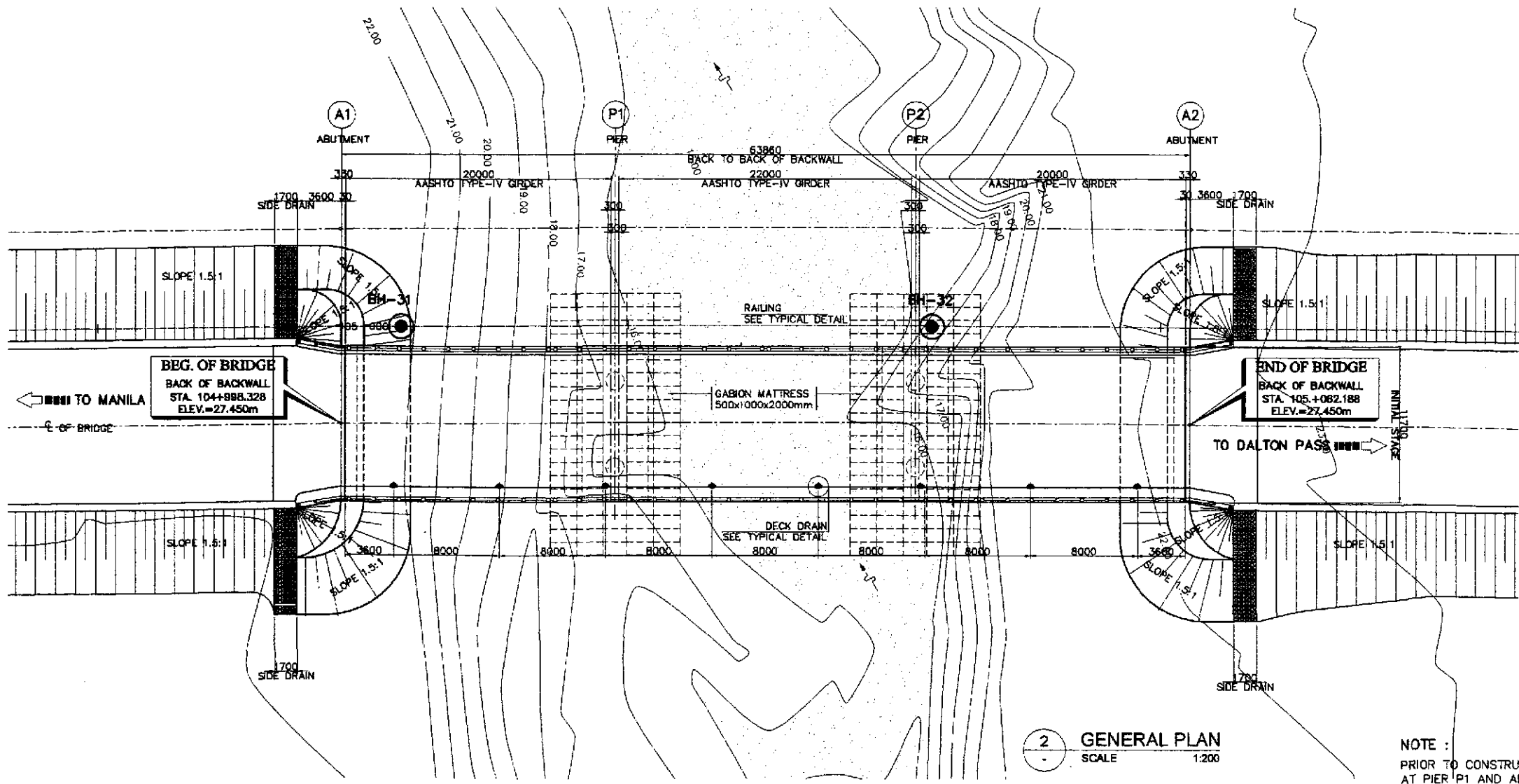
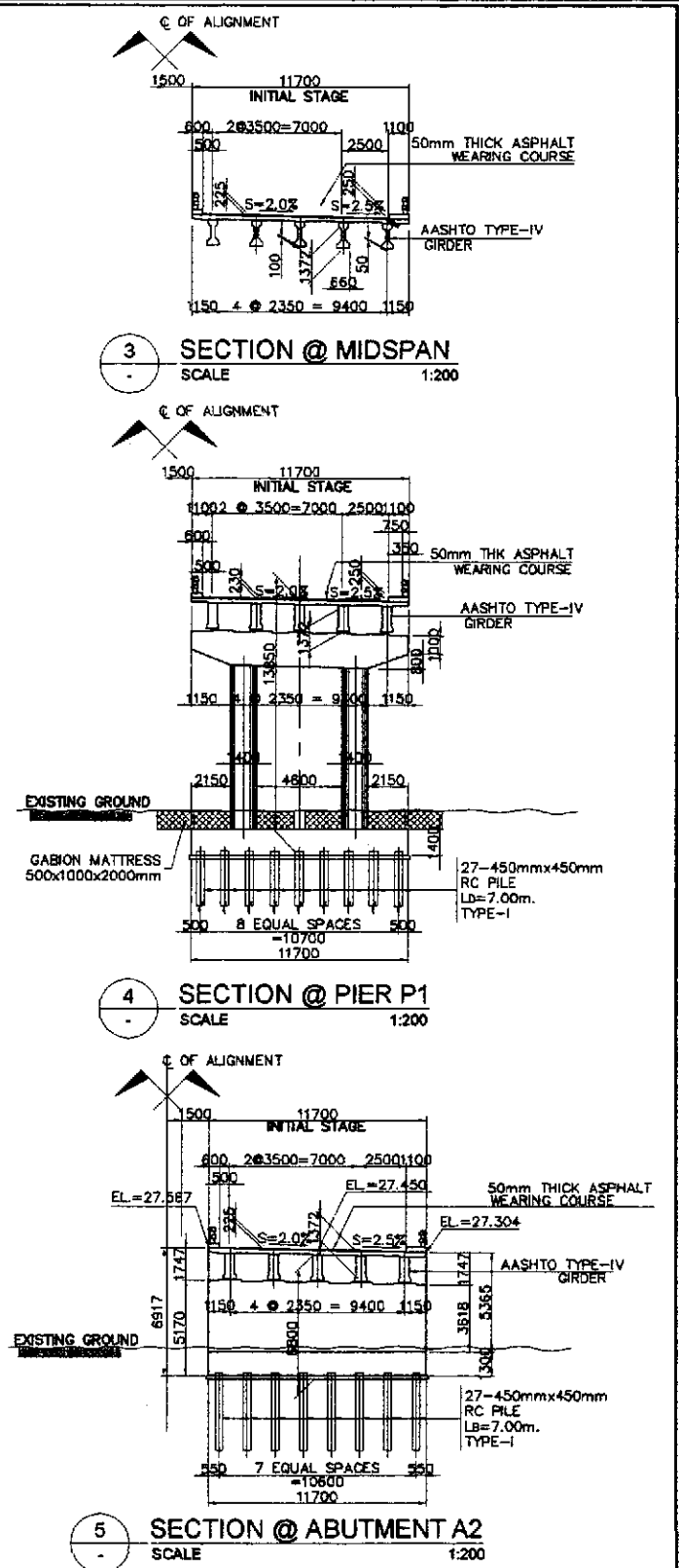


1 GENERAL ELEVATION
SCALE 1:200



2 GENERAL PLAN
SCALE 1:200

A CABANATUAN BYPASS BRIDGE NO.2 (STA. 104+998.328)
SCALE AS SHOWN



3 SECTION @ MIDSPAN
SCALE 1:200

4 SECTION @ PIER P1
SCALE 1:200

5 SECTION @ ABUTMENT A2
SCALE 1:200

HYDRAULIC DESIGN DATA	
VELOCITY @ 50 YEARS, V_{50}	3.046 m/sec
DISCHARGE @ 50 YEARS, Q_{50}	512.800 cu.m/sec
CATCHMENT AREA, CA	107.760 sq. km

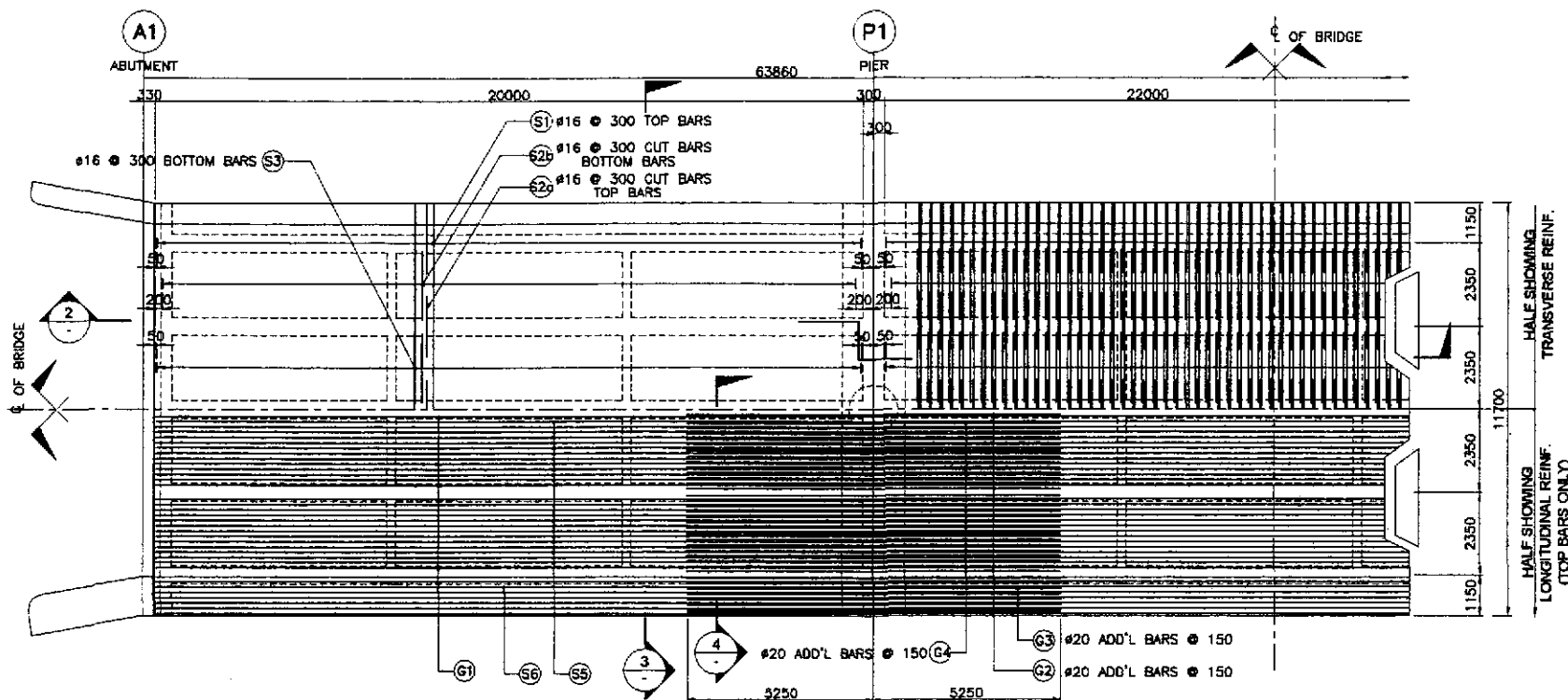
NOTE :
PRIOR TO CONSTRUCTION SOIL INVESTIGATION AT PIER P1 AND ABUTMENT A2 SHALL BE CONDUCTED FOR CONFIRMATION OF ASSUMED BEARING CAPACITY AND FOOTING ELEVATION.
THE PILE LENGTH RECOMMENDED ARE MINIMUM. SHOULD THE SOIL AT THE RECOMMENDED LENGTH BE INADEQUATE BEARING MATERIAL, LENGTH SHALL BE INCREASED. THE MINIMUM EMBEDMENT LENGTH INTO ADEQUATE SOIL FOR 400 x 400 R. C. PILE IS 1000mm WHILE FOR 450 x 450 R. C. PILE IS 1200mm.

PERFECTO L. ZAPLAN JR.
OIC Chief, Hydraulics Division, BOD

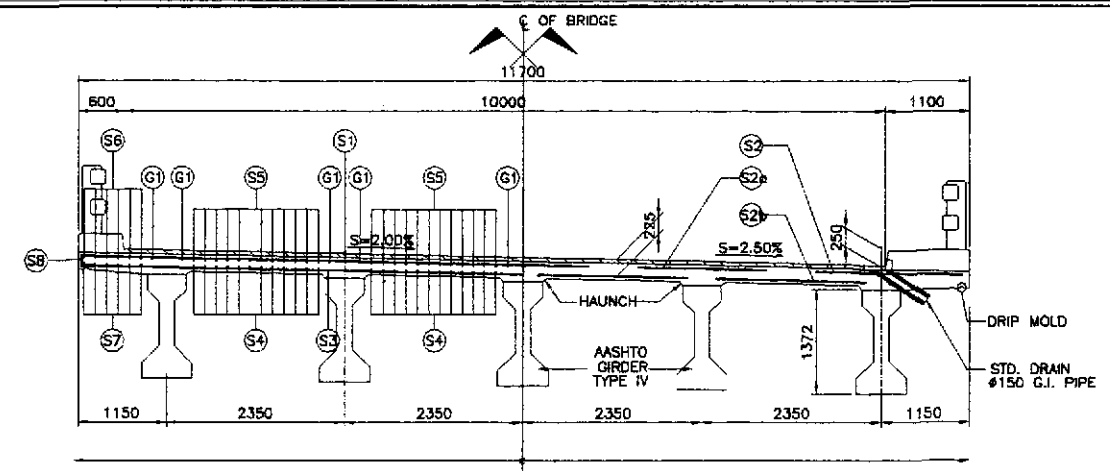
JICA
JAPAN INTERNATIONAL COOPERATION AGENCY
KATAHIRA & ENGINEERS INTERNATIONAL
YCHO ENGINEERING CO., LTD.

