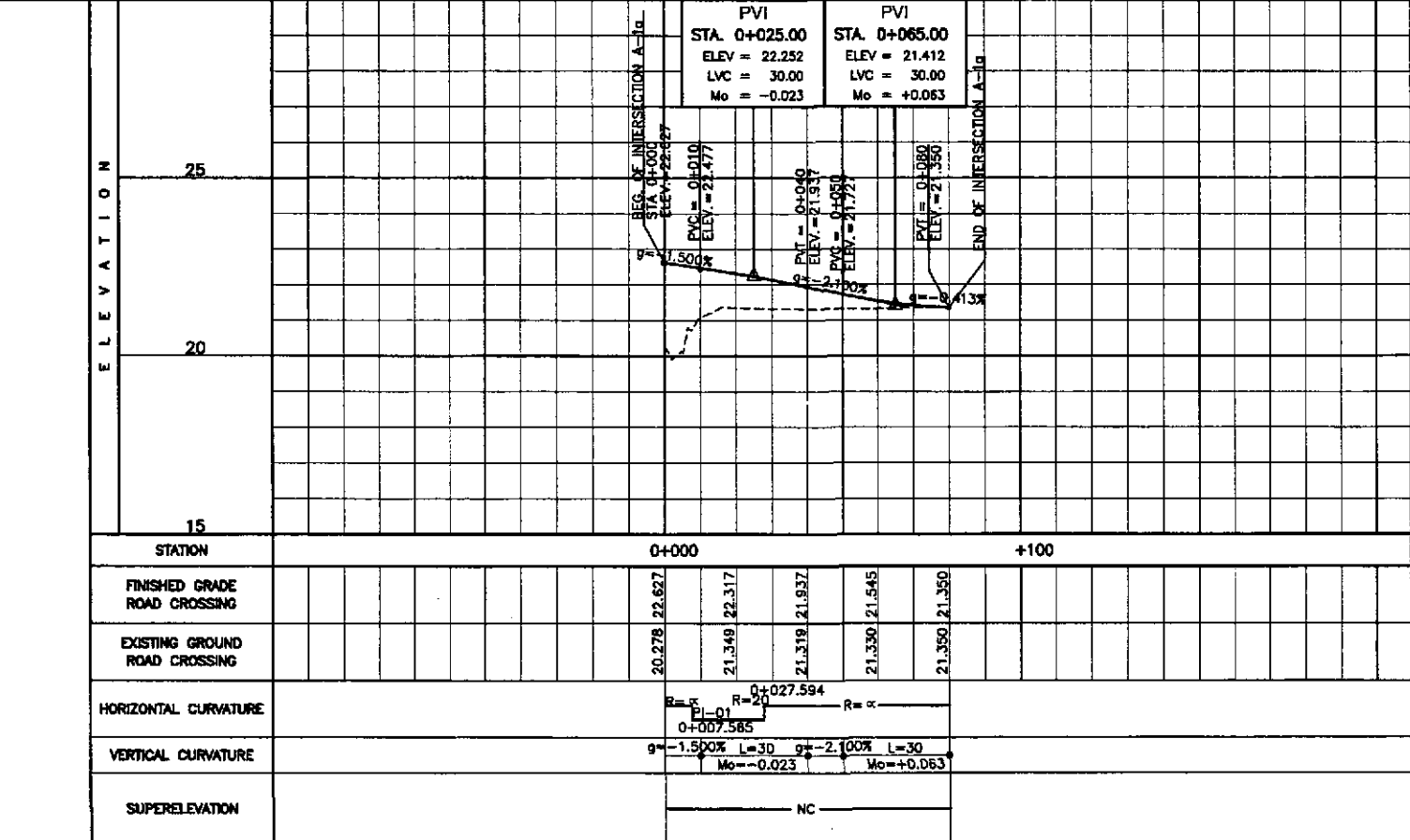
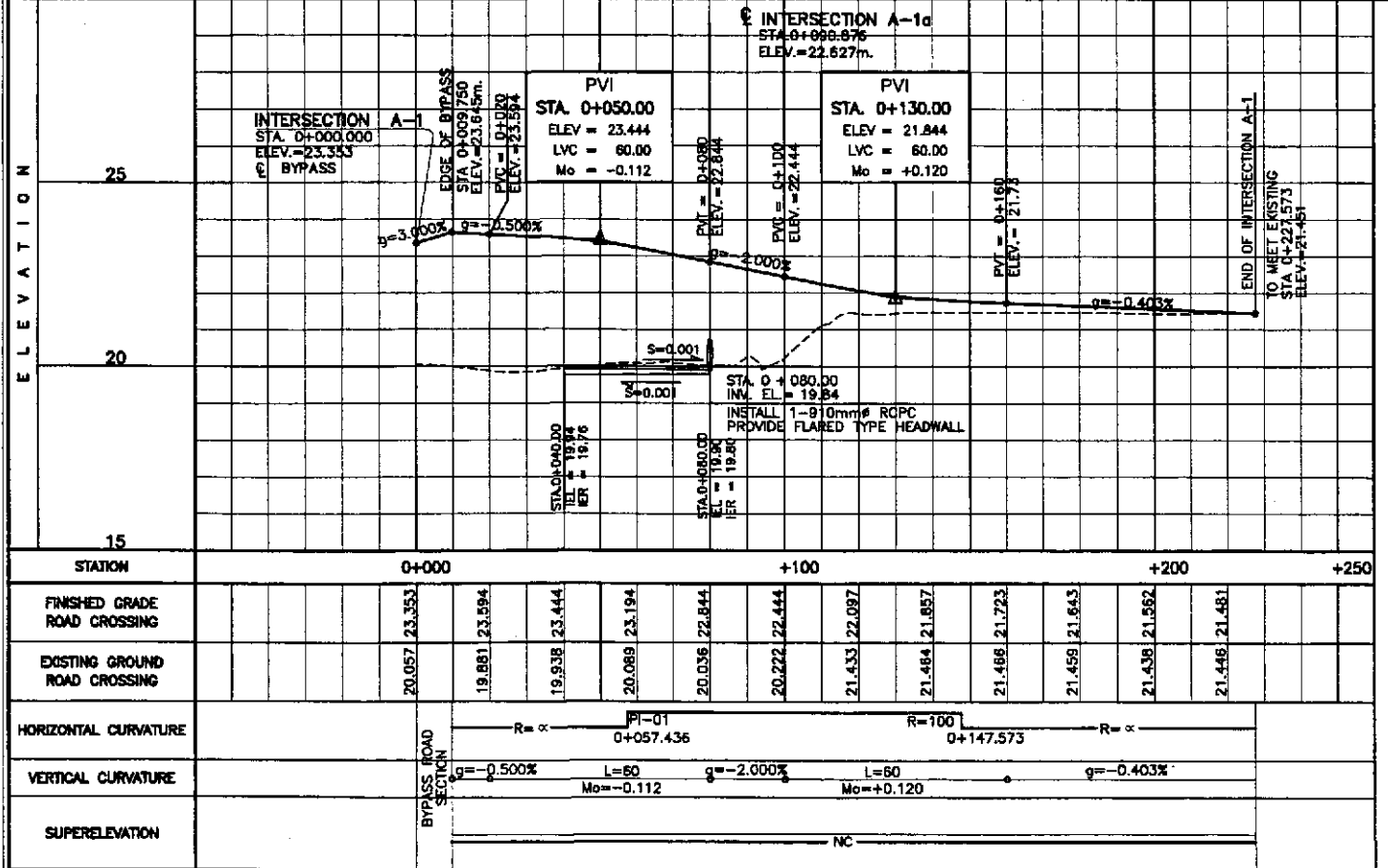


PI NO.	STATION	COORDINATES		Δ	R	T	Lc	E	e%	V(kph)	STATION	
		NORTHING	EASTING								PC	PT
PI-00	0+000.000	1,699,874.367	493,508.287								BEGINNING OF INTERSECTION A-1	
PI-01	0+105.826	1,699,843.795	493,428.419	51°38'43"	100	48.391	90.138	11.093	-	-	0+057.436	0+147.573
PI-02	0+227.573	1,700,072.049	493,434.345								END OF INTERSECTION A-1	

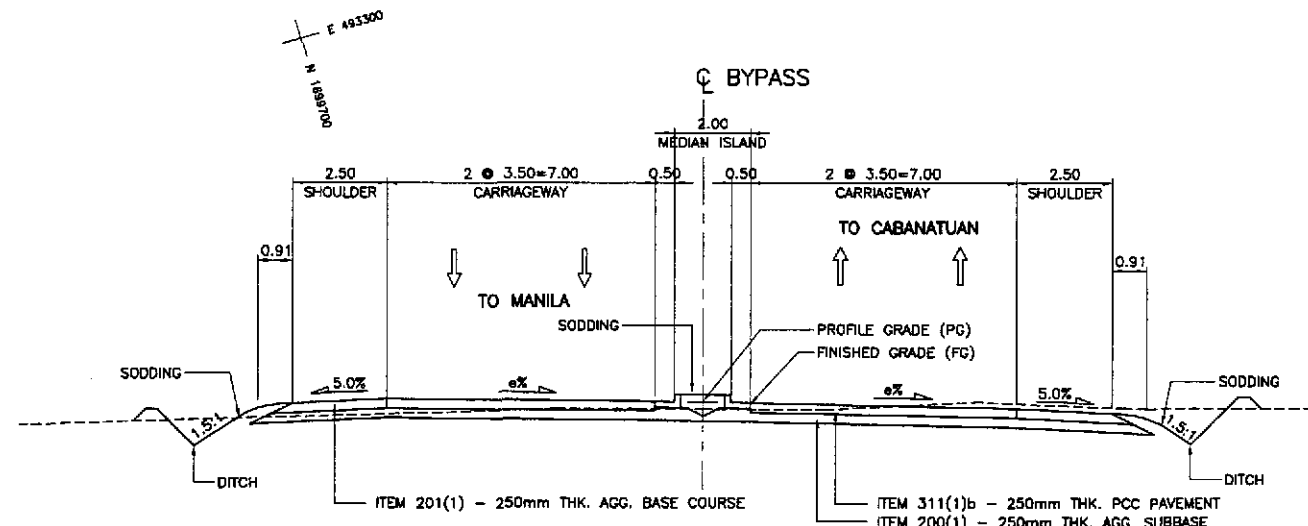


PI NO.	STATION	COORDINATES		Δ	R	T	Lc	E	e%	V(kph)	STATION	
		NORTHING	EASTING								PC	PT
PI-00	0+000.000	1,699,937.761	493,443.804								BEGINNING OF INTERSECTION A-1a	
PI-01	0+018.510	1,699,928.550	493,427.748	57°22'46"	20	10.945	20.029	2.799	-	-	0+007.565	0+027.594
PI-02	0+080.000	1,699,865.274	493,424.675								END OF INTERSECTION A-1a	

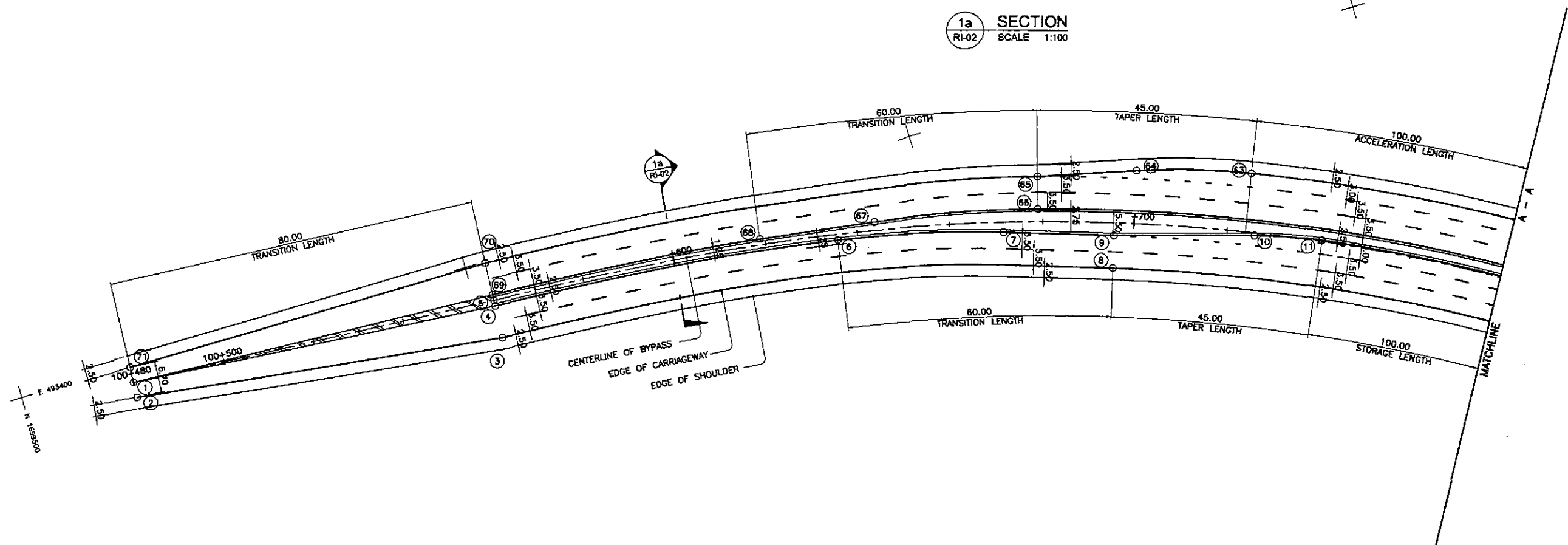


	DESIGNED	9/27/02	DATE	9/27/02	DATE		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS			PROJECT AND LOCATION :		SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	10/15/02	SIGNED		BUREAU OF DESIGN		THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Paridel, Cabanatuan and San Jose Bypasses)			HORIZONTAL 1:1000	INTERSECTION A-1 STA. 0+000 - STA. 0+227.573 INTERSECTION A-1a STA. 0+000 - STA 0+080	RI-01		
	SUBMITTED	10/16/02	TEAM LEADER		OFFICE OF THE SECRETARY		CABANATUAN BYPASS - CONTRACT PACKAGE I			VERTICAL 1:100				
	Submitted By: DANILO C. TRAMANO, Project Director		Reviewed By: JOSEFINA M. ALAGAR, Chief, Highways Division		Recommended By: GILBERTO S. REYES, OIC, Director IV		Recommended By: MANUEL M. BONDAN, Undersecretary		Approved By: SWEON A. DATUMAHONG, Secretary				FULL SIZE A1	

TABLE OF COORDINATES			
CONTROL POINT	COORDINATES		REMARKS
	NORTHING	EASTING	
1	1699524.054	493403.773	CENTER OF TWO LANE PAVEMENT, LANE WIDTH 3.35m
2	1699523.854	493407.117	BEG. OF TRANSITION, LANE WITH 3.35m
3	1699603.419	493416.784	END OF TRANSITION, PAVEMENT WIDTH 7.00m
4	1699603.837	493409.796	INNER EDGE OF PAVEMENT 1.25m FROM THE CENTERLINE
5	1699603.912	493408.549	CENTER OF MEDIAN RADIUS 0.75
6	1699679.009	493417.101	BEG. OF TRANSITION RADIUS 250 (1.25m FROM THE CENTERLINE)
7	1699713.615	493425.582	END OF TRANSITION RADIUS 250
8	1699734.329	493439.608	OUTER EDGE OF 7.00m WIDE PAVEMENT
9	1699736.525	493432.961	END OF TRANSITION 2.75 FROM THE CENTERLINE/BEG. OF TAPER
10	1699765.589	493441.462	BEG. OF TAPER RADIUS 100
11	1699779.338	493446.607	END OF TAPER RADIUS 100 / EDGE 0.25m FROM THE CENTERLINE
63	1699768.696	493428.345	OUTER EDGE OF 10.00m WIDE PAVEMENT/BEG. OF TAPER RADIUS 150
64	1699745.158	493420.879	END OF TAPER RADIUS 150
65	1699724.02	493416.047	END OF TAPER, PAVEMENT WIDTH 7.00m
66	1699722.105	493422.78	BEG. OF INNER TRANSITION RADIUS 250, EDGE 2.75m FROM THE CENTERLINE
67	1699687.64	493415.557	END OF INNER TRANSITION RADIUS 250
68	1699662.788	493412.154	END OF TRANSITION 1.25m FROM THE CENTERLINE
69	1699603.986	493407.301	INNER EDGE OF 7.00m WIDE PAVEMENT, 1.25m FROM THE CENTERLINE
70	1699604.404	493400.313	BEG. OF TRANSITION, PAVEMENT WIDTH 7.00m
71	1699524.254	493400.429	END OF TRANSITION, LANE WIDTH 3.35m

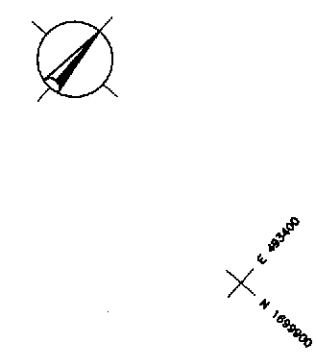


1a SECTION
RI-02 SCALE 1:100

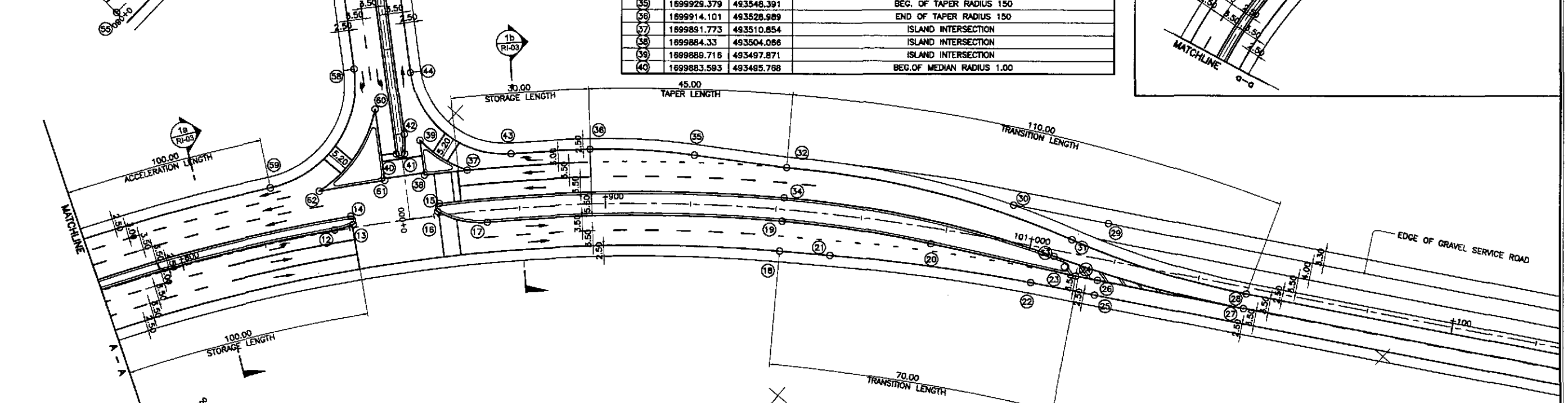


1 GEOMETRIC DESIGN LAYOUT
RI-02 SCALE INTERSECTION A-1 (STA. 100+854.341) - INITIAL STAGE 1:500

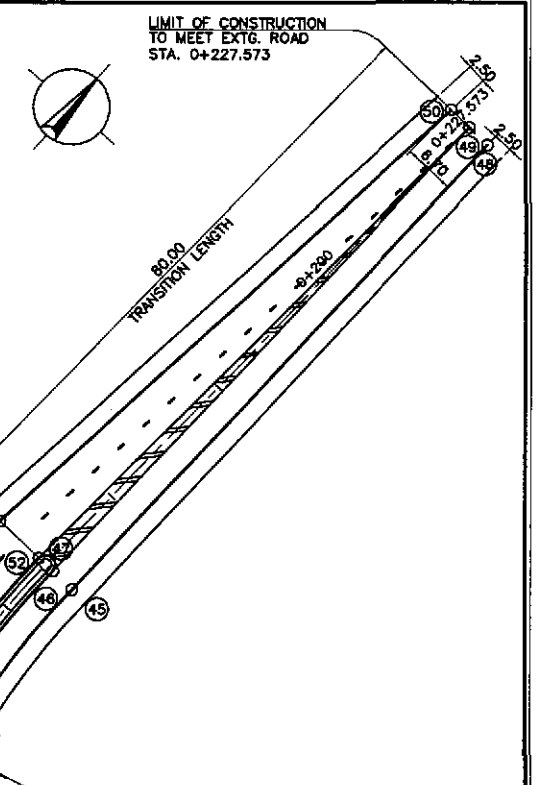
	DESIGNED	9/27/02				PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	10/15/02	DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS BUREAU OF DESIGN			THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)	1:500	INTERSECTION DETAIL GEOMETRIC DESIGN LAYOUT INTERSECTION A-1 (INITIAL STAGE) 1 of 2	RI-02
	SUBMITTED	10/16/02	Submitted By: DANILO C. TRAJANO Project Director	Reviewed By: JOSEFINA M. ALAGAR Chief, Highways Division	Recommended By: GILBERTO S. REYES OIC, Director IV	Recommended By: MANUEL M. BONGAN Undersecretary	Approved By: SIMEON A. DATUMANONG Secretary	FULL SIZE A1	



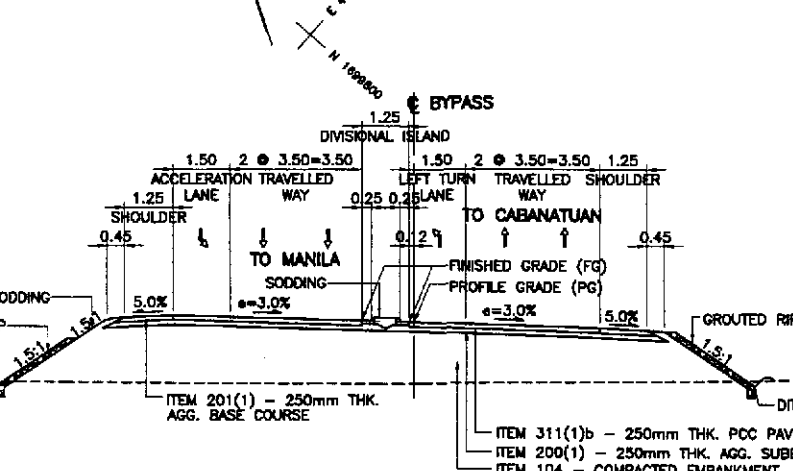
LIMIT OF CONSTRUCTION TO MEET EXIST. ROAD STA. 0+100.00



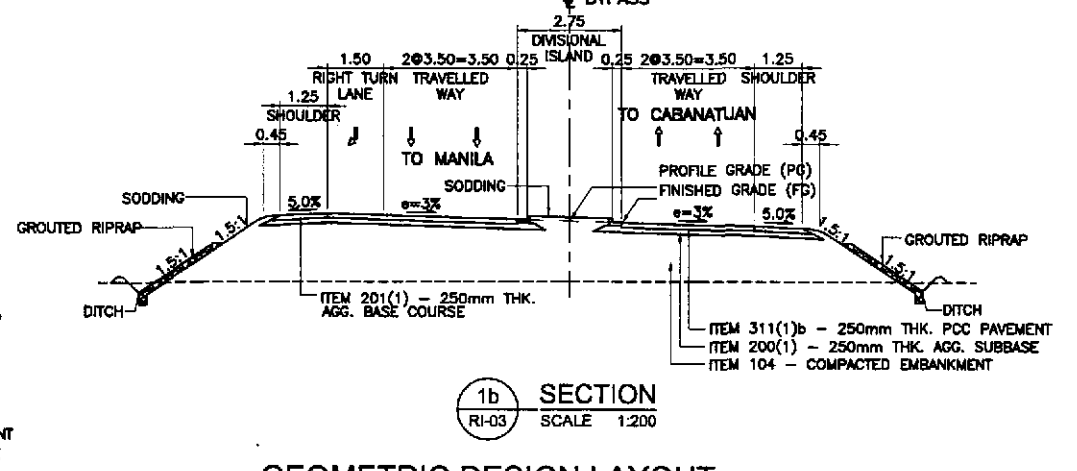
CONTROL POINT	COORDINATES		REMARKS
	NORTHING	EASTING	
12	1699860.792	493486.684	BEG. OF MEDIAN RADIUS 20
13	1699864.595	493489.081	INTERSECTION OF MEDIAN RADIUS 20 & 1.00
14	1699865.657	493487.382	END OF MEDIAN RADIUS 1.00
15	1699861.633	493511.047	BEG. OF MEDIAN RADIUS 1.00
16	1699879.984	493511.995	INTERSECTION OF MEDIAN RADIUS 20 & 1.00
17	1699865.772	493522.377	END OF MEDIAN RADIUS 20
18	1699925.669	493578.07	OUTER EDGE OF 7.00m WIDE PAVEMENT
19	1699931.297	493573.907	BEG. OF TRANSITION RADIUS 260
20	1699950.205	493603.441	END OF TRANSITION RADIUS 260
21	1699932.666	493587.527	BEG. OF TRANSITION RADIUS 456.91
22	1699958.779	493626.936	END OF TRANSITION RADIUS 456.91
23	1699966.705	493630.386	CENTER OF MEDIAN RADIUS 1.00
24	1699966.847	493633.781	END OF TRANSITION, LANE WIDTH 3.50m
25	1699966.47	493640.051	OUTER EDGE OF 3.50m WIDE LANE
26	1699969.492	493638.285	INNER EDGE OF 3.50m WIDE LANE
27	1699987.028	493688.294	CENTER OF TWO LANE PAVEMENT/ BEG. OF TRANSITION RADIUS 300
28	1699990.05	493666.528	EDGE OF PAVEMENT 1.25m FROM THE CENTERLINE/ BEG. OF TRANSITION RADIUS 196
29	1699981.149	493631.476	OUTER EDGE OF SERVICE ROAD
30	1699989.692	493612.018	INTERSECTION OF EDGE OF SERVICE ROAD & SHOULDER
31	1699972.649	493627.529	INTERSECTION OF RADIUS 196 & 211.135
32	1699941.345	493566.472	END OF TRANSITION RADIUS 211.135/ BEG. OF TAPER
33	1699966.955	493626.973	INTERSECTION OF INNER TRANSITION RADIUS 300 & 247.147
34	1699935.718	493570.635	END OF INNER TRANSITION RADIUS 300
35	1699929.379	493548.391	BEG. OF TAPER RADIUS 150
36	1699914.101	493528.989	END OF TAPER RADIUS 150
37	1699891.773	493510.854	ISLAND INTERSECTION
38	1699884.33	493504.066	ISLAND INTERSECTION
39	1699889.716	493497.871	ISLAND INTERSECTION
40	1699883.593	493485.768	BEG. OF MEDIAN RADIUS 1.00



LIMIT OF CONSTRUCTION TO MEET EXIST. ROAD STA. 0+227.573



1a SECTION SCALE 1:200

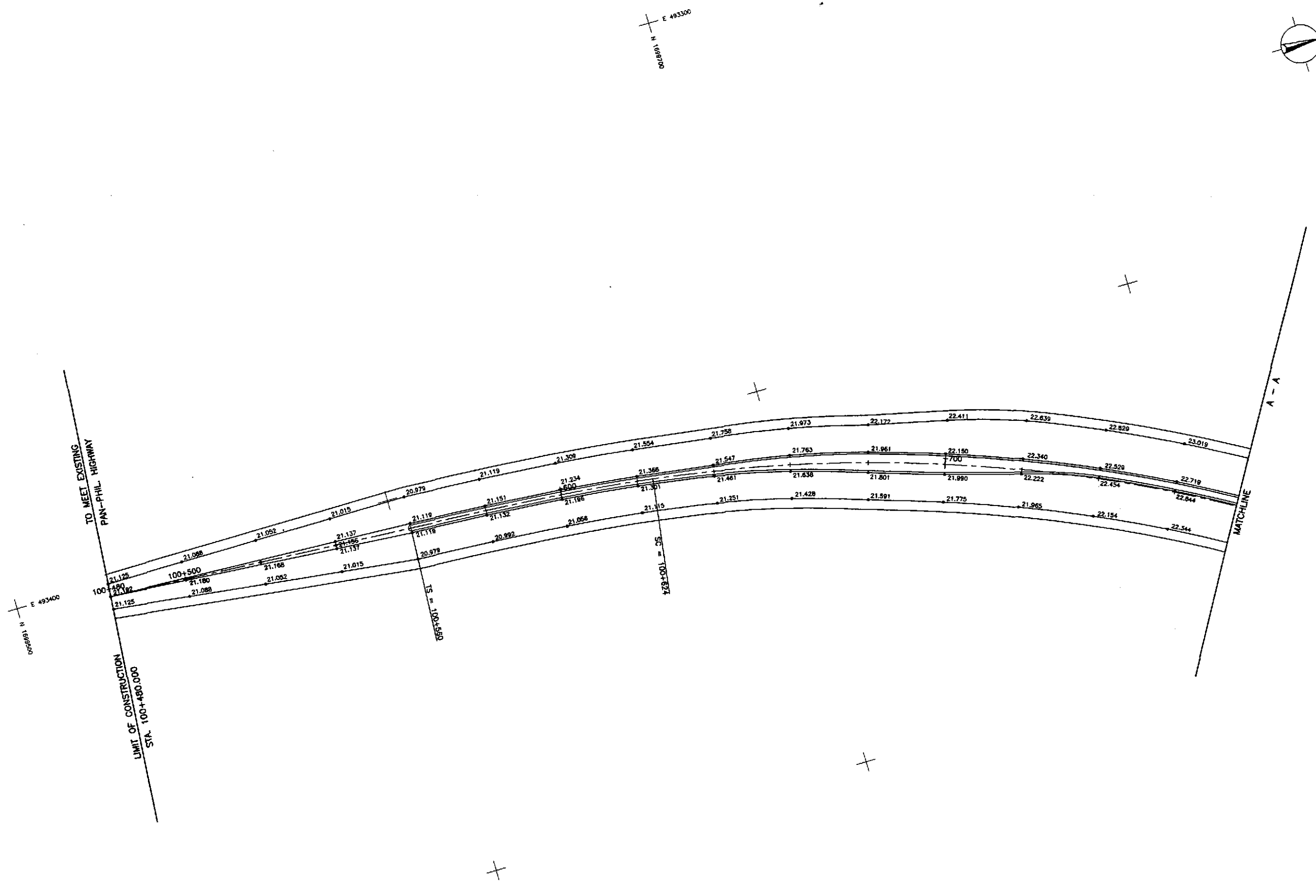


1b SECTION SCALE 1:200

GEOMETRIC DESIGN LAYOUT INTERSECTION A-1 (STA. 100+854.341) - INITIAL STAGE

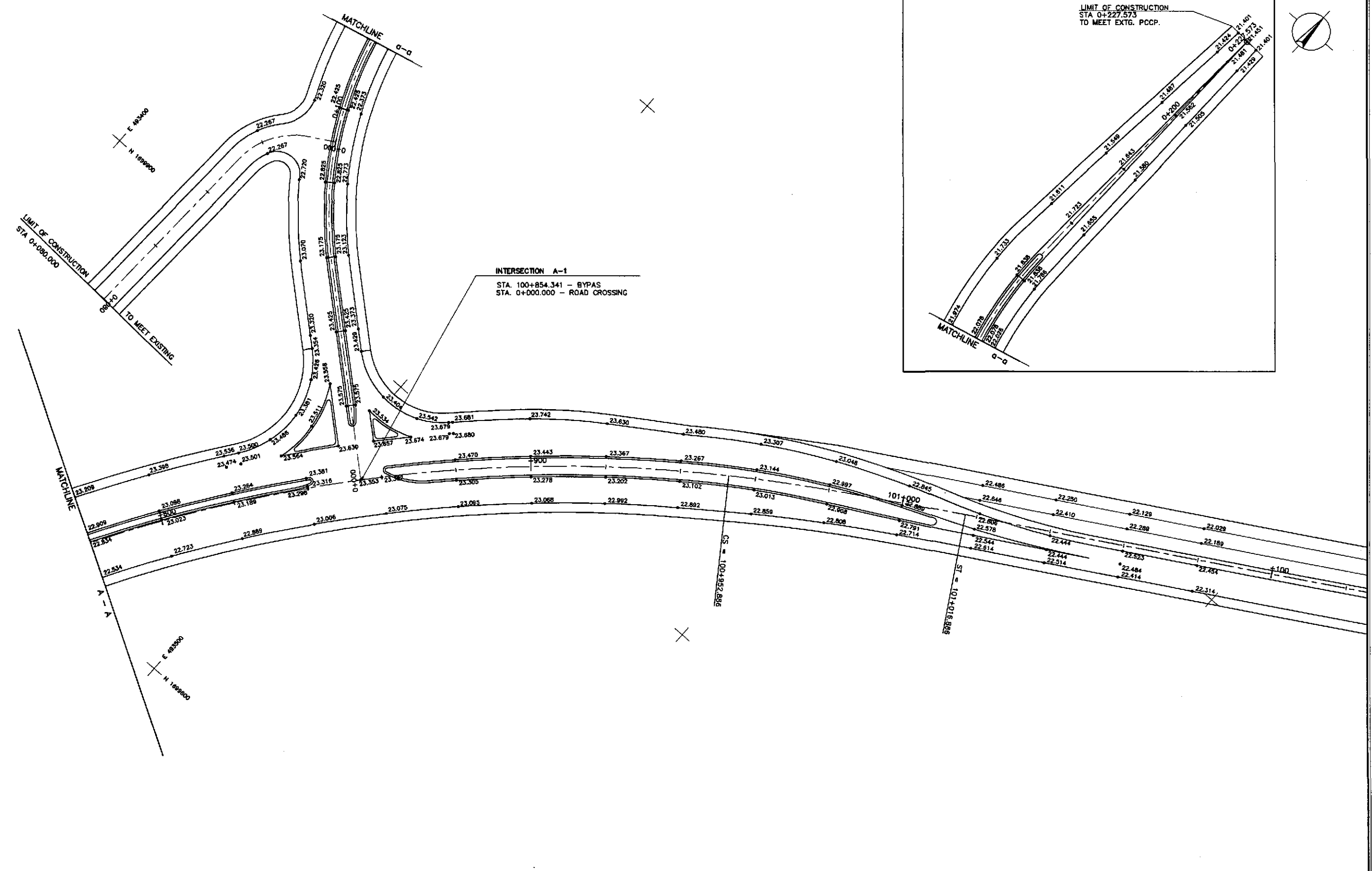
CONTROL POINT	COORDINATES		REMARKS
	NORTHING	EASTING	
41	1699884.933	493497.235	INTERSECTION OF MEDIAN RADIUS 1.00 & 20
42	1699888.321	493494.14	END OF MEDIAN RADIUS 20
43	1699901.385	493515.916	BEG. OF RADIUS 22
44	1699900.209	493485.799	END OF RADIUS 22
45	1699991.915	493435.397	OUTER EDGE OF 3.50m WIDE LANE
46	1699992.076	493431.901	BEG. OF TAPER, LANE WIDTH 3.50m
47	1699992.134	493430.653	CENTER OF MEDIAN RADIUS 0.75
48	1700071.894	493437.691	OUTER EDGE OF 3.35m WIDE LANE
49	1700072.049	493434.345	CENTER OF TWO LANE PAVEMENT, END OF TAPER
50	1700072.203	493430.998	BEG. OF TAPER, LANE WIDTH 3.35m
51	1699992.515	493422.411	END OF TAPER, PAVEMENT WIDTH 7.00m
52	1699992.192	493429.404	INNER EDGE OF 7.00m WIDE PAVEMENT
53	1699943.282	493431.747	BEG. OF RADIUS 10
54	1699932.435	493429.989	END OF RADIUS 10
55	1699885.274	493424.675	LIMIT OF CONSTRUCTION
56	1699923.697	493432.109	BEG. OF RADIUS 6
57	1699924.642	493442.429	END OF RADIUS 6
58	1699892.077	493475.539	BEG. OF RADIUS 25
59	1699858.288	493478.996	END OF RADIUS 25
60	1699888.159	493485.177	ISLAND INTERSECTION
61	1699877.159	493497.832	ISLAND INTERSECTION
62	1699865.194	493488.054	ISLAND INTERSECTION