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: ADRIANO M. DORDY, Chief, Bridges Division
Recommended By: GILBERTO S. REYES, Director IV (OIC)
Approved By: MANUEL M. BONOAN, Undersecretary
SIMEON A. DATUMANONG, Secretary

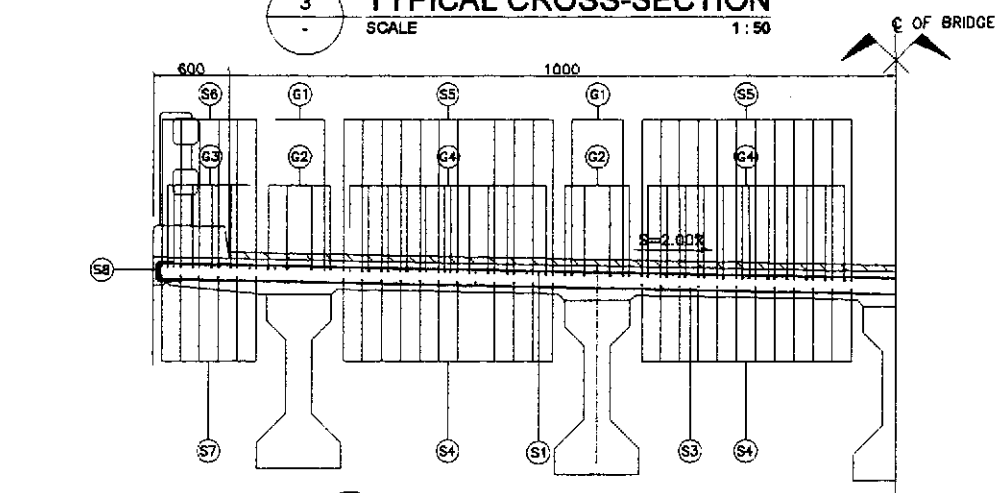
PROJECT AND LOCATION :
THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Paridel, Cabanatuan and San Jose Bypasses)
CABANATUAN BYPASS - CONTRACT PACKAGE I
SCALE : 1:200
SHEET CONTENTS : BRIDGE NO. 2 GENERAL PLAN, ELEVATION AND SECTIONS (INITIAL STAGE)
SHEET NO. : B2-01



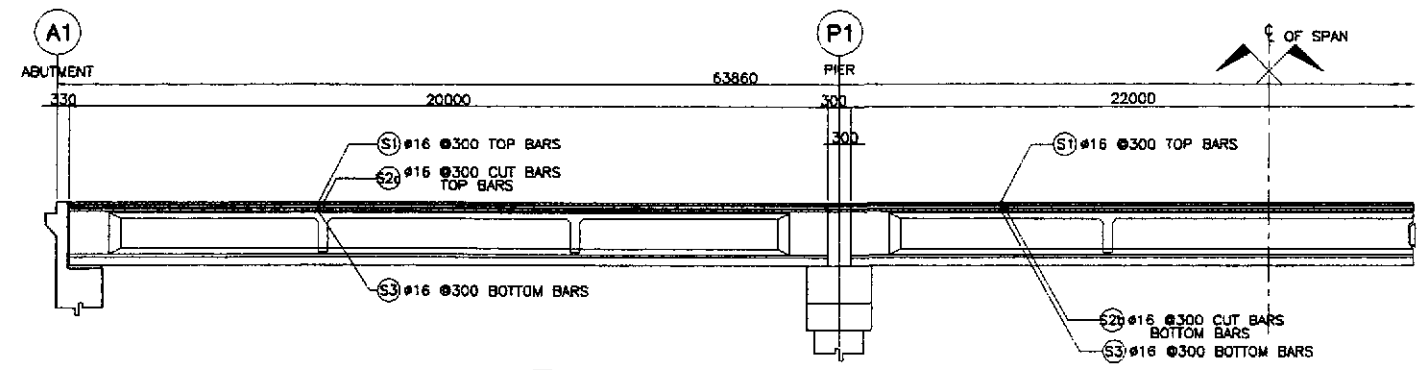
1 FRAMING PLAN
SCALE 1:100



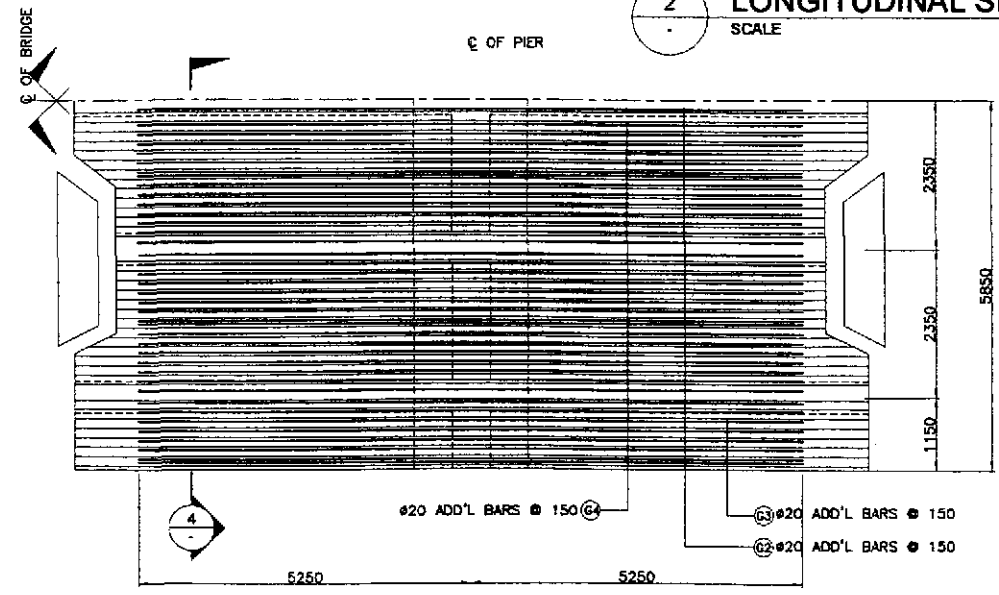
3 TYPICAL CROSS-SECTION
SCALE 1:50



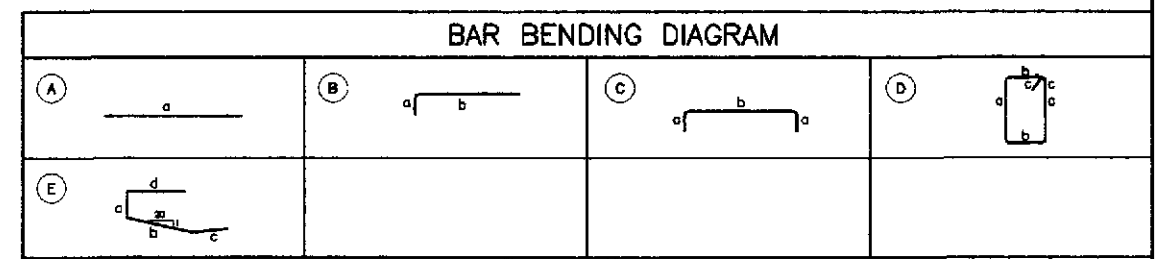
4 SECTION @ SUPPORT
SCALE 1:30



2 LONGITUDINAL SECTION
SCALE 1:100



5 REINF. OVER PIER
SCALE 1:60

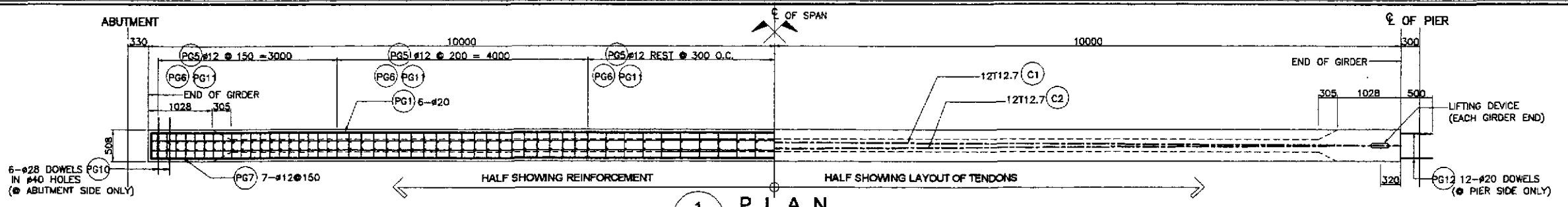


ESTIMATED QUANTITIES OF SUPERSTRUCTURE			
ITEM NO.	DESCRIPTION	UNIT	TOTAL
404(1)a	REINFORCING STEEL GRADE 40	kgs.	48546.00
	DECK SLAB	26717	
	DIAPHRAGM	1005	
	GIRDER	11630	
	SIDEWALK, RAILING, & POST	5878	
	APPROACH SLAB	1316	
404(1)b	REINFORCING STEEL GRADE 60	kgs.	27437
	DECK SLAB	3700	
	DIAPHRAGM	3406	
	GIRDER	14815	
	SIDEWALK, RAILING, & POST	1328	
	APPROACH SLAB	4188	
405(1)	STRUCTURAL CONCRETE	cu. m.	438.59
	DECK SLAB	175.02	
	DIAPHRAGM	37.88	
	GIRDER	164.70	
	SIDEWALK, RAILING, & POST	26.86	
	APPROACH SLAB	35.13	

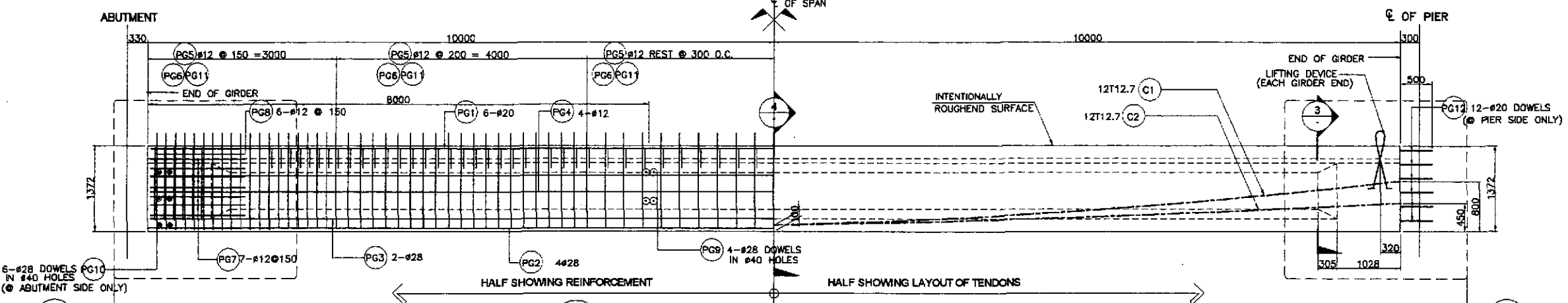
SCHEDULE OF REINFORCEMENT															
LOCATION	CONCRETE VOLUME (m ³)	BAR MARK	BAR SIZE	QTY.	SPACING	BAR SHAPE	DIMENSIONS (mm) OUT TO OUT				LENGTH EACH BAR (m)	TOTAL LENGTH (m)	UNIT WT. (kg/m)	WEIGHT IN (kg)	REBAR RATIO (kg/m ³)
							a	b	c	d					
DECK SLAB	175.02	G1	16	10	AS SHOWN	(A)	63100	-	-	-	63100	631.00	1.579	997	173.79
		G2	20	40	150	(A)	10500	-	-	-	10500	420.00	2.466	1036	
		G3	20	12	150	(A)	10500	-	-	-	10500	126.00	2.466	311	
		G3a	20	48	150	(A)	7500	-	-	-	7500	504.00	2.466	222	
		G4	20	96	150	(A)	10500	-	-	-	10500	1008.00	2.466	1243	
		G4a	20	48	150	(A)	7500	-	-	-	7500	360.00	2.466	888	
		S1	16	208	300	(C)	145	11600	145	-	11890	2473.12	1.579	3906	
		S2	16	410	300	(B)	145	2000	-	-	2145	879.45	1.579	1389	
		S2a	16	615	300	(A)	1700	-	-	-	1700	1045.50	1.579	1651	
		S2b	16	820	300	(A)	1950	-	-	-	1950	1599.00	1.579	2525	
		S3	16	208	300	(A)	11600	-	-	-	11600	2412.80	1.579	3810	
		S4	16	48	150	(A)	63100	-	-	-	63100	3028.80	1.579	4783	
		S5	16	48	150	(A)	63100	-	-	-	63100	3028.80	1.579	4783	
		S6	16	12	AS SHOWN	(A)	63100	-	-	-	63100	757.20	1.579	1196	
S7	16	12	AS SHOWN	(A)	63100	-	-	-	63100	757.20	1.579	1196			
S8	12	278	450	(E)	145	900	600	300	1945	540.71	0.888	481			
TOTAL	175.02														

GRADE 40 TOTAL = 26,717 kgs.
GRADE 60 TOTAL = 3,700 kgs.

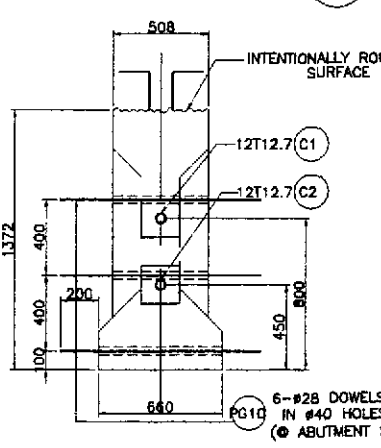
	DESIGNED	DATE	SIGNATURE		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS				PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :			
	CHECKED	12/15/02	<i>[Signature]</i>		BUREAU OF DESIGN	OFFICE OF THE SECRETARY	THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Paridel, Cabanatuan and San Jose Bypasses)						AS SHOWN	BRIDGE NO.2 DECK FRAMING PLAN AND SECTIONS (INITIAL STAGE)	B2-02
	SUBMITTED	10/16/02	<i>[Signature]</i>		Submitted By:	Reviewed By:	Recommended By:	Approved By:	CABANATUAN BYPASS - CONTRACT PACKAGE I						FULL SIZE A1



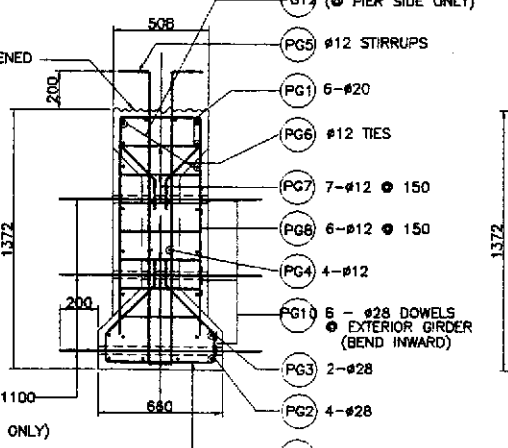
1 PLAN
SCALE 1:40



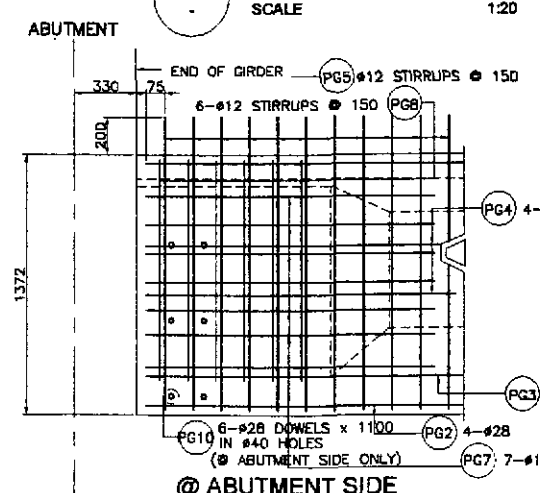
2 PRESTRESSED GIRDER ELEVATION
SCALE 1:40



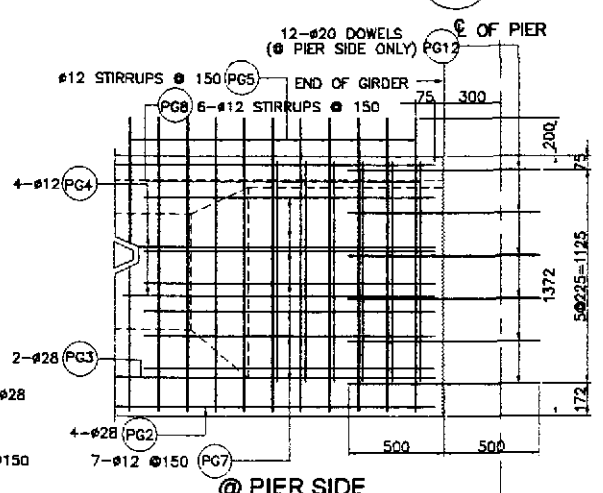
3 SECTION AT END
SCALE 1:20



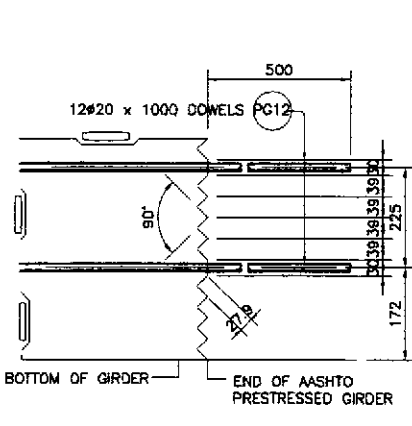
4 SECTION AT MIDSPAN
SCALE 1:20



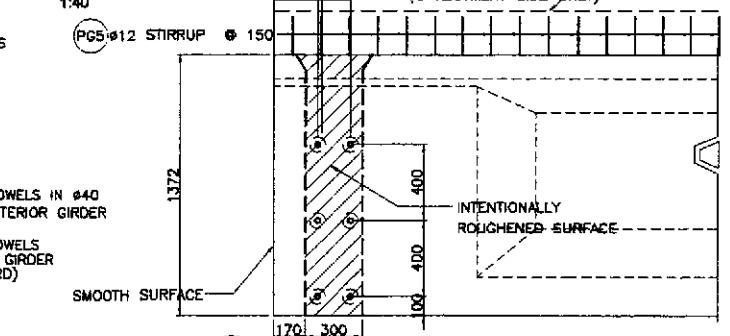
7 END BLOCK REINF. DETAIL @ ABUTMENT SIDE
SCALE 1:20



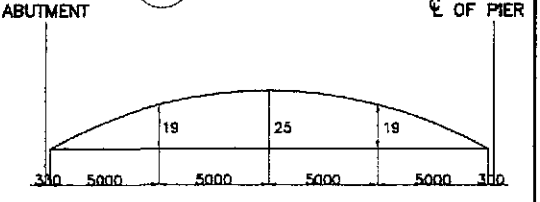
@ PIER SIDE



8 TOOTH DETAIL
SCALE N.T.S.

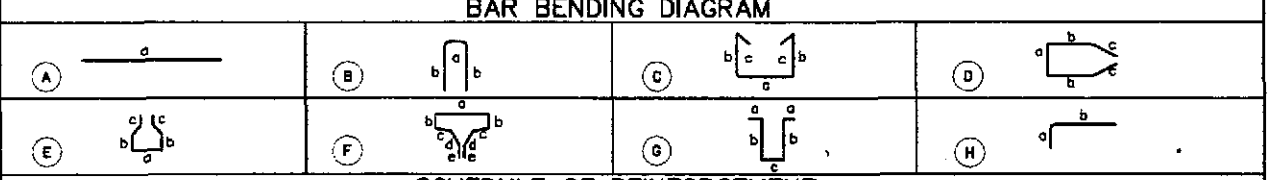


5 DOWELS @ END BLOCK
SCALE 1:20



6 CAMBER DIAGRAM
NOT TO SCALE

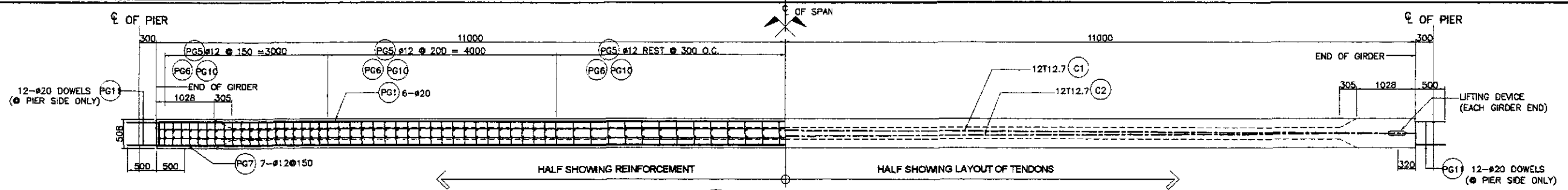
- NOTES:
- SEE GENERAL NOTES, -2, FOR GIRDER DESIGN GUIDE.
 - JACKING FORCE PER GIRDER, $P_j = 3304$ kN.
 - JACKING WILL BE DONE AT BOTH ENDS.
 - FINAL PRESTRESSING FORCE @ MIDSPAN, $F_{net} = 2430$ kN.



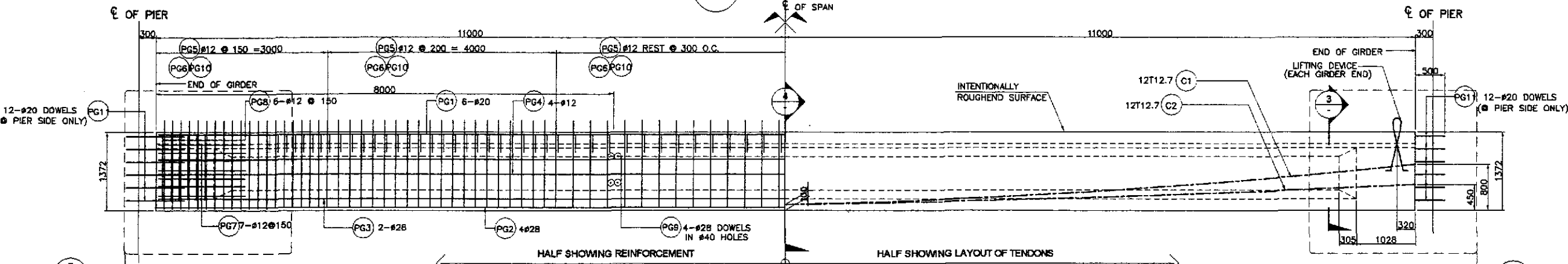
STRUCTURE COMPONENT	BAR MARK	SIZE (mm)	QTY.	SPACING	BAR SHAPE	DIMENSION (mm)					LENGTH PER BAR (mm)	TOTAL LENGTH (m)	UNIT WEIGHT (kg/m)	TOTAL WEIGHT (kg)	CONC. VOLUME (cu.m)	REBAR (kg/cu.m)	REMARKS
						a	b	c	d	e							
GIRDER	PG1	20	6	AS SHOWN	(A)	19920	-	-	-	-	19920	119.52	2.466	295			QUANTITIES ARE FOR ONE (1) GIRDER ONLY
	PG2	28	4	AS SHOWN	(A)	19920	-	-	-	-	19920	79.68	4.833	386			
	PG3	28	2	AS SHOWN	(A)	19920	-	-	-	-	19920	39.84	4.833	193			
	PG4	12	4	AS SHOWN	(A)	19920	-	-	-	-	19920	79.68	0.888	71			
	PG5	12	100	150	(G)	100	1540	103	-	-	3363	336.30	0.888	301			
	PG6	12	100	150	(E)	430	160	150	260	-	1570	157.00	0.888	140			
	PG7	12	14	150	(D)	430	1000	550	-	-	3530	49.42	0.888	44			
	PG8	12	12	150	(C)	430	1230	150	-	-	3140	38.28	0.888	34			
	PG9	28	8	AS SHOWN	(A)	603	-	-	-	-	603	4.82	4.833	24			
	PG10	28	6	AS SHOWN	(A)	1060	-	-	-	-	1060	6.36	4.833	31			
	PG11	12	100	150	(E)	580	160	150	380	-	1920	192.00	0.888	171			
	PG12	20	12	AS SHOWN	(A)	1000	-	-	-	-	1000	12.00	2.466	30			

GRADE 40 TOTAL = 761 kgs.
GRADE 60 TOTAL = 959 kgs.

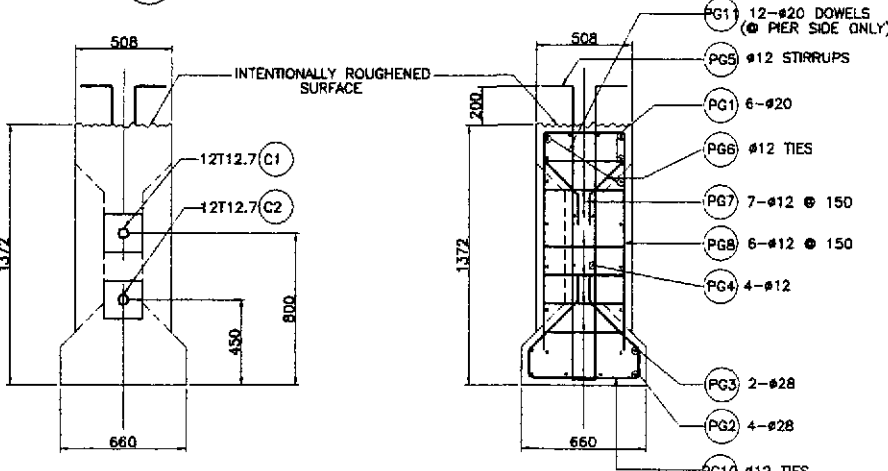
	DATE: 1/27/12 DESIGNED: [Signature] CHECKED: [Signature] SUBMITTED: 10/14/11	REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS BUREAU OF DESIGN OFFICE OF THE SECRETARY	PROJECT AND LOCATION: THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) CABANATUAN BYPASS - CONTRACT PACKAGE I	SCALE: AS SHOWN FULL SIZE A1	SHEET CONTENTS: BRIDGE NO. 2 AASHTO TYPE IV GIRDER (EXTERIOR SPAN) (INITIAL STAGE)	SHEET NO.: B2-03	
	Submitted By: DAHLO D. TRAJANO Project Director	Reviewed By: ADRIANO M. DOROY Chief, Bridge Division	Recommended By: GILBERTO S. REYES Director IV (DC)	Recommended By: MANUEL M. BONDAN Undersecretary	Approved By: SIMEON A. DATUMANONG Secretary		
	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS YEO YACHIYO ENGINEERING CO., LTD.						



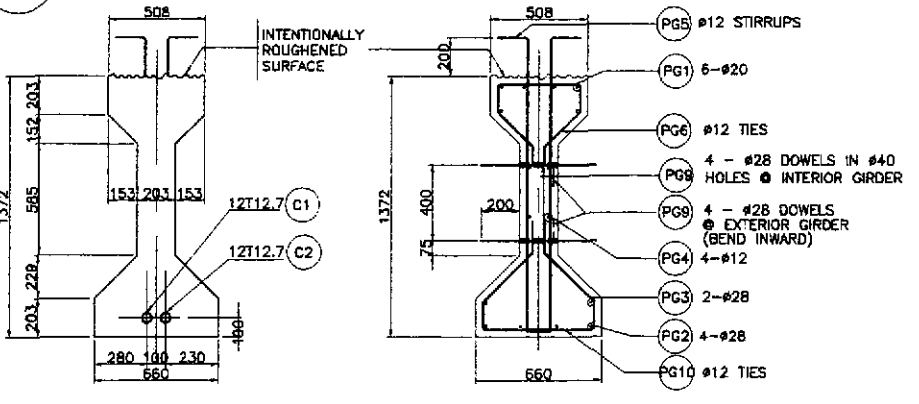
1 PLAN
SCALE 1:40



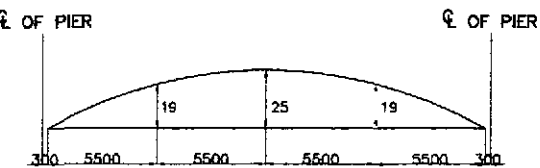
2 PRESTRESSED GIRDER ELEVATION
SCALE 1:40



3 SECTION AT END
SCALE 1:20

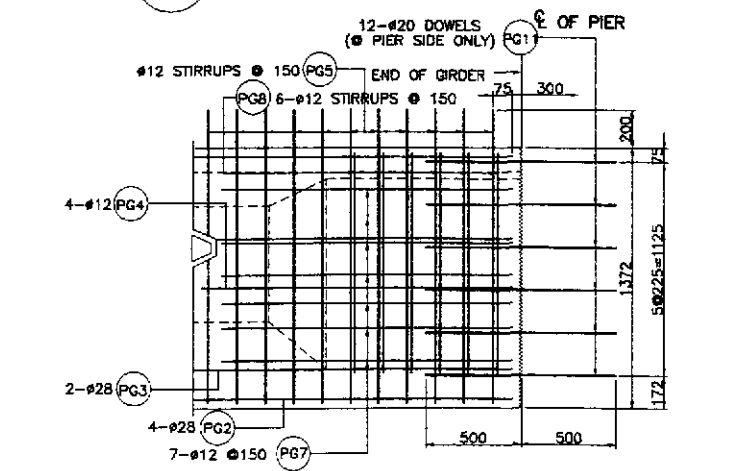


4 SECTION AT MIDSPAN
SCALE 1:20

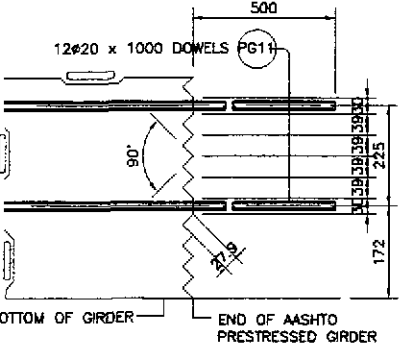


5 CAMBER DIAGRAM
NOT TO SCALE

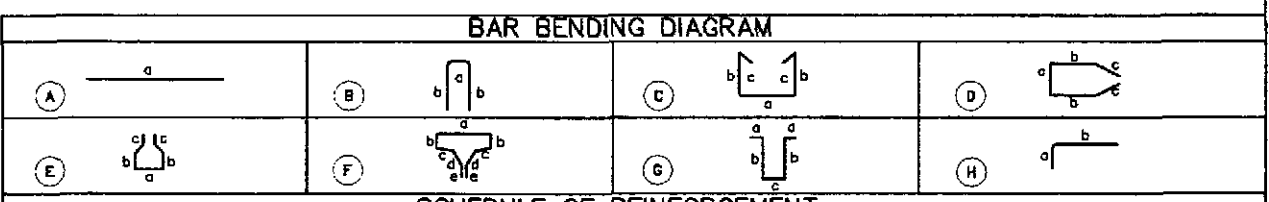
- NOTES:
- SEE GENERAL NOTES, -2, FOR GIRDER DESIGN GUIDE.
 - JACKING FORCE PER GIRDER, $P_j = 3304$ kN.
 - JACKING WILL BE DONE AT BOTH ENDS.
 - FINAL PRESTRESSING FORCE @ MIDSPAN, $F_{ier} = 2461$ kN