	DESIGNED	7/27/02		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS				PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	10/13/02		BUREAU OF DESIGN				THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Paraliel, Cabanatuan and San Jose Bypasses)	1:500	INTERSECTION DETAIL GEOMETRIC DESIGN LAYOUT INTERSECTION A-1 (INITIAL STAGE) 2 of 2	RI-03
	SUBMITTED	10/16/02		Submitted By:	Reviewed By:	Recommended By:	Approved By:	CABANATUAN BYPASS - CONTRACT PACKAGE I			
				DANILO C. TRAJANO Project Director	JOSEFINA M. ALAGAR Chief, Highways Division	GILBERTO S. REYES OC, Director IV	MANUEL M. BONJAN Undersecretary		SIMEON A. DATUMANONG Secretary		



1
 PAVING AND GRADING
 INTERSECTION A-1 (STA. 100+854.341) - INITIAL STAGE
 RI-04 SCALE 1:500

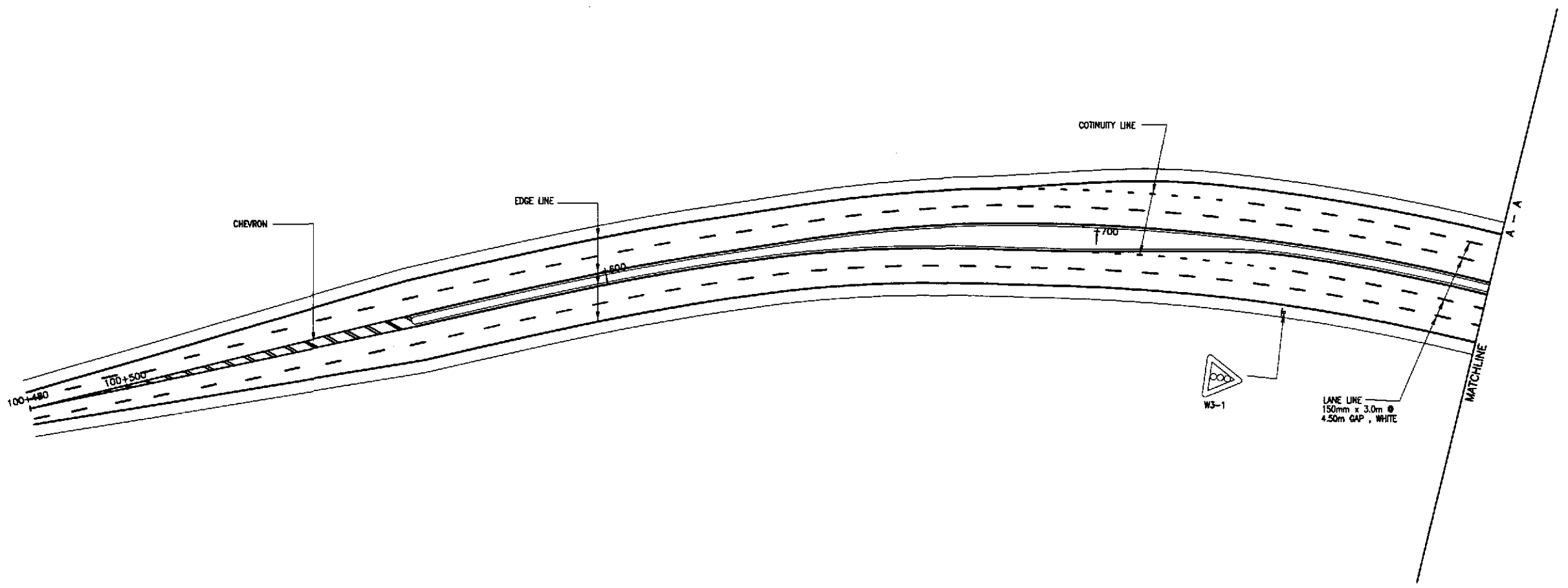
		DATE	SIGNATURE	 REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS	PROJECT AND LOCATION :		SCALE :	SHEET CONTENTS :	SHEET NO. :		
	DESIGNED	9/27/02	<i>[Signature]</i>		BUREAU OF DESIGN		OFFICE OF THE SECRETARY		1:500 FULL SIZE A1	INTERSECTION DETAIL PAVING AND GRADING INTERSECTION A-1 (INITIAL STAGE) 1 of 2	RI-04
	CHECKED	10/15/02	<i>[Signature]</i>		Submitted By:	Reviewed By:	Recommended By:	Recommended By:			
SUBMITTED	10/16/02	<i>[Signature]</i>	DANILO C. TRAJANO Project Director	JOSEFINA M. ALAGAR Chf. Highways Division	GILBERTO S. REYES OIC, Director IV	MANUEL M. BONGAON Undersecretary	SIMEON A. DATUMANONG Secretary	CABANATUAN BYPASS - CONTRACT PACKAGE I			



INTERSECTION A-1
 STA. 100+854.341 - BYPASS
 STA. 0+000.000 - ROAD CROSSING

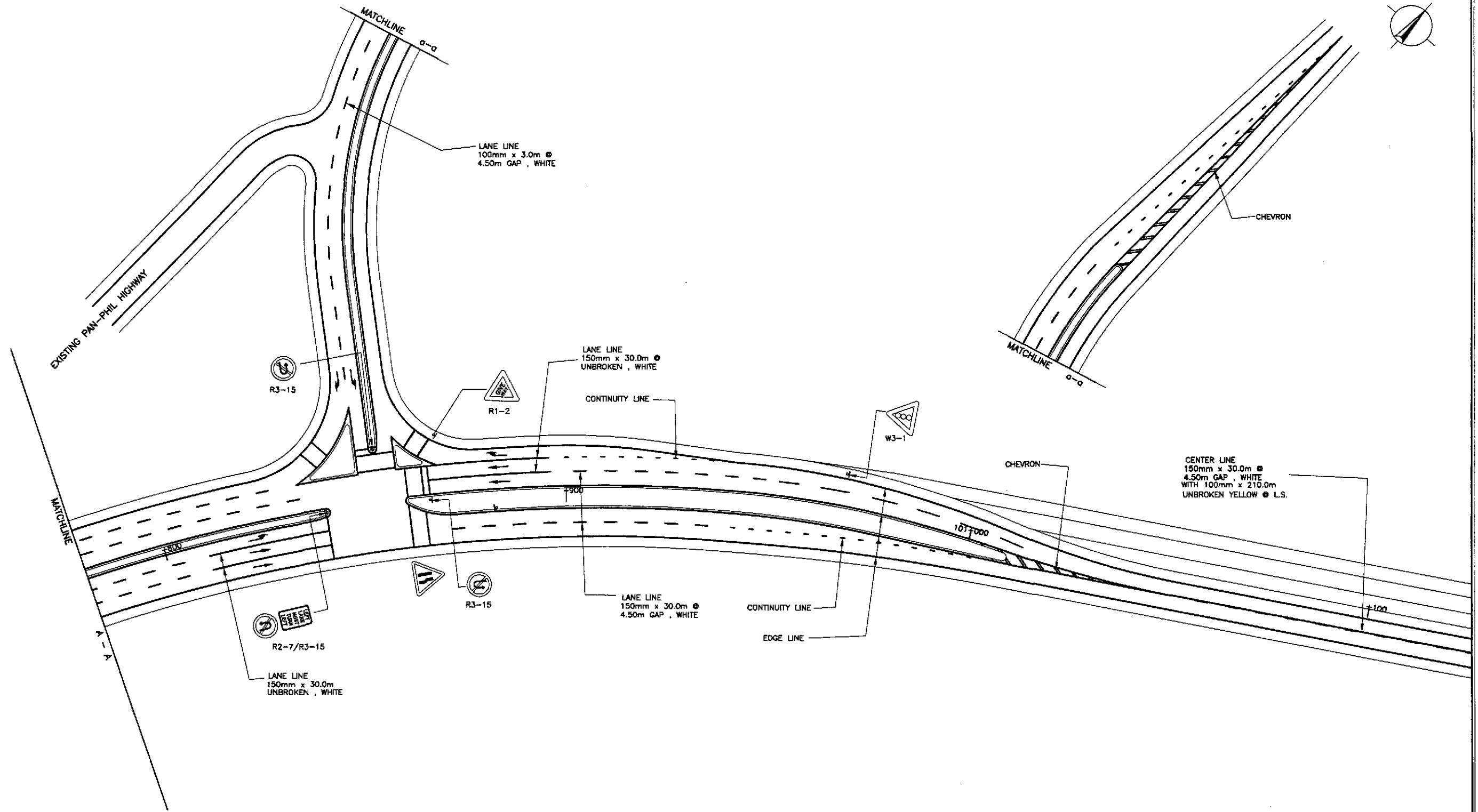
1
 RI-05 SCALE 1:500
 PAVING AND GRADING
 INTERSECTION A-1 (STA. 100+854.341) - INITIAL STAGE

	DESIGNED	DATE	SIGNATURE		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS			PROJECT AND LOCATION : THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) CABANATUAN BYPASS - CONTRACT PACKAGE I	SCALE : 1:500 FULL SIZE A1	SHEET CONTENTS : INTERSECTION DETAIL PAVING AND GRADING INTERSECTION A-1 (INITIAL STAGE) 2 of 2	SHEET NO. : RI-05		
	CHECKED	10/25/02	S. ROSE		Submitted By:	Reviewed By:	Recommended By:						
	SUBMITTED	10/16/02	M. K. [Signature]		DANILO C. TRAJANO Project Director	JOSEFINA M. ALAGAR Chief, Highways Division	GILBERTO S. REYES OIC, Director IV					MANUEL M. BONGAN Undersecretary	SIMEON A. DATUMANONG Secretary
	JICA JAPAN INTERNATIONAL COOPERATION AGENCY				BUREAU OF DESIGN OFFICE OF THE SECRETARY							SCALE : 1:500 FULL SIZE A1	



1
 TRAFFIC SIGNS AND PAVEMENT MARKINGS LAYOUT
 INTERSECTION A-1 (STA. 100+854.341) - INITIAL STAGE
 RI-06 SCALE 1:500

		DATE	SIGNATURE	REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS	PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :					
	DESIGNED	9/27/02	S. LUNA						BUREAU OF DESIGN	OFFICE OF THE SECRETARY	1:500	TRAFFIC SIGNS AND PAVEMENT MARKINGS LAYOUT	RI-06
	CHECKED	10/15/02	S.S. ROSE						Submitted By:	Recommended By:	FULL SIZE A1	INTERSECTION A-1 (INITIAL STAGE) SHEET 1 OF 2	
	SUBMITTED	10/16/02	TEAM LEADER	DANILO C. TRAJANO Project Director	JOSEFINA M. ALAGAR Chief, Highways Division	GILBERTO S. REYES OIC, Director IV	MANUEL M. BONGAN Undersecretary	SIMEON A. DATUMANONG Secretary	CABANATUAN BYPASS - CONTRACT PACKAGE I				



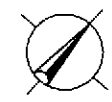
TRAFFIC SIGNS AND PAVEMENT MARKINGS LAYOUT
 INTERSECTION A-1 (STA. 100+854.341) - INITIAL STAGE

1
 RI-06a

SCALE

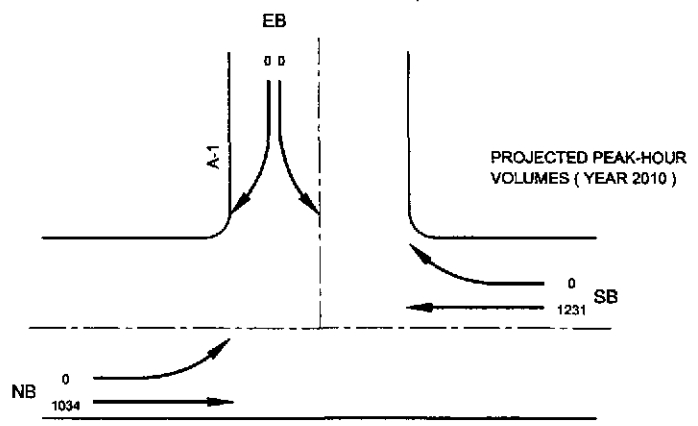
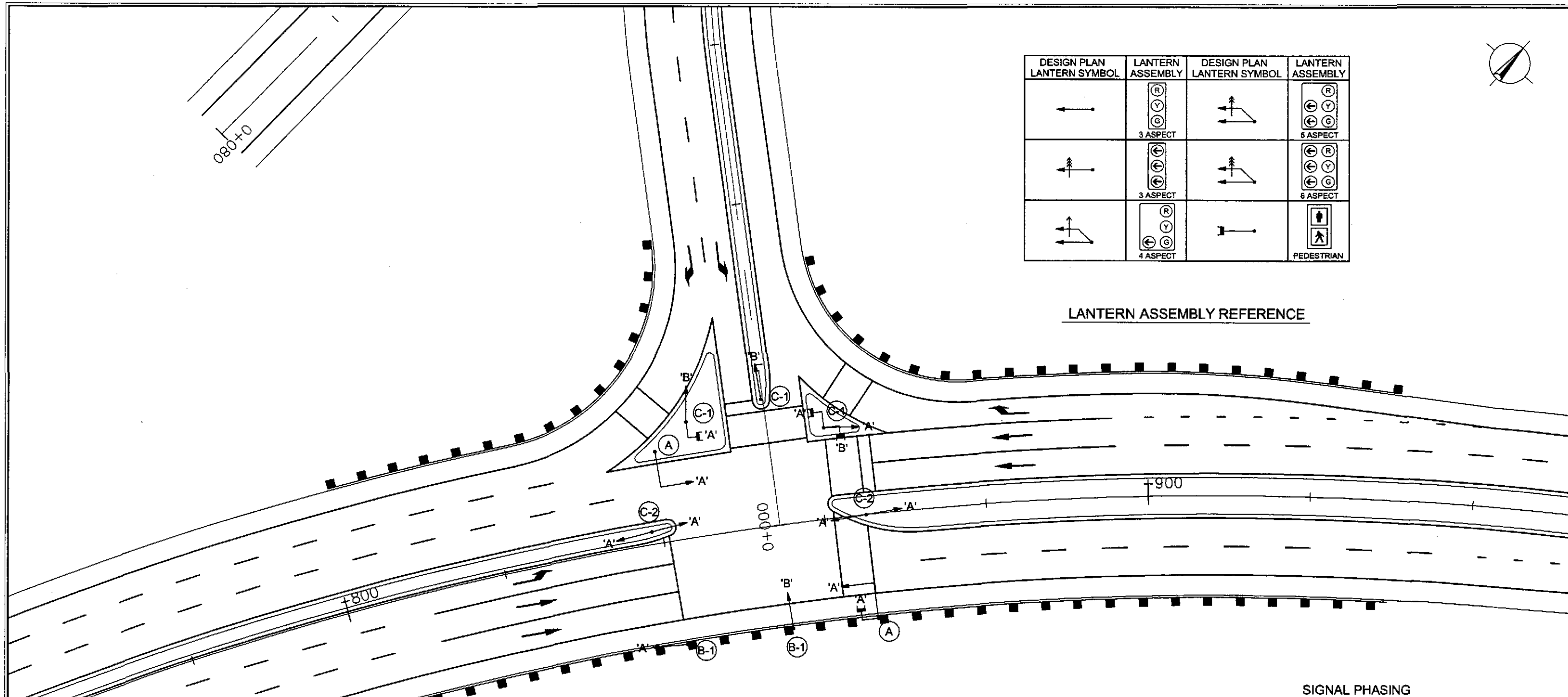
1:500

	DESIGNED	9/27/02	S. LUNA	<p>REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS</p>	PROJECT AND LOCATION :			SCALE :	SHEET CONTENTS :	SHEET NO. :	
	CHECKED	10/15/02	S. ROSE		THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)			1:500	TRAFFIC SIGNS AND PAVEMENT MARKINGS LAYOUT INTERSECTION A-1 (INITIAL STAGE) SHEET 2 OF 2	RI-06a	
	SUBMITTED	10/18/02	M. RIVERA		CABANATUAN BYPASS - CONTRACT PACKAGE I			FULL SIZE A1			
Submitted By: DANILLO C. TRAJANO, Project Director				Reviewed By: JOSEFINA M. ALAGAR, Chief, Highways Division		Recommended By: GILBERTO S. REYES, OIC, Director IV		Recommended By: MANUEL M. BONOAN, Undersecretary		Approved By: SIMEON A. DATUMANONG, Secretary	



DESIGN PLAN LANTERN SYMBOL	LANTERN ASSEMBLY	DESIGN PLAN LANTERN SYMBOL	LANTERN ASSEMBLY

LANTERN ASSEMBLY REFERENCE



SIGNAL PHASING

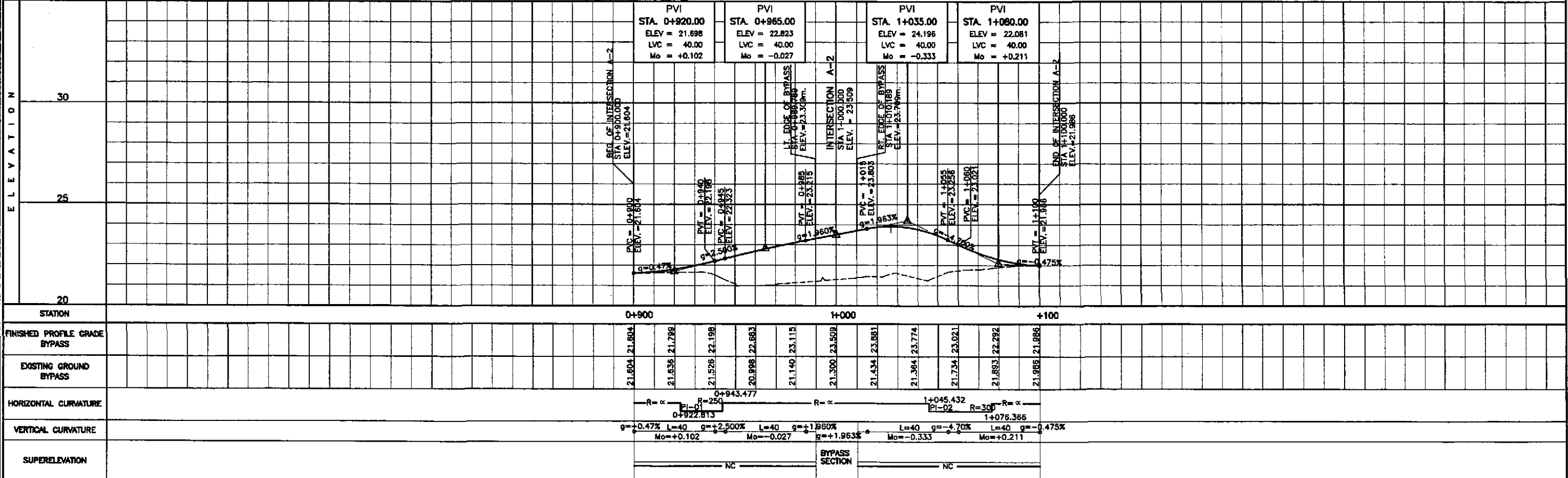
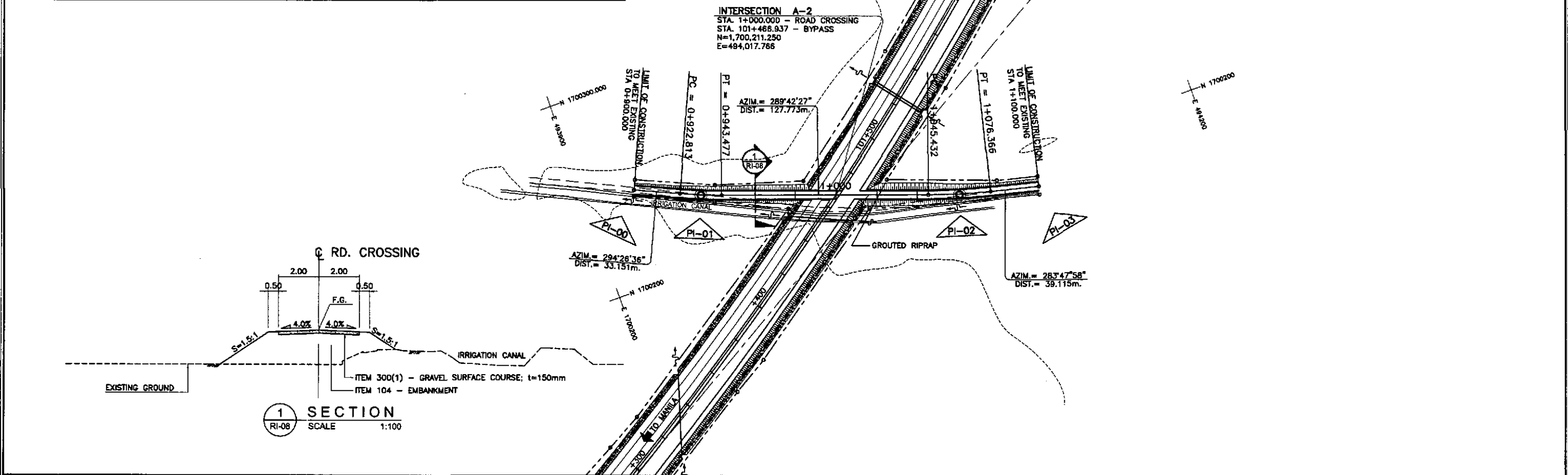
	(A)	(B)
G:	48.0	4.0
Y:	2.0	2.0
R:	2.0	2.0
C = 60.0 secs.		

NOTE :
ENCIRCLED FIGURES (I.E., (A), (B-1), ETC.)
INDICATE TRAFFIC SIGNAL POST TYPE

1 INTERSECTION A-1 (STA. 100+854.341) - INITIAL STAGE
RI-07 SCALE 1:250

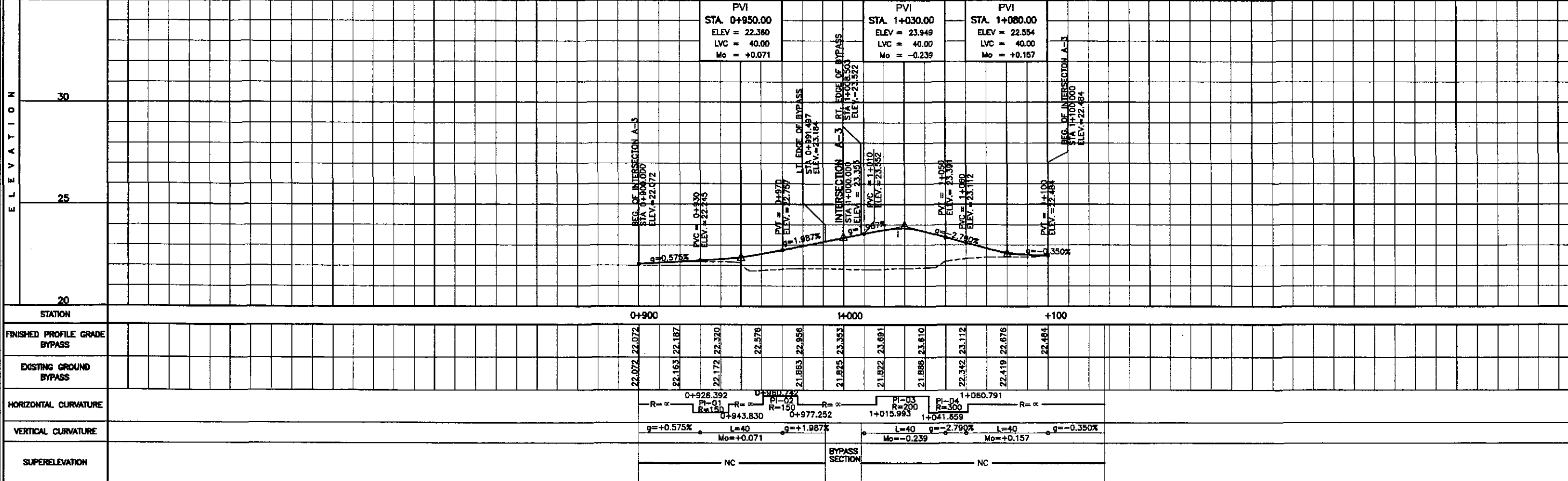
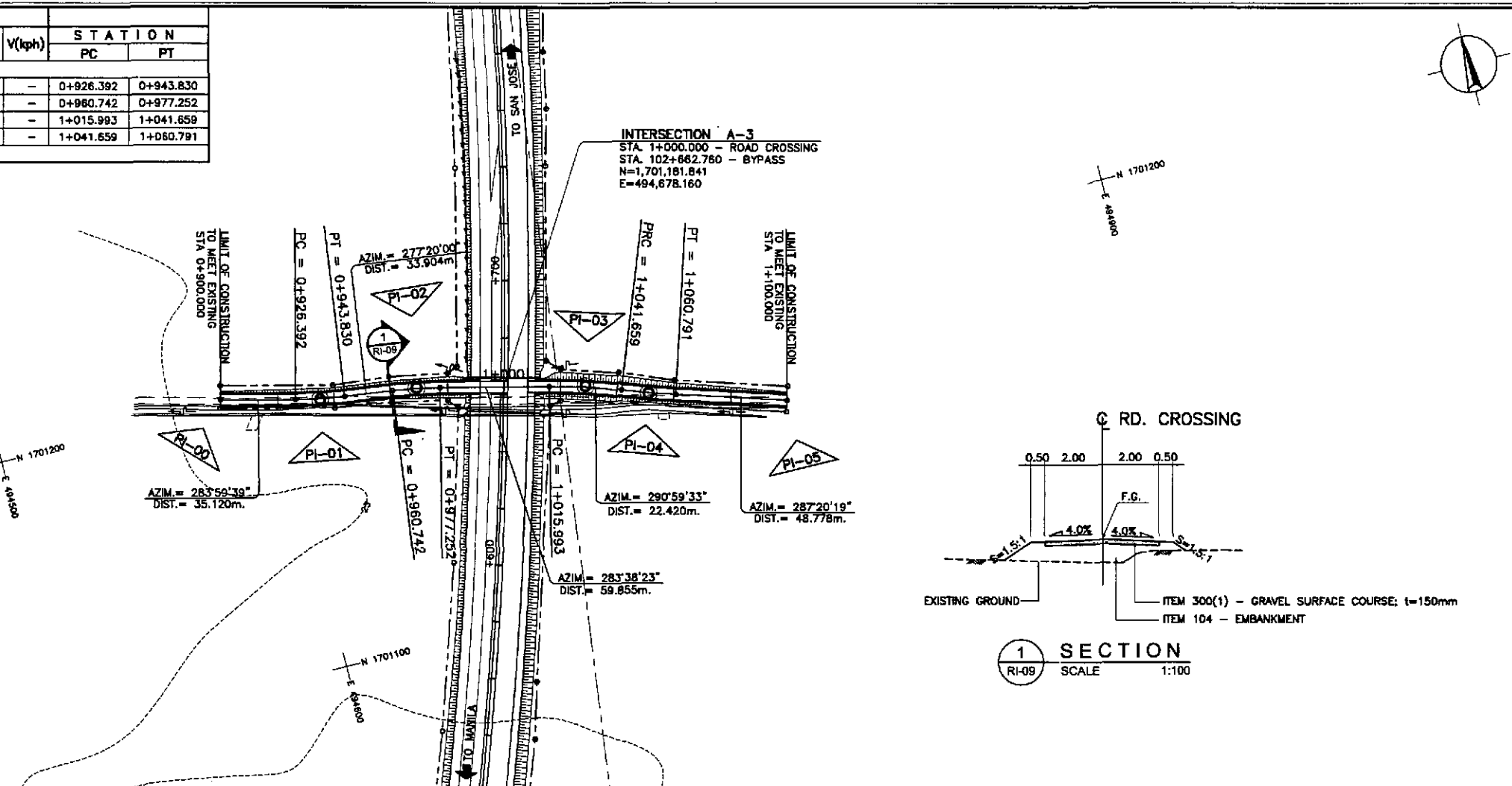
	DESIGNED	9/27/02				PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	10/15/02	DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS BUREAU OF DESIGN			THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)	1:250	TRAFFIC SIGNAL LIGHT LAYOUT INTERSECTION A-1 (INITIAL STAGE)	RI-07
	SUBMITTED	6/16/02	OFFICE OF THE SECRETARY Submitted By: DANILLO C. TRAJANO (Project Director) Reviewed By: JOSEFINA M. ALAGAR (Chief, Highways Division) Recommended By: GILBERTO S. REYES (OIC, Director IV) Recommended By: MANUEL M. BONDAN (Underscretary) Approved By: SIMEON A. DATUMANONG (Secretary)			CABANATUAN BYPASS - CONTRACT PACKAGE I	FULL SIZE A1		

ELEMENTS OF CURVE													
PI NO.	STATION	COORDINATES		Δ	R	T	Lc	E	e%	V(kph)	STATION		
		NORTHING	EASTING								PC	PT	
PI-00	0+900.000	1,700,247.514	493,924.641	BEGINNING OF INTERSECTION A-2									
PI-01	0+933.151	1,700,233.796	493,954.821	0°44'09"	250	10.338	20.664	0.214	-	-	0+922.813	0+943.477	
PI-02	1+060.913	1,700,190.709	494,075.111	05°54'29"	300	15.481	30.935	0.399	-	-	1+045.432	1+076.366	
PI-03	1+100.000	1,700,181.379	494,113.096	END OF INTERSECTION A-2									



	DESIGNED	4/27/02	SIGNATURE		PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	10/15/02	SIGNATURE		THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)	HORIZONTAL 1:1000	PLAN, CROSS-SECTION AND PROFILE INTERSECTION A-2 STA. 0+900 - STA 1+100	RI-08
	SUBMITTED	10/14/02	SIGNATURE		CABANATUAN BYPASS - CONTRACT PACKAGE I	VERTICAL 1:100		
			TEAM LEADER		SECRETARY	FULL SIZE A1		

ELEMENTS OF CURVE													
PI NO.	STATION	COORDINATES		Δ	R	T	Lc	E	e%	V(kph)	STATION		
		NORTHING	EASTING								PC	PT	
PI-00	0+900.000	1,701,201.974	494,580.318	BEGINNING OF INTERSECTION A-3									
PI-01	0+935.120	1,701,193.481	494,614.396	06°39'39"	150	8.729	17.438	0.254	-	-	0+926.392	0+943.830	
PI-02	0+969.005	1,701,189.145	494,648.023	06°18'23"	150	8.263	16.510	0.227	-	-	0+960.742	0+977.252	
PI-03	1+028.844	1,701,175.039	494,706.190	07°21'10"	200	12.851	25.666	0.412	-	-	1+015.993	1+041.659	
PI-04	1+051.228	1,701,167.007	494,727.122	03°39'14"	300	9.569	19.132	0.153	-	-	1+041.659	1+060.791	
PI-05	1+100.000	1,701,152.471	494,773.683	END OF INTERSECTION A-3									



STATION	0+900	0+950	1+000	1+050	1+100
FINISHED PROFILE GRADE BYPASS	22.072	22.187	22.320	22.576	22.956
EXISTING GROUND BYPASS	22.072	22.163	22.172	21.893	21.825
HORIZONTAL CURVATURE					
VERTICAL CURVATURE					
SUPERELEVATION	NC				

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JAPAN INTERNATIONAL COOPERATION AGENCY

KEI KATAHIRA & ENGINEERS INTERNATIONAL
YEO YACHIYO ENGINEERING CO., LTD.