6 END BLOCK REINF. DETAIL @ PIER SIDE
SCALE 1:20



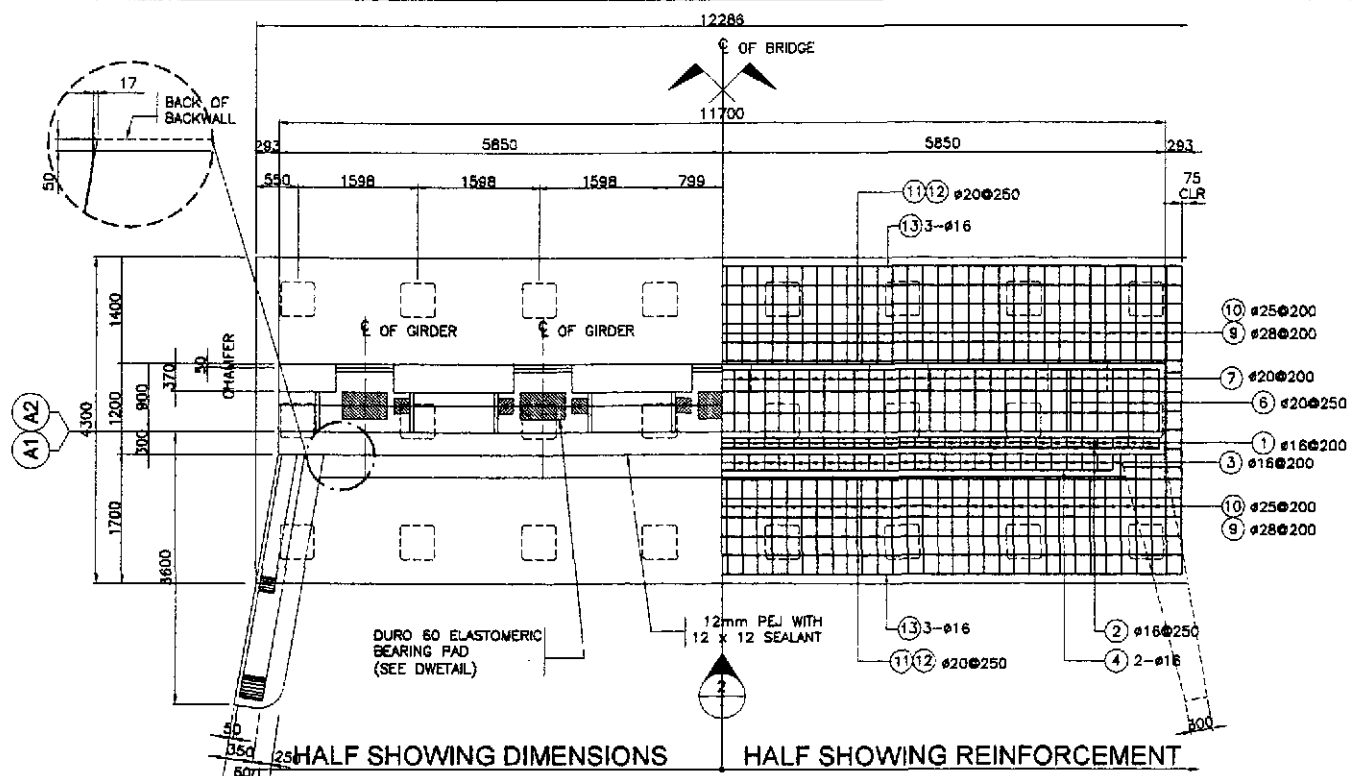
7 TOOTH DETAIL
SCALE N.T.S.



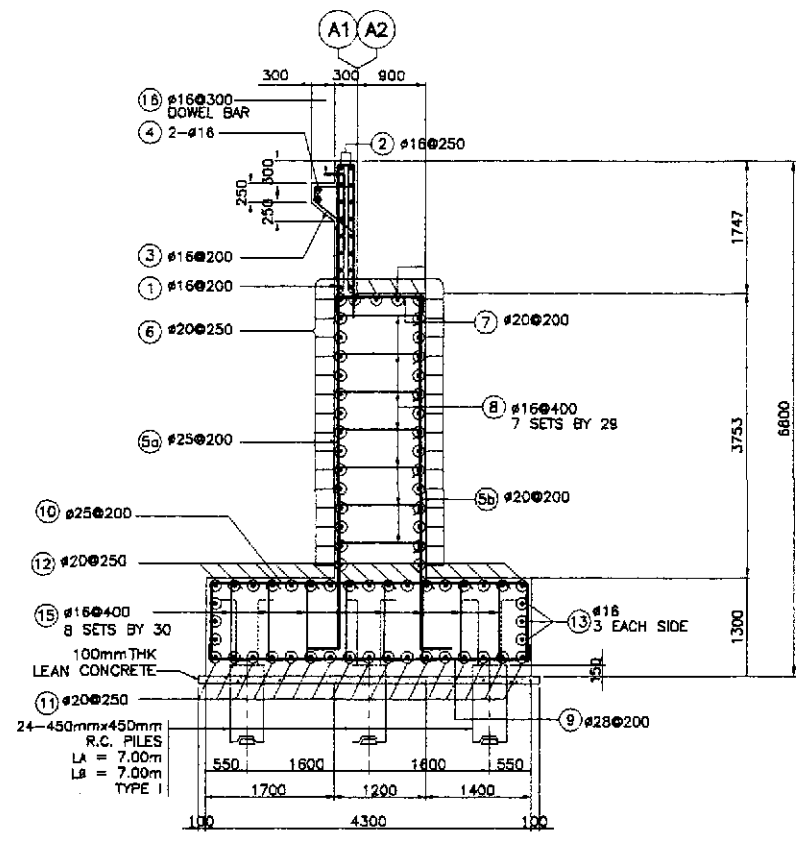
STRUCTURE COMPONENT	BAR MARK	SIZE (mm)	QTY.	SPACING	BAR SHAPE	DIMENSION (mm)					LENGTH PER BAR (mm)	TOTAL LENGTH (m)	UNIT WEIGHT (kg/m)	TOTAL WEIGHT (kg)	CONC. VOLUME (cu.m)	REBAR RATIO (kg/cu.m)	REMARKS
						a	b	c	d	e							
GIRDER	PG1	20	6	AS SHOWN	(A)	21920	-	-	-	-	21920	131.52	2.466	325			QUANTITIES ARE FOR ONE (1) GIRDER ONLY
	PG2	28	4	AS SHOWN	(A)	21920	-	-	-	-	21920	87.68	4.833	424			
	PG3	28	2	AS SHOWN	(A)	21920	-	-	-	-	21920	43.84	4.833	212			
	PG4	12	4	AS SHOWN	(A)	21920	-	-	-	-	21920	87.68	0.888	78			
	PG5	12	106	150	(C)	100	1540	103	-	-	3383	358.60	0.888	319			
	PG6	12	106	150	(E)	430	160	150	260	-	1570	166.42	0.888	148			
	PG7	12	14	150	(D)	430	1000	550	-	-	3530	49.42	0.888	44			
	PG8	12	12	150	(C)	430	1230	150	-	-	3190	38.28	0.888	34			
	PG9	28	8	AS SHOWN	(A)	603	-	-	-	-	603	4.82	4.833	24			
	PG10	12	106	150	(E)	580	160	150	360	-	1920	203.52	0.888	181			
	PG11	20	24	AS SHOWN	(A)	1000	-	-	-	-	1000	24.00	2.466	60			

GRADE 40 TOTAL = 804 kgs.
GRADE 60 TOTAL = 1,045 kgs.

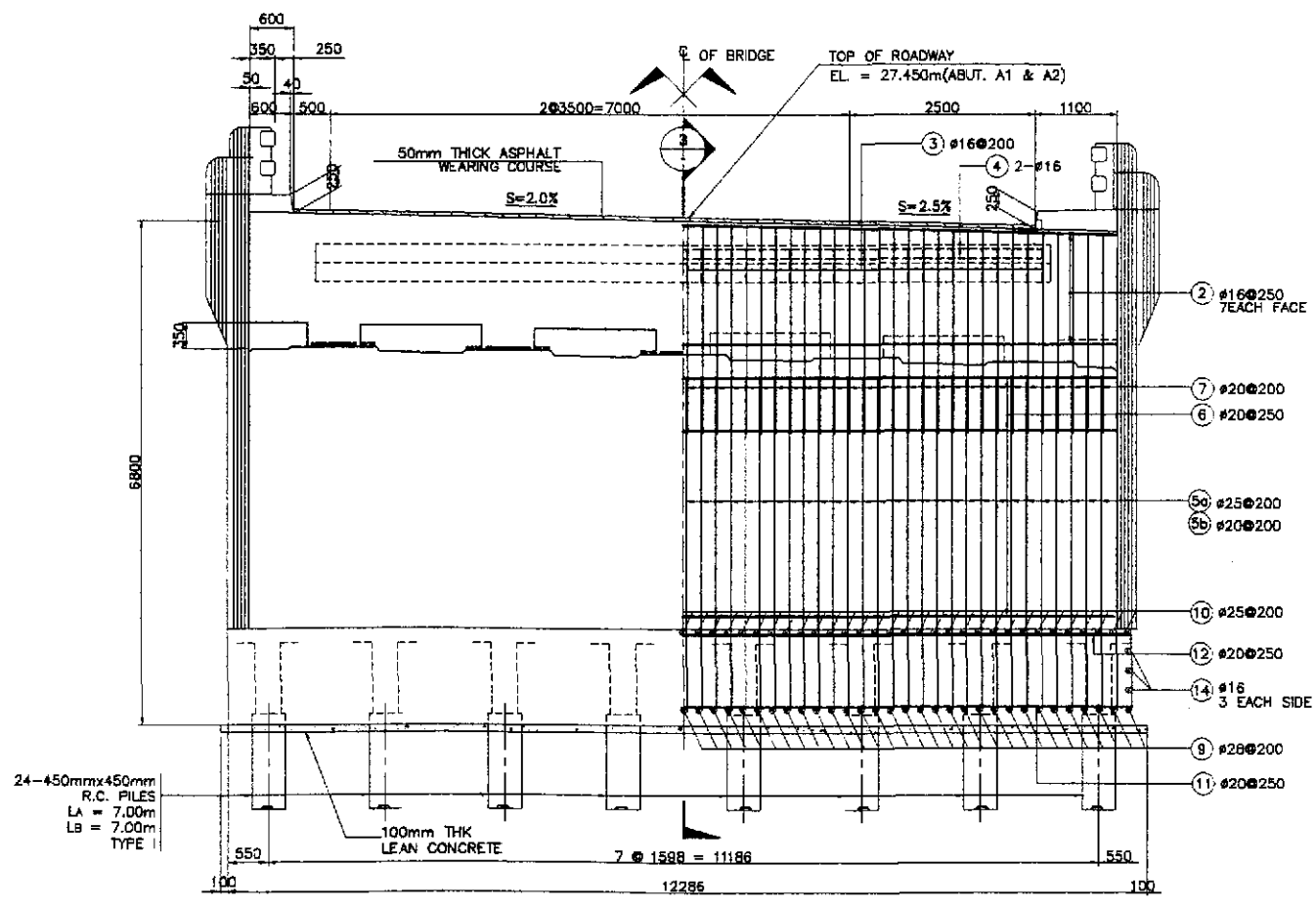
	DESIGNED	DATE	SIGNATURE	<p>REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS</p>	PROJECT AND LOCATION:	SCALE:	SHEET CONTENTS:	SHEET NO.:
	CHECKED	10/15/02	<i>[Signature]</i>		<p>THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)</p>	AS SHOWN	BRIDGE NO. 2 AASHTO TYPE IV GIRDER (INTERIOR SPAN) (INITIAL STAGE)	B2-04
	SUBMITTED	10/16/02	<i>[Signature]</i>		<p>CABANATUAN BYPASS - CONTRACT PACKAGE I</p>	FULL SIZE A1		



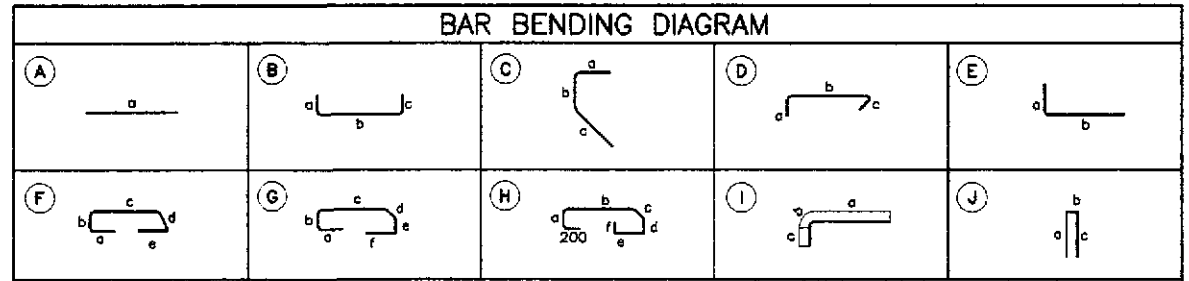
1 PLAN
SCALE 1:50



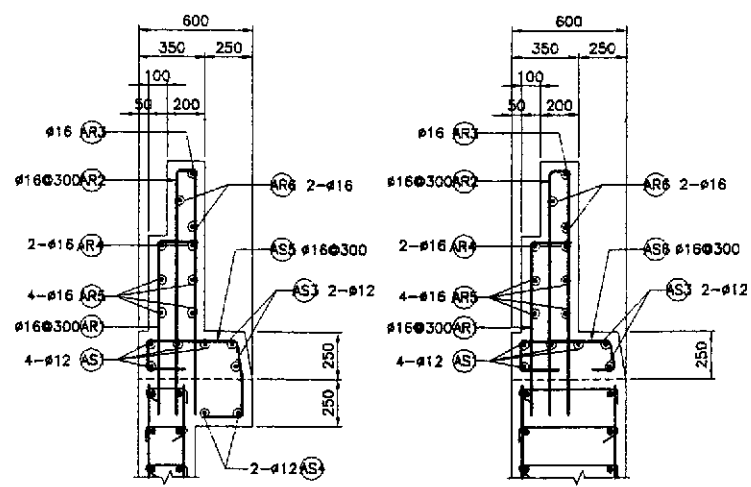
3 SECTION
SCALE 1:50



2 ELEVATION
SCALE 1:50

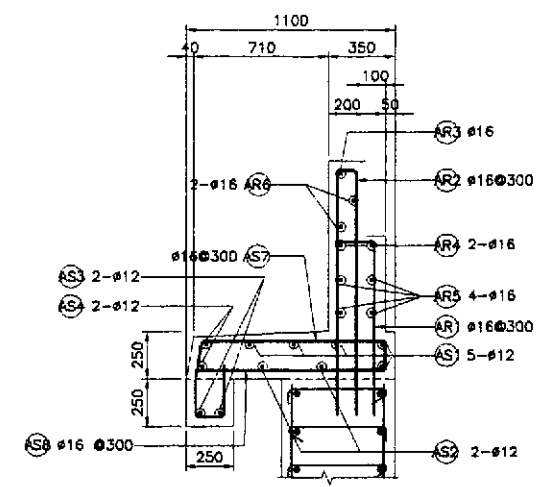


SCHEDULE OF REINFORCEMENT PER ABUTMENT																	
LOCATION	CONCRETE VOLUME (m ³)	BAR MARK	BAR SIZE	QTY.	SPACING	BAR SHAPE	DIMENSIONS (mm) OUT TO OUT					LENGTH EA. BAR (mm)	TOTAL LENGTH (m)	UNIT WT. (kg/m)	WEIGHT (kg)	REBAR RATIO (kg/m ³)	
							a	b	c	d	e						f
BACKWALL	7.26	①	16	59	200	B	2000	200	2000	-	-	-	4200	247.80	1.579	392	110.51
		②	16	14	250	A	11600	-	-	-	-	-	11600	162.40	1.579	257	
		③	16	51	200	C	600	150	750	-	-	-	1500	76.50	1.579	121	
		④	16	2	AS SHOWN	A	9900	-	-	-	-	-	9900	19.80	1.579	32	
MAINWALL	52.69	⑤a	25	59	200	E	400	4800	-	-	-	-	5200	306.80	3.854	1183	68.89
		⑤b	20	59	200	E	400	4800	-	-	-	-	5200	306.80	2.466	757	
		⑥	20	33	250	A	11600	-	-	-	-	-	11600	382.80	2.466	944	
		⑦	20	59	200	B	250	1100	250	-	-	-	1600	94.40	2.466	233	
		⑧	16	203	400	D	250	1100	250	-	-	-	1600	324.80	1.579	513	
		⑨	28	62	200	B	700	4150	700	-	-	-	5550	344.10	4.833	1664	
		⑩	25	62	200	B	700	4150	700	-	-	-	5550	344.10	3.854	1327	
		⑪	20	18	250	B	700	12150	700	-	-	-	13550	243.90	2.466	602	
FOOTING	68.68	⑫	20	18	250	B	700	12150	700	-	-	-	13550	243.90	2.466	602	72.47
		⑬	16	6	AS SHOWN	A	12150	-	-	-	-	-	12150	72.90	1.579	116	
		⑭	16	6	AS SHOWN	A	4150	-	-	-	-	-	4150	24.90	1.579	40	
		⑮	16	240	400	D	250	1150	250	-	-	-	1650	386.00	1.579	626	
		⑯	16	34	300	E	650	500	-	-	-	-	1150	39.10	1.579	62	
DOWEL		⑰	16	34	300	E	650	500	-	-	-	1150	39.10	1.579	62		
TOTAL	128.63																GRADE 40 TOTAL = 2,159 kgs. GRADE 60 TOTAL = 7,312 kgs.



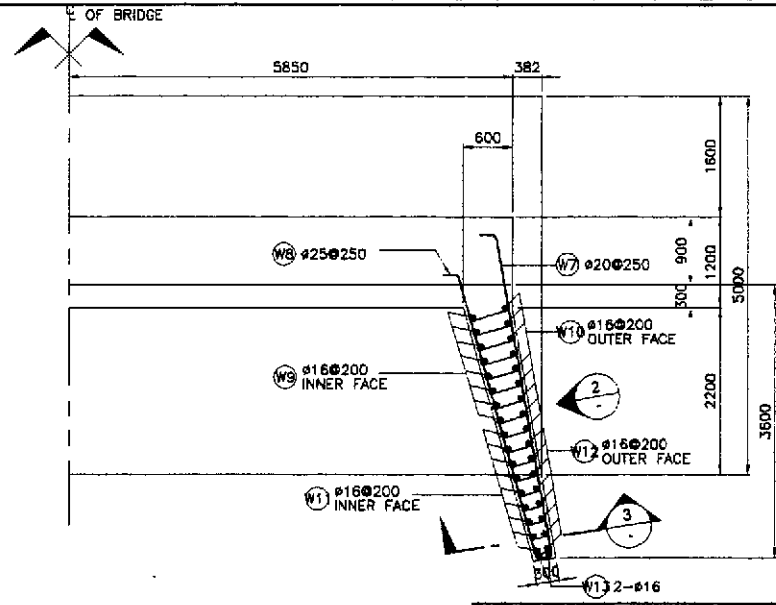
5A SECTION SCALE 1:20

5B SECTION SCALE 1:20

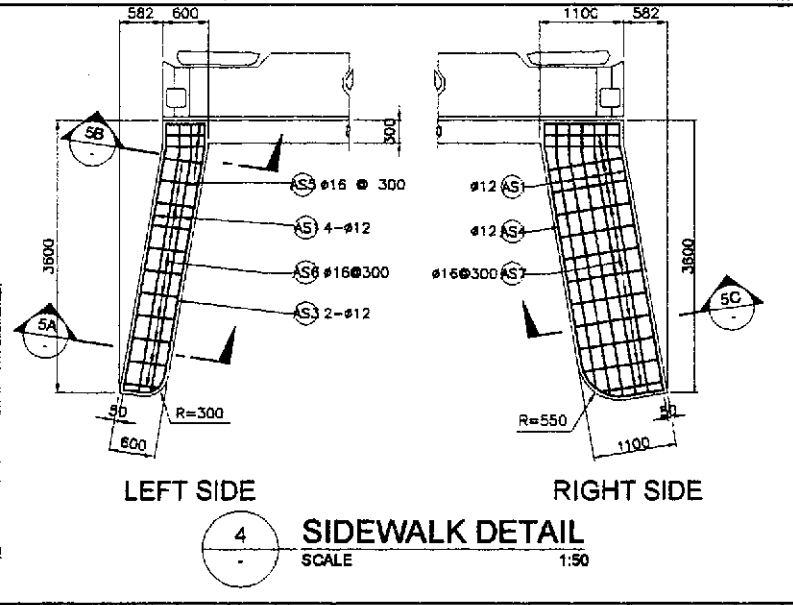


5C SECTION SCALE 1:20

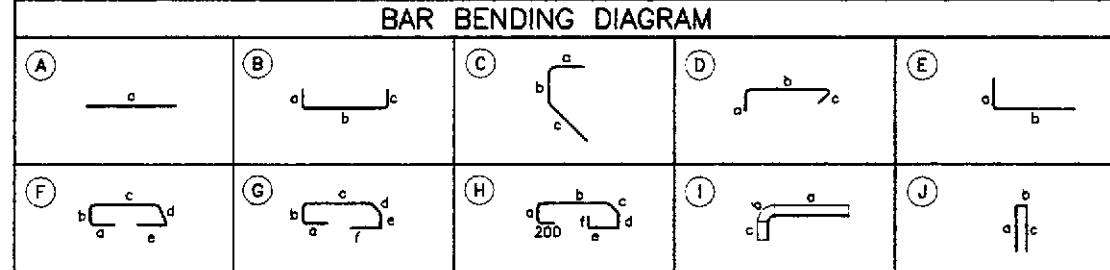
5 APPROACH RAIL DETAILS SCALE 1:20



1 PLAN SCALE 1:50

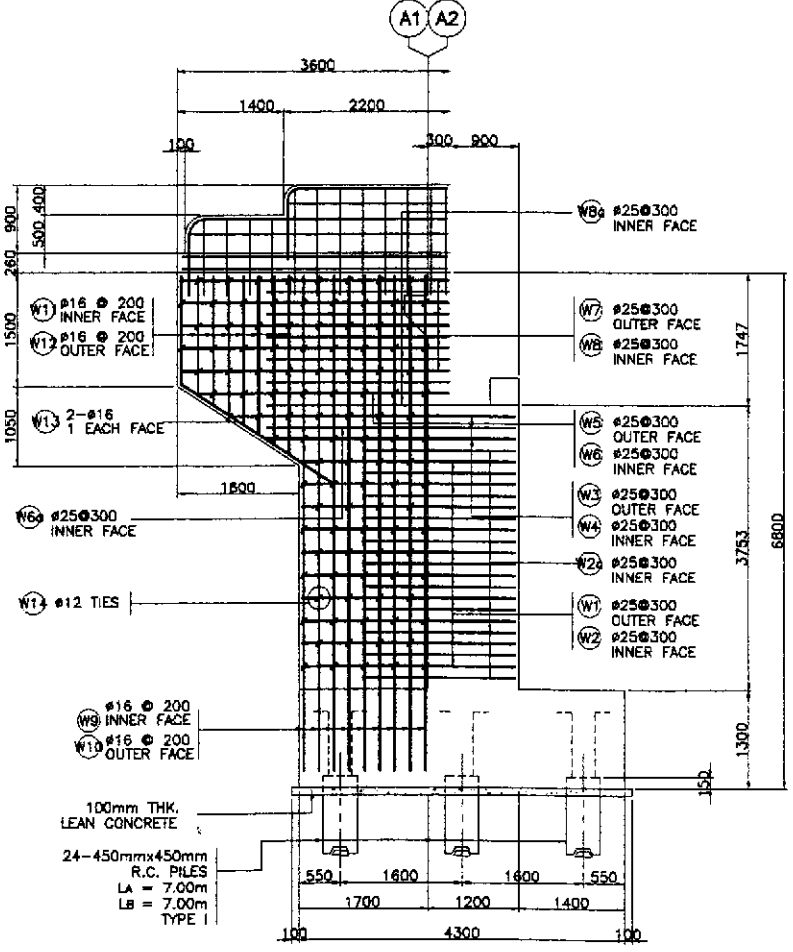


4 SIDEWALK DETAIL SCALE 1:50

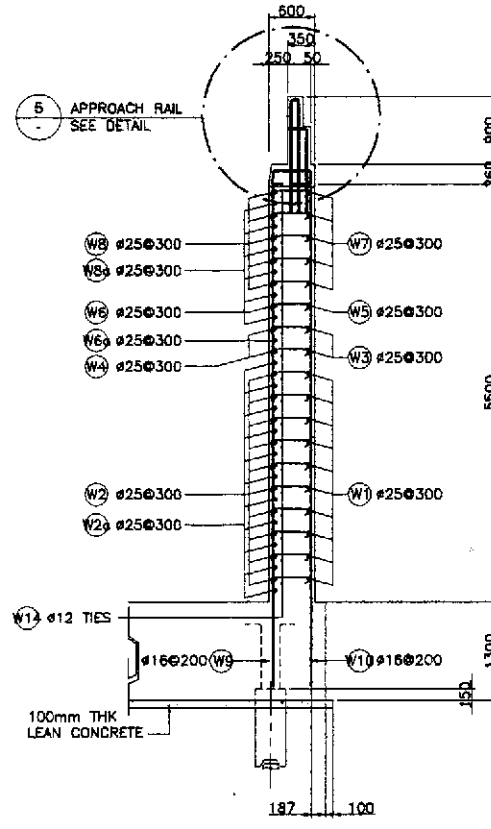


SCHEDULE OF REINFORCEMENT PER ABUTMENT

LOCATION	CONCRETE VOLUME (m ³)	BAR MARK	BAR SIZE	QTY.	SPACING	BAR SHAPE	DIMENSIONS (mm) OUT TO OUT					LENGTH EA. BAR (m)	TOTAL LENGTH (m)	UNIT WT. (kg/m)	WEIGHT (kg)	REBAR RATIO (kg/m ³)			
							a	b	c	d	e						f		
WINGWALL	11.33	W1	25	20	300	B	400	2800	150	-	-	-	3350	67.00	3.854	259	180.15		
		W2	25	20	300	B	400	2800	150	-	-	-	3350	67.00	3.854	259			
		W3	25	22	300	E	400	1950	-	-	-	-	2350	51.70	3.854	200			
		W4	25	4	300	B	400	3550	150	-	-	-	4100	16.40	3.854	64			
		W5	25	2	300	B	400	3330	150	-	-	-	3850	7.70	3.854	30			
		W6	25	2	300	B	400	3300	150	-	-	-	3850	7.70	3.854	30			
		W6	25	2	300	E	400	3250	-	-	-	-	3650	7.30	3.854	29			
		W7	25	10	300	B	400	3500	150	-	-	-	4050	40.50	3.854	157			
		W8	25	10	300	B	400	3500	150	-	-	-	4050	40.50	3.854	157			
		W8	25	12	300	E	400	2400	-	-	-	-	2800	33.60	3.854	130			
		W9	16	18	200	E	250	6550	-	-	-	-	6800	122.40	1.579	194			
		W10	16	18	200	E	250	6550	-	-	-	-	6800	122.40	1.579	194			
		W11	16	14	200	E	250	1950	-	-	-	-	2200	30.80	1.579	49			
		W12	16	14	200	E	250	1950	-	-	-	-	2200	30.80	1.579	49			
W13	16	4	AS SHOWN	C	250	1500	2500	-	-	-	4250	17.00	1.579	27					
W14	12	212	AS SHOWN	D	170	450	170	-	-	-	790	167.48	0.888	149					
												GRADE 60 TOTAL=1379 kgs							
												GRADE 40 TOTAL= 662 kgs							
APPROACH RAILING AND SIDEWALK	3.53	AS1	12	9	AS SHOWN	A	3500	-	-	-	-	3500	31.50	0.888	28	96.34			
		AS2	12	2	AS SHOWN	A	3500	-	-	-	-	3500	7.00	0.888	7				
		AS3	12	4	AS SHOWN	A	3500	-	-	-	-	3500	14.00	0.888	13				
		AS4	12	4	AS SHOWN	A	3500	-	-	-	-	3500	14.00	0.888	13				
		AS5	16	3	300	F	200	170	480	200	200	-	1250	3.75	1.579		6		
		AS7	16	11	300	G	200	170	480	200	170	200	1420	15.62	1.579		25		
		AS7	16	14	300	H	200	170	980	200	170	200	2120	29.68	1.579		47		
		AS7	16	14	300	E	200	1020	-	-	-	-	1220	17.08	1.579		27		
		AR1	16	8	300	E	200	900	-	-	-	-	1100	8.80	1.579		14		
		AR2	16	16	300	J	1300	120	1300	-	-	-	2720	43.52	1.579		69		
		AR3	16	2	AS SHOWN	I	2100	236	1300	-	-	-	3636	7.27	1.579		12		
		AR3	16	4	AS SHOWN	I	3400	236	900	-	-	-	4536	18.14	1.579		29		
AR5	16	8	AS SHOWN	A	3400	-	-	-	-	-	3400	27.20	1.579	43					
AR6	16	4	AS SHOWN	A	2100	-	-	-	-	-	2100	8.40	1.579	14					
												GRADE 40 TOTAL= 347kgs							
TOTAL	14.86													GRADE 60 TOTAL = 1379 kgs.				GRADE 40 TOTAL = 1009 kgs.	