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

BUREAU OF DESIGN
OFFICE OF THE SECRETARY

Submitted By: **DANILO C. TRAJANO** (Project Director)
Reviewed By: **JOSEFINA M. ALAGAR** (Chief, Highways Division)
Recommended By: **GILBERTO S. REYES** (OIC, Director IV)
Approved By: **MANUEL M. BONDAN** (Undersecretary)
SIMEDON A. DATUMANONG (Secretary)

PROJECT AND LOCATION :
THE DETAILED DESIGN STUDY ON
UPGRADING INTER-URBAN HIGHWAY SYSTEM
ALONG THE PAN-PHILIPPINE HIGHWAY
(Paridel, Cabanatuan and San Jose Bypasses)

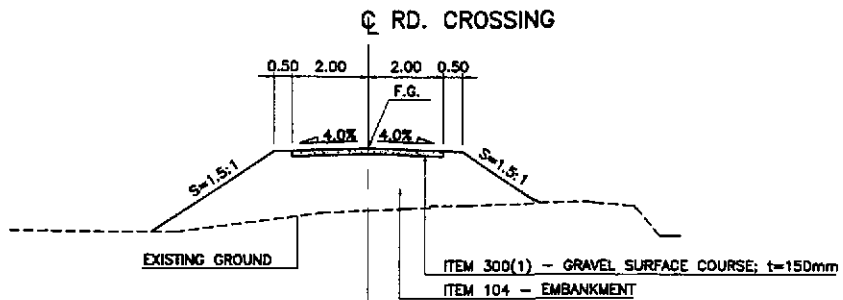
SCALE :
HORIZONTAL 1:1000
VERTICAL 1:100
FULL SIZE A1

SHEET CONTENTS :
PLAN, CROSS-SECTION AND PROFILE
INTERSECTION A-3 STA. 0+900 - STA 1+100

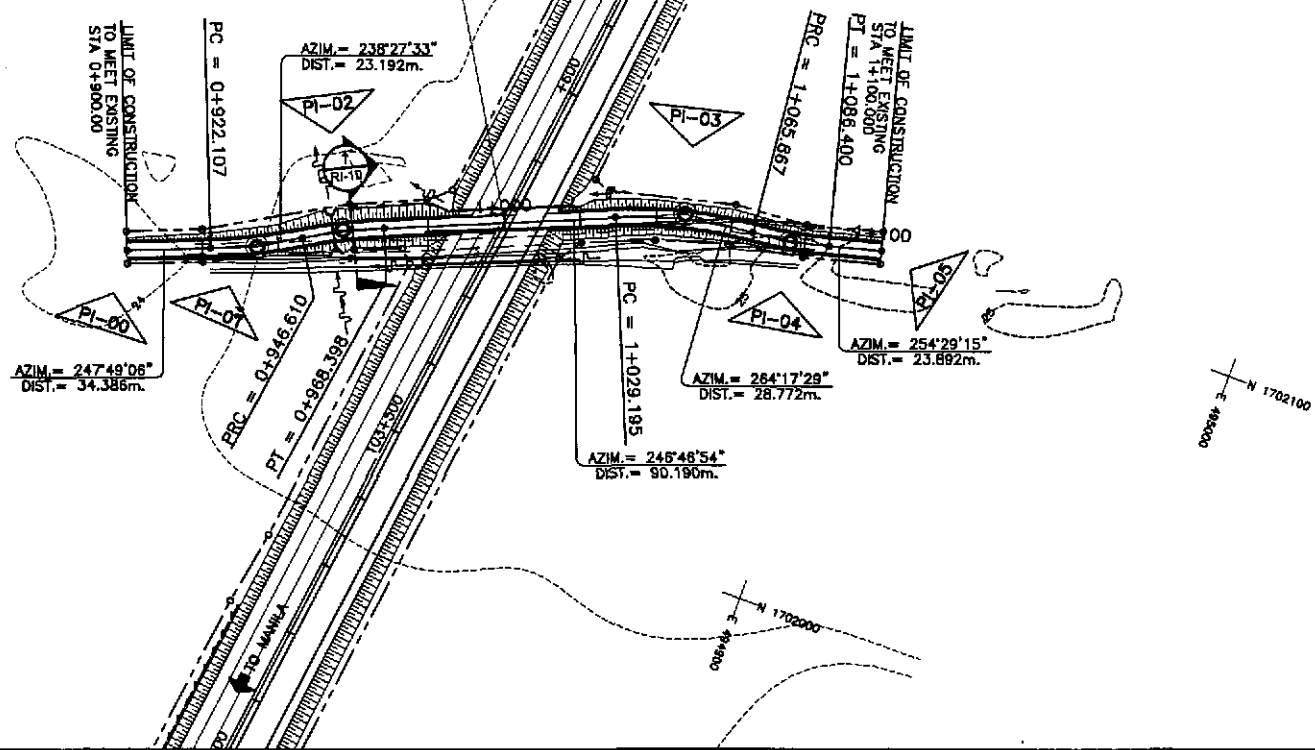
SHEET NO. :
RI-09

ELEMENTS OF CURVE												
PI NO.	STATION	COORDINATES		Δ	R	T	Lc	E	e%	V(kph)	STATION	
		NORTHING	EASTING								PC	PT
PI-00	0+900.000	1,702,028.905	494,716.575								BEGINNING INTERSECTION A-4	
PI-01	0+934.386	1,702,041.887	494,748.416	09°21'33"	150	12.279	24.503	0.502	-	-	0+922.107	0+946.610
PI-02	0+957.523	1,702,054.019	494,768.182	08°19'22"	150	10.914	21.789	0.396	-	-	0+946.610	0+968.398
PI-03	1+047.875	1,702,089.575	494,851.068	17°30'36"	120	18.480	36.872	1.415	-	-	1+029.195	1+065.867
PI-04	1+076.159	1,702,092.437	494,879.697	09°48'14"	120	10.292	20.533	0.441	-	-	1+065.867	1+086.400
PI-05	1+100.000	1,702,098.827	494,902.718								END OF INTERSECTION A-4	

INTERSECTION A-4
 STA. 1+000.000 - ROAD CROSSING
 STA. 103+561.695 - BYPASS
 N=1,702,070.780
 E=494,807.253



SECTION 1
 SCALE 1:100

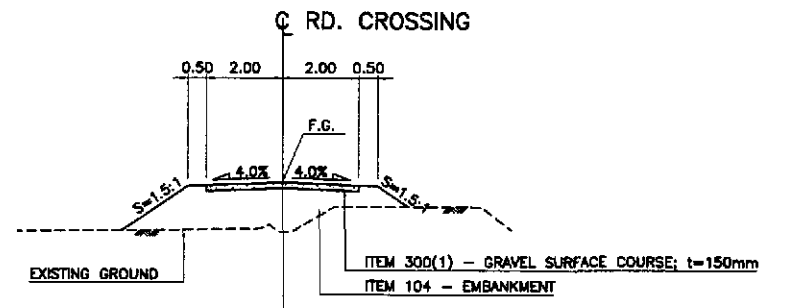
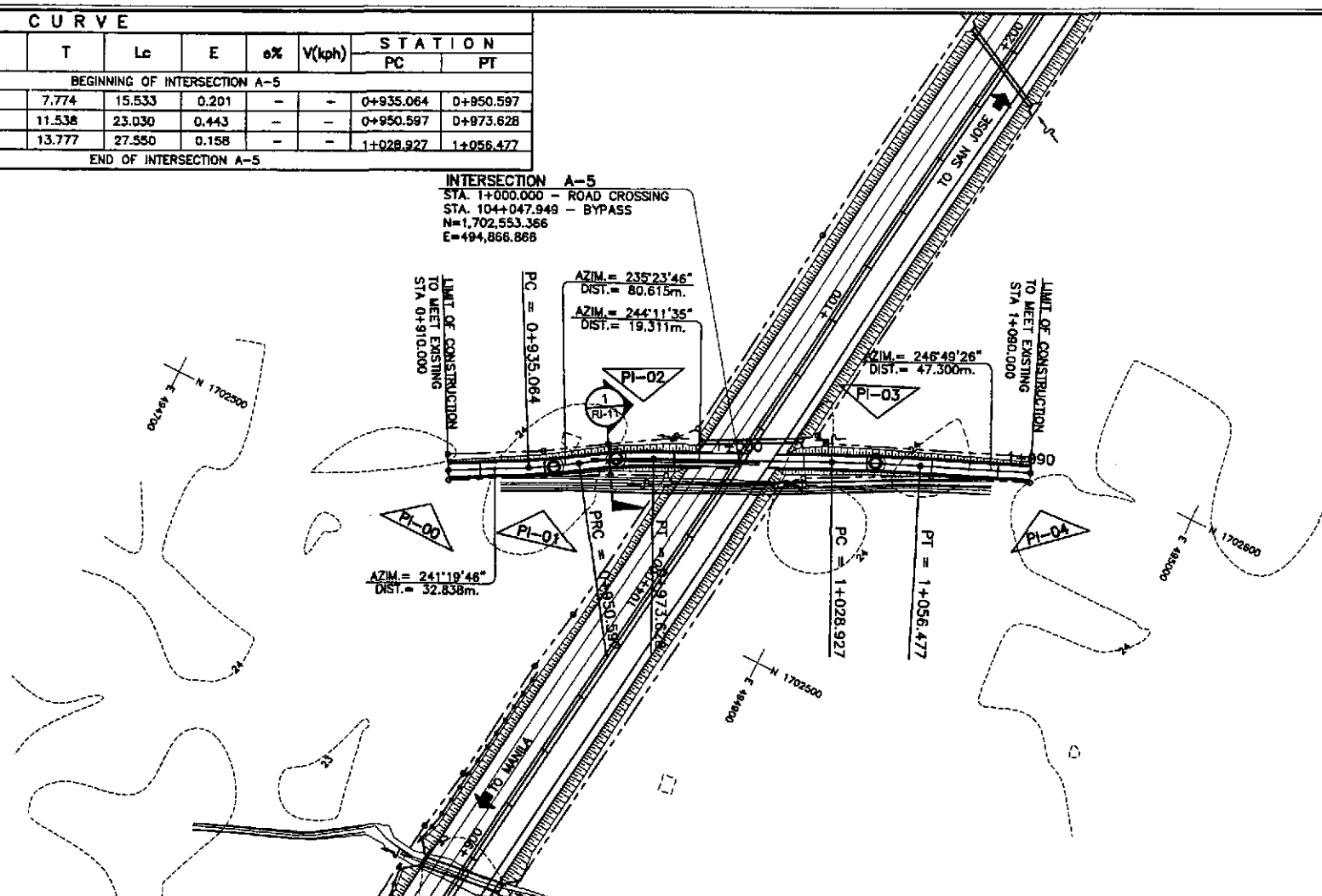


ELEVATION	STATION											
	0+900	0+910	0+920	0+930	0+940	0+950	0+960	0+970	0+980	0+990	1+000	1+010
30												
25												
20												
FINISHED PROFILE GRADE BYPASS												
EXISTING GROUND BYPASS												
HORIZONTAL CURVATURE												
VERTICAL CURVATURE												
SUPERELEVATION												

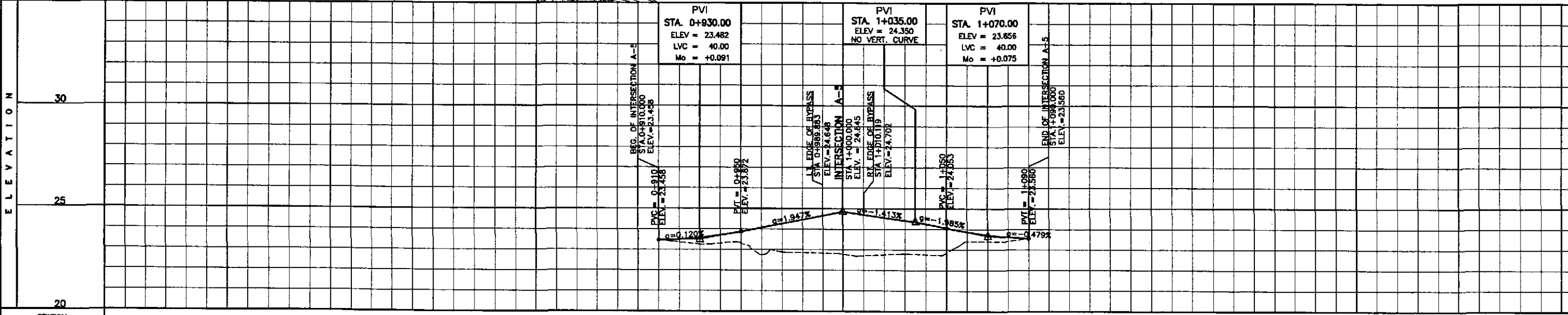
	DATE	SIGNATURE		PROJECT AND LOCATION :			SCALE :	SHEET CONTENTS :	SHEET NO. :	
	DESIGNED	9/27/02		[Signature]	THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)			HORIZONTAL 1:1000	PLAN, CROSS-SECTION AND PROFILE INTERSECTION A-4 STA. 0+900 - STA 1+100	RI-10
	CHECKED	10/15/02		[Signature]	CABANATUAN BYPASS - CONTRACT PACKAGE I			VERTICAL 1:100		
	SUBMITTED	10/16/02		[Signature]				FULL SIZE A1		

ELEMENTS OF CURVE												
PI NO.	STATION	COORDINATES		Δ	R	T	Lc	E	e%	V(kph)	STATION	
		NORTHING	EASTING								PC	PT
PI-00	0+910.000	1,702,510.140	494,788.029								BEGINNING OF INTERSECTION A-5	
PI-01	0+942.838	1,702,525.895	494,816.841	05°56'00"	150	7.774	15.533	0.201	-	-	0+935.064	0+950.597
PI-02	0+962.135	1,702,536.862	494,832.736	08°47'49"	150	11.538	23.030	0.443	-	-	0+950.597	0+973.628
PI-03	1+042.704	1,702,571.956	494,905.310	02°37'51"	600	13.777	27.550	0.158	-	-	1+028.927	1+056.477
PI-04	1+090.000	1,702,590.572	494,948.793								END OF INTERSECTION A-5	

INTERSECTION A-5
 STA. 1+000.000 - ROAD CROSSING
 STA. 104+047.949 - BYPASS
 N=1,702,553.366
 E=494,866.868



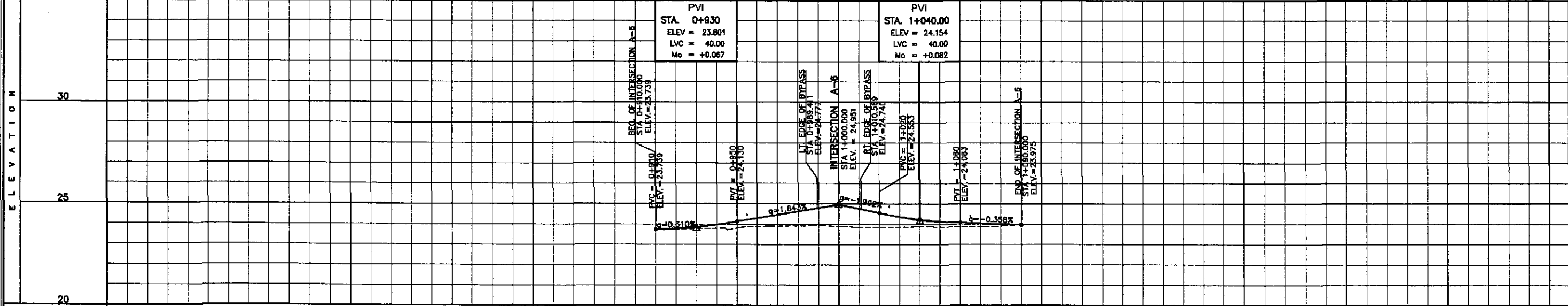
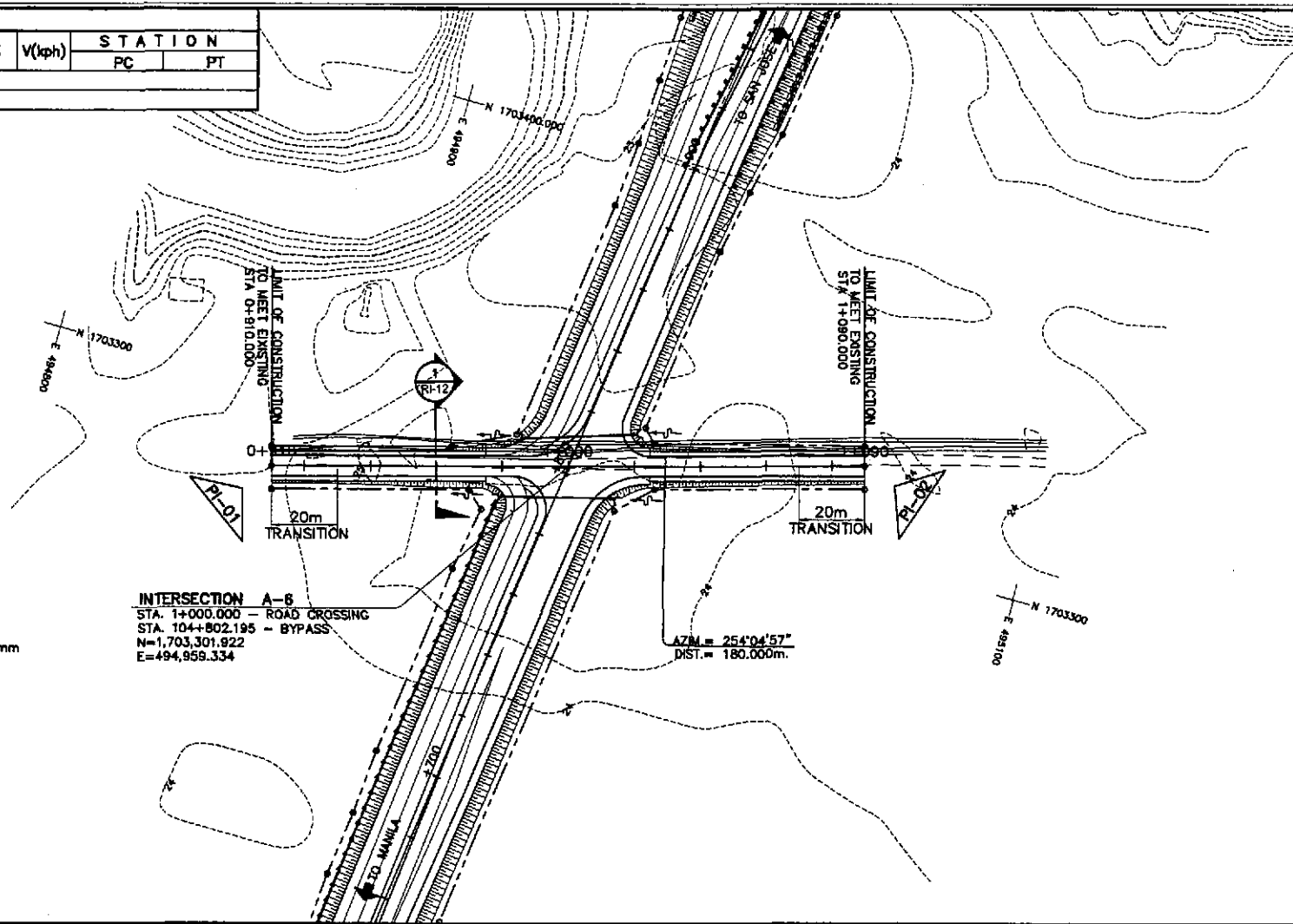
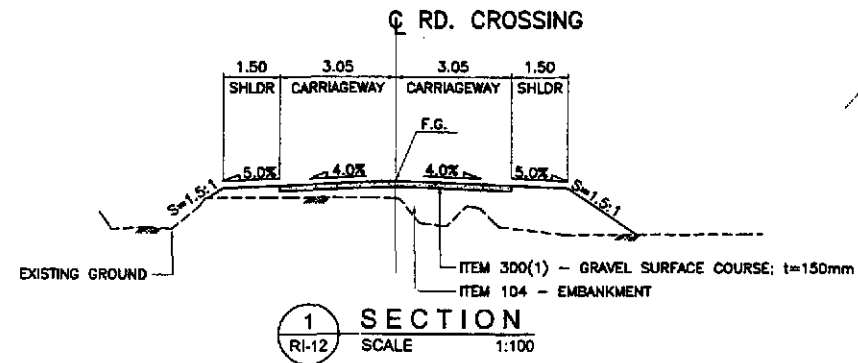
SECTION
 SCALE 1:100



STATION	0+900	1+000	+100
FINISHED PROFILE GRADE BYPASS	23.456	23.483	23.700
EXISTING GROUND BYPASS	23.362	23.700	22.750
HORIZONTAL CURVATURE	R=150	R=150	R=600
VERTICAL CURVATURE	L=40	L=40	L=40
SUPERELEVATION	NC	BYPASS SECTION	NC

	DESIGNED	9/27/02		PROJECT AND LOCATION :	THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Paridel, Cabanatuan and San Jose Bypasses)	SCALE :	HORIZONTAL 1:100 VERTICAL 1:100 FULL SIZE A1	SHEET CONTENTS :	PLAN, CROSS-SECTION AND PROFILE INTERSECTION A-5 STA. 0+910 - STA 1+090	SHEET NO. :	RI-11
	CHECKED	10/15/02		P.E. - PWO Submitted By: DANILLO C. TRAJANO Project Director		OFFICE OF THE SECRETARY Recommended By: JOSEFINA M. ALAGAR Chief, Highways Division		CABANATUAN BYPASS - CONTRACT PACKAGE I		SHEET NO. :	

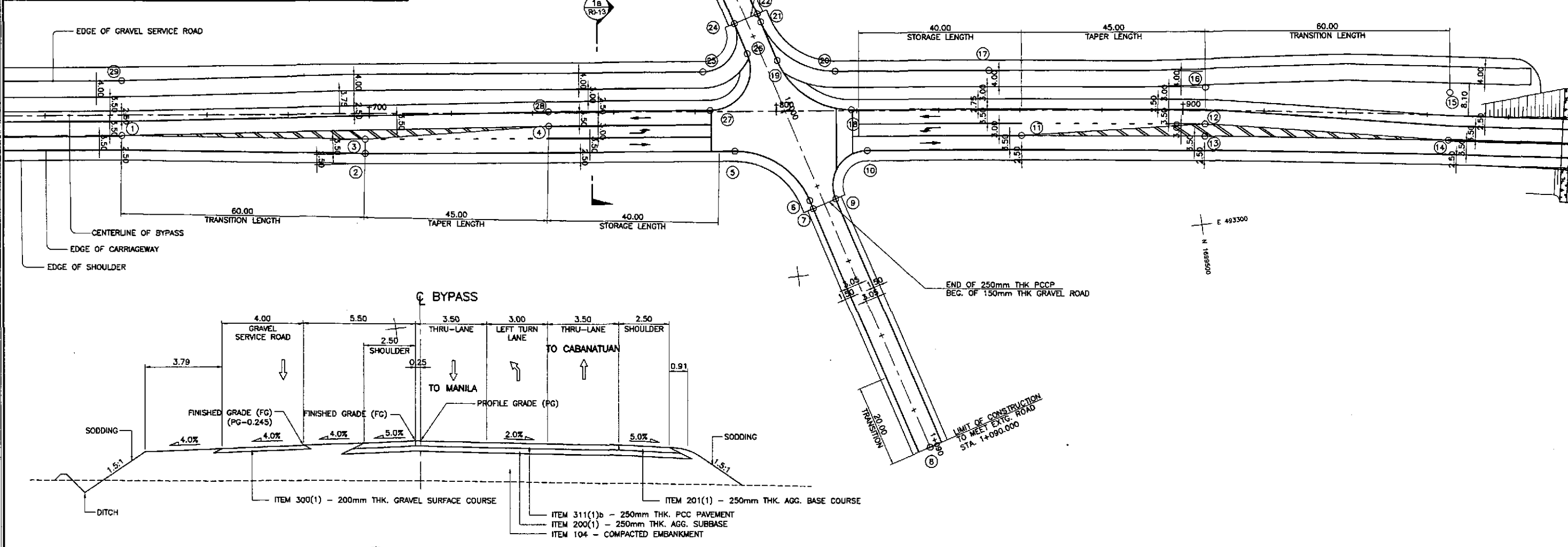
ELEMENTS OF CURVE													
PI NO.	STATION	COORDINATES		Δ	R	T	Lc	E	e%	V(kph)	STATION		
		NORTHING	EASTING								PC	PT	
PI-01	0+910.000	1,703,277.239	494,872.785	BEGINNING OF INTERSECTION A-6									
PI-02	1+090.000	1,703,326.605	495,045.883	END OF INTERSECTION A-6									



STATION	0+900	1+000	+100
FINISHED PROFILE GRADE BYPASS	23.739	23.921	23.975
EXISTING GROUND BYPASS	23.741	23.922	23.975
HORIZONTAL CURVATURE	R = ∞		
VERTICAL CURVATURE	L=40 Mo=+0.067 g=+1.643% g=-1.992% L=40 Mo=+0.082 g=-0.358%		
SUPERELEVATION	NC		

	DESIGNED	DATE	APPROVAL		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS			PROJECT AND LOCATION : THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) CABANATUAN BYPASS - CONTRACT PACKAGE 1	SCALE : HORIZONTAL 1:1000 VERTICAL 1:100 FULL SIZE A1	SHEET CONTENTS : PLAN, CROSS-SECTION AND PROFILE INTERSECTION A-6 STA. 0+910 - STA 1+090	SHEET NO. : RI-12	
	CHECKED	10/18/02	10/20		Submitted By:	Reviewed By:	Recommended By:					Approved By:
	SUBMITTED	10/14/02	10/14/02		DANILO C. TRAJANO Project Director	JOSEFINA M. ALAGAR Chief, Highways Division	GILBERTO S. REYES CIC, Director IV					MANUEL M. BONGAN Undersecretary

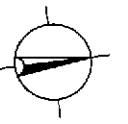
TABLE OF COORDINATES			
CONTROL POINT	COORDINATES		REMARKS
	NORTHING	EASTING	
1	1703139.318	494944.285	CENTER OF TWO LANE PAVEMENT, LANE WIDTH 3.50m
2	1703186.263	494956.356	OUTER EDGE OF 3.50m WIDE PAVEMENT
3	1703198.713	494952.882	BEG. OF TAPER
4	1703243.741	494955.421	END OF TAPER, PAVEMENT WIDTH 6.50m
5	1703288.391	494967.486	BEG. OF RADIUS 20
6	1703305.172	494981.85	END OF RADIUS 20
7	1703305.767	494983.936	LIMIT OF 2.50m WIDE SHOULDER
8	1703326.605	495045.883	LIMIT OF CONSTRUCTION
9	1703311.633	494982.253	BEG. OF RADIUS 8.50
10	1703320.849	494971.496	END OF RADIUS 8.50
11	1703358.923	494972.682	END OF TAPER
12	1703403.857	494975.605	BEG. OF TAPER, LANE WIDTH 3.50m
13	1703403.455	494978.576	INNER EDGE OF 3.50m WIDE LANE
14	1703462.728	494987.177	CENTER OF TWO LANE PAVEMENT, LANE WIDTH 3.50m
15	1703464.536	494975.618	INNER EDGE OF 4.00m WIDE SERVICE ROAD
16	1703405.105	494966.69	INNER EDGE OF 4.00m WIDE SERVICE ROAD
17	1703353.005	494955.82	OUTER EDGE OF 4.00m WIDE SERVICE ROAD
18	1703318.283	494961.103	BEG. OF RADIUS 20
19	1703301.502	494946.739	END OF RADIUS 20
20	1703315.453	494951.181	BEG. OF RADIUS 20
21	1703298.672	494936.817	END OF RADIUS 20
22	1703298.078	494934.732	LIMIT OF 2.50m WIDE SHOULDER
23	1703277.239	494872.785	LIMIT OF CONSTRUCTION
24	1703292.211	494936.405	BEG. OF RADIUS 8.50
25	1703282.995	494947.172	END OF RADIUS 8.50
26	1703294.42	494944.149	BEG. OF RADIUS 10
27	1703283.577	494956.816	END OF RADIUS 10
28	1703244.112	494951.941	OUTER EDGE OF 3.50m WIDE LANE
29	1703140.973	494930.887	OUTER EDGE OF 4.00m WIDE SERVICE ROAD



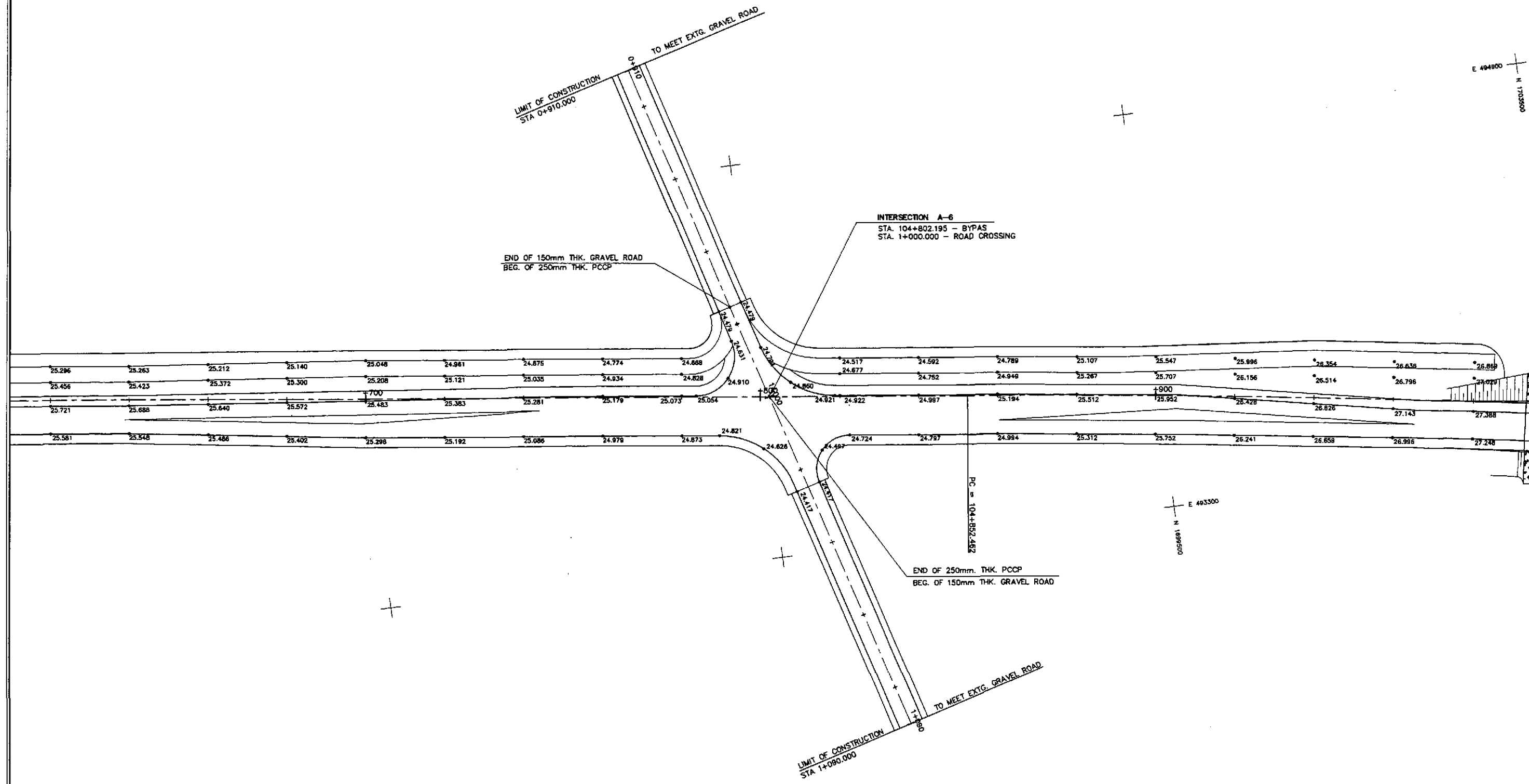
1a SECTION
RI-13 SCALE 1:100

1 GEOMETRIC DESIGN LAYOUT
RI-13 SCALE 1:500
INTERSECTION A-6 (STA. 104+802.195) - INITIAL STAGE

	DESIGNED	DATE	SIGNATURE	 REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS	PROJECT AND LOCATION : THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) CABANATUAN BYPASS - CONTRACT PACKAGE I	SCALE : 1:500 FULL SIZE A1	SHEET CONTENTS : INTERSECTION DETAIL GEOMETRIC DESIGN LAYOUT INTERSECTION A-6 (INITIAL STAGE)	SHEET NO. : RI-13					
	CHECKED	10/15/02	S. JOSE						Submitted By: DANILO C. TRAJANO Project Director	Reviewed By: JOSEFINA M. ALAGAR Chief, Highways Division	Recommended By: GILBERTO S. REYES DC, Director IV	Recommended By: MANUEL M. BONOAN Undersecretary	Approved By: SIMEON A. DATUMANONG Secretary
	SUBMITTED	12/16/02	M. KIMURA						Submitted By: DANILO C. TRAJANO Project Director	Reviewed By: JOSEFINA M. ALAGAR Chief, Highways Division	Recommended By: GILBERTO S. REYES DC, Director IV	Recommended By: MANUEL M. BONOAN Undersecretary	Approved By: SIMEON A. DATUMANONG Secretary



E 404900
N 170300

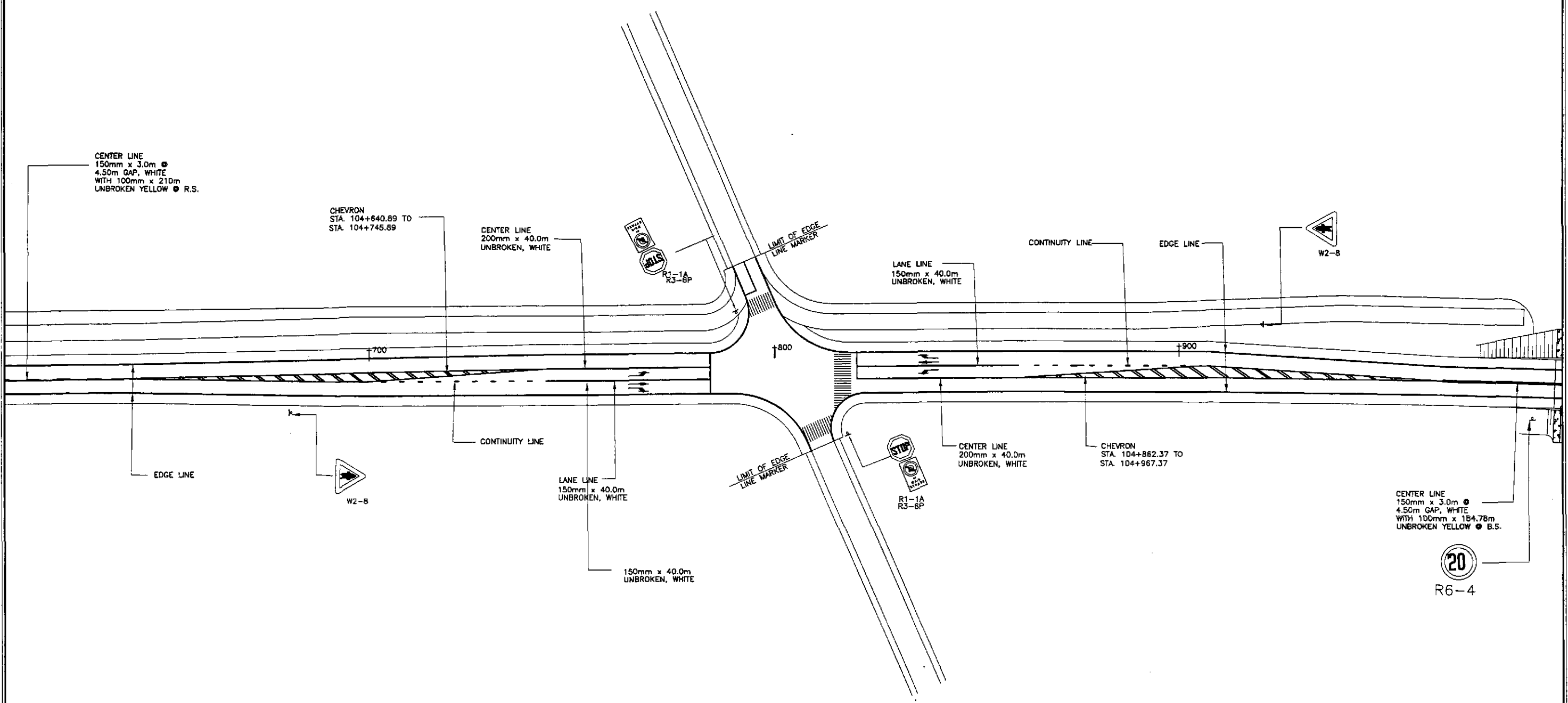
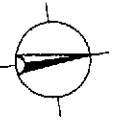


1
RI-14 SCALE

PAVING AND GRADING
INTERSECTION A-6 (STA. 104+802.195) - INITIAL STAGE

1:500

 JICA JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL YEO YACHIYO ENGINEERING CO., LTD.		DATE	SIGNATURE	 REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS	PROJECT AND LOCATION :			SCALE :	SHEET CONTENTS :	SHEET NO. :				
	DESIGNED	9/27/02	<i>[Signature]</i>		BUREAU OF DESIGN			THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Pinarid, Cabanatuan and San Jose Bypasses)	1:500	INTERSECTION DETAIL PAVING AND GRADING INTERSECTION A-6 (INITIAL STAGE)	RI-14			
	CHECKED	10/15/02	<i>[Signature]</i>		Submitted By:	Reviewed By:	Recommended By:					OFFICE OF THE SECRETARY		
	SUBMITTED	10/16/02	<i>[Signature]</i>		DANILO C. TRAJANO Project Director	JOSEFINA M. ALAGAR Chief, Highways Division	GILBERTO S. REYES OIC, Director IV					MANUEL M. BONOAN Undersecretary	SIMEON A. DATUMANONG Secretary	CABANATUAN BYPASS - CONTRACT PACKAGE I
FULL SIZE A1														



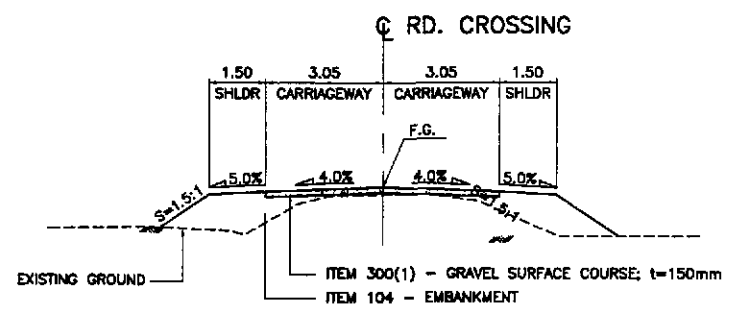
**TRAFFIC SIGNS AND PAVEMENT MARKINGS LAYOUT
INTERSECTION A-6 (STA. 104+802.195) - INITIAL STAGE**

1
RI-15

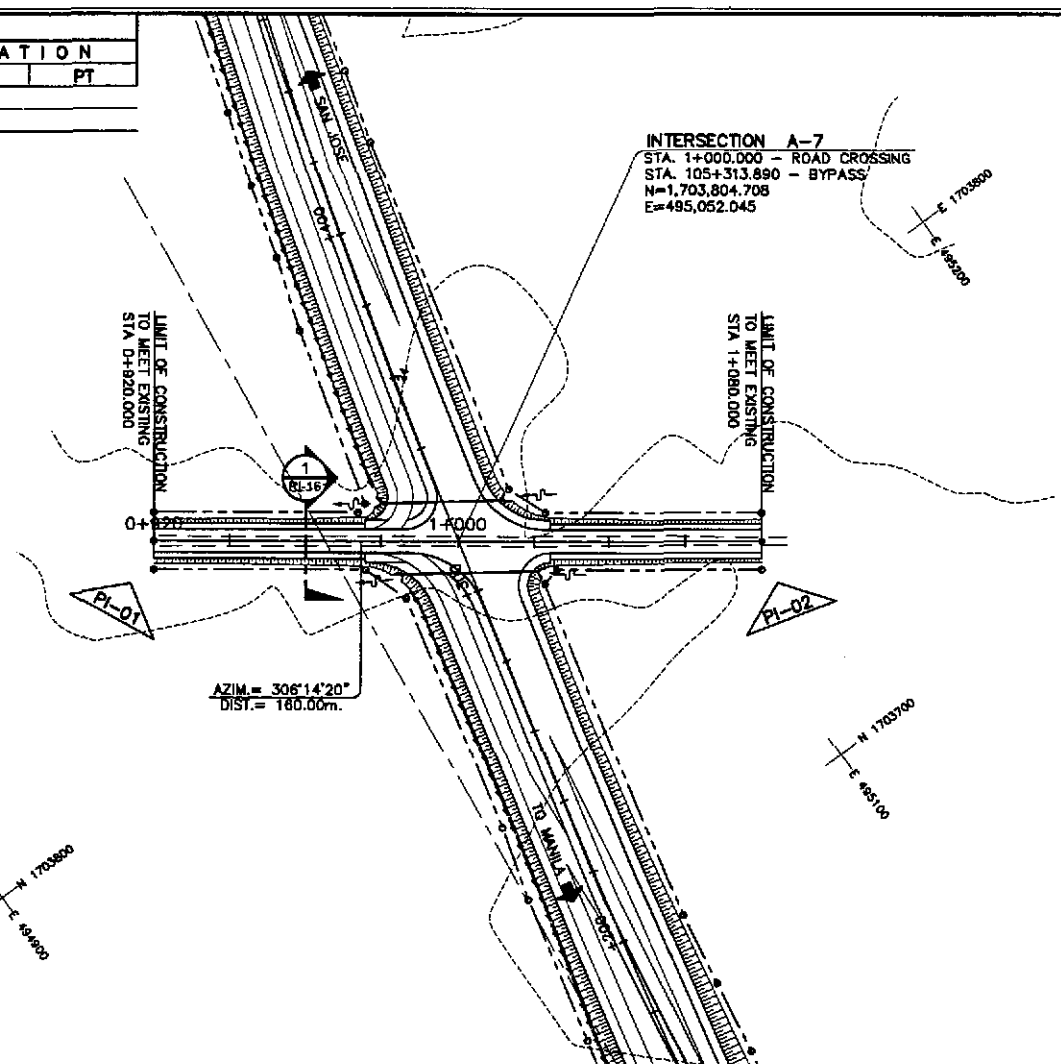
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	DESIGNED	9/27/02	<i>[Signature]</i> LUNA	<p align="center">REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS</p>	PROJECT AND LOCATION :			SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	10/15/02	<i>[Signature]</i> G. S. REYES		THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)			1:500	TRAFFIC SIGNS AND PAVEMENT MARKINGS LAYOUT INTERSECTION A-6 (INITIAL STAGE)	RI-15
	SUBMITTED	10/16/02	<i>[Signature]</i> M. B. BONGA		CABANATUAN BYPASS - CONTRACT PACKAGE I			FULL SIZE A1		
					Submitted By:	Reviewed By:	Recommended By:	Recommended By:	Approved By:	
			DANILO C. TRAJANO Project Director	JOSEFINA M. ALAGAR Chief, Highways Division	GILBERTO S. REYES D.C. Director IV	MANUEL M. BONGA Undersecretary	SIMEON A. DATUMANONG Secretary			

ELEMENTS OF CURVE												
PI NO.	STATION	COORDINATES		Δ	R	T	Lc	E	e%	V(kph)	STATION	
		NORTHING	EASTING								PC	PT
PI-01	0+920.000	1,703,852.000	494,987.521								BEGINNING INTERSECTION A-7	
PI-02	1+080.000	1,703,757.416	495,116.570								END OF INTERSECTION A-7	



SECTION 1
R=16 SCALE 1:100



ELEVATION	STATION										
	0+900	0+920	0+940	0+960	0+980	1+000	1+020	1+040	1+060	1+080	1+100
30											
25											
20											
FINISHED PROFILE GRADE BYPASS											
EXISTING GROUND BYPASS											
HORIZONTAL CURVATURE	R=∞										
VERTICAL CURVATURE	g=+0.290% L=40 Mo=+0.069 g=+1.678% g=-2.040% L=40 Mo=+0.108 g=+0.130%										
SUPERELEVATION	NC BYPASS SECTION NC										

	DESIGNED	DATE	SIGNATURE					PROJECT AND LOCATION :		SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	10/15/02	S. ROSE	DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS BUREAU OF DESIGN				THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Paridel, Cabanatuan and San Jose Bypasses)		HORIZONTAL 1:1000 VERTICAL 1:100 FULL SIZE A1	PLAN, CROSS-SECTION AND PROFILE INTERSECTION A-7 STA. 0+920 - STA 1+080	RI-16
	SUBMITTED	10/16/02	M. Bando	Submitted By: DAHILDO C. TRAJANO Project Director	Reviewed By: JOSEFINA M. ALAGAR Chief, Highways Division	Recommended By: GILBERTO S. REYES OIC, Director IV	Recommended By: MANUEL M. BONGAN Undersecretary	Approved By: SIMEDON A. DATUMANONG Secretary	CABANATUAN BYPASS - CONTRACT PACKAGE I			

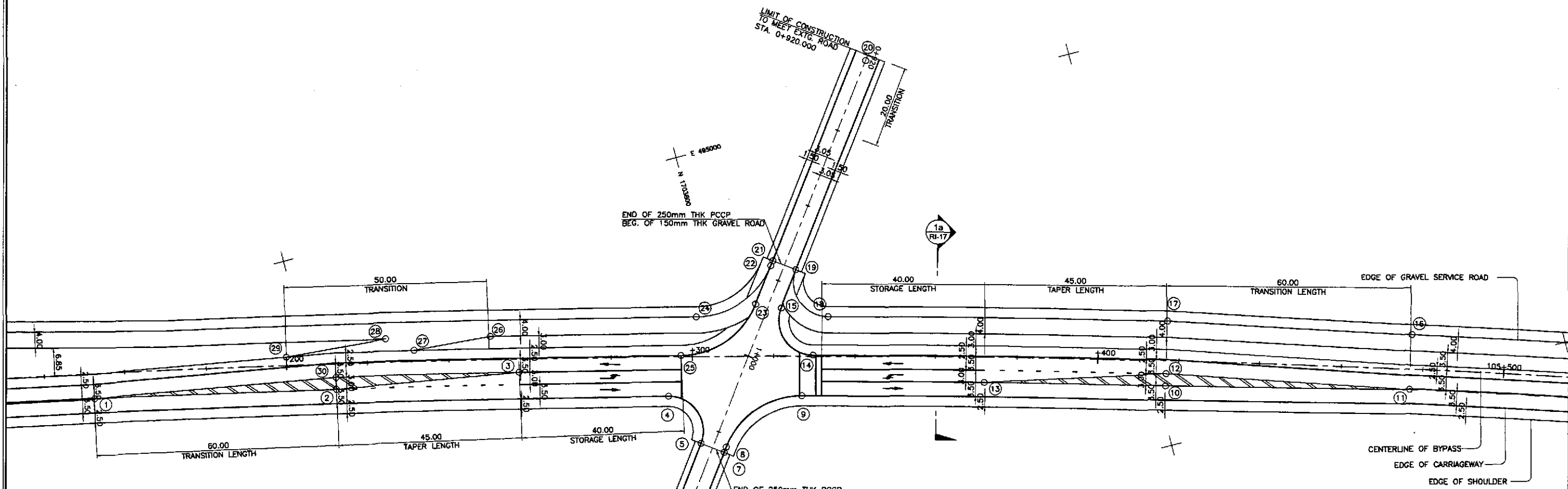
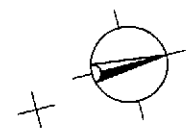
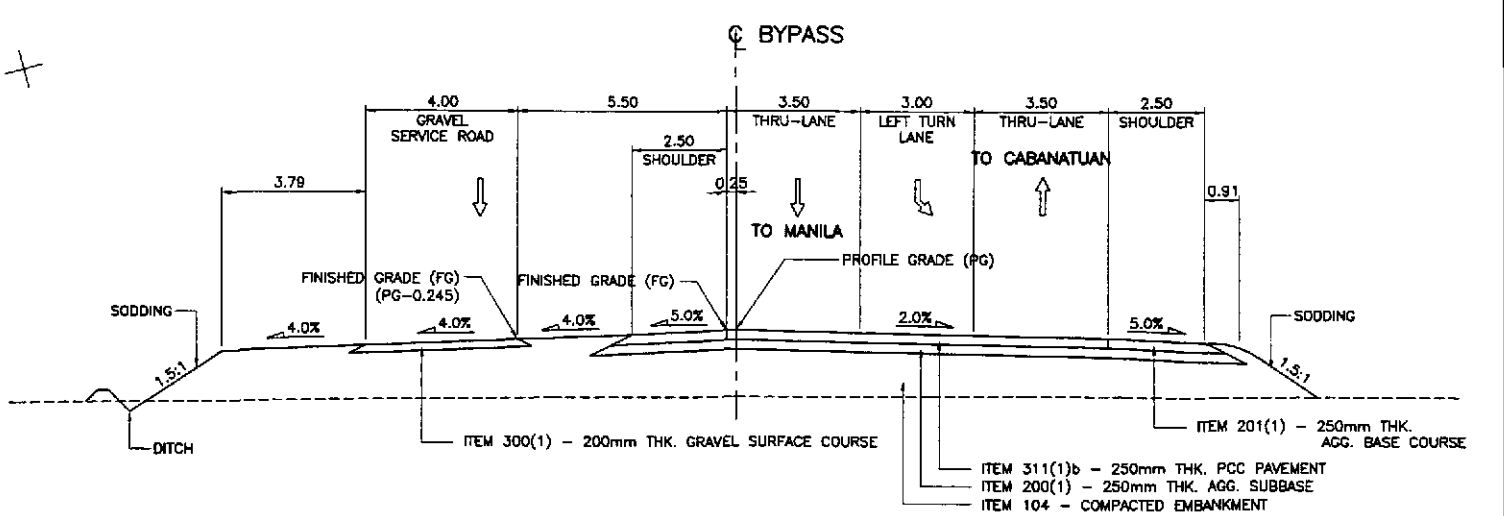


TABLE OF COORDINATES			
CONTROL POINT	COORDINATES		REMARKS
	NORTHING	EASTING	
1	1703646.136	495020.907	CENTER OF TWO LANE PAVEMENT, LANE WIDTH 3.50m
2	1703704.591	495033.956	BEG. OF TAPER, LANE WIDTH 3.50m
3	1703749.015	495041.374	END OF TAPER, PAVEMENT WIDTH 6.50m
4	1703783.136	495056.561	BEG. OF RADIUS 8.50
5	1703787.897	495069.823	END OF RADIUS 8.50/LIMIT OF 2.50m SHOULDER
6	1703753.438	495121.998	LIMIT OF CONSTRUCTION
7	1703792.817	495073.429	END OF 2.50m WIDE SHOULDER
8	1703793.639	495072.308	BEG. OF RADIUS 20
9	1703814.882	495064.795	END OF RADIUS 20
10	1703902.256	495085.469	BEG. OF TRANSITION, LANE WIDTH 3.50m
11	1703959.971	495101.559	CENTER OF TWO LANE PAVEMENT, LANE WIDTH 3.50m
12	1703903.097	495082.589	BEG. OF TAPER, LANE WIDTH 3.50m
13	1703859.058	495073.153	END OF TAPER, PAVEMENT WIDTH 6.50m
14	1703820.096	495055.831	BEG. OF RADIUS 8.50
15	1703815.419	495042.59	END OF RADIUS 8.50
16	1703963.978	495088.668	OUTER EDGE OF SERVICE ROAD
17	1703906.742	495070.111	OUTER EDGE OF SERVICE ROAD
18	1703826.117	495047.602	BEG. OF RADIUS 8.50
19	1703821.449	495034.363	END OF RADIUS 8.50
20	1703851.133	494988.704	LIMIT OF CONSTRUCTION
21	1703816.529	495030.757	LIMIT OF 2.50m WIDE SHOULDER
22	1703815.747	495031.825	BEG. OF RADIUS 20
23	1703794.647	495039.375	END OF RADIUS 20
24	1703809.695	495040.082	BEG. OF RADIUS 20
25	1703788.616	495047.638	END OF RADIUS 20
26	1703744.393	495030.995	INTERSECTION OF INNER EDGE OF SERVICE ROAD
27	1703725.182	495029.503	INTERSECTION OF EDGE OF SERVICE ROAD & SHOULDER
28	1703719.24	495025.029	INTERSECTION OF INNER EDGE OF SERVICE ROAD
29	1703694.506	495023.107	INTERSECTION OF EDGE OF SERVICE ROAD & SHOULDER
30	1703705.263	495031.032	INNER EDGE OF 3.50m WIDE LANE



1
RI-17 SCALE 1:500

**GEOMETRIC DESIGN LAYOUT
INTERSECTION A-7 (STA. 105+313.890) - INITIAL STAGE**

JICA
JAPAN INTERNATIONAL COOPERATION AGENCY

KATAHIRA & ENGINEERS
INTERNATIONAL

YEO YACHIYO ENGINEERING CO., LTD.

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

DESIGNED: 9/27/02 ORONCE	DATE: 9/27/02	SIGNATURE: [Signature]
CHECKED: 10/15/02 S. G. [Signature]	DATE: 10/15/02	SIGNATURE: [Signature]
SUBMITTED: 10/11/02 [Signature]	DATE: 10/11/02	SIGNATURE: [Signature]

BUREAU OF DESIGN

Submitted By: DANILLO C. TRAJANO Project Director	Reviewed By: JOSEFINA M. ALAGAR Chief, Highways Division	Recommended By: GILBERTO S. REYES OIC, Director IV	Recommended By: MANUEL M. BONDAN Undersecretary	Approved By: SIMEON A. DATUMANONG Secretary
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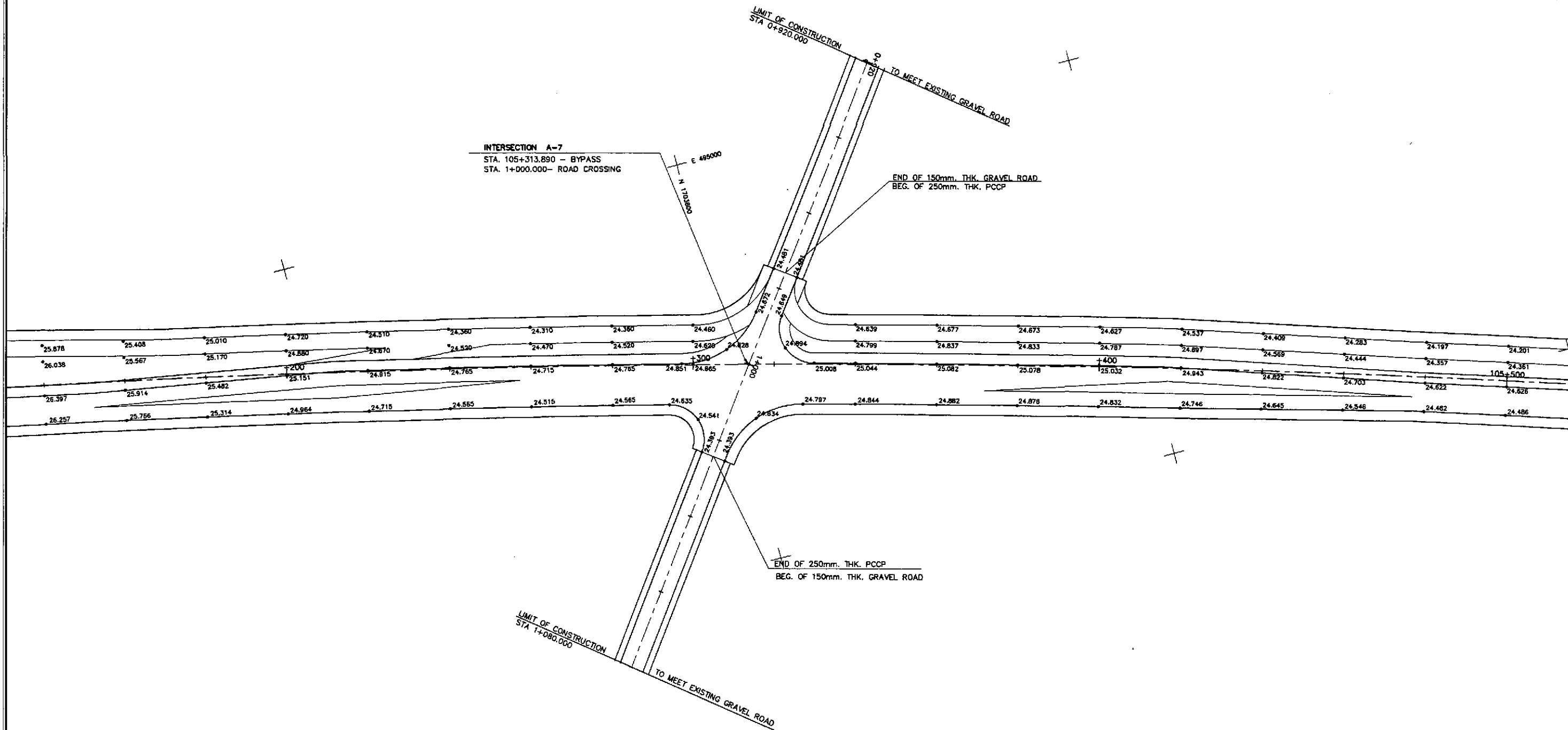
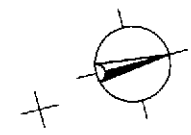
PROJECT AND LOCATION :
THE DETAILED DESIGN STUDY ON
UPGRADING INTER-URBAN HIGHWAY SYSTEM
ALONG THE PAN-PHILIPPINE HIGHWAY
(Plaridel, Cabanatuan and San Jose Bypasses)

CABANATUAN BYPASS - CONTRACT PACKAGE I

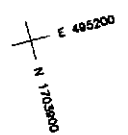
SCALE :
1:500
FULL SIZE A1

SHEET CONTENTS :
INTERSECTION DETAIL
GEOMETRIC DESIGN LAYOUT
INTERSECTION A-7 (INITIAL STAGE)

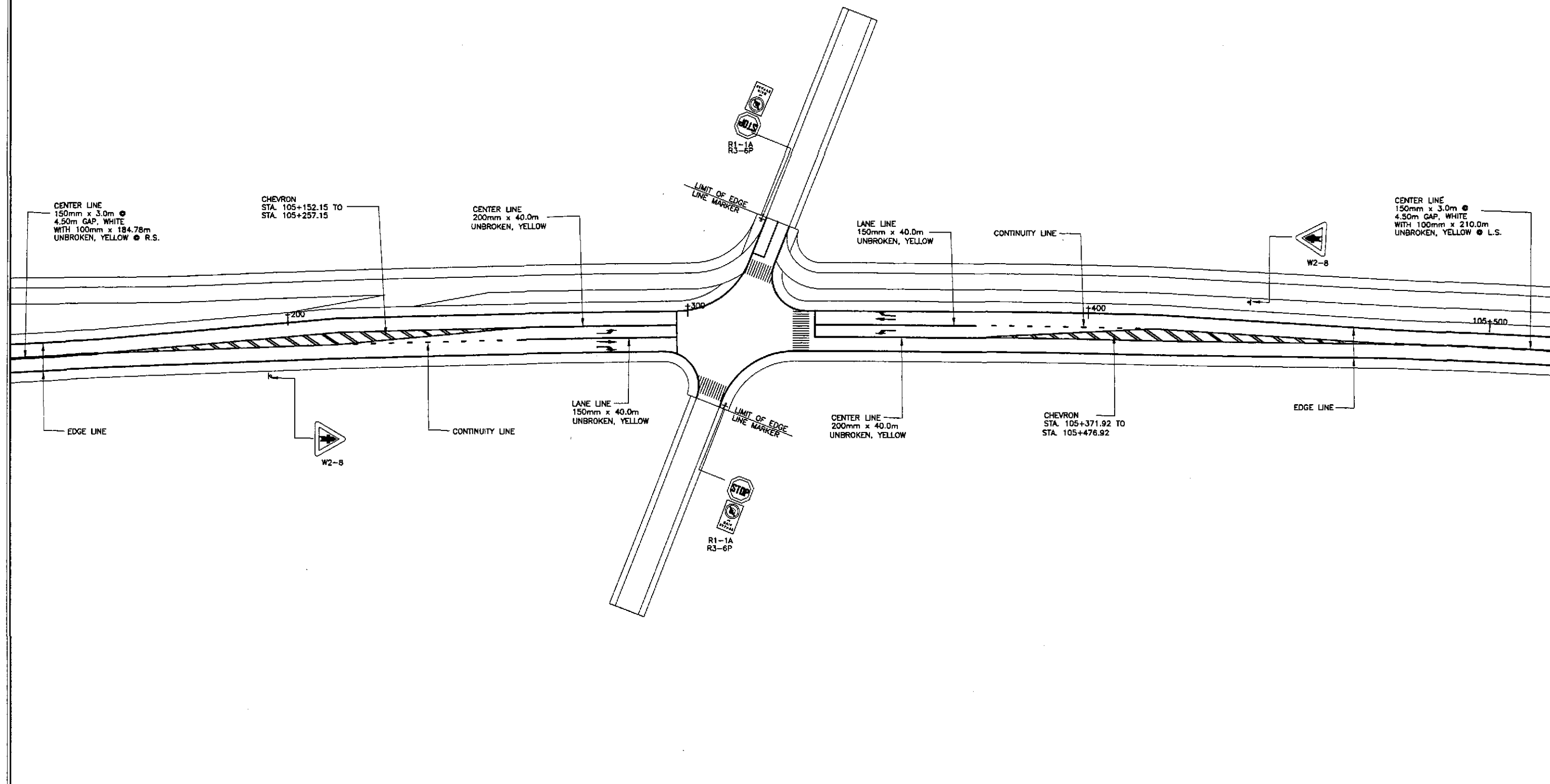
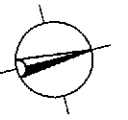
SHEET NO. :
RI-17



PAVING AND GRADING
INTERSECTION A-7 (STA. 105+313.890) - INITIAL STAGE
 1
 RI-18 SCALE 1:500



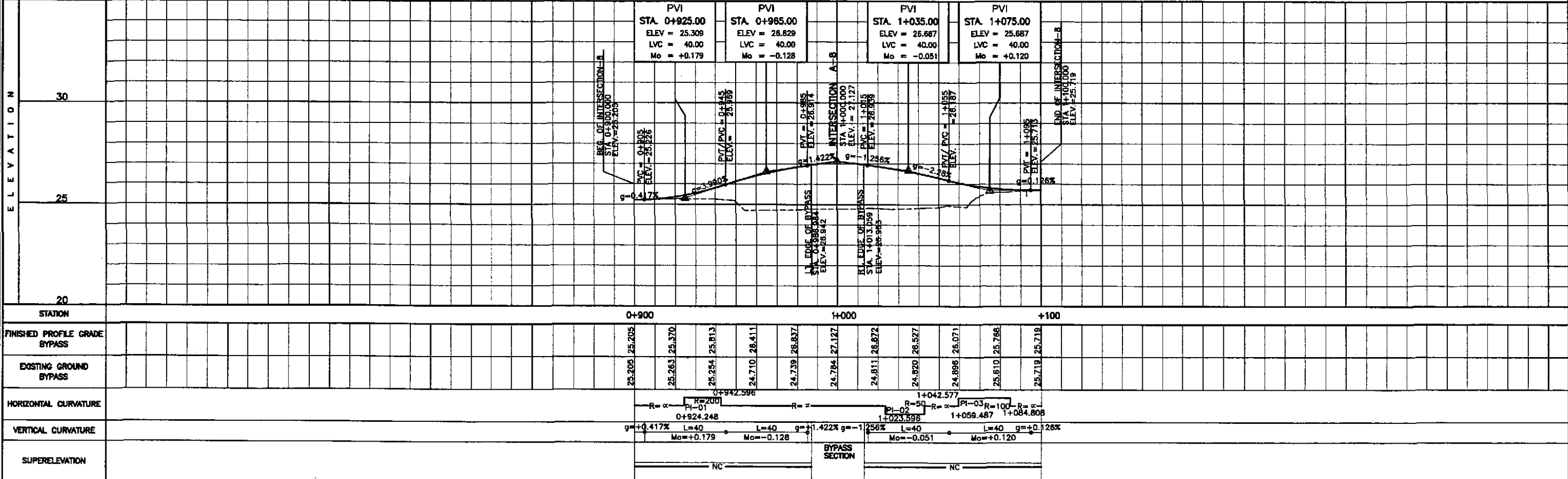
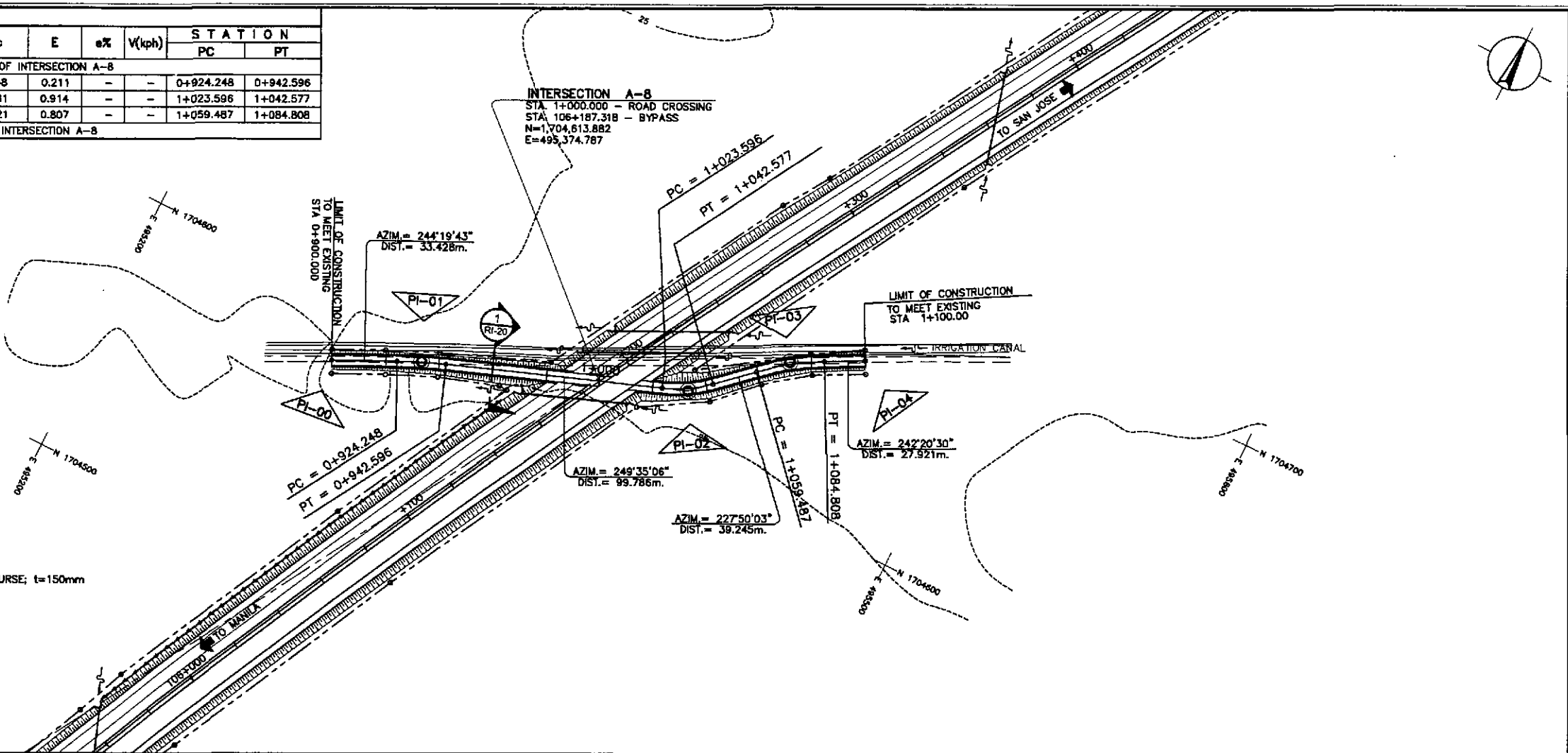
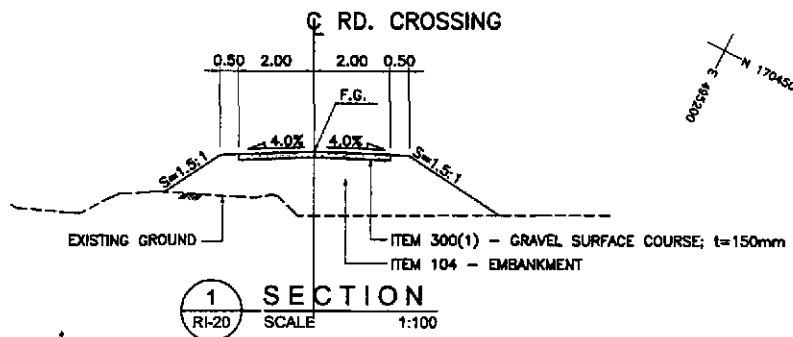
		DATE	SIGNATURE		PROJECT AND LOCATION :		SCALE :	SHEET CONTENTS :	SHEET NO. :	
	DESIGNED	9/27/02	<i>[Signature]</i>		DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS BUREAU OF DESIGN		THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)	1:500	INTERSECTION DETAIL PAVING AND GRADING INTERSECTION A-7 (INITIAL STAGE)	RI-18
	CHECKED	10/15/02	<i>[Signature]</i>		Submitted By:	Reviewed By:	Recommended By:	Approved By:	FULL SIZE A1	
				DANILLO C. TRAJANO Project Director	JOSEFINA M. ALAGAR Chief, Highways Division	GILBERTO S. REYES O/C, Director IV	MANUEL M. BONGAN Undersecretary	SIMEON A. DATUMANONG Secretary		



1
TRAFFIC SIGNS AND PAVEMENT MARKINGS LAYOUT
INTERSECTION A-7 (STA. 105+313.890) - INITIAL STAGE
 SCALE 1:500

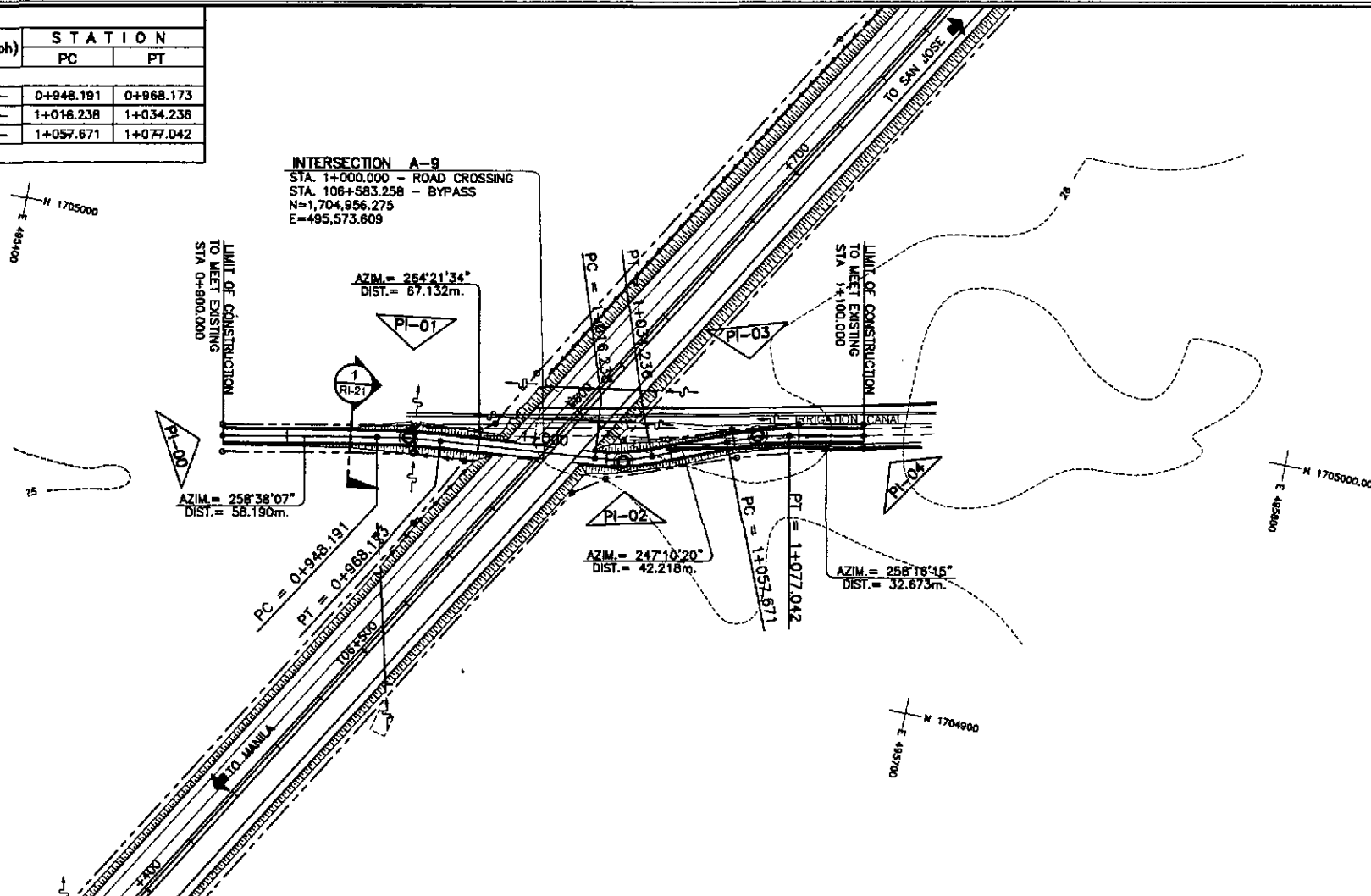
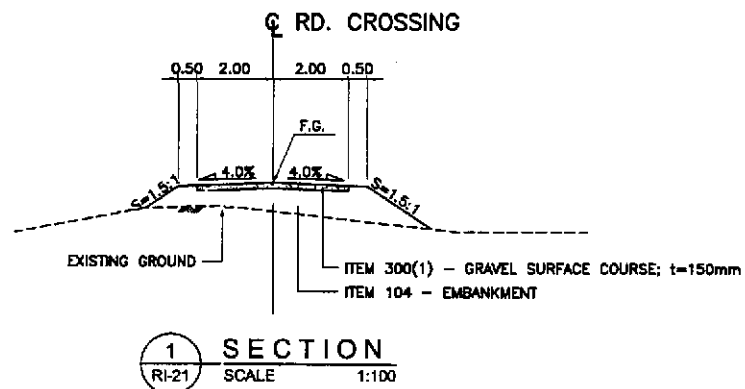
		DATE	SIGNATURE		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS	PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :	
	DESIGNED	9/27/02	S. LUNA	P.W.H. - PMO	BUREAU OF DESIGN	OFFICE OF THE SECRETARY	THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)	1:500	TRAFFIC SIGNS AND PAVEMENT MARKINGS LAYOUT	RI-19
	CHECKED	10/15/02	S. JOSE	Submitted By:	Reviewed By:	Recommended By:	CABANATUAN BYPASS - CONTRACT PACKAGE I	FULL SIZE A1	INTERSECTION A-7 (INITIAL STAGE)	
SUBMITTED	10/16/02	M. B. B. B.	DANILO C. TRAJANO Project Director	JOSEFINA M. ALAGAR Chief, Highways Division	GILBERTO S. REYES OC, Director IV	MANUEL M. BONGAN Undersecretary				
			Team Leader			SIMEON A. DATUMANONG Secretary				