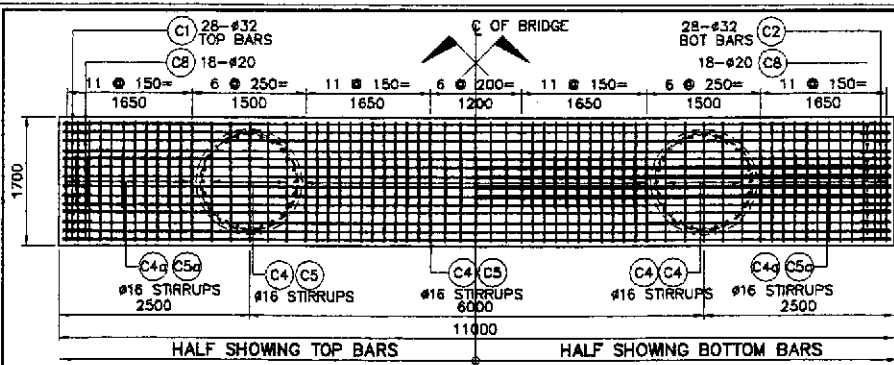


2 WINGWALL ELEVATION SCALE 1:50

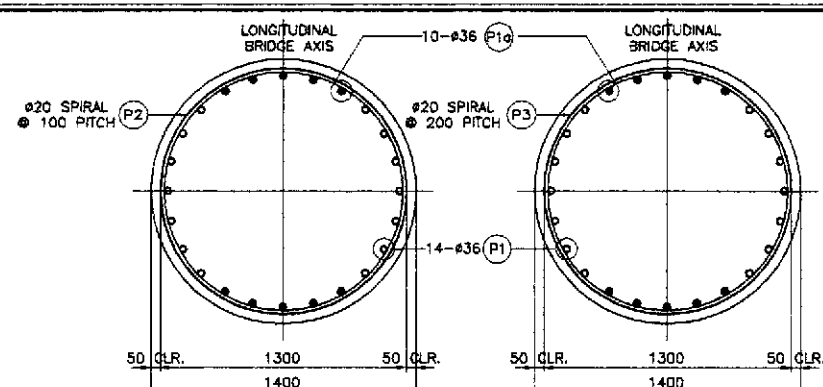


3 SECTION SCALE 1:50

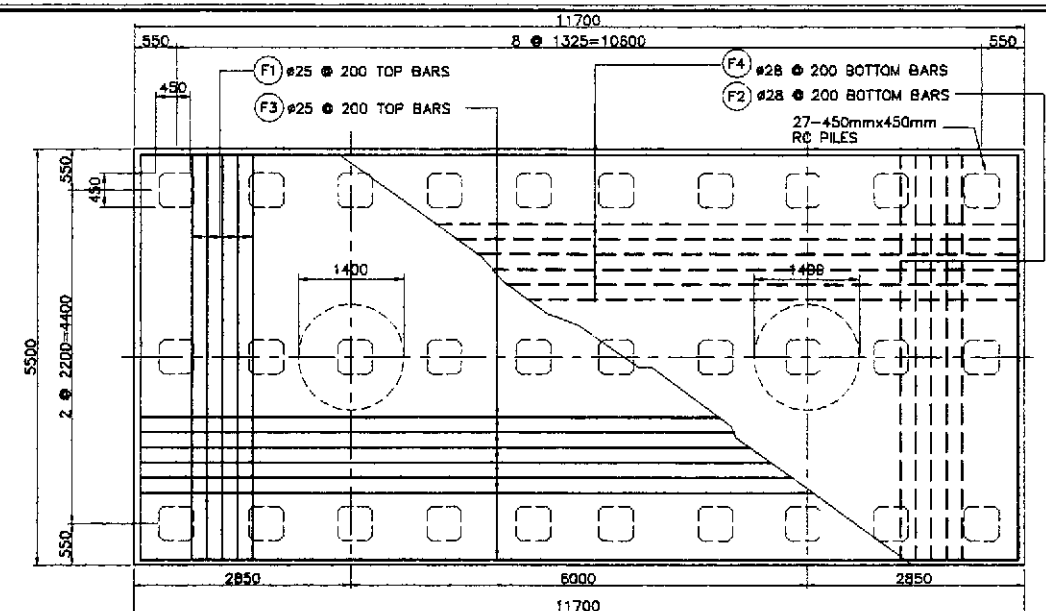
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	CHECKED	4/27/07	M.P. GONZALES		BUREAU OF DESIGN					THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Paridul, Cabanatuan and San Jose Bypasses)	AS SHOWN	BRIDGE NO. 2 ABUTMENT A1 & A2 WINGWALL REINFORCEMENT DETAILS (INITIAL STAGE)	B2-07
	SUBMITTED	4/27/07	M.P. GONZALES		Submitted By:	Reviewed By:	Recommended By:	Recommended By:	Approved By:	CABANATUAN BYPASS - CONTRACT PACKAGE I	FULL SIZE A1		



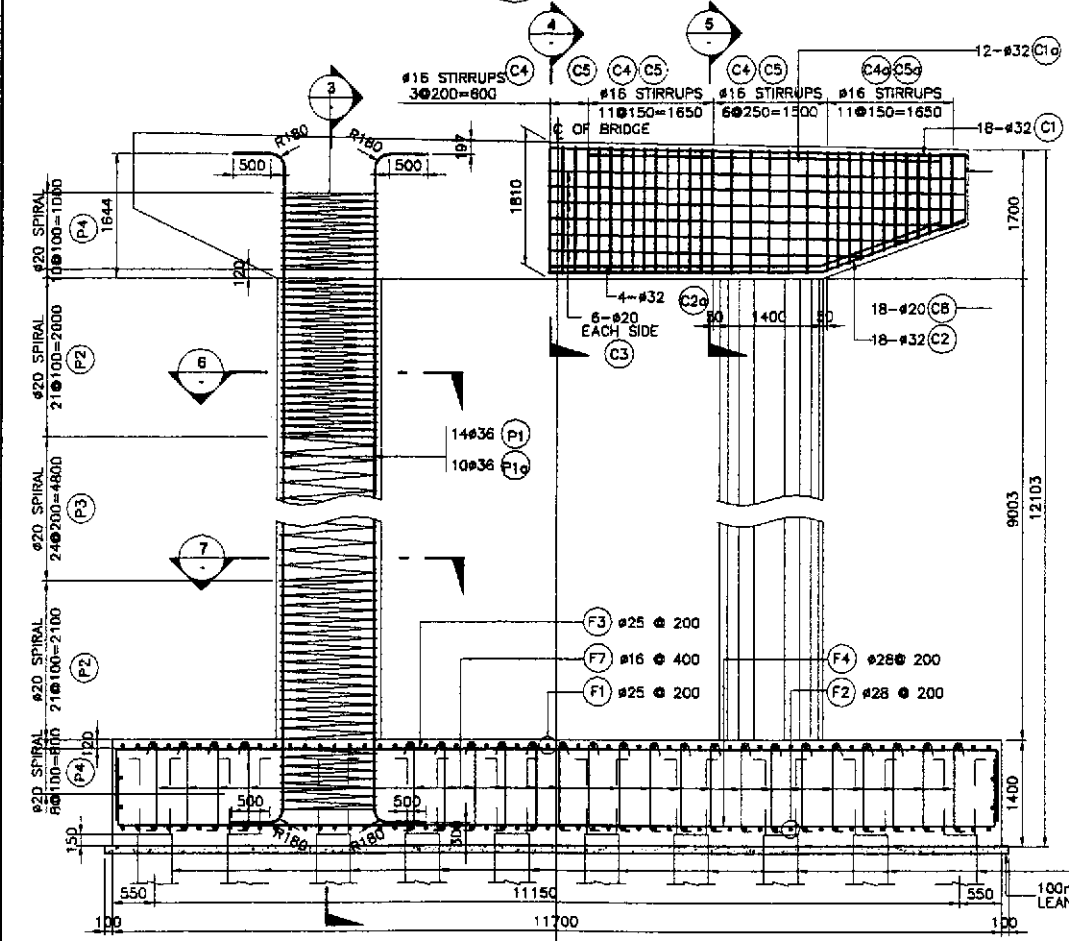
1 COPING PLAN
SCALE 1:50



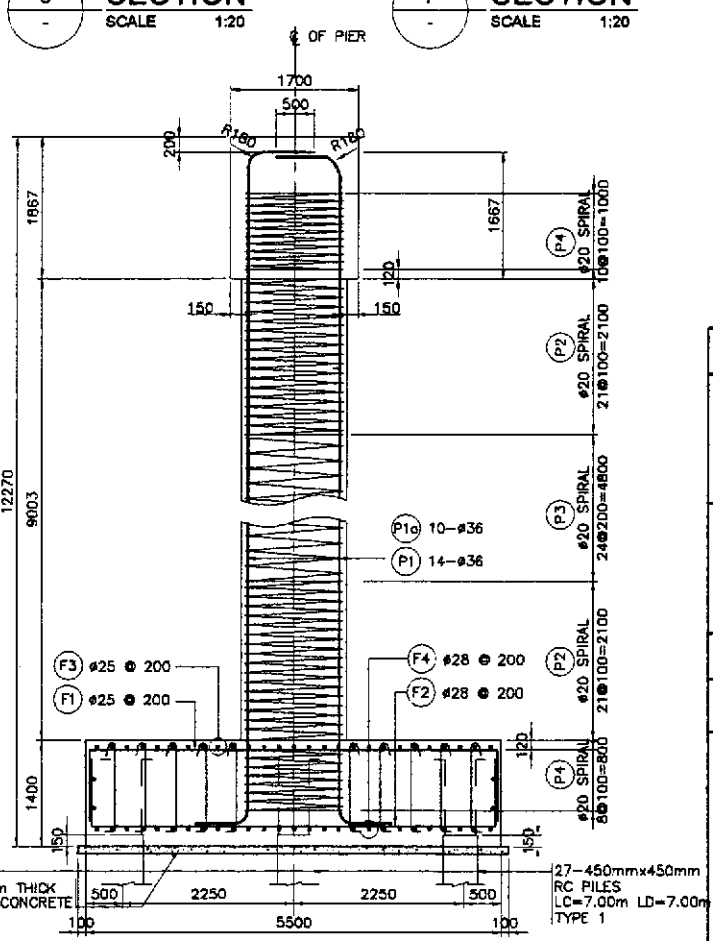
6 SECTION SCALE 1:20
7 SECTION SCALE 1:20