ELEMENTS OF CURVE												
PI NO.	STATION	COORDINATES		Δ	R	T	Lc	E	e%	V(kph)	STATION	
		NORTHING	EASTING								PC	PT
PI-00	0+900.000	1,704,576.175	495,282.256								BEGINNING OF INTERSECTION A-8	
PI-01	0+933.428	1,704,590.656	495,312.384	05°15'23"	200	9.180	18.348	0.211	-	-	0+924.248	0+942.596
PI-02	1+033.202	1,704,625.463	495,405.903	21°45'03"	50	9.606	18.981	0.914	-	-	1+023.596	1+042.577
PI-03	1+072.216	1,704,651.808	495,434.992	14°30'28"	100	12.728	25.321	0.807	-	-	1+059.487	1+084.808
PI-04	1+100.000	1,704,664.789	495,459.722								END OF INTERSECTION A-8	



	DATE	SIGNATURE	REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS			PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
	DESIGNED	9/27/02	[Signature]	BUREAU OF DESIGN			THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Paridel, Cabanatuan and San Jose Bypasses) CABANATUAN BYPASS - CONTRACT PACKAGE I	HORIZONTAL 1:1000 VERTICAL 1:100 FULL SIZE A1	PLAN, CROSS-SECTION AND PROFILE INTERSECTION A-8 STA. 0+900 - STA 1+100 RI-20
	CHECKED	10/15/02	[Signature]	OFFICE OF THE SECRETARY					
	SUBMITTED	10/16/02	[Signature]	Submitted By: DANILLO C. TRAJANO, Project Director Reviewed By: JOSEFINA M. ALAGAR, Chief, Highways Division Recommended By: GILBERTO S. REYES, OIC, Director IV Recommended By: MANUEL M. BONJAN, Undersecretary Approved By: SIMEDON A. DATUMANONG, Secretary					
PROJECT AND LOCATION : THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Paridel, Cabanatuan and San Jose Bypasses) CABANATUAN BYPASS - CONTRACT PACKAGE I SCALE : HORIZONTAL 1:1000, VERTICAL 1:100, FULL SIZE A1 SHEET CONTENTS : PLAN, CROSS-SECTION AND PROFILE INTERSECTION A-8 STA. 0+900 - STA 1+100 SHEET NO. : RI-20									

ELEMENTS OF CURVE												
PI NO.	STATION	COORDINATES		Δ	R	T	Lc	E	e%	V(kph)	STATION	
		NORTHING	EASTING								PC	PT
PI-00	0+900.000	1,704,940.698	495,474.936								BEGINNING OF INTERSECTION A-9	
PI-01	0+958.190	1,704,952.164	495,531.985	05°43'28"	200	9.999	18.982	0.250	-	-	0+948.191	0+968.173
PI-02	1+025.305	1,704,956.762	495,588.791	17°11'14"	60	9.067	17.998	0.681	-	-	1+016.238	1+034.236
PI-03	1+067.387	1,704,975.141	495,637.703	11°05'55"	100	9.716	19.371	0.471	-	-	1+057.671	1+077.042
PI-04	1+100.000	1,704,981.783	495,689.694								END OF INTERSECTION A-9	

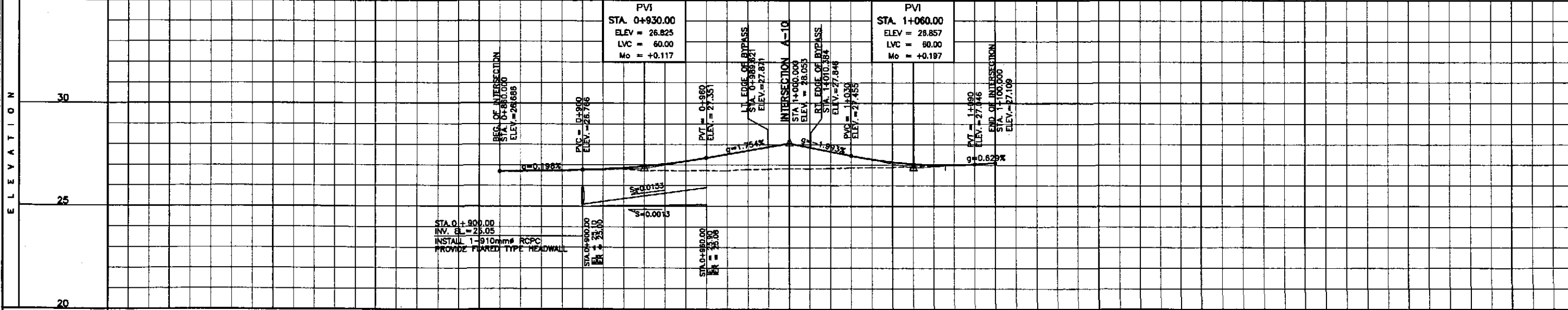
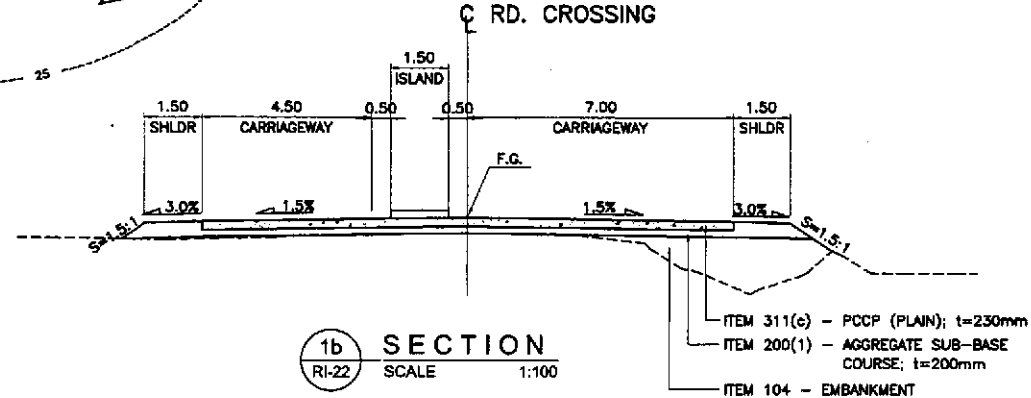
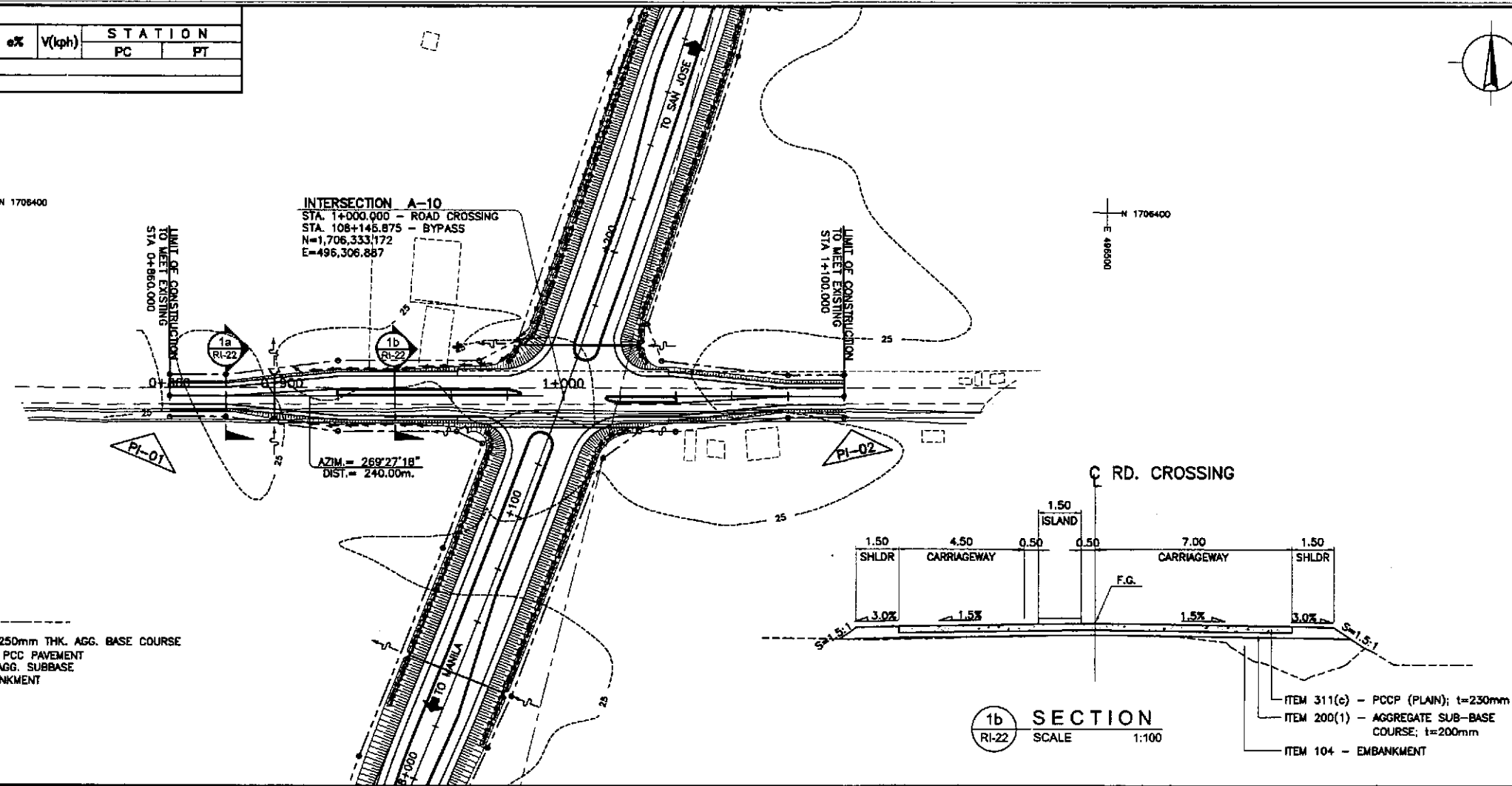
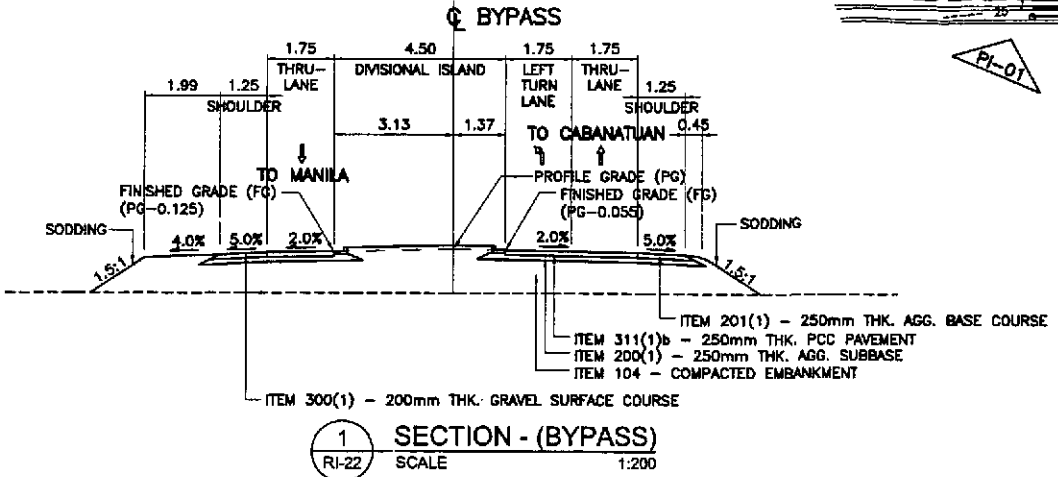
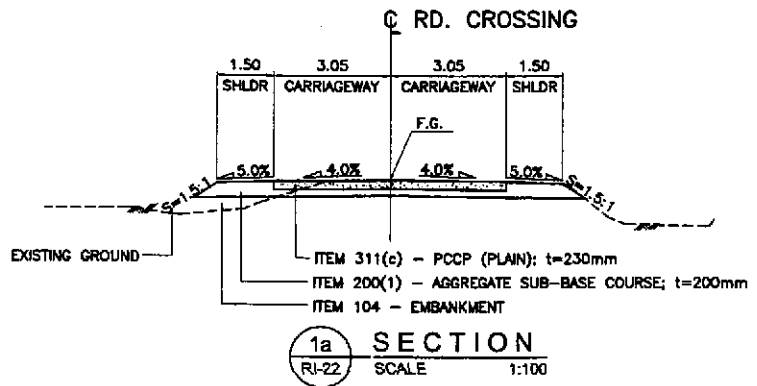


STATION	PVI			
	STA. 0+935.00	STA. 0+980.00	STA. 1+035.00	STA. 1+080.00
	ELEV = 25.845	ELEV = 26.925	ELEV = 26.845	ELEV = 26.010
	LVC = 40.00	NO VERT. CURVE	LVC = 40.00	LVC = 40.00
	Mo = +0.102		Mo = -0.026	Mo = +0.069

STATION	0+900	0+925	0+950	0+975	1+000	1+025	1+050	1+075	1+100	
FINISHED PROFILE GRADE BYPASS	25.722	25.789	26.023	26.445	26.925	27.308	27.042	26.381	25.916	
EXISTING GROUND BYPASS	25.722	25.789	25.705	25.672	25.545	25.463	25.532	25.856	25.916	
HORIZONTAL CURVATURE	<p>0+948.191 0+968.173</p> <p>R=200 R=60 R=100</p> <p>PI-01 PI-02 PI-03</p> <p>g=+0.351% L=40 g=+2.400% g=+1.915% g=-1.324% L=40 g=-1.855% L=40 g=-0.470%</p> <p>Mo=+0.102 Mo=-0.026 Mo=+0.069</p>									
VERTICAL CURVATURE	<p>g=+0.351% L=40 g=+2.400% g=+1.915% g=-1.324% L=40 g=-1.855% L=40 g=-0.470%</p> <p>Mo=+0.102 Mo=-0.026 Mo=+0.069</p>									
SUPERELEVATION	<p>NC BYPASS SECTION NC</p>									

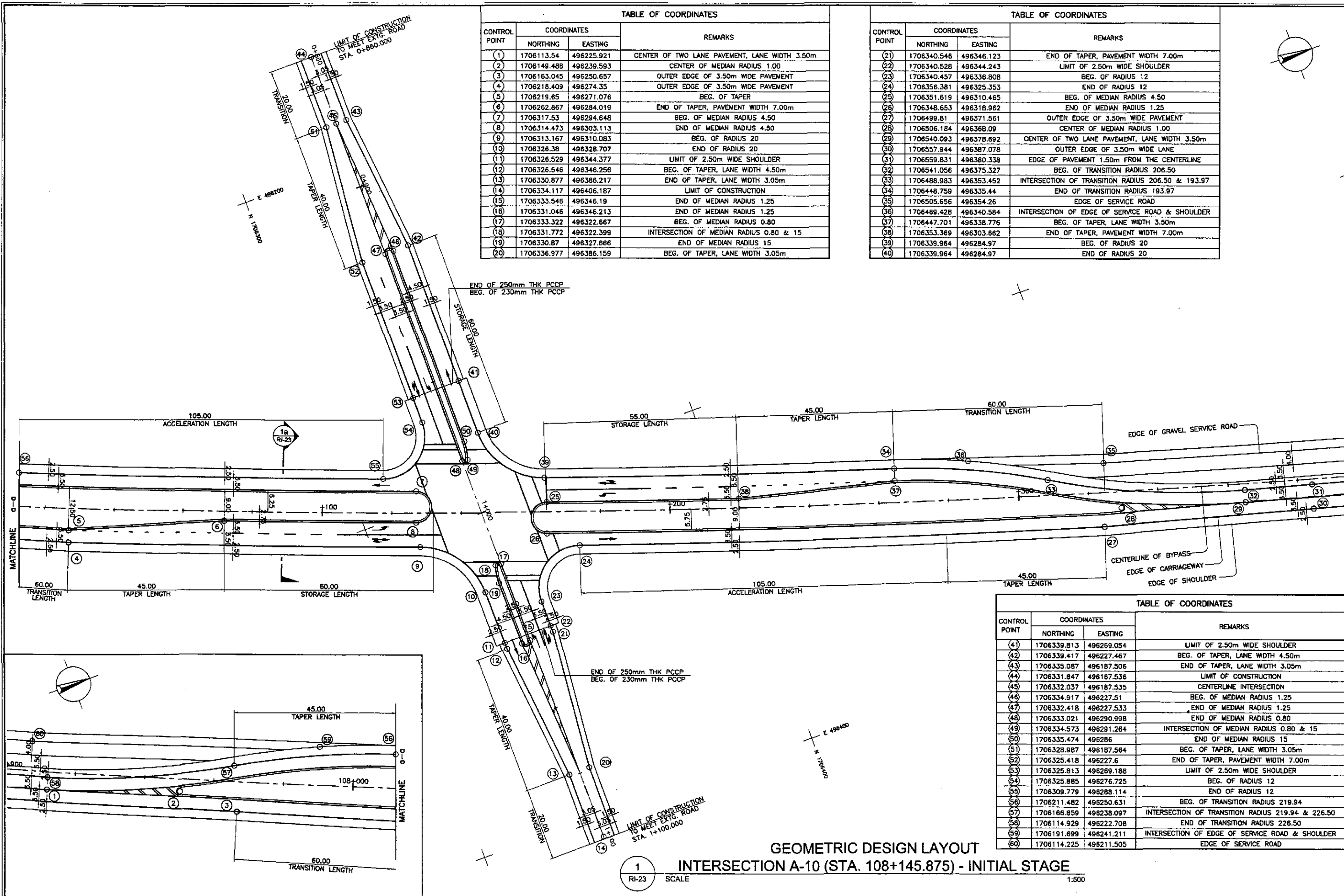
	DESIGNED	DATE	SIGNATURE		PROJECT AND LOCATION :			SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	10/15/02	S. ROSE		THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)			HORIZONTAL 1:1000	PLAN, CROSS-SECTION AND PROFILE INTERSECTION A-9 STA. 0+900 - STA 1+100	RI-21
	SUBMITTED	10/16/02	S. ROSE		CABANATUAN BYPASS - CONTRACT PACKAGE I			VERTICAL 1:100		

ELEMENTS OF CURVE													
PI NO.	STATION	COORDINATES		Δ	R	T	Lc	E	e%	V(kph)	STATION		
		NORTHING	EASTING								PC	PT	
PI-00	0+860.00	1,706,331.841	496,166.889	BEGINNING OF INTERSECTION A-10									
PI-01	1+100.00	1,706,334.123	496,406.878	END OF INTERSECTION A-10									



STATION	+800	+850	+900	+950	+1000	+1050	+1100	+1150	+1200	+1250	+1300	+1350	+1400	+1450	+1500
FINISHED PROFILE GRADE BYPASS															
EXISTING GROUND BYPASS															
HORIZONTAL CURVATURE	$R = \infty$														
VERTICAL CURVATURE	$g = +0.198\%$					$g = +1.754\%$					$g = -1.993\%$				
SUPERELEVATION	NC														

	DESIGNED	DATE	SIGNATURE		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS				PROJECT AND LOCATION :				SCALE :		SHEET CONTENTS :		SHEET NO. :	
	CHECKED	10/15/02	S. GONZALES		BUREAU OF DESIGN				THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)				HORIZONTAL 1:1000		PLAN, CROSS-SECTION AND PROFILE		RI-22	
	SUBMITTED	10/16/02	M. S. GONZALES		OFFICE OF THE SECRETARY				CABANATUAN BYPASS - CONTRACT PACKAGE I				VERTICAL 1:100		INTERSECTION A-10 STA. 0+860 - STA 1+100			
					BYPASS SECTION								FULL SIZE A1					



CONTROL POINT	COORDINATES		REMARKS
	NORTHING	EASTING	
1	1706113.54	496225.921	CENTER OF TWO LANE PAVEMENT, LANE WIDTH 3.50m
2	1706149.488	496239.593	CENTER OF MEDIAN RADIUS 1.00
3	1706163.045	496250.657	OUTER EDGE OF 3.50m WIDE PAVEMENT
4	1706218.409	496274.35	OUTER EDGE OF 3.50m WIDE PAVEMENT
5	1706219.65	496271.076	BEG. OF TAPER
6	1706262.867	496284.019	END OF TAPER, PAVEMENT WIDTH 7.00m
7	1706317.53	496294.648	BEG. OF MEDIAN RADIUS 4.50
8	1706314.473	496303.113	END OF MEDIAN RADIUS 4.50
9	1706313.167	496310.083	BEG. OF RADIUS 20
10	1706326.38	496328.707	END OF RADIUS 20
11	1706326.529	496344.377	LIMIT OF 2.50m WIDE SHOULDER
12	1706326.546	496346.256	BEG. OF TAPER, LANE WIDTH 4.50m
13	1706330.877	496386.217	END OF TAPER, LANE WIDTH 3.05m
14	1706334.117	496406.187	LIMIT OF CONSTRUCTION
15	1706333.546	496346.19	END OF MEDIAN RADIUS 1.25
16	1706331.046	496346.213	END OF MEDIAN RADIUS 1.25
17	1706333.322	496322.667	BEG. OF MEDIAN RADIUS 0.80
18	1706331.772	496322.399	INTERSECTION OF MEDIAN RADIUS 0.80 & 15
19	1706330.87	496327.666	END OF MEDIAN RADIUS 15
20	1706336.977	496386.159	BEG. OF TAPER, LANE WIDTH 3.05m

CONTROL POINT	COORDINATES		REMARKS
	NORTHING	EASTING	
21	1706340.546	496346.123	END OF TAPER, PAVEMENT WIDTH 7.00m
22	1706340.528	496344.243	LIMIT OF 2.50m WIDE SHOULDER
23	1706340.457	496336.808	BEG. OF RADIUS 12
24	1706356.381	496325.353	END OF RADIUS 12
25	1706351.619	496310.485	BEG. OF MEDIAN RADIUS 4.50
26	1706348.653	496318.962	END OF MEDIAN RADIUS 1.25
27	1706499.81	496371.561	OUTER EDGE OF 3.50m WIDE PAVEMENT
28	1706506.184	496368.09	CENTER OF MEDIAN RADIUS 1.00
29	1706540.093	496378.692	CENTER OF TWO LANE PAVEMENT, LANE WIDTH 3.50m
30	1706557.944	496387.078	OUTER EDGE OF 3.50m WIDE LANE
31	1706559.831	496380.338	EDGE OF PAVEMENT 1.50m FROM THE CENTERLINE
32	1706541.056	496375.327	BEG. OF TRANSITION RADIUS 206.50
33	1706488.983	496353.452	INTERSECTION OF TRANSITION RADIUS 206.50 & 193.97
34	1706448.759	496335.44	END OF TRANSITION RADIUS 193.97
35	1706505.656	496354.26	EDGE OF SERVICE ROAD
36	1706489.428	496340.584	INTERSECTION OF EDGE OF SERVICE ROAD & SHOULDER
37	1706447.701	496338.776	BEG. OF TAPER, LANE WIDTH 3.50m
38	1706353.369	496303.662	END OF TAPER, PAVEMENT WIDTH 7.00m
39	1706339.964	496284.97	BEG. OF RADIUS 20
40	1706339.964	496284.97	END OF RADIUS 20

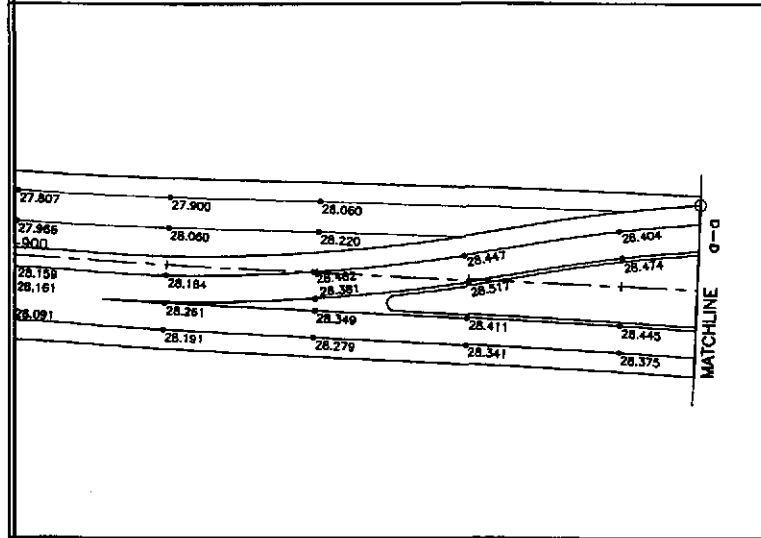
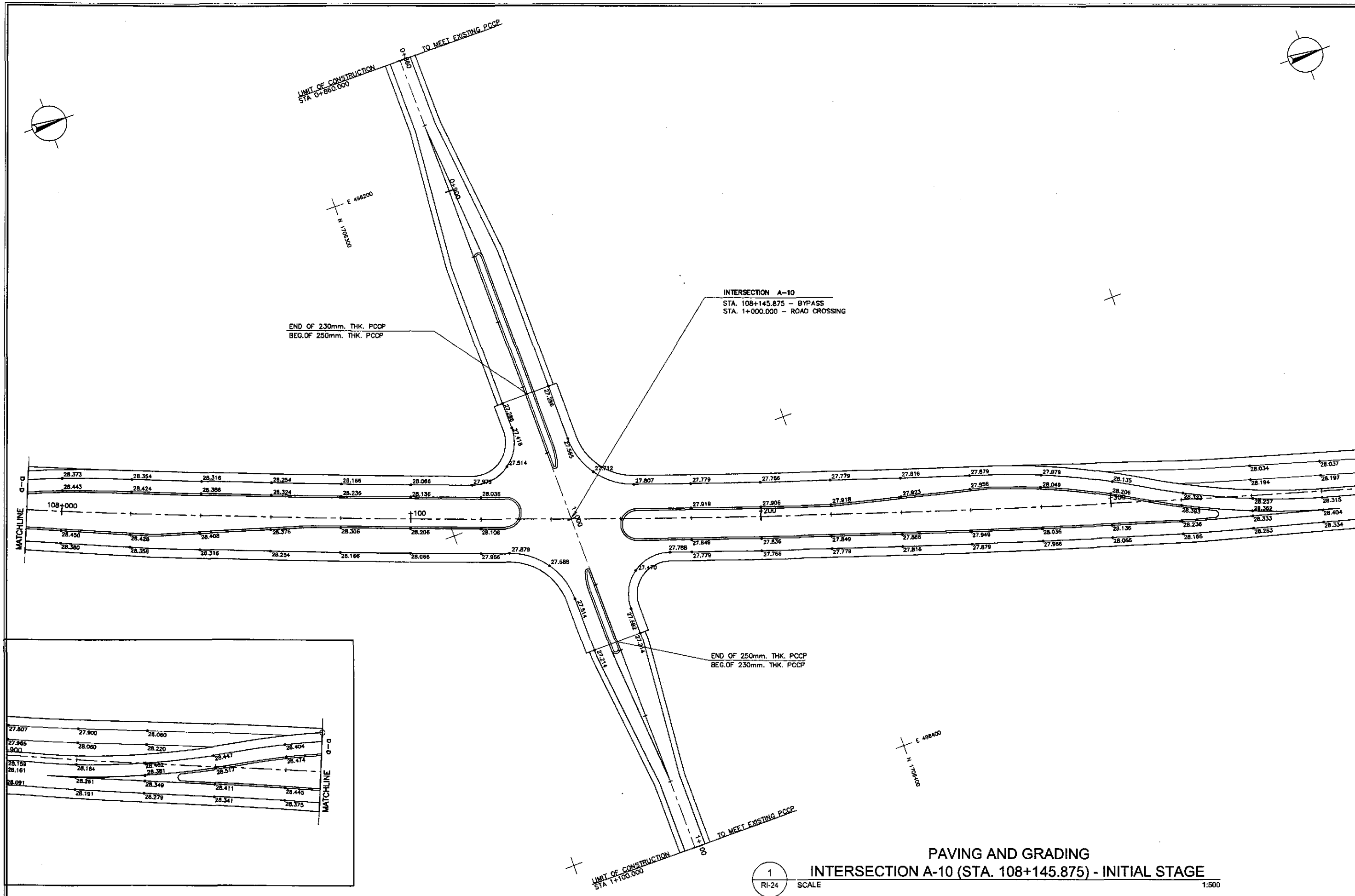
CONTROL POINT	COORDINATES		REMARKS
	NORTHING	EASTING	
41	1706339.813	496269.054	LIMIT OF 2.50m WIDE SHOULDER
42	1706339.417	496227.467	BEG. OF TAPER, LANE WIDTH 4.50m
43	1706335.087	496187.506	END OF TAPER, LANE WIDTH 3.05m
44	1706331.847	496167.536	LIMIT OF CONSTRUCTION
45	1706332.037	496187.535	CENTERLINE INTERSECTION
46	1706334.917	496227.51	BEG. OF MEDIAN RADIUS 1.25
47	1706332.418	496227.533	END OF MEDIAN RADIUS 1.25
48	1706333.021	496290.998	END OF MEDIAN RADIUS 0.80
49	1706334.573	496291.264	INTERSECTION OF MEDIAN RADIUS 0.80 & 15
50	1706335.474	496286	END OF MEDIAN RADIUS 15
51	1706328.987	496187.564	BEG. OF TAPER, LANE WIDTH 3.05m
52	1706325.418	496227.6	END OF TAPER, PAVEMENT WIDTH 7.00m
53	1706325.813	496269.188	LIMIT OF 2.50m WIDE SHOULDER
54	1706325.885	496276.725	BEG. OF RADIUS 12
55	1706309.779	496288.114	END OF RADIUS 12
56	1706211.482	496250.631	BEG. OF TRANSITION RADIUS 219.94
57	1706166.859	496238.097	INTERSECTION OF TRANSITION RADIUS 219.94 & 226.50
58	1706114.929	496222.708	END OF TRANSITION RADIUS 226.50
59	1706191.699	496241.211	INTERSECTION OF EDGE OF SERVICE ROAD & SHOULDER
60	1706114.225	496211.505	EDGE OF SERVICE ROAD

GEOMETRIC DESIGN LAYOUT
1 INTERSECTION A-10 (STA. 108+145.875) - INITIAL STAGE

1
RI-23 SCALE

1:500

<p>JAPAN INTERNATIONAL COOPERATION AGENCY</p>		<p>REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS</p>		<p>PROJECT AND LOCATION : THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Palaridel, Cabanatuan and San Jose Bypasses)</p>		<p>SCALE : 1:500</p>	<p>SHEET CONTENTS : INTERSECTION DETAIL GEOMETRIC DESIGN LAYOUT INTERSECTION A-10 (INITIAL STAGE)</p>	<p>SHEET NO. : RI-23</p>
<p>DESIGNED: 9/12/02 CHECKED: 10/15/02 SUBMITTED: 10/16/02</p>	<p>SIGNATURE: [Signatures] DATE: [Dates]</p>	<p>PUNJ - PMO Submitted By: DANLO C. TRAJANO Project Director</p>	<p>BUREAU OF DESIGN Reviewed By: JOSEFINA N. ALAGAR Chief, Highways Division</p>	<p>OFFICE OF THE SECRETARY Recommended By: GILBERTO S. REYES OIC, Director IV</p>	<p>(See cover sheet for Signature/Approval) Approved By: MANUEL M. BONJAN Undersecretary</p>	<p>FULL SIZE A1</p>		

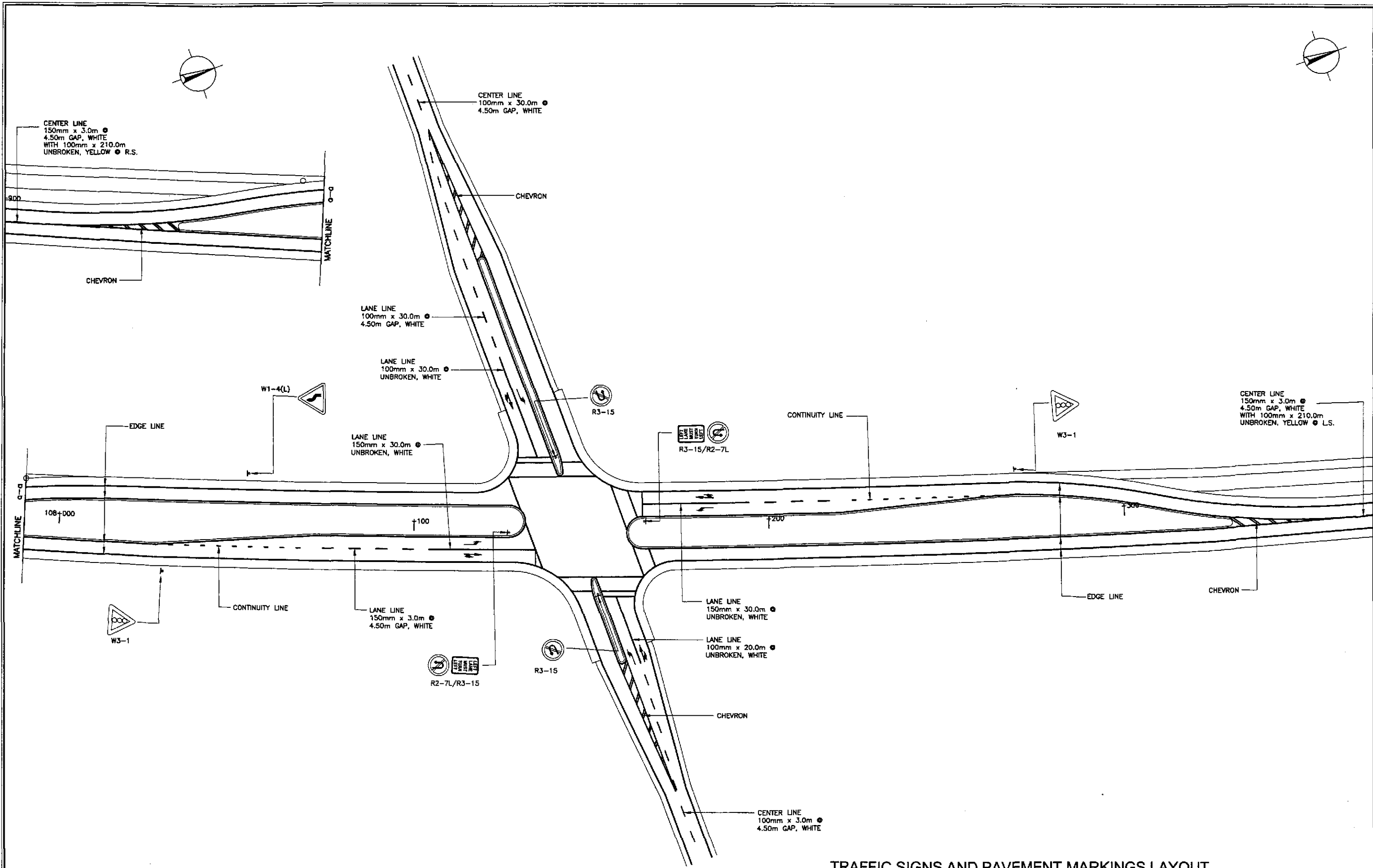


**PAVING AND GRADING
INTERSECTION A-10 (STA. 108+145.875) - INITIAL STAGE**

1
RI-24 SCALE

1:500

		DATE	SIGNATURE		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS	PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
	DESIGNED	9/27/02	<i>[Signature]</i>	BUREAU OF DESIGN	OFFICE OF THE SECRETARY	THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)	1:500	INTERSECTION DETAIL PAVING AND GRADING INTERSECTION A-10 (INITIAL STAGE)	RI-24
	CHECKED	10/15/02	<i>[Signature]</i>	Submitted By:	Reviewed By:	Recommended By:	FULL SIZE A1		
	SUBMITTED	10/16/02	<i>[Signature]</i>	DANILO C. TRAJANO Project Director	JOSEFINA M. ALAGAR Chief, Highways Division	GILBERTO S. REYES OIC, Director IV	MANUEL M. BONDAN Undersecretary	SIMEON A. DATUMANONG Secretary	

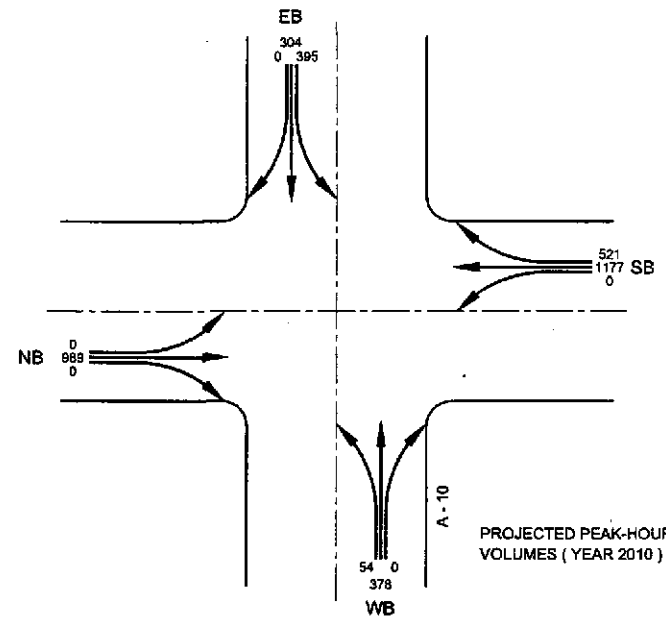
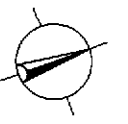


**TRAFFIC SIGNS AND PAVEMENT MARKINGS LAYOUT
INTERSECTION A-10 (STA. 108+145.875) - INITIAL STAGE**

1
RI-25 SCALE

1:500

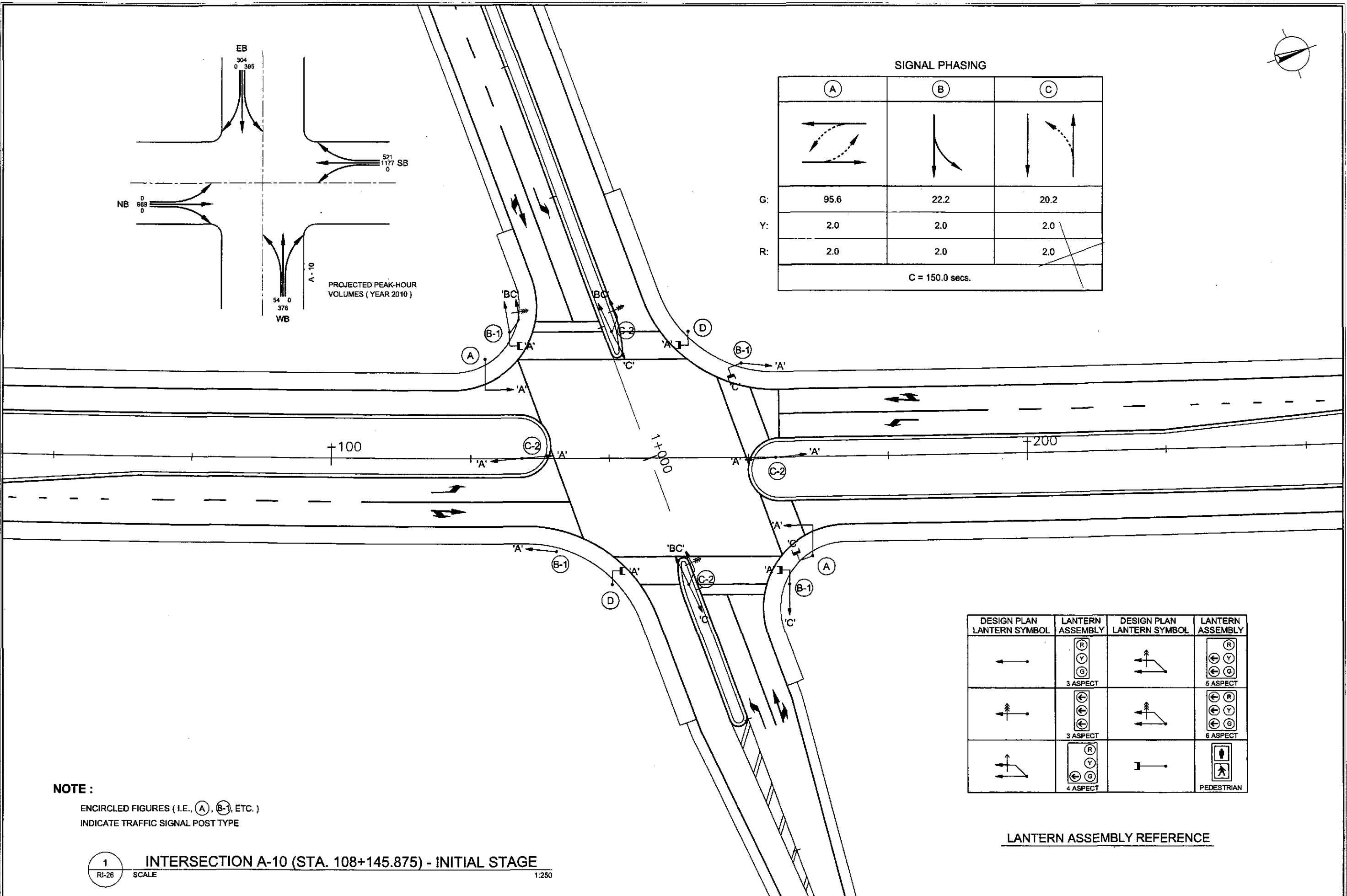
	DESIGNED	9/27/02	S. LUNA	<p align="center">REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS</p>	PROJECT AND LOCATION :			SCALE :	SHEET CONTENTS :	SHEET NO. :	
	CHECKED	10/15/02	S. JOSE		<p align="center">BUREAU OF DESIGN</p> <p>Submitted By: DANILLO C. TRAJANO Project Director</p> <p>Reviewed By: JOSEFINA M. ALAGAR Chief, Highways Division</p> <p>Recommended By: GILBERTO S. REYES OIC, Director IV</p> <p>Recommended By: MANUEL M. BONDAN Undersecretary</p> <p>Approved By: SIMEON A. DATUMANONG Secretary</p>	THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)			1:500	TRAFFIC SIGNS AND PAVEMENT MARKINGS LAYOUT INTERSECTION A-10 (INITIAL STAGE)	RI-25
	SUBMITTED	10/16/02	Mr. Kuroki		<p align="center">OFFICE OF THE SECRETARY</p> <p>(See cover sheet for Signatures/Approvals)</p>	CABANATUAN BYPASS - CONTRACT PACKAGE I			FULL SIZE A1		



PROJECTED PEAK-HOUR VOLUMES (YEAR 2010)

SIGNAL PHASING

	(A)	(B)	(C)
G:	95.6	22.2	20.2
Y:	2.0	2.0	2.0
R:	2.0	2.0	2.0
C = 150.0 secs.			



NOTE :
ENCIRCLED FIGURES (I.E., (A), (B-1), ETC.)
INDICATE TRAFFIC SIGNAL POST TYPE

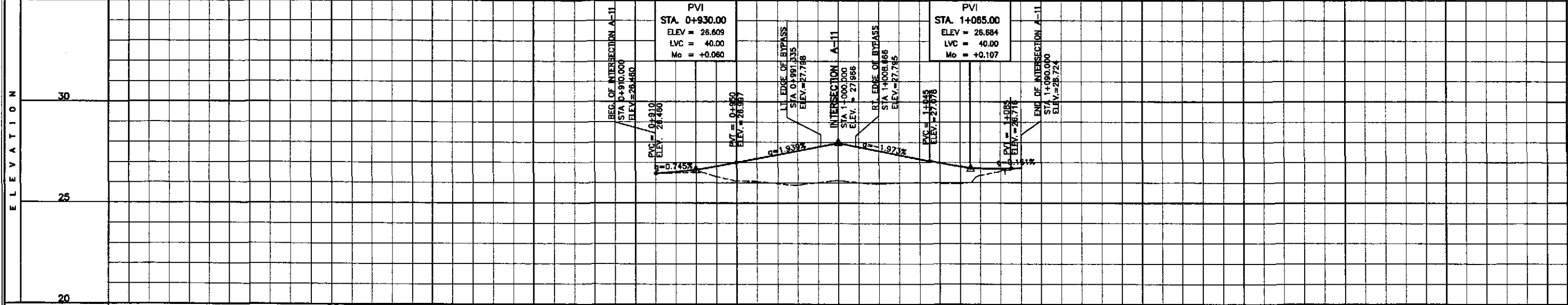
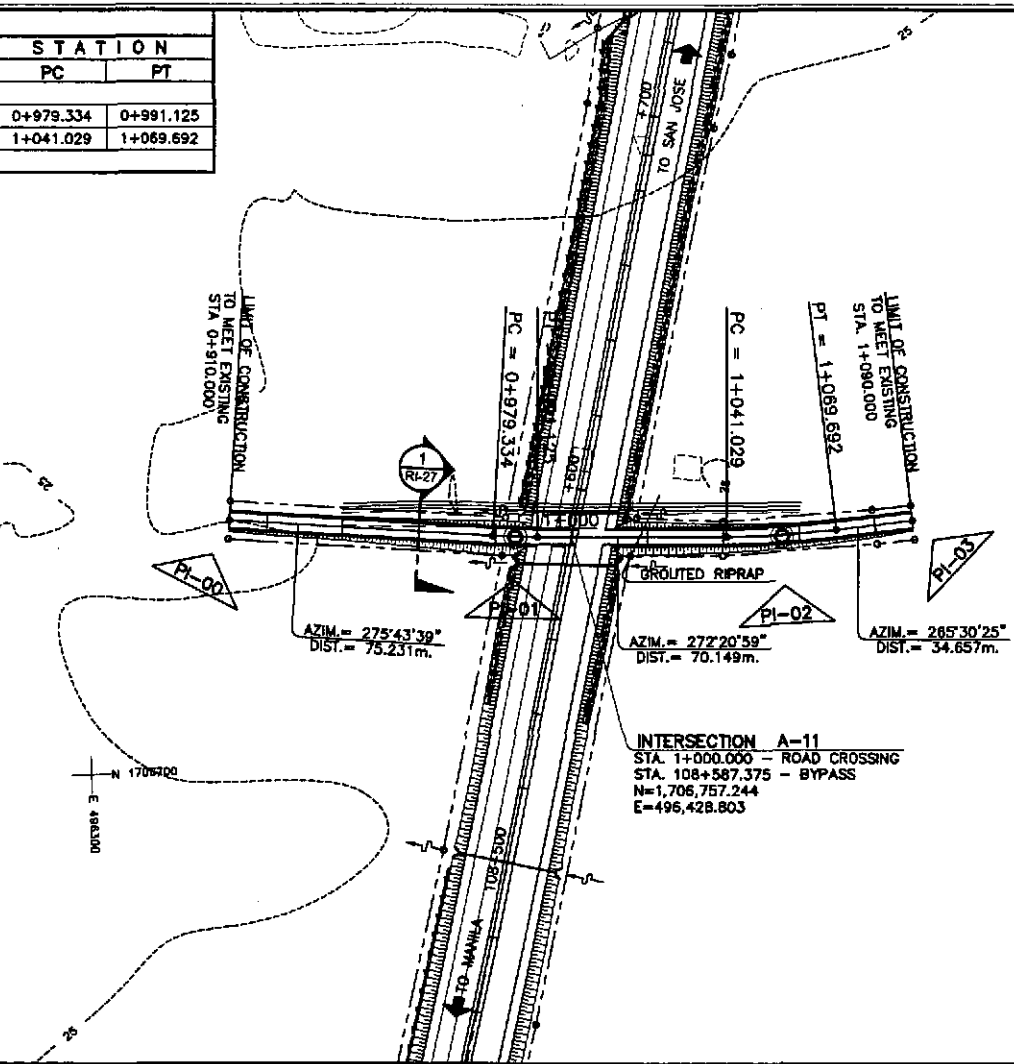
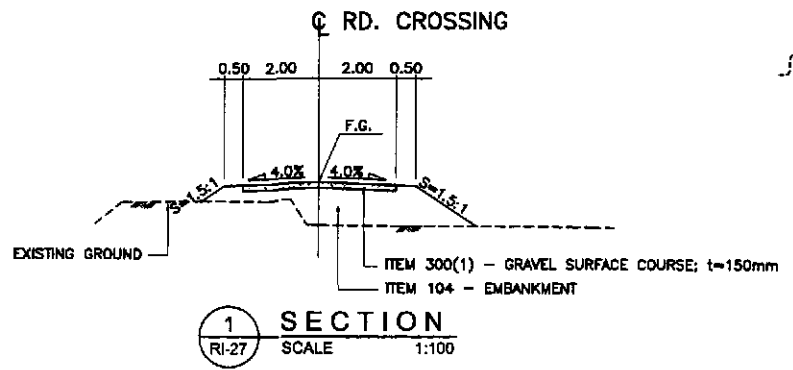
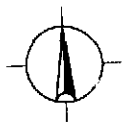
LANTERN ASSEMBLY REFERENCE

DESIGN PLAN LANTERN SYMBOL	LANTERN ASSEMBLY	DESIGN PLAN LANTERN SYMBOL	LANTERN ASSEMBLY
	 3 ASPECT		 5 ASPECT
	 3 ASPECT		 6 ASPECT
	 4 ASPECT		 PEDESTRIAN

1 INTERSECTION A-10 (STA. 108+145.875) - INITIAL STAGE
RI-26 SCALE 1:250

		DATE	SIGNATURE	REPUBLIC OF THE PHILIPPINES		PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
	DESIGNED	9/27/02		DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS		THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)	1:250	TRAFFIC SIGNAL LIGHT LAYOUT INTERSECTION A-10 (INITIAL STAGE)	RI-26
	CHECKED	10/15/02		BUREAU OF DESIGN	OFFICE OF THE SECRETARY	CABANATUAN BYPASS - CONTRACT PACKAGE I	FULL SIZE A1		
SUBMITTED	10/14/02		PROJECT DIRECTOR	CHIEF, HIGHWAYS DIVISION	RECOMMENDED BY:				
			PROJECT DIRECTOR	CHIEF, HIGHWAYS DIVISION	RECOMMENDED BY:				
			PROJECT DIRECTOR	CHIEF, HIGHWAYS DIVISION	RECOMMENDED BY:				

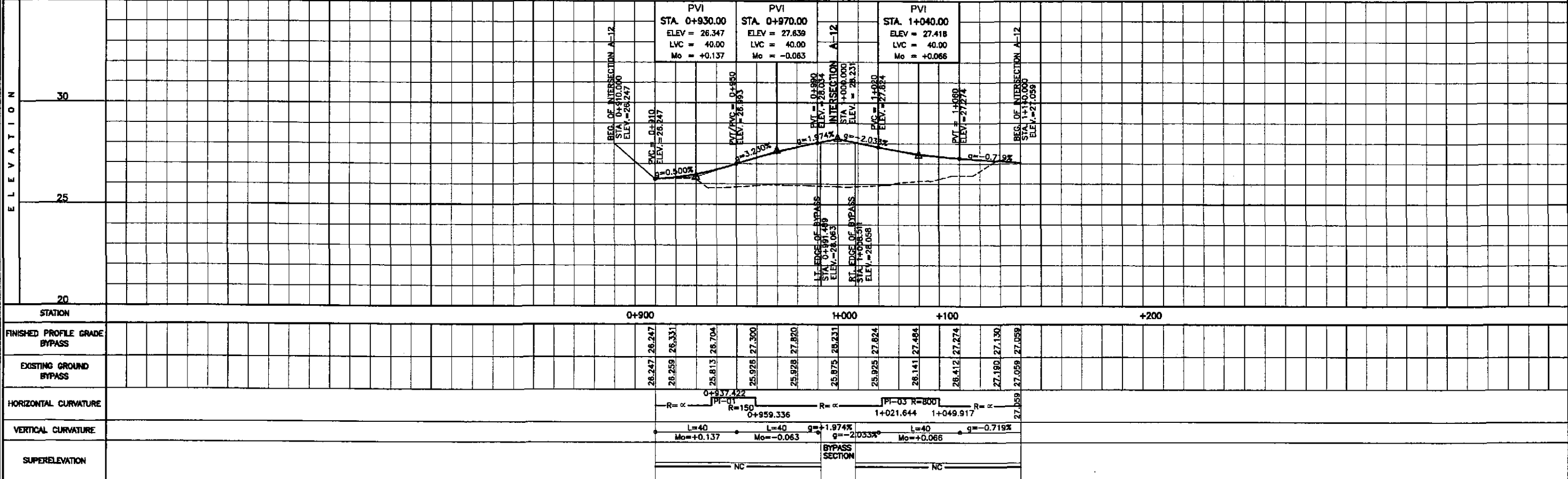
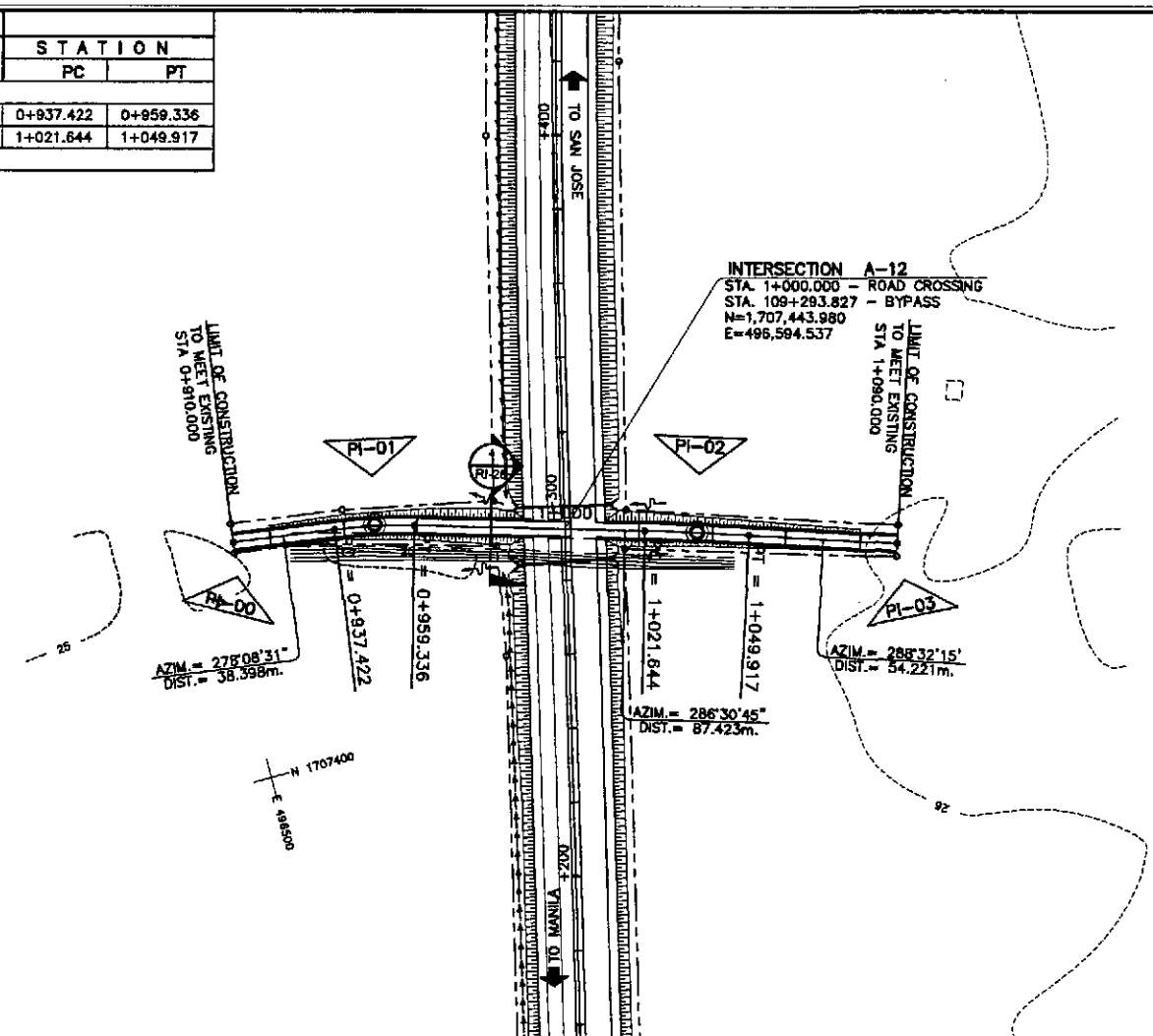
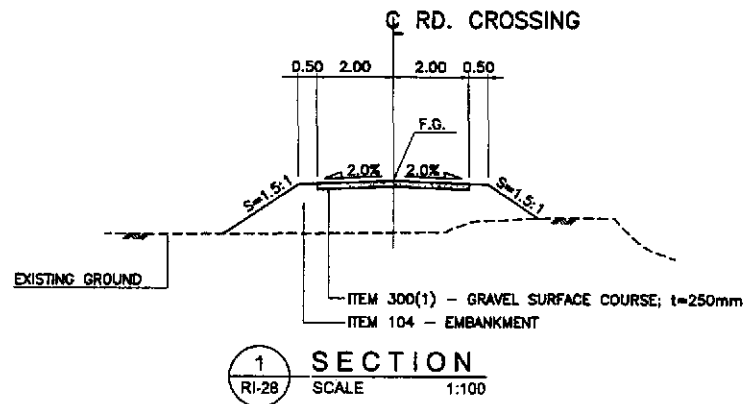
ELEMENTS OF CURVE												
PI NO.	STATION	COORDINATES		Δ	R	T	Lc	E	e%	V(kph)	STATION	
		NORTHING	EASTING								PC	PT
PI-00	0+910.000	1,706,765.357	496,339.187								BEGINNING OF INTERSECTION A-11	
PI-01	0+985.231	1,706,757.846	496,414.043	03°22'40"	200	5.897	11.791	0.087	-	-	0+979.334	0+991.125
PI-02	1+055.377	1,706,754.973	496,484.133	06°50'34"	240	14.349	28.663	0.429	-	-	1+041.029	1+069.692
PI-03	1+090.000	1,706,757.688	496,518.684								END OF INTERSECTION A-11	



STATION	1+900	1+000	+100
FINISHED PROFILE GRADE BYPASS	26.480, 26.490, 26.475, 26.549, 26.295, 26.818, 26.058, 27.190, 26.884, 27.578, 26.111, 27.966, 26.949, 27.571, 26.018, 27.177, 26.960, 26.842, 26.585, 26.714, 26.724, 26.724		
EXISTING GROUND BYPASS			
HORIZONTAL CURVATURE			
VERTICAL CURVATURE			
SUPERELEVATION			

	DESIGNED	DATE	SIGNATURE		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS			PROJECT AND LOCATION : THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)	SCALE : HORIZONTAL 1:1000 VERTICAL 1:100 FULL SIZE A1	SHEET CONTENTS : PLAN, CROSS-SECTION AND PROFILE INTERSECTION A-11 STA. 0+910 - STA 1+090	SHEET NO. : RI-27				
	CHECKED	DATE	SIGNATURE		BUREAU OF DESIGN										
	SUBMITTED	DATE	SIGNATURE		OFFICE OF THE SECRETARY										
Submitted By: DANILLO C. TRAJANO, Project Director				Reviewed By: JOSEFIMA M. ALAGAR, Chief, Highways Division			Recommended By: GILBERTO S. REYES, OIC, Director IV			Recommended By: MANUEL M. BONGAN, Undersecretary			Approved By: SIMON A. DATUMANONG, Secretary		

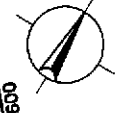
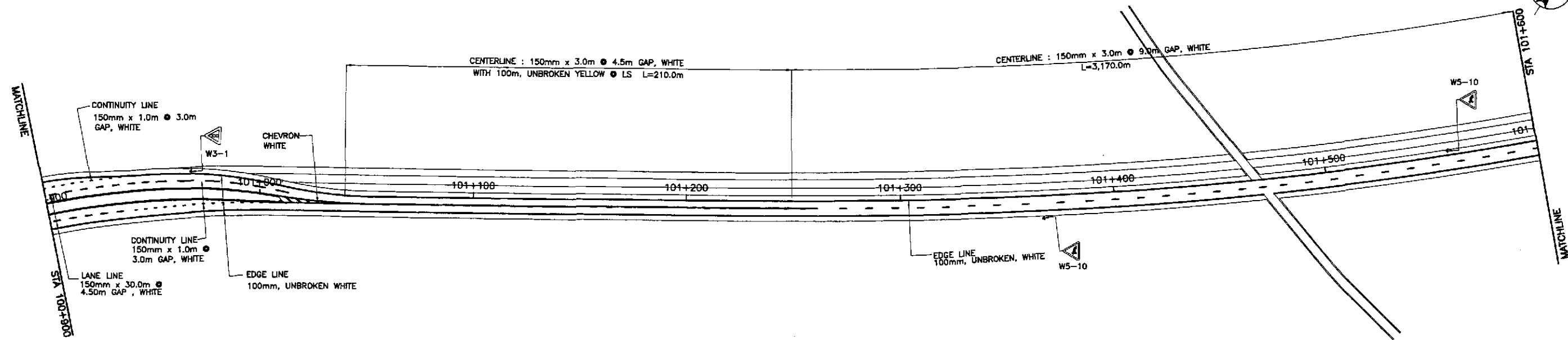
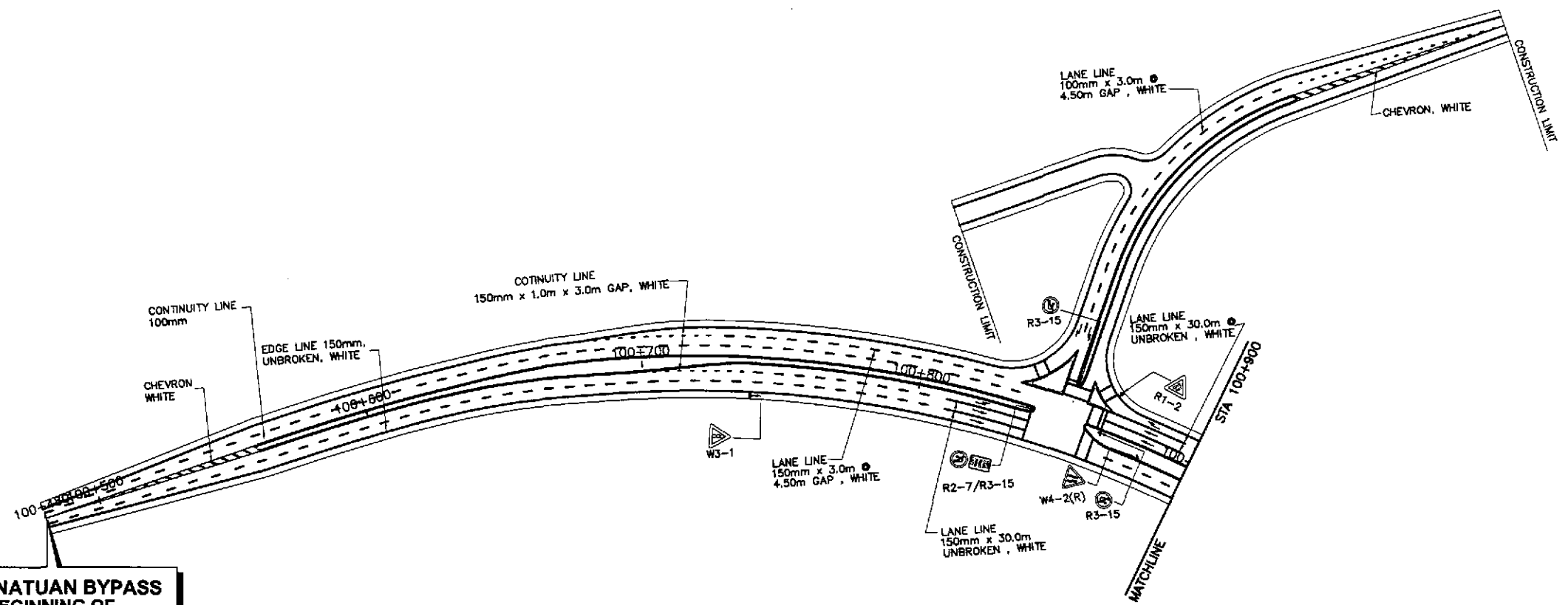
ELEMENTS OF CURVE												
PI NO.	STATION	COORDINATES		Δ	R	T	Lc	E	e%	V(kph)	STATION	
		NORTHING	EASTING								PC	PT
PI-01	0+910.000	1,707,464.095	496,507.015								BEGINNING OF INTERSECTION A-12	
PI-01	0+948.398	1,707,458.657	496,545.027	08°22'14"	150	10.976	21.914	0.401	--	--	0+937.422	0+959.336
PI-02	1+035.782	1,707,433.810	496,628.844	02°01'30"	800	14.138	28.273	0.125	--	--	1+021.644	1+049.917
PI-03	1+090.000	1,707,416.571	496,680.251								END OF INTERSECTION A-12	



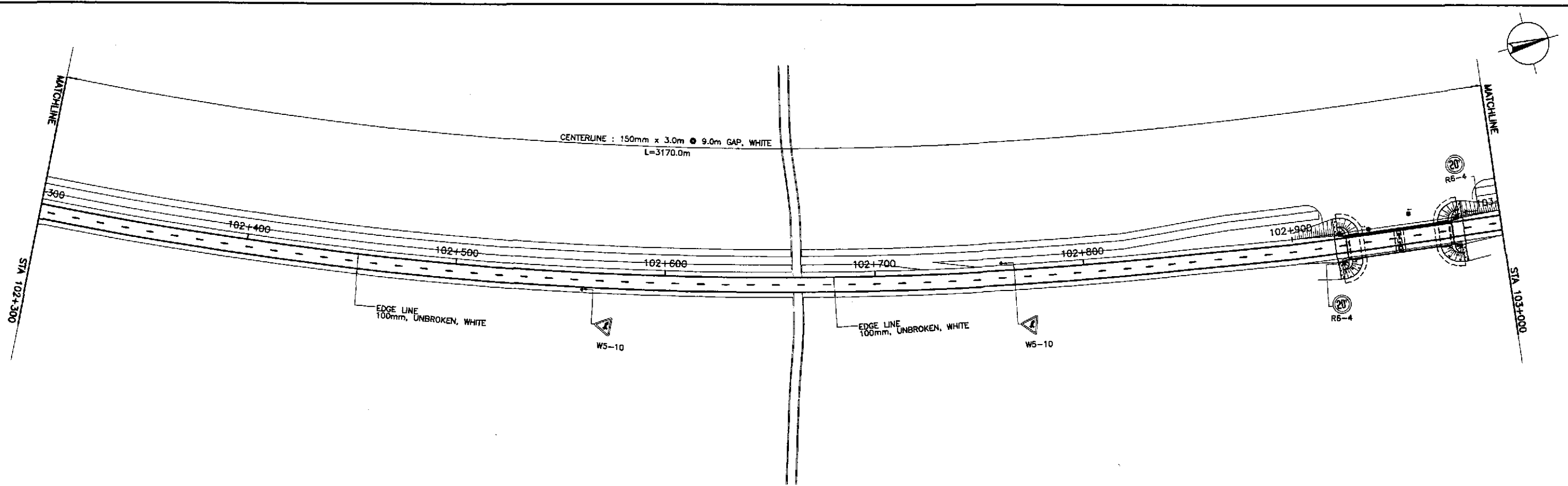
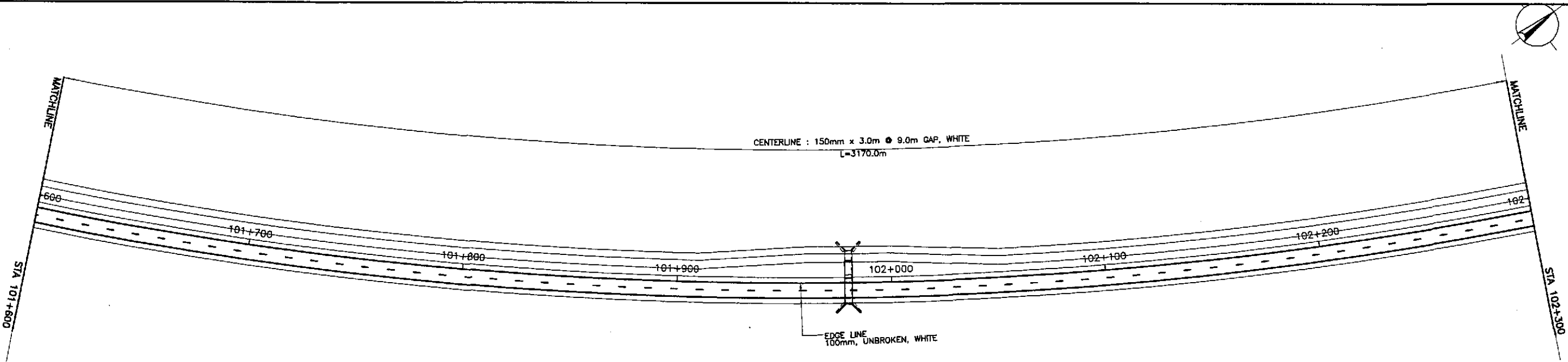
	DESIGNED	9/27/02	DATE	9/27/02	SIGNATURE	<i>[Signature]</i>
	CHECKED	10/15/02	DATE	10/15/02	SIGNATURE	<i>[Signature]</i>
	SUBMITTED	10/16/02	DATE	10/16/02	SIGNATURE	<i>[Signature]</i>
	TEAM LEADER		PROJECT DIRECTOR		CHIEF, HIGHWAYS DIVISION	
<p>REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS</p> <p>BUREAU OF DESIGN</p> <p>OFFICE OF THE SECRETARY</p> <p>PROJECT AND LOCATION : THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)</p> <p>SCALE : HORIZONTAL 1:1000 VERTICAL 1:100 FULL SIZE A1</p> <p>SHEET CONTENTS : PLAN, CROSS-SECTION AND PROFILE INTERSECTION A-12 STA. 0+910 - STA 1+090</p> <p>SHEET NO. : RI-28</p>						