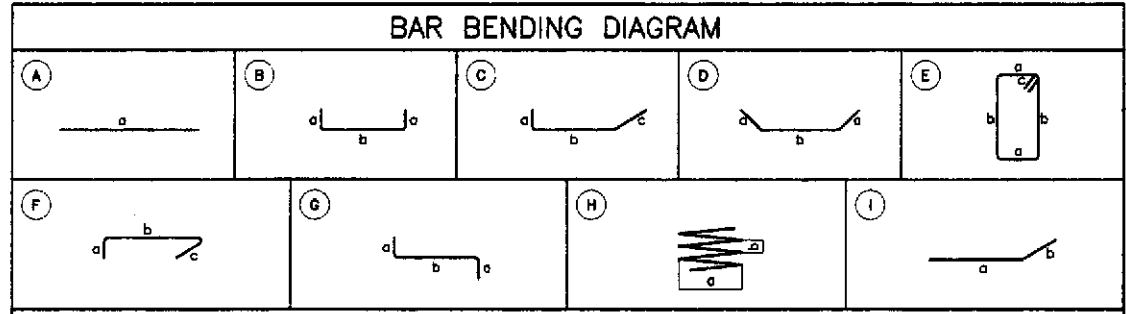
9 FOOTING PLAN
SCALE 1:50



2 ELEVATION
SCALE 1:50



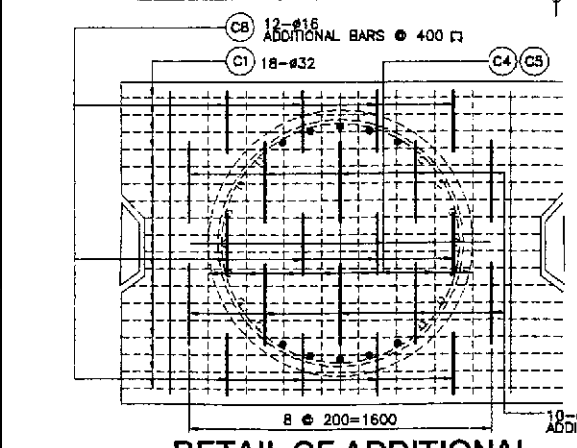
3 SECTION
SCALE 1:50



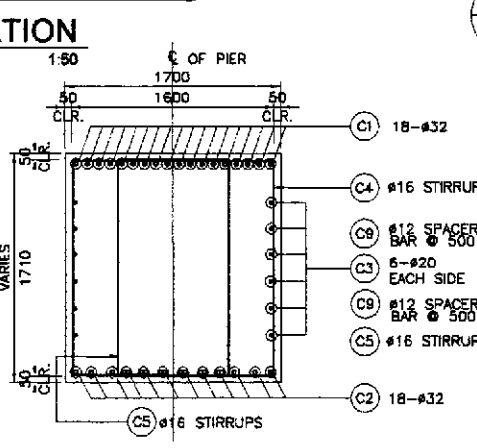
SCHEDULE OF REINFORCEMENT FOR ONE PIER

LOCATION	CONCRETE VOLUME (m ³)	BAR MARK	BAR SIZE	QTY.	SPACING	BAR SHAPE	DIMENSIONS (mm)	OUT TO OUT	LENGTH EACH BAR (mm)	TOTAL LENGTH (m)	UNIT WT. (kg/m)	TOTAL WEIGHT (kg)	REBAR RATIO (kg/m ³)				
COPING	31.38	C1	32	18	AS SHOWN	(A)	10900	-	10900	196.20	6.313	1239	170.51				
		C1a	32	24	AS SHOWN	(A)	4500	-	4500	108.00	6.313	682					
		C2	32	18	AS SHOWN	(D)	2000	7300	-	11300	203.00	6.313		1285			
		C2a	32	8	AS SHOWN	(I)	1800	3200	-	5000	40.00	6.313		253			
		C3	20	6	AS SHOWN	(A)	10900	-	10900	65.40	2.466	162					
		C3a	20	6	AS SHOWN	(A)	9500	-	9500	57.00	2.466	141					
		C4	16	41	150	(E)	1600	1725	150	6950	284.95	1.579		450			
		C4a	16	22	150	(E)	1600	1425	150	6350	139.70	1.579		221			
		C5	16	41	150	(E)	900	1725	150	5850	227.55	1.579		360			
		C5a	16	22	150	(E)	900	1425	150	4950	108.90	1.579		172			
		C6	12	40	150	(B)	150	1600	-	1900	76.00	0.888		68			
		C7	20	36	AS SHOWN	(C)	350	900	350	1800	57.80	2.466		143			
		C8a	16	24	400	(B)	330	1700	-	2360	56.64	1.579		90			
		C8b	16	20	400	(B)	430	1700	-	2560	51.20	1.579		81			
		COLUMN	22.64	P1	36	28	AS SHOWN	(B)	600	9950	-	11150		312.20	7.991	2495	255.72
				P1a	36	20	AS SHOWN	(C)	600	9950	-	11150		223.00	7.991	1782	
P2	20			84	100	(H)	1300	100	-	4084	334.88	2.466	826				
P3	20			48	200	(H)	1300	200	-	4084	180.69	2.466	323				
FOOTING	90.09	F1	25	59	200	(B)	925	5350	-	7200	424.80	3.854	1638	87.99			
		F2	28	59	200	(B)	925	5350	-	7200	424.80	4.833	2054				
		F3	25	28	200	(B)	925	11550	-	13400	375.20	3.854	1447				
		F4	28	28	200	(B)	925	11550	-	13400	375.20	4.833	1814				
		F5	16	2	AS SHOWN	(A)	11550	-	11550	23.10	1.579	37					
		F6	16	2	AS SHOWN	(A)	5350	-	5350	10.70	1.579	17					
		F7	16	364	400	(F)	200	1250	150	1600	582.40	1.579	920				
TOTAL	144.09																

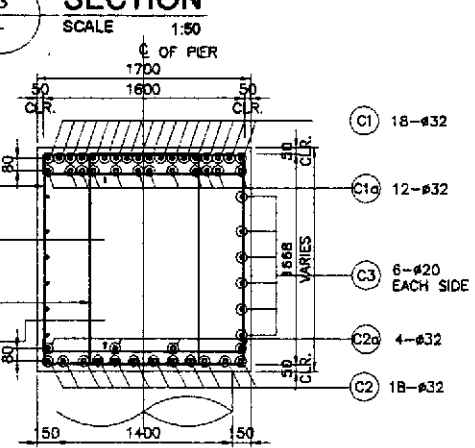
GRADE 40 TOTAL = 2,416 kgs.
GRADE 60 TOTAL = 16,647 kgs.



8 DETAIL OF ADDITIONAL REINFORCEMENT @ PIER
SCALE 1:20

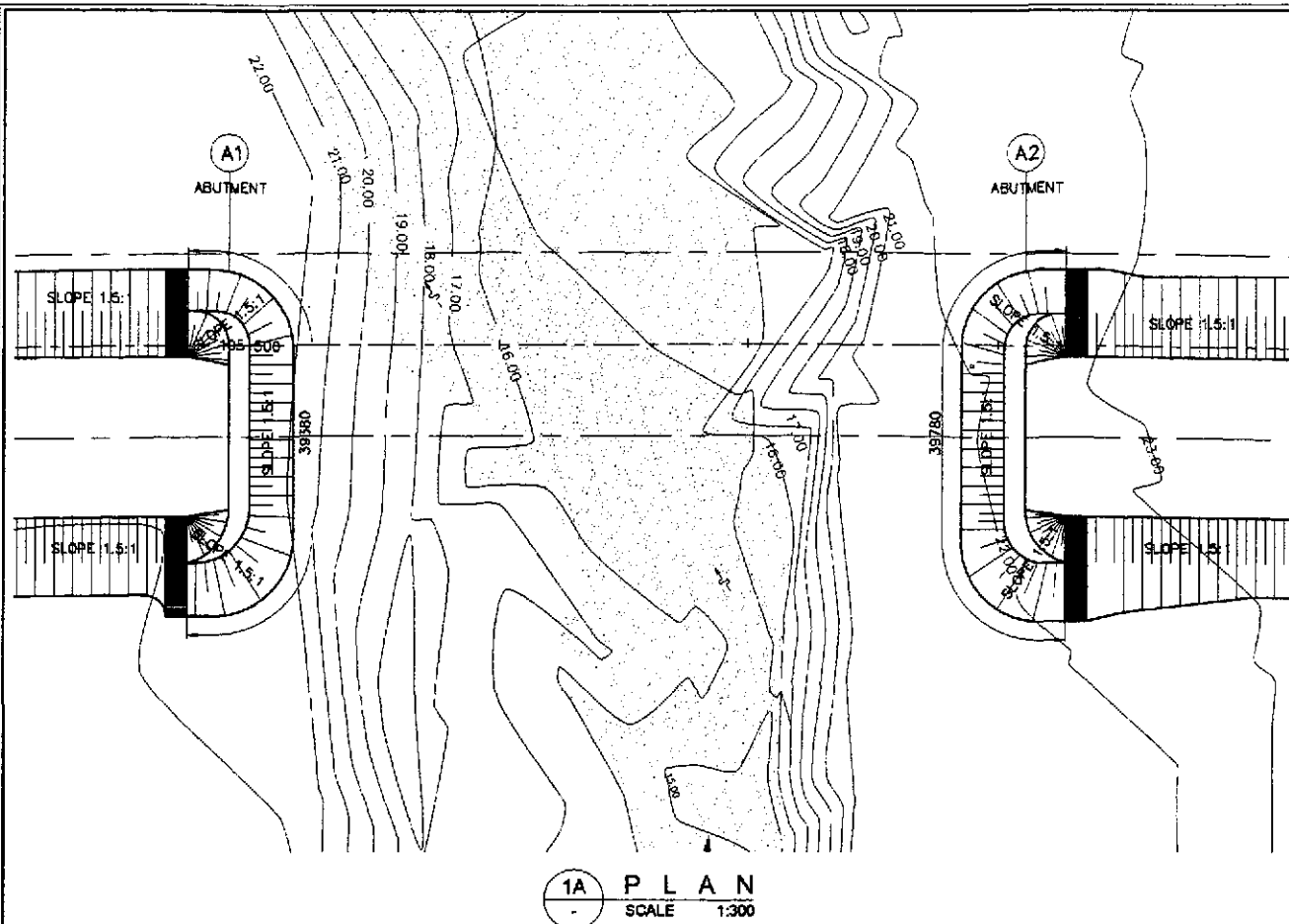


4 SECTION
SCALE 1:30



5 SECTION
SCALE 1:30

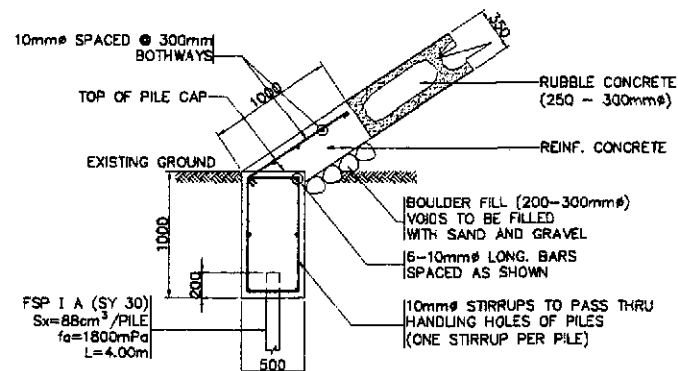
	DESIGNED	DATE	SIGNATURE		PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :	
	CHECKED				REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS	THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Palarid, Cabanatuan and San Jose Bypasses)	AS SHOWN	BRIDGE NO. 2 PIER P1 AND PIER P2 BAR ARRANGEMENT (INITIAL STAGE)	B2-10
	SUBMITTED				BUREAU OF DESIGN OFFICE OF THE SECRETARY	CABANATUAN BYPASS - CONTRACT PACKAGE I	FULL SIZE A1		



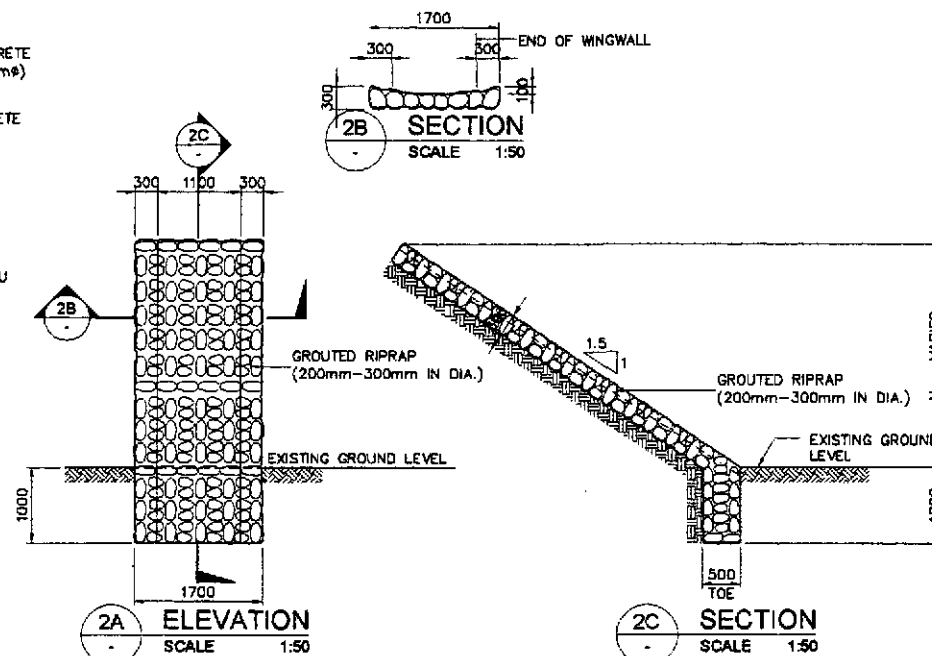
1A PLAN SCALE 1:300

GENERAL NOTES:

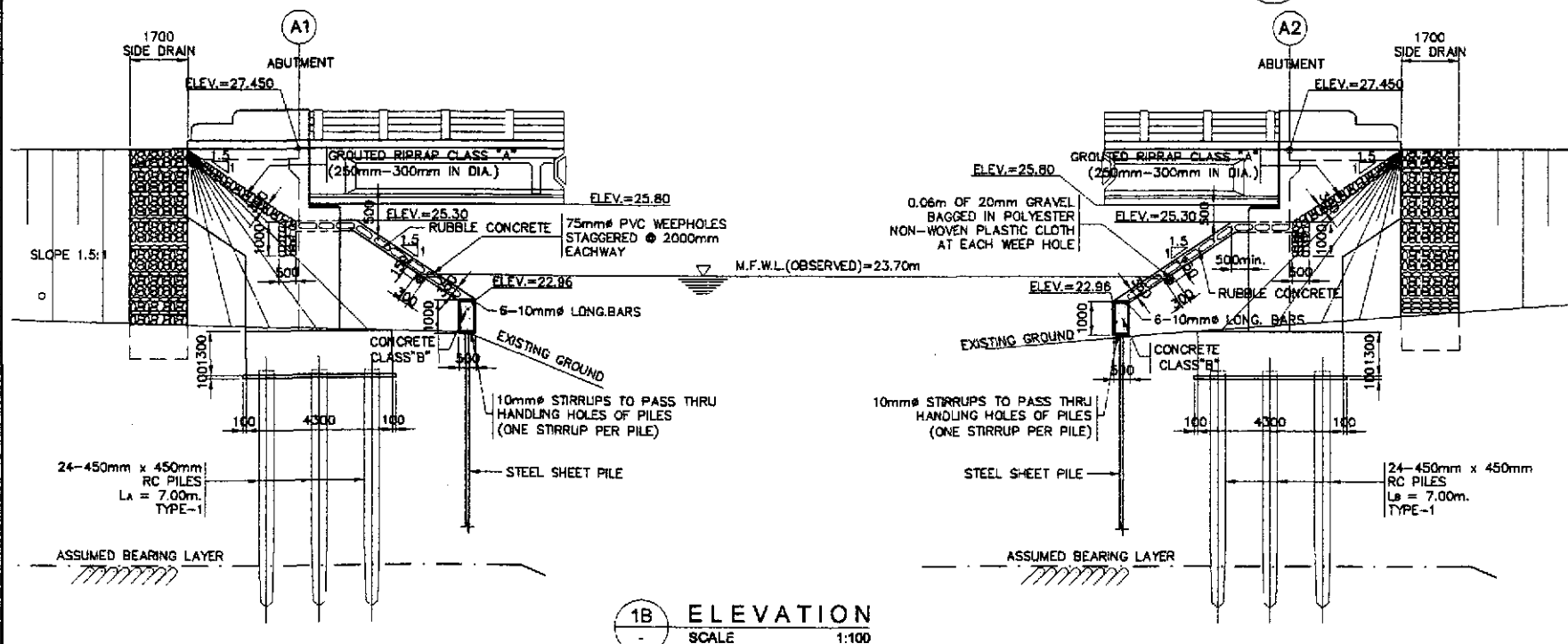
- GROUTED RIPRAP (250mm-300mm DIA.) SHALL BE USED FOR THE FACING AND SHALL BE CAREFULLY HANDLAID WITH THE LONGEST DIMENSIONS PERPENDICULAR TO THE SLOPE AND FIRMLY BEDDED INTO THE SLOPE AND ADJACENT TO THE ADJOINING BOULDERS SPACED BETWEEN THE BOULDERS. THE SPACE BETWEEN THE BOULDERS SHALL BE COMPLETELY FILLED WITH MORTAR. THE OUTSIDE SURFACE OF THE BOULDERS SHALL BE LEFT EXPOSED AND THE SURFACE OF THE MORTAR SHALL BE SWEEPED WITH A STIFF BROOM.
- WIRE MESH GABIONS/MATTRESS
 - WIRE - THE WIRE SHALL BE MADE OF GALVANIZED STEEL HAVING A MINIMUM SIZE OF 3.40mm DIAMETER (U.S. WIRE GAUGE NO.11) THE TENSILE STRENGTH OF THE WIRE SHALL BE IN THE RANGE OF 413.70 TO 586.10 MPa. (60,000 TO 85,000 Psi) THE MINIMUM ZINC COATING OF THE WIRE SHALL BE 22.7G GRAMS PER 0.0929m² OF UNCOATED WIRE SURFACES AS DETERMINED BY TEST CONDUCTED IN ACCORDANCE WITH AASHTO T85.
 - ROCK FILL - ROCK USED IN THE GABIONS SHALL CONSIST OF HARD, DURABLE ROCK PIECES THAT WILL NOT DETERIORATE WHEN SUBMERGED IN WATER OR EXPOSED TO SEVERE WEATHER CONDITIONS. ROCK PIECES SHALL BE GENERALLY UNIFORMLY GRADED IN SIZES RANGING FROM 100mm TO 200mm. FILLED GABIONS SHALL HAVE A MINIMUM DENSITY OF 1,400Kg./m³. VOIDS SHALL BE EVENLY DISTRIBUTED. THE ROCKS SHALL MEET THE REQUIREMENTS OF AASHTO M63 EXCEPT THAT THE SODIUM SULFATE SOUNDNESS LOSS SHALL NOT EXCEED 9% AFTER 5 CYCLES.
- GEOTEXTILE THE FOLLOWING SPECIFICATIONS ARE REQUIRED:
 - POLYESTER OR POLYPROPYLENE - 100%
 - MECHANICALLY BONDED/HEAT BONDED
 - NON-WOVEN
 - EFFECTIVE OPENING SIZE - 110 MICRONS (MAX.)
 - THICKNESS UNDER PRESSURE - 0.80mm (MIN.)
 - WEIGHT - 200g/ea. m. (MIN.)
 - CBR PUNCTURE STRENGTH - 400N (MIN.)
 - MULTI-DIRECTIONAL TENSILE STRENGTH - 13kN/m
- GRAVEL FILTER SHALL BE COARSE AGGREGATES MATERIALS WHICH SATISFY THE REQUIREMENTS FOR ITEM 405, STRUCTURAL CONCRETE, GRADING B OF TABLE 405.1 AS REVISED.
- RUBBLE CONCRETE SHALL BE CLASS "B" (1:2.5:5) MIX CONCRETE WITH BOULDERS EMBEDDED THEREIN. BOULDERS 250-300mm SHALL BE CAREFULLY HAND-LAID WITHIN THE CONCRETE SECTION. THE BOULDERS SHALL BE THOROUGHLY INCORPORATED INTO THE CONCRETE MASS WITH A COVER OF 30mm AND NOT LESS THAN 30mm APART. THE RUBBLE CONCRETE SHALL BE COMPOSED OF 40% CLASS "B" CONCRETE AND 60% BOULDERS.
- NO CONCRETING UNDER WATER SHALL BE PERMITTED.
- PROVIDE 1.0 m. BERM WHEN HEIGHT (H) IS > 4.0 m.