**CABANATUAN BYPASS
BEGINNING OF
CONTRACT PACKAGE I**

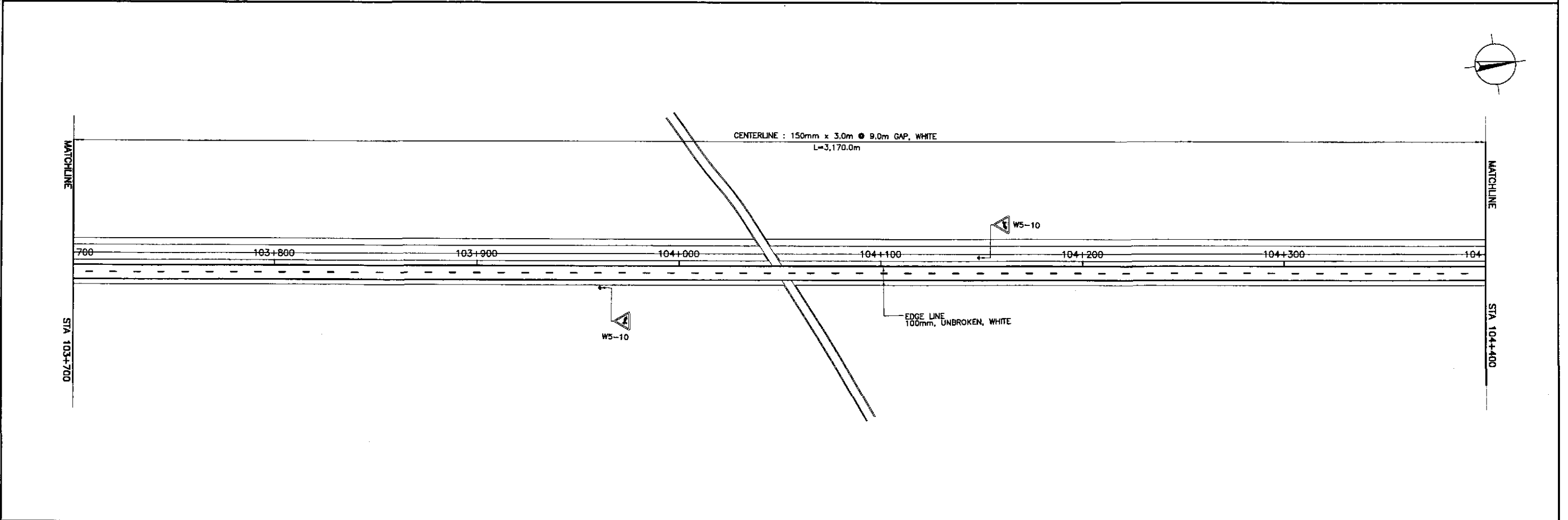
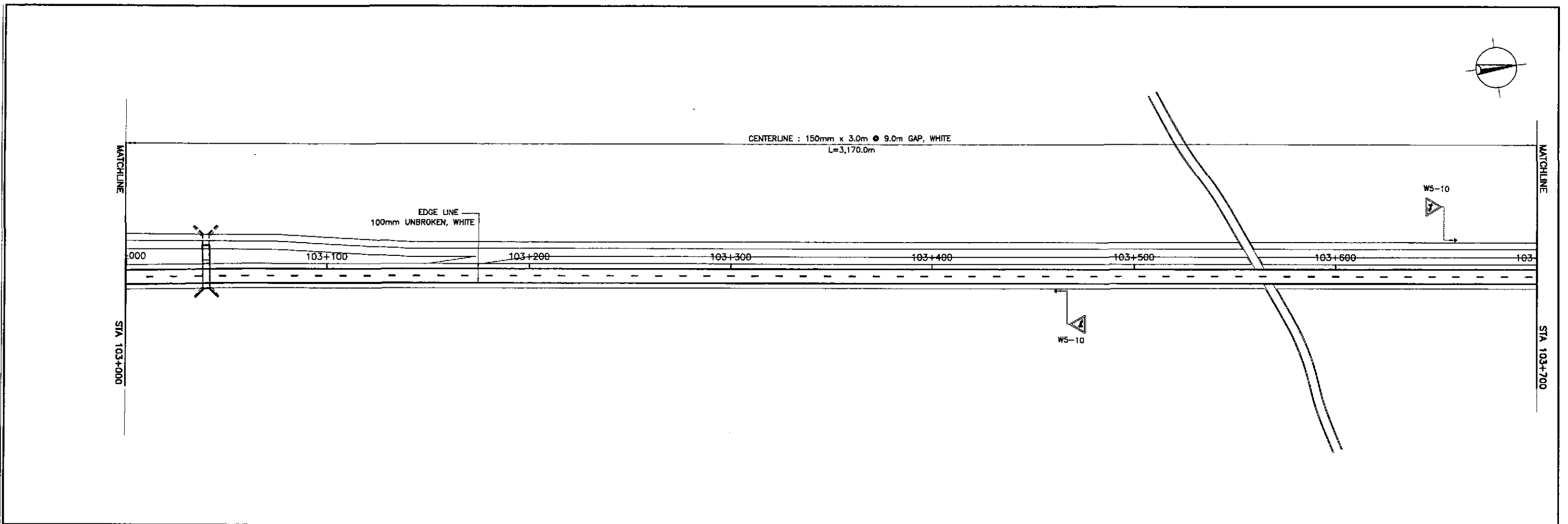
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ELEV. = 21.192
N = 1,699,524.054
E = 493,403.773



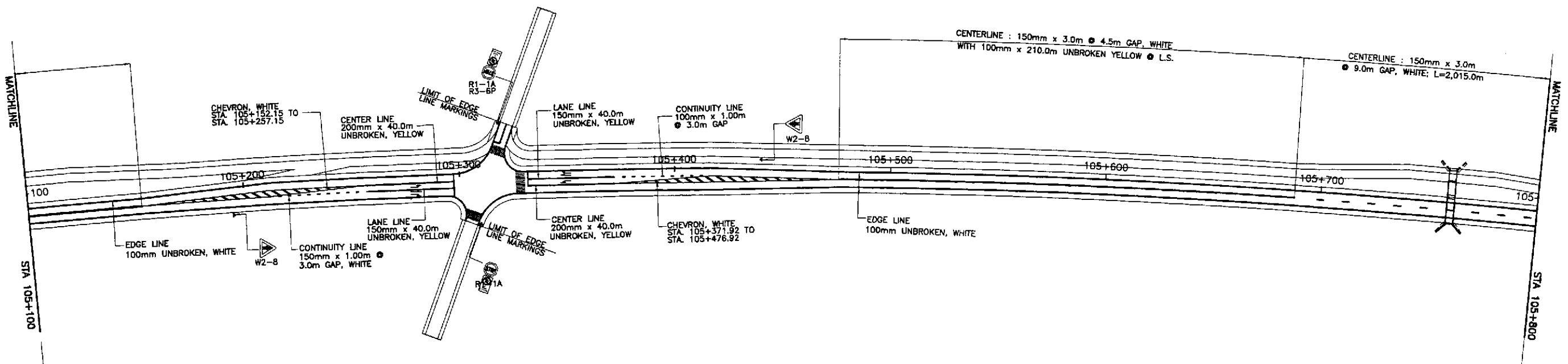
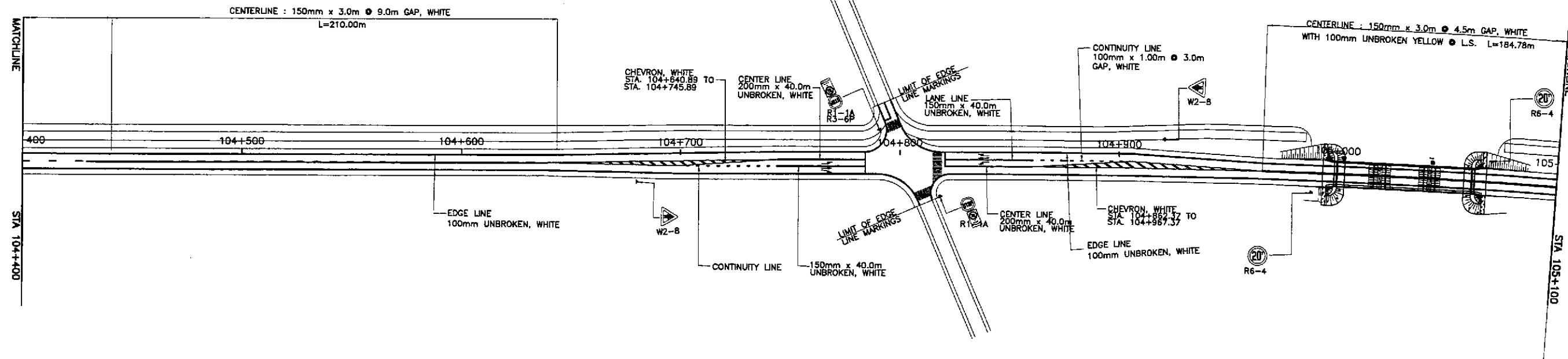
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	CHECKED	01/15/02	S. LUNA		<p>THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Pinaridel, Cabanatuan and San Jose Bypasses)</p>			1:1000	<p>TRAFFIC SIGNS AND PAVEMENT MARKINGS LAYOUT (INITIAL STAGE) STA. 100+480 - STA. 101+600</p>	<p>RM-01</p>	
	SUBMITTED	01/16/02	Team Leader		<p>CABANATUAN BYPASS - CONTRACT PACKAGE I</p>			FULL SIZE A1			
<p>Submitted By: DANILLO C. TRAJANO, Project Director</p>				<p>Reviewed By: JOSEFINA M. ALAGAR, Chief, Highways Division</p>			<p>Recommended By: GILBERTO S. REYES, OIC, Director IV</p>			<p>Approved By: MANUEL M. BONDAN, Undersecretary</p>	
<p>Submitted By: DANILLO C. TRAJANO, Project Director</p>				<p>Reviewed By: JOSEFINA M. ALAGAR, Chief, Highways Division</p>			<p>Recommended By: GILBERTO S. REYES, OIC, Director IV</p>			<p>Approved By: MANUEL M. BONDAN, Undersecretary</p>	
<p>Submitted By: DANILLO C. TRAJANO, Project Director</p>				<p>Reviewed By: JOSEFINA M. ALAGAR, Chief, Highways Division</p>			<p>Recommended By: GILBERTO S. REYES, OIC, Director IV</p>			<p>Approved By: MANUEL M. BONDAN, Undersecretary</p>	
<p>Submitted By: DANILLO C. TRAJANO, Project Director</p>				<p>Reviewed By: JOSEFINA M. ALAGAR, Chief, Highways Division</p>			<p>Recommended By: GILBERTO S. REYES, OIC, Director IV</p>			<p>Approved By: MANUEL M. BONDAN, Undersecretary</p>	



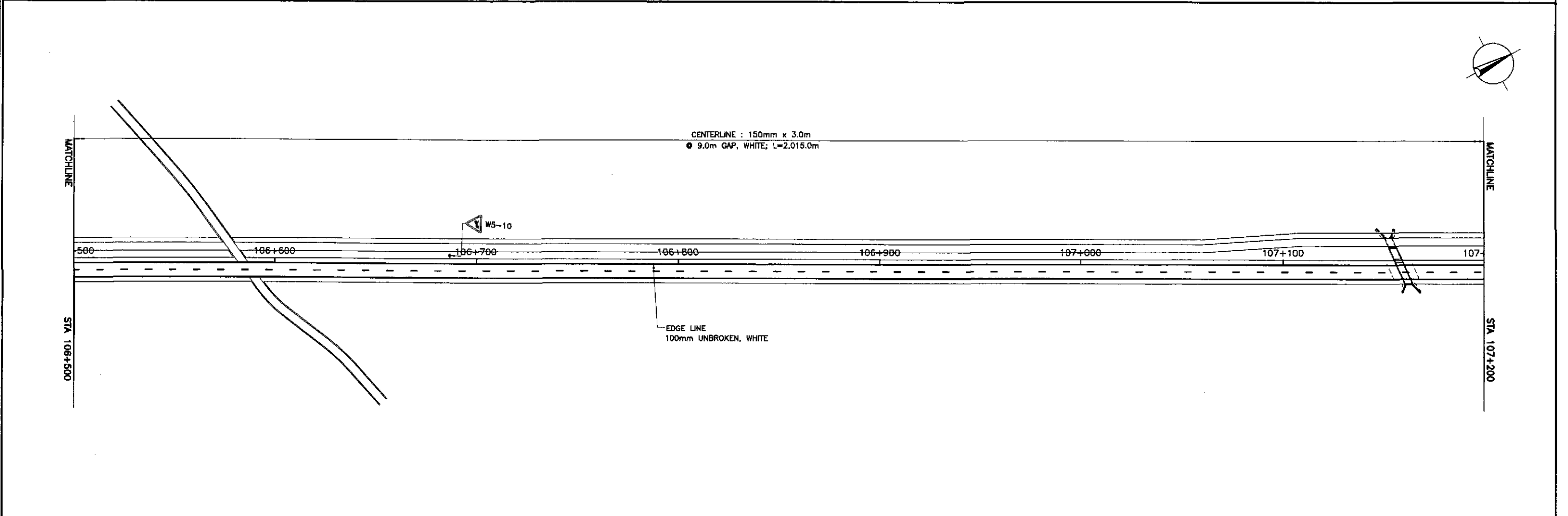
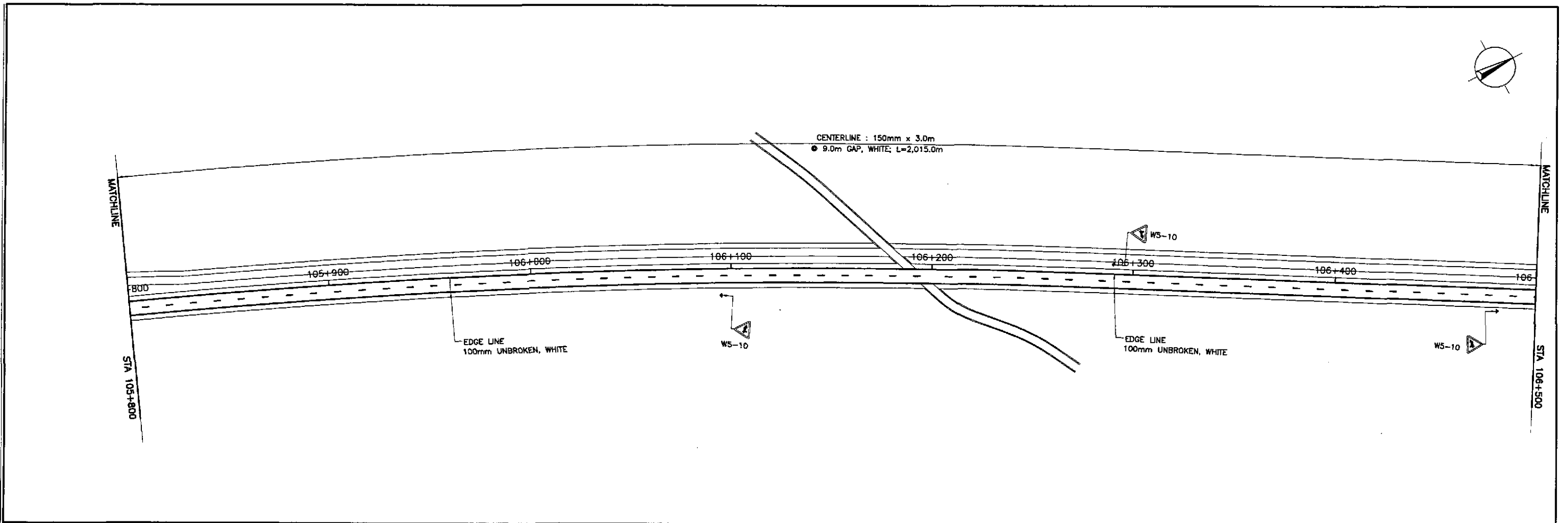
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	CHECKED	9/27/08	S. LUNA	Submitted By:	Reviewed By:	Recommended By:	THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)	1:1000	TRAFFIC SIGNS AND PAVEMENT MARKINGS LAYOUT (INITIAL STAGE) STA. 101+600 - STA. 103+000	RM-02
	SUBMITTED	10/16/08	S. LUNA	DANILD C. TRAJANO Project Director	JOSEFINA M. ALAGAR Chief, Highways Division	GILBERTO S. REYES OIC, Director IV	CABANATUAN BYPASS - CONTRACT PACKAGE I	FULL SIZE A1		



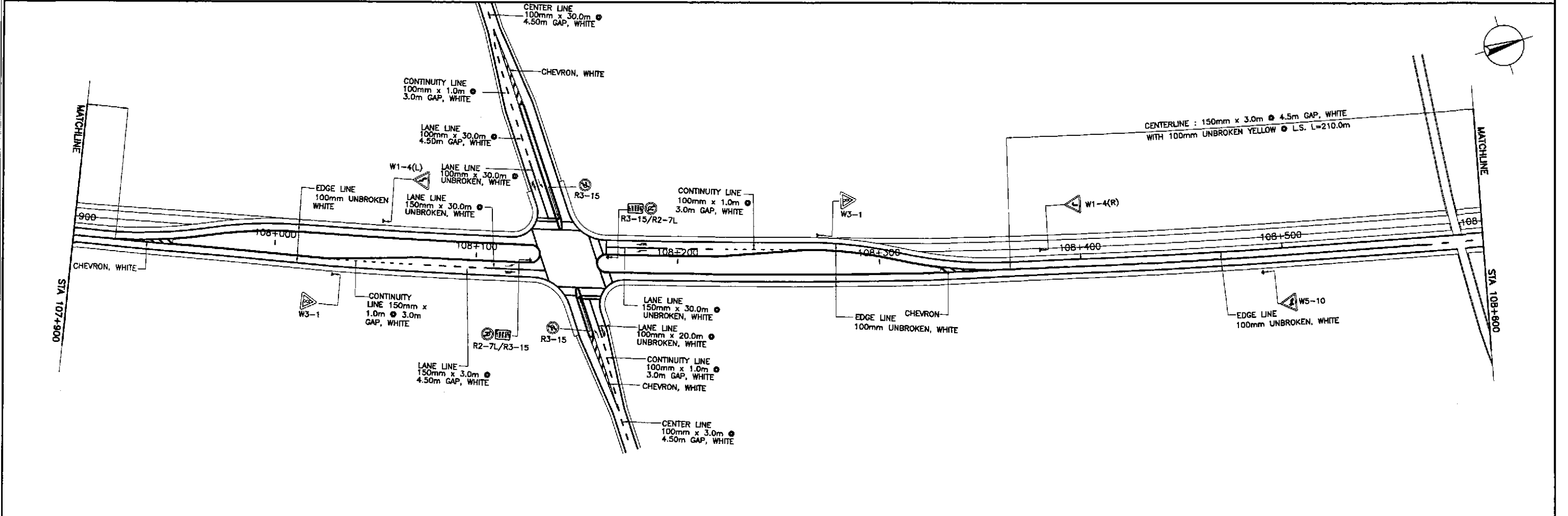
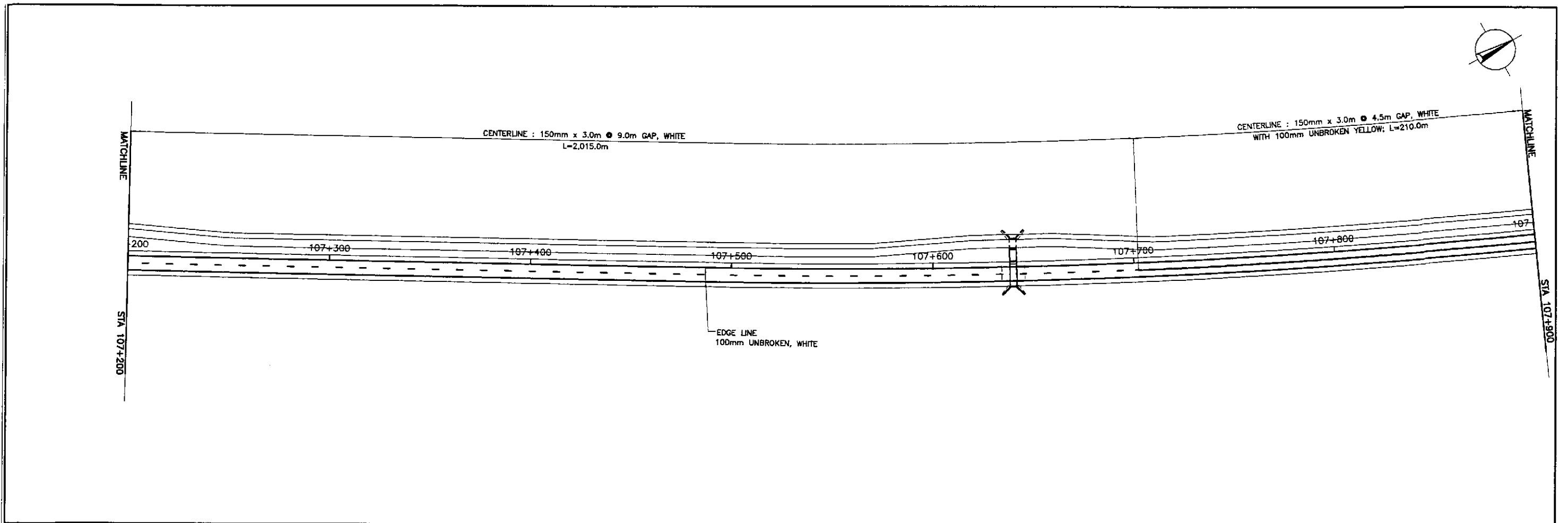
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	CHECKED	11/15/02	S. LUNA		THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Pilaridel, Cabanatuan and San Jose Bypasses)			1:1000	TRAFFIC SIGNS AND PAVEMENT MARKINGS LAYOUT (INITIAL STAGE) STA. 103+000 - STA. 104+400	RM-03
	SUBMITTED	11/14/02	M. B. B. B.		CABANATUAN BYPASS - CONTRACT PACKAGE I			FULL SIZE A1		
Submitted By: DANILLO C. TRAJANO, Project Director Reviewed By: JOSEFINA M. ALAGAR, Chief, Highways Division Recommended By: GILBERTO S. REYES, D/C, Director IV Recommended By: MANUEL M. BONOAN, Undersecretary Approved By: SIMEON A. DATUMANONG, Secretary										



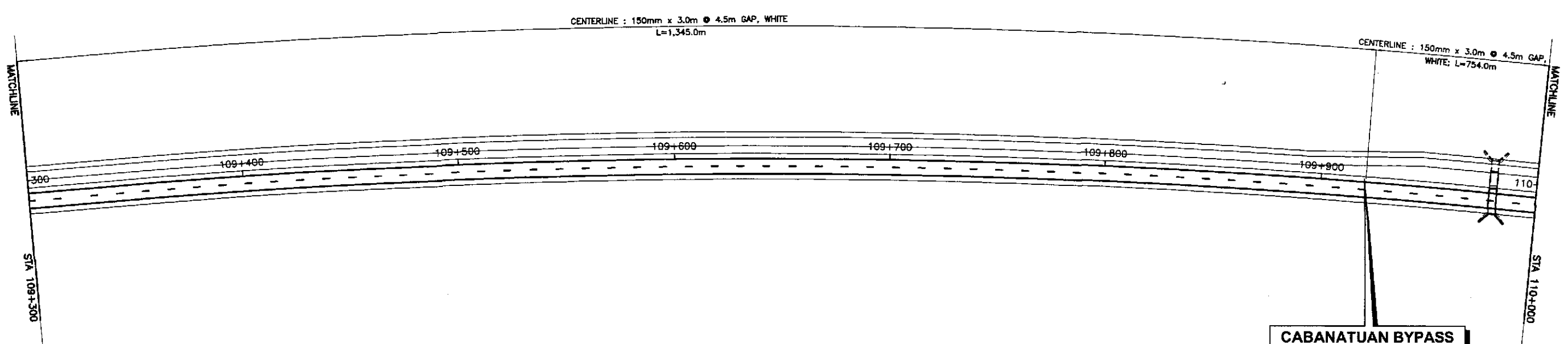
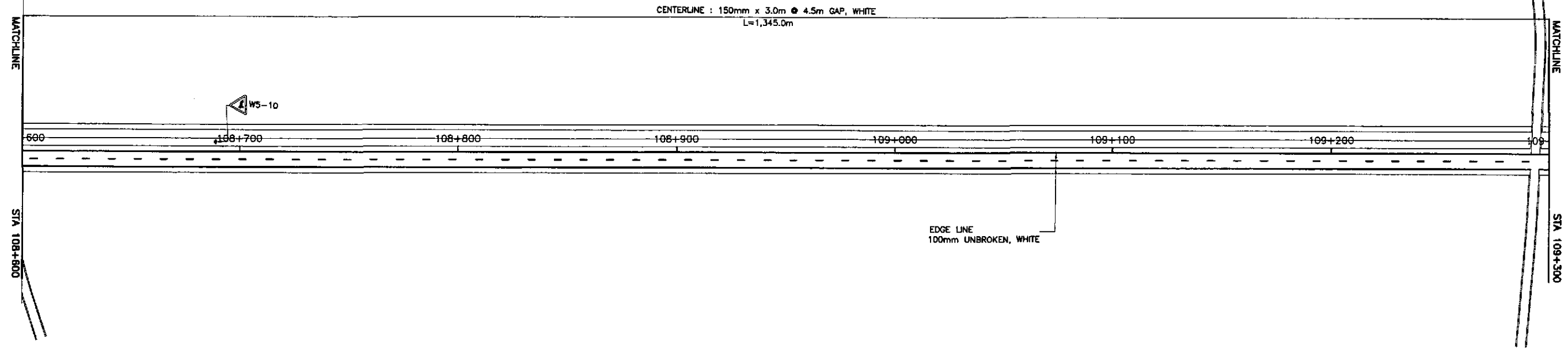
	DATE	SIGNATURE	REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS			PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :	
	DESIGNED	9/27/02	<i>S. LUINA</i>	PJHL - PWD BUREAU OF DESIGN OFFICE OF THE SECRETARY			THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Pinaridel, Cabanatuan and San Jose Bypasses) CABANATUAN BYPASS - CONTRACT PACKAGE I	1:1000 FULL SIZE A1	TRAFFIC SIGNS AND PAVEMENT MARKINGS LAYOUT (INITIAL STAGE) STA. 104+400 - STA. 105+800	RM-04
	CHECKED	10/15/02	<i>S. ROSE</i>	Submitted By:	Reviewed By:	Recommended By:				
SUBMITTED	10/14/02	<i>S. ROSE</i>	DANILO C. TRAJANO Project Director	JOSEFINA M. ALAGAR Chief, Highways Division	GILBERTO S. REYES Dir., Director IV	MANUEL M. BONOAN Undersecretary				



	DESIGNED	9/27/02	SIGNATURE	REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS			PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	10/15/02	SIGNATURE	BUREAU OF DESIGN Submitted By: DANILLO C. TRAJANO Project Director		OFFICE OF THE SECRETARY Recommended By: JOSEFINA M. ALAGAR Chief, Highways Division	THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) CABANATUAN BYPASS - CONTRACT PACKAGE I	1:1000 FULL SIZE A1	TRAFFIC SIGNS AND PAVEMENT MARKINGS LAYOUT (INITIAL STAGE) STA. 105+800 - STA. 107+200	RM-05
	SUBMITTED	10/16/02	SIGNATURE	Reviewed By: JOSEFINA M. ALAGAR Chief, Highways Division		Approved By: MANUEL M. BONGAN Undersecretary				



	DESIGNED	DATE	SIGNATURE	<p>REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS</p>	PROJECT AND LOCATION :					SCALE :	SHEET CONTENTS :	SHEET NO. :	
	CHECKED	10/15/12	S. LUNA		THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)					1:1000	TRAFFIC SIGNS AND PAVEMENT MARKINGS LAYOUT (INITIAL STAGE) STA. 107+200 - STA. 108+600	RM-06	
	SUBMITTED	10/14/12	M. RUCHE		CABANATUAN BYPASS - CONTRACT PACKAGE I					FULL SIZE A1			
				BUREAU OF DESIGN Submitted By: DANILO C. TRAJANO Project Director		OFFICE OF THE SECRETARY Reviewed By: JOSEFINA M. ALAGAR Chief, Highways Division		Recommended By: GILBERTO S. REYES OIC, Director IV		Approved By: MANUEL M. BONDAN Undersecretary		Approved By: SIMEON A. DATUMANONG Secretary	

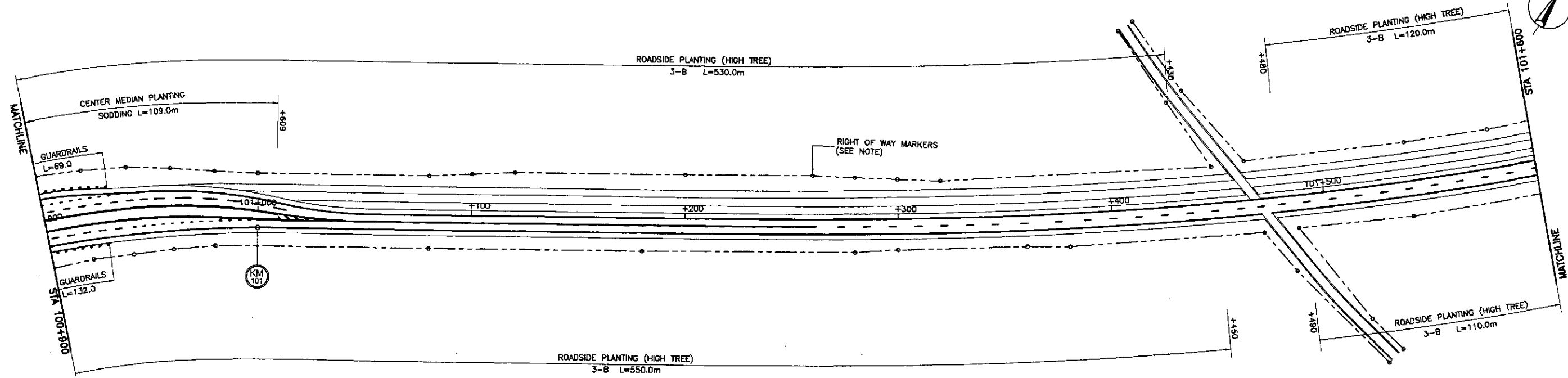
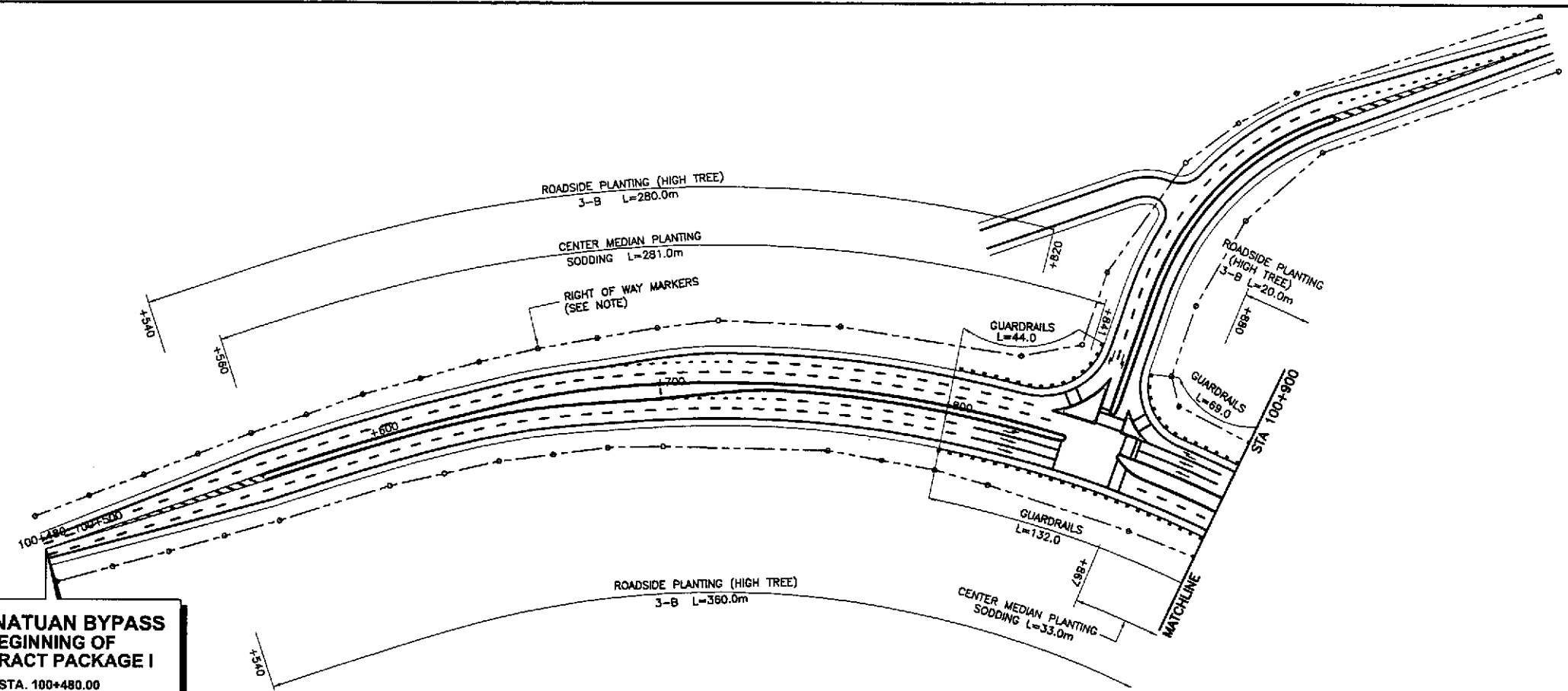


CABANATUAN BYPASS
END OF
CONTRACT PACKAGE I
BEG. OF CONTRACT PACKAGE II
 STA. 109+920.00
 ELEV. = 29.460
 N = 1,708,038.089
 E = 496,789.783

	DESIGNED	9/27/02	SIGNATURES		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS				PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	10/15/02	SIGNATURES		PUBL. - PMO Submitted By:	BUREAU OF DESIGN Reviewed By:	OFFICE OF THE SECRETARY Recommended By:	Approved By:	THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)	1:1000 FULL SIZE A1	TRAFFIC SIGNS AND PAVEMENT MARKINGS LAYOUT (INITIAL STAGE) STA. 108+600 - STA. 109+920	RM-07
	SUBMITTED	10/16/02	SIGNATURES		DANILLO C. TRAJANO Project Director	JOSEFINA M. ALAGAR Chief, Highways Division	GILBERTO S. REYES Dir., Director IV	MANUEL M. BONONAN Undersecretary				

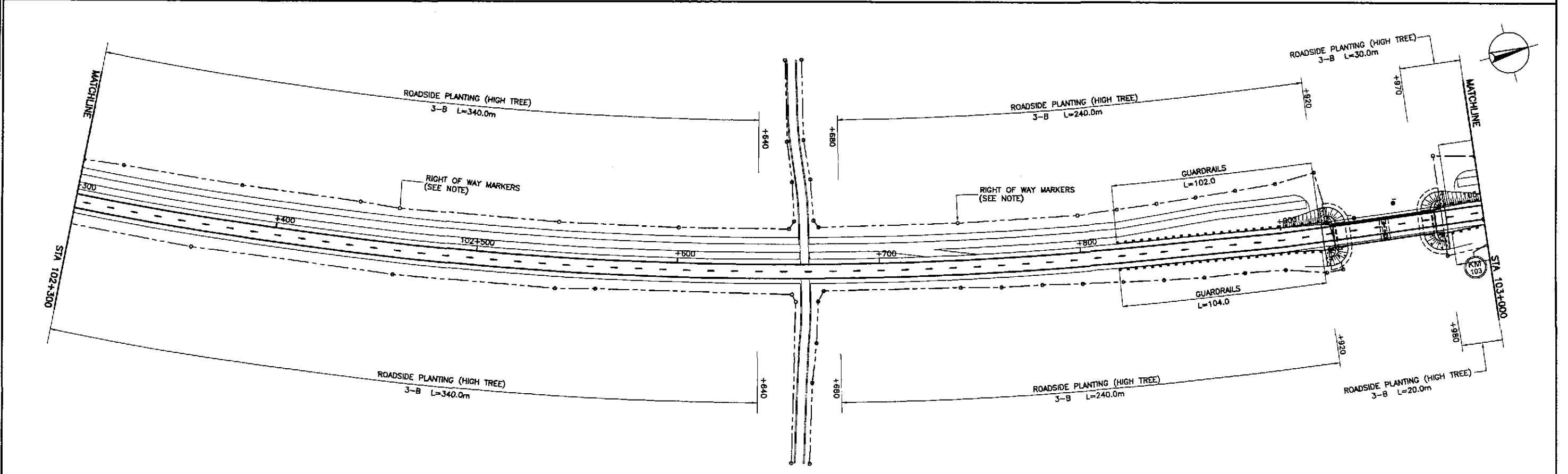
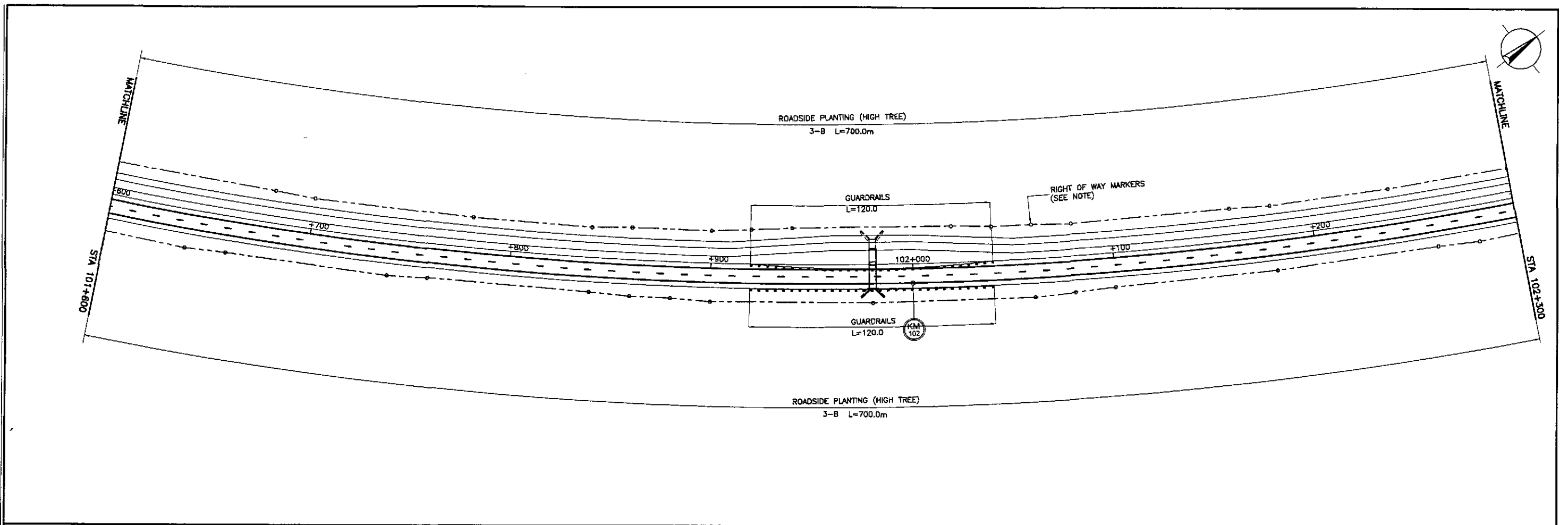
**CABANATUAN BYPASS
BEGINNING OF
CONTRACT PACKAGE I**

STA. 100+480.00
ELEV. = 21.192
N = 1,698,524.054
E = 493,403.773



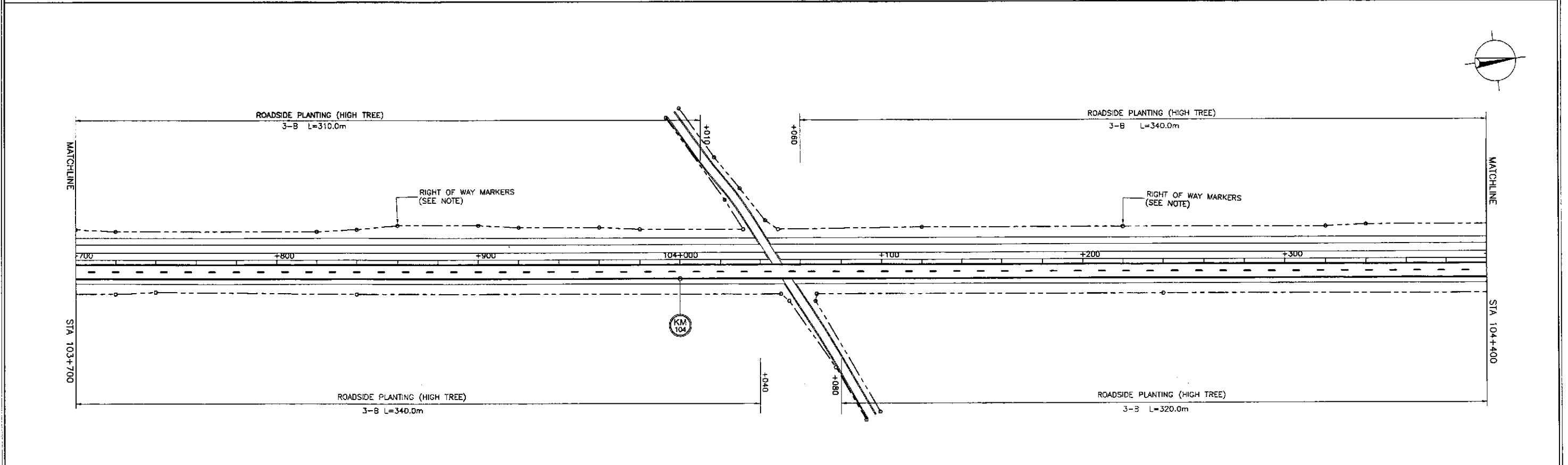
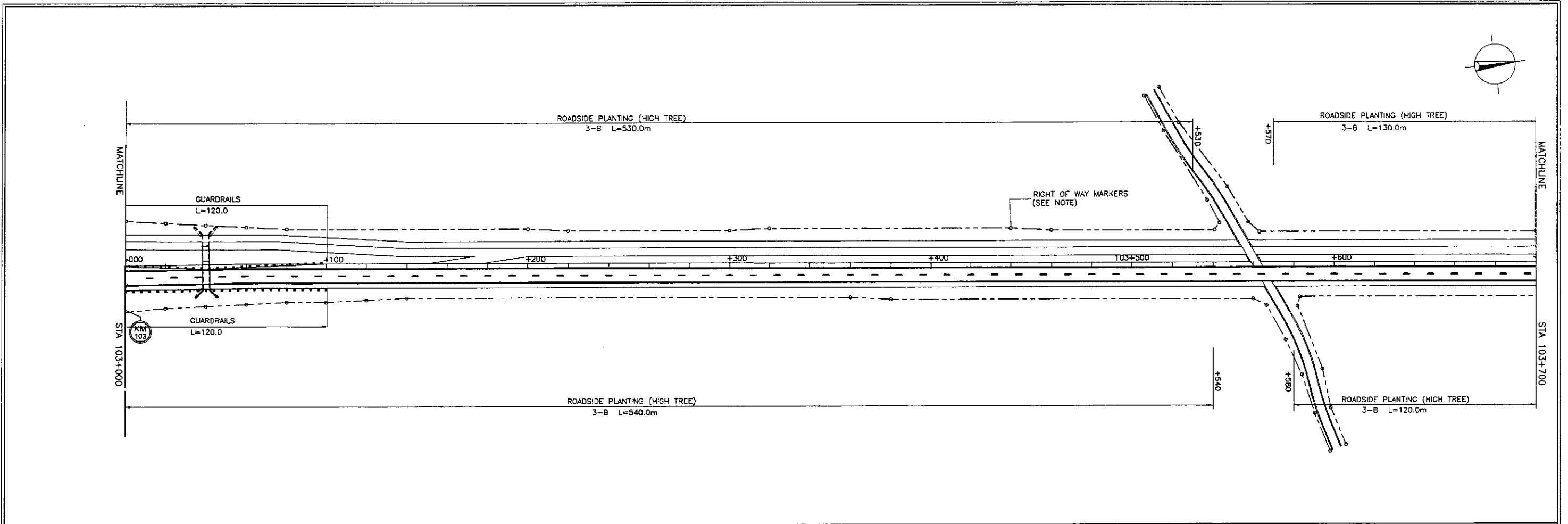
NOTE : FOR ROAD RIGHT OF WAY MARKERS SCHEDULE
SEE SHEET NOS. RG-06 TO RG-07

	DESIGNED	9/27/02	S. LUNA	<p>REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS</p>	PROJECT AND LOCATION :					SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	10/15/02	M. ROSE		PJHL - PMO Submitted By:	BUREAU OF DESIGN Reviewed By:	OFFICE OF THE SECRETARY Recommended By:		1:1000	PLANTINGS, GUARDRAILS, RIGHT-OF-WAY & KM. POSTS LAYOUT (INITIAL STAGE)	RM-08	
	SUBMITTED	10/16/02	M. RUIZ		DANILLO C. TRAJANO Project Director	JOSEFINA M. ALAGAR Chief, Highways Division	GILBERTO S. REYES CIC, Director IV	MANUEL M. BONDAN Undersecretary				SIMEON A. DATUMANONG Secretary



NOTE : FOR ROAD RIGHT OF WAY MARKERS SCHEDULE
SEE SHEET NOS. RG-06 TO RG-07

<p>JAPAN INTERNATIONAL COOPERATION AGENCY</p> <p>KATAHIRA & ENGINEERS INTERNATIONAL</p> <p>YEO YACHIYO ENGINEERING CO., LTD.</p>	DESIGNED	DATE	SIGNATURE	<p>REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS</p>	PROJECT AND LOCATION :				SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	10/15/02	S. LUNA		BUREAU OF DESIGN Submitted By: DANILDO C. TRAJANO Project Director	OFFICE OF THE SECRETARY Recommended By: JOSEFINA M. ALAGAR Chief, Highways Division	Recommended By: GILBERTO S. REYES OIC, Director IV	Recommended By: MANUEL M. BONOAN Undersecretary	Approved By: SIMEON A. DATUMANONG Secretary	THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Paridel, Cabanatuan and San Jose Bypasses) CABANATUAN BYPASS - CONTRACT PACKAGE I	1:1000 FULL SIZE A1



NOTE : FOR ROAD RIGHT OF WAY MARKERS SCHEDULE
SEE SHEET NOS. RG-06 TO RG-07

JICA
JAPAN INTERNATIONAL COOPERATION AGENCY

KAI KATAHIRA & ENGINEERS INTERNATIONAL
YEO YACHIYO ENGINEERING CO., LTD.

DESIGNED	DATE	SIGNATURE	REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS			
CHECKED	10/15/02	S. Luna	BUREAU OF DESIGN			
SUBMITTED	10/16/02	M. Fischer	OFFICE OF THE SECRETARY			
			Submitted By:	Reviewed By:	Recommended By:	Approved By:
			DANILO C. TRAJANO Project Director	JOSEFINA M. ALAGAR Chief, Highways Division	GILBERTO S. REYES DIC, Director IV	MANUEL M. BONGAAN Undersecretary

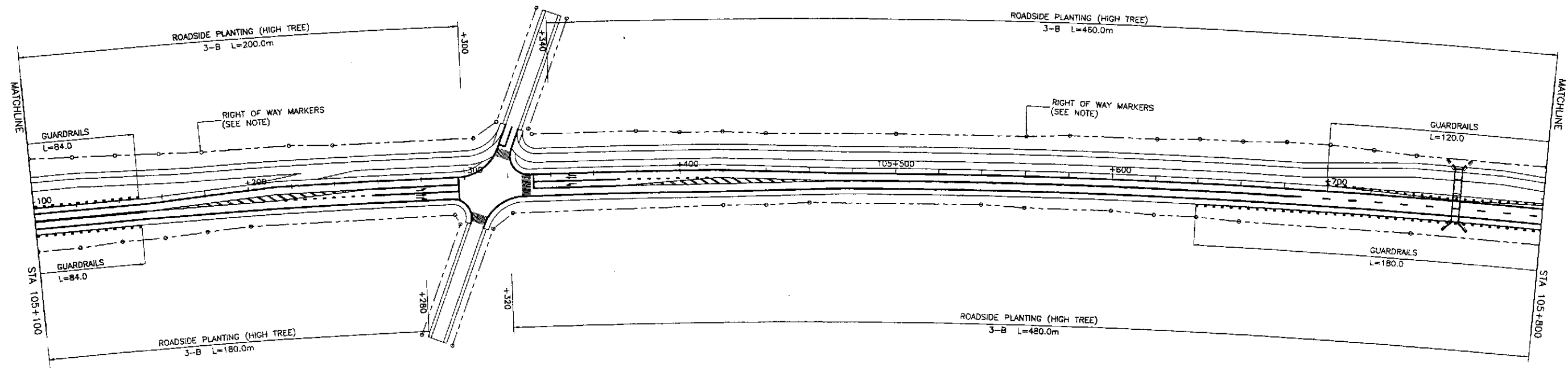
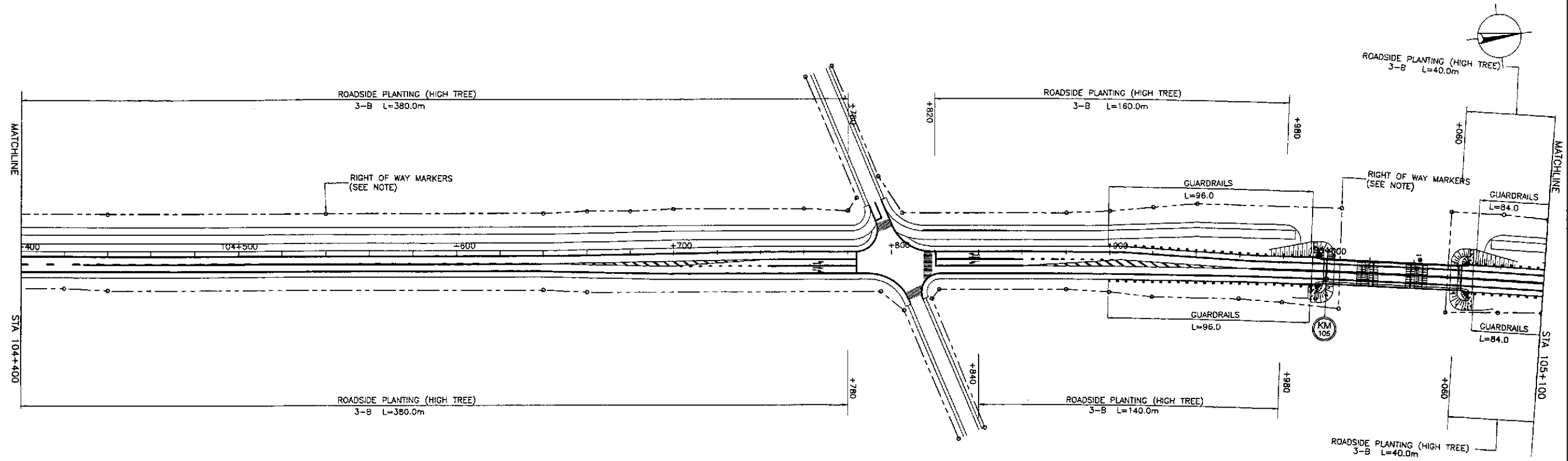
PROJECT AND LOCATION :
THE DETAILED DESIGN STUDY ON
UPGRADING INTER-URBAN HIGHWAY SYSTEM
ALONG THE PAN-PHILIPPINE HIGHWAY
(Plaridel, Cabanatuan and San Jose Bypasses)

CABANATUAN BYPASS - CONTRACT PACKAGE I

SCALE :
1:1000
FULL SIZE A1

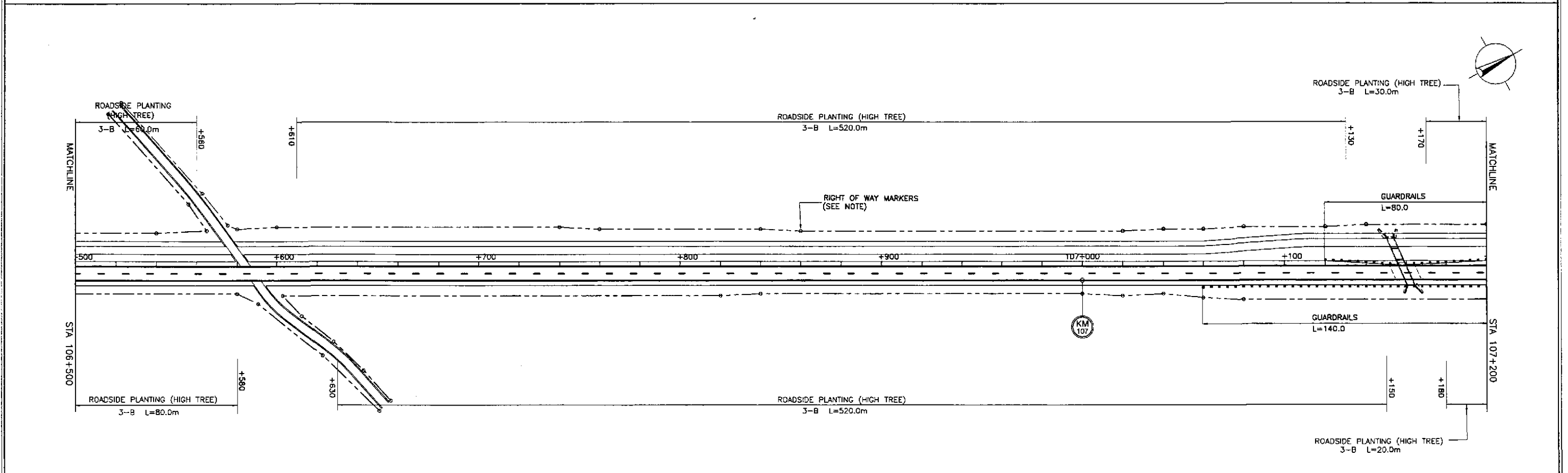
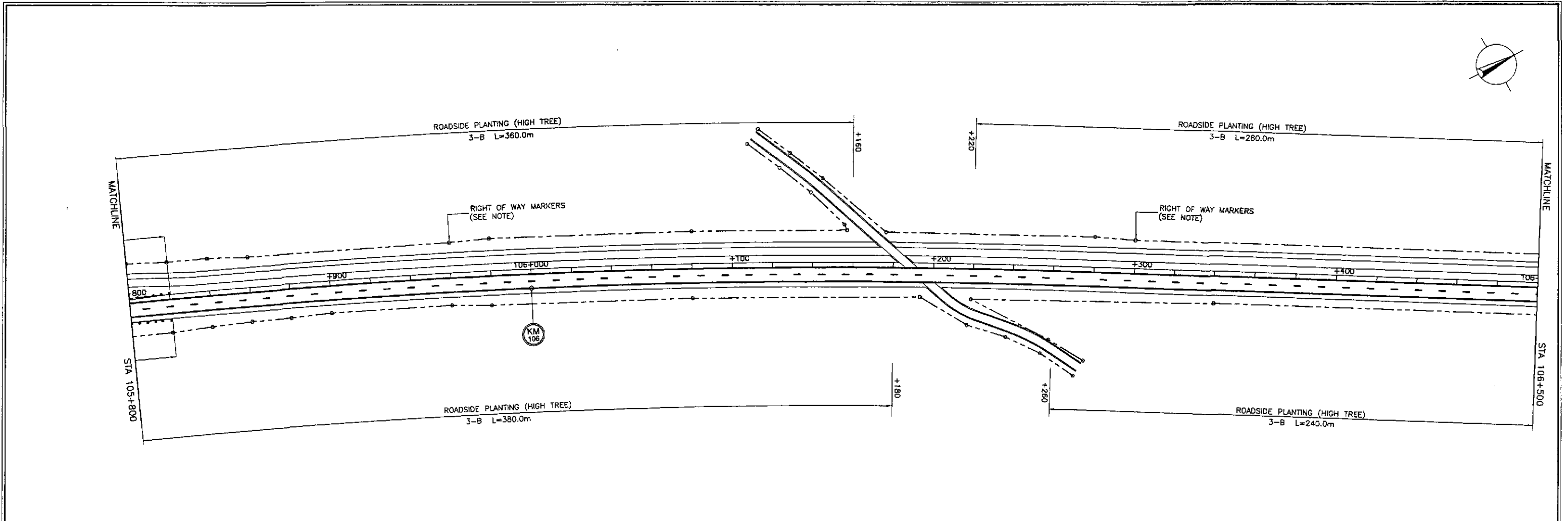
SHEET CONTENTS :
PLANTINGS, GUARDRAILS,
RIGHT-OF-WAY & KM. POSTS LAYOUT
(INITIAL STAGE)
STA. 103+000 - STA. 104+400

SHEET NO. :
RM-10



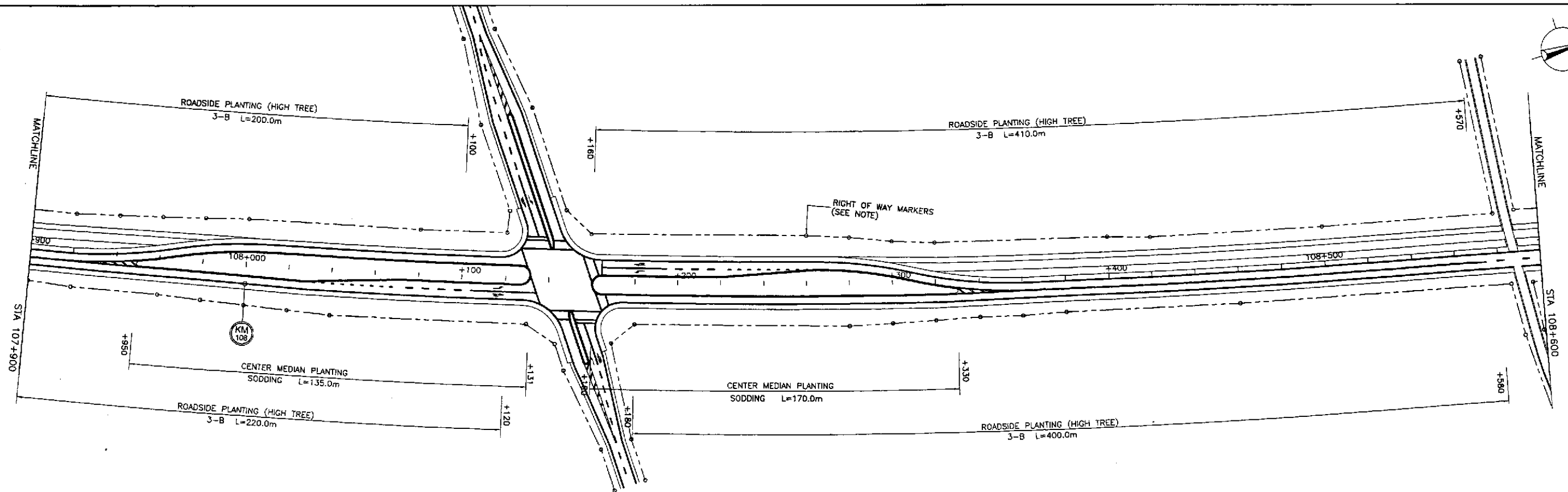
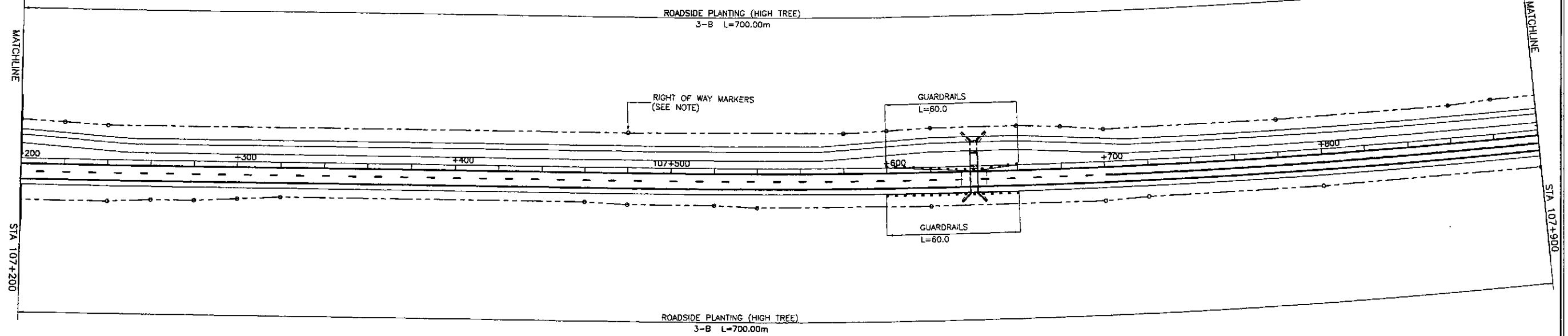
NOTE : FOR ROAD RIGHT OF WAY MARKERS SCHEDULE
SEE SHEET NOS. RC-06 TO RC-07

 JICA JAPAN INTERNATIONAL COOPERATION AGENCY		 REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS		PROJECT AND LOCATION : THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) CABANATUAN BYPASS - CONTRACT PACKAGE I		SCALE : 1:1000 FULL SIZE A1	SHEET CONTENTS : PLANTINGS, GUARDRAILS, RIGHT-OF-WAY & KM. POSTS LAYOUT (INITIAL STAGE) STA. 104+400 - STA. 105+800	SHEET NO. : RM-11
DESIGNED	DATE: 9/27/02 SIGNATURE: S. LUNA	PIHL - PMD	BUREAU OF DESIGN	OFFICE OF THE SECRETARY				
CHECKED	10/15/02 SIGNATURE: M. BONDAN	Submitted By:	Reviewed By:	Recommended By:				
SUBMITTED	10/16/02 SIGNATURE: M. BONDAN	DANILO C. TRAJANO Project Director	JOSEFINA M. ALAGAR Chief, Highways Division	CILBERTO S. REYES OIC, Director IV	MANUEL M. BONDAN Undersecretary			



NOTE : FOR ROAD RIGHT OF WAY MARKERS SCHEDULE SEE SHEET NOS. RG-06 TO RG-07

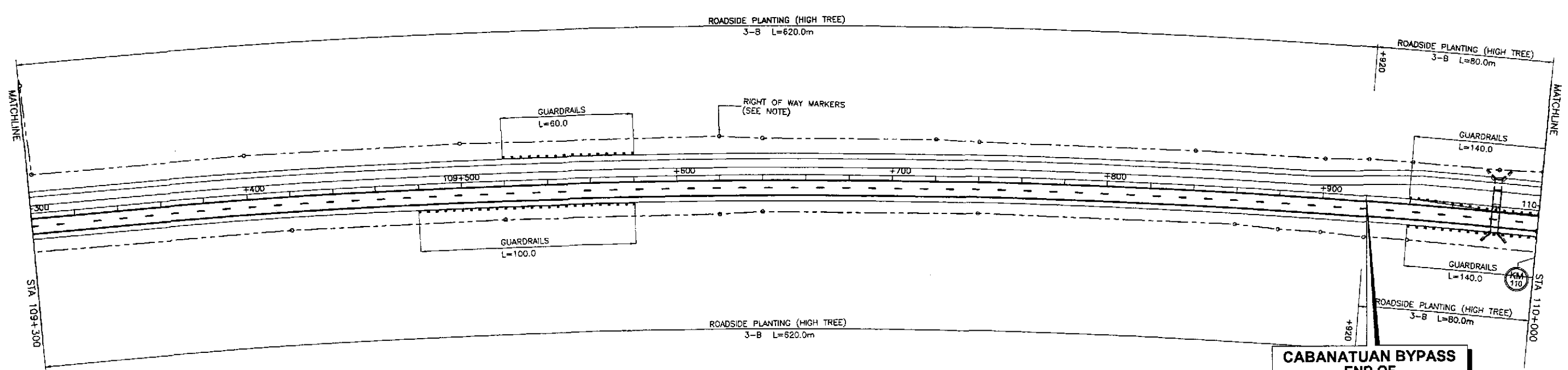
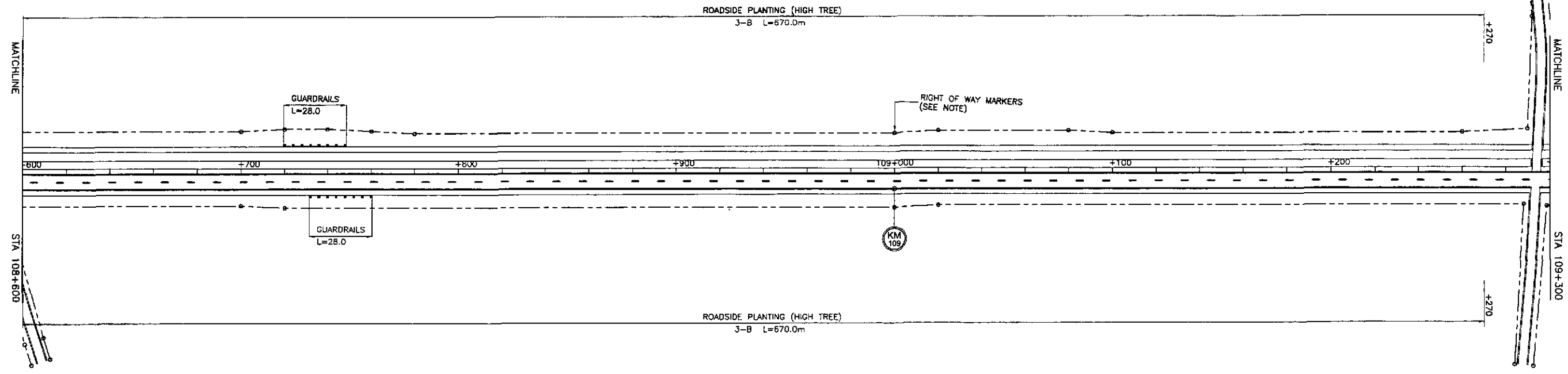
	DESIGNED	DATE	SIGNATURE	REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS			PROJECT AND LOCATION : THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) CABANATUAN BYPASS - CONTRACT PACKAGE I	SCALE : 1:1000 FULL SIZE A1	SHEET CONTENTS : PLANTINGS, GUARDRAILS RIGHT-OF-WAY & KM. POSTS LAYOUT (INITIAL STAGE) STA. 105+800 - STA. 107+200	SHEET NO. : RM-12		
	CHECKED	DATE	SIGNATURE								Submitted By:	Reviewed By:
	SUBMITTED	DATE	SIGNATURE	TEAM LEADER	DANIL D. TRAJANO Project Director	JOSEFINA M. ALAGAR Chief, Highways Division					GILBERTO S. REYES D.E., Director IV	MANUEL M. BONDAN Undersecretary



NOTE : FOR ROAD RIGHT OF WAY MARKERS SCHEDULE
SEE SHEET NOS. RG-06 TO RG-07

 JICA JAPAN INTERNATIONAL COOPERATION AGENCY		 REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS		PROJECT AND LOCATION : THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) CABANATUAN BYPASS - CONTRACT PACKAGE I		SCALE : 1:1000 FULL SIZE A1	SHEET CONTENTS : PLANTINGS, GUARDRAILS RIGHT-OF-WAY & KM. POSTS LAYOUT (INITIAL STAGE) STA. 107+200 - STA. 108+600	SHEET NO. : RM-13
DESIGNED	DATE	SIGNATURE	Submitted By:	Reviewed By:	Recommended By:	Approved By:		
CHECKED	10/15/02	<i>S. Luna</i>	DANILO C. TRAJANO Project Director	JOSEFINA M. ALAGAR Chief, Highways Division	GILBERTO S. REYES OIC, Director IV	MANUEL M. BONOAN Undersecretary	Approved By: (See cover sheet for Signature/Approval) SIMEON A. DATUMANONG Secretary	
SUBMITTED	10/16/02	<i>M. Kuch</i>						

KATAHIRA & ENGINEERS INTERNATIONAL
 YACHIYO ENGINEERING CO., LTD.



**CABANATUAN BYPASS
END OF
CONTRACT PACKAGE I
BEG. OF CONTRACT PACKAGE II**
 STA. 109+920.00
 ELEV. = 29.460
 N = 1,708,038.069
 E = 498,789.738

NOTE : FOR ROAD RIGHT OF WAY MARKERS SCHEDULE
 SEE SHEET NOS. RG-06 TO RG-07

	DESIGNED	9/27/02	S. LUNA		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS				PROJECT AND LOCATION : THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) CABANATUAN BYPASS - CONTRACT PACKAGE I	SCALE : 1:1000 FULL SIZE A1	SHEET CONTENTS : PLANTINGS, GUARDRAILS RIGHT-OF-WAY & KM. POSTS LAYOUT (INITIAL STAGE) STA. 108+500 - STA. 109+920	SHEET NO. : RM-14	
	CHECKED	10/15/02	S. GONZALES		Submitted By: DANILLO C. TRAJANO Project Director	Revised By: JOSEFINA M. ALAGAR Chief, Highways Division	Recommended By: GILBERTO S. REYES OIC, Director IV	Recommended By: MANUEL M. BONDAN Undersecretary					Approved By: SIMEON A. DATUMANONG Secretary
	SUBMITTED	10/16/02	M. RIVERA		TEAM LEADER								