3 CAPPING AND SHEET PILE CONNECTIONS SCALE 1:30

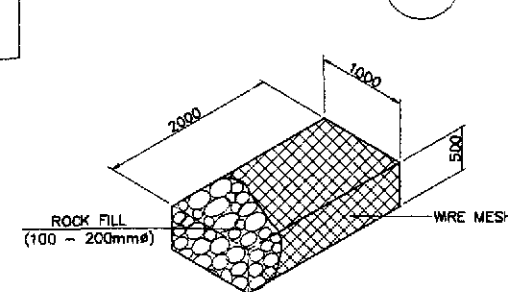


2 TYPICAL SIDE DRAIN DETAIL SCALE AS SHOWN



1B ELEVATION SCALE 1:100

1 ABUTMENT SLOPE PROTECTION SCALE AS SHOWN



4 GABION MATTRESSES SCALE 1:50

VELOCITY (m/sec)	ROCK SIZE (mm)	
	VERY TURBULENT FLOW (m/sec)	SMOOTH FLOW (m/sec)
1.00	40	-
1.50	135	-
2.00	170	-
2.50	255	137
3.00	370	197
3.50	515	270
4.00	690	350
4.50	825	425
5.00	>900	590

LOCATION	SIZES	QUANTITY	
		ABUT. A1	ABUT. A2
CONC. CLASS "B"	1000 x 500 x LENGTH	18.85 cu. m.	18.73 cu. m.
REBAR	10mm#, GRADE 40	281.00 kgs.	283.00 kgs.
RUBBLE CONCRETE	250mm-300mm IN DIA.	53.53 cu. m.	53.79 cu. m.
SHEET PILE	85 x 400 x 8mm THK.	82.00 pcs.	82.00 pcs.
SIDE DRAIN	200mm-300mm IN DIA.	10.89 cu. m.	11.14 cu. m.
GRouted RIPRAP	250mm-300mm IN DIA.	13.83 cu. m.	13.83 cu. m.

JICA JAPAN INTERNATIONAL COOPERATION AGENCY

KATAMURA & ENGINEERS YEO YACHYO ENGINEERING CO., LTD.

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: AS SHOWN FULL SIZE A1

SHEET CONTENTS: BRIDGE NO. 2 ABUTMENT PROTECTION AND SIDE DRAIN DETAILS (INITIAL STAGE)

SHEET NO.: B2-12

DESIGNED: 9/27/02 A. P. GONZALES

CHECKED: 10/15/02

SUBMITTED: 10/16/02

DATE: 10/16/02

SIGNATURE: [Signatures]

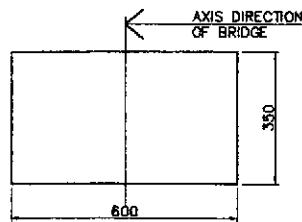
Submitted By: DANILLO C. TRAJANO Project Director

Reviewed By: PERFECTO L. ZAPLAN JR. Chief, Hydraulic Division (DC)

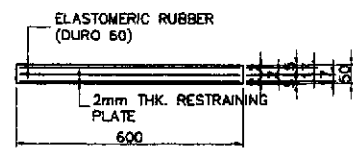
Recommended By: GILBERTO S. REYES Director IV (DC)

Recommended By: MANUEL N. BONDAN Undersecretary

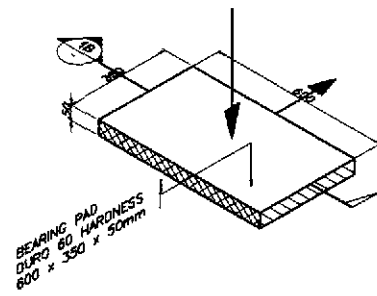
Approved By: SIMEON A. DATUMANONG Secretary



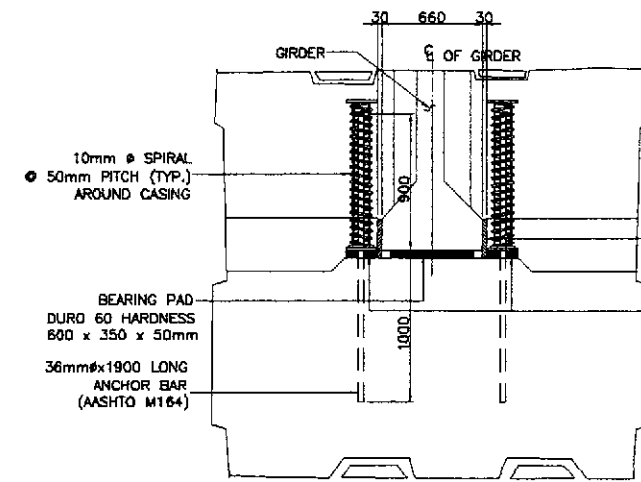
1A PLAN SCALE 1:10



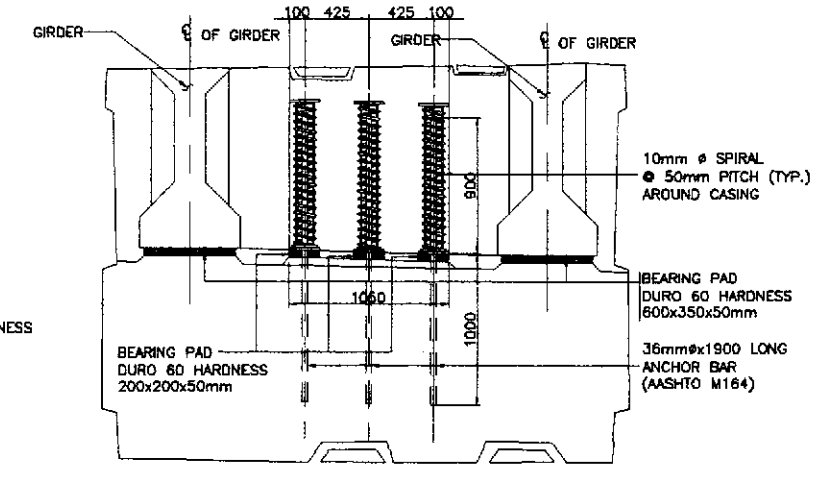
1B ELEVATION SCALE 1:10



1C ISOMETRIC VIEW

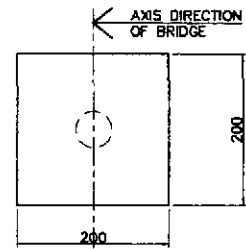


AT ABUTMENT

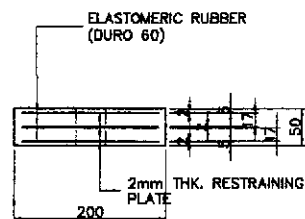


AT PIER

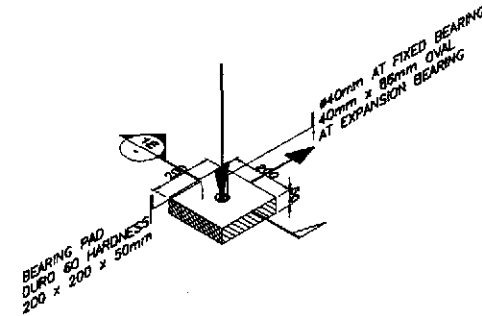
3A ANCHOR BAR SCALE 1:25



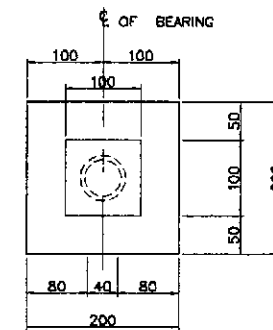
1D PLAN SCALE 1:5



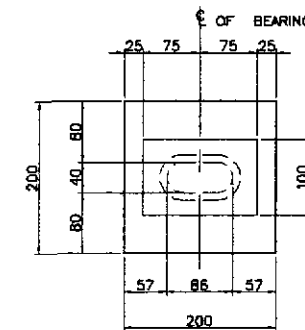
1E ELEVATION SCALE 1:5



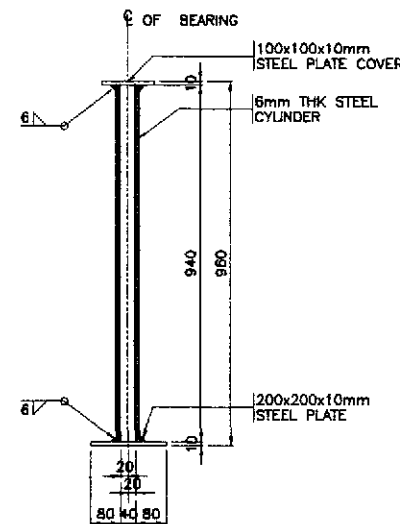
1F ISOMETRIC VIEW



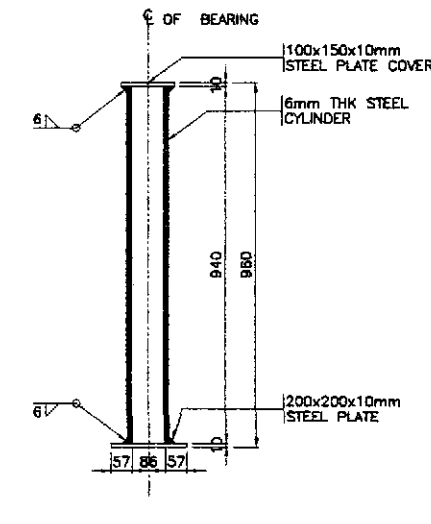
PLAN



PLAN



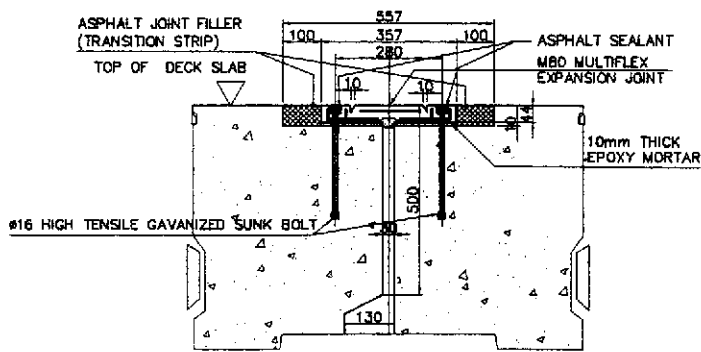
ELEVATION



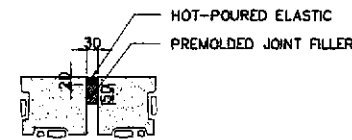
ELEVATION

3B FIXED BEARING SCALE 1:10

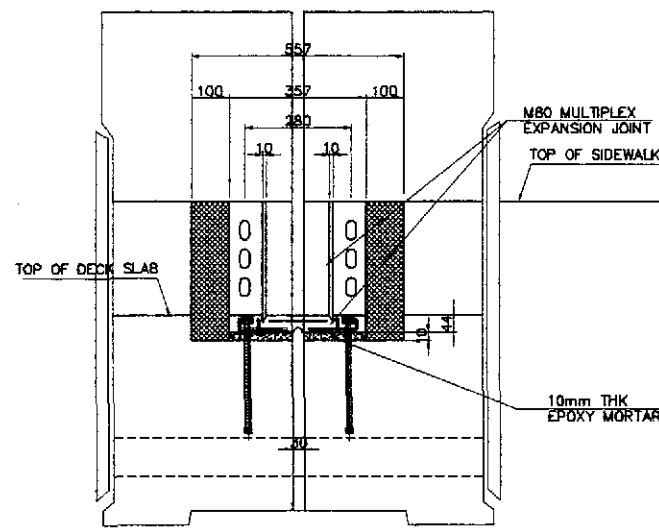
3C EXPANSION BEARING SCALE 1:10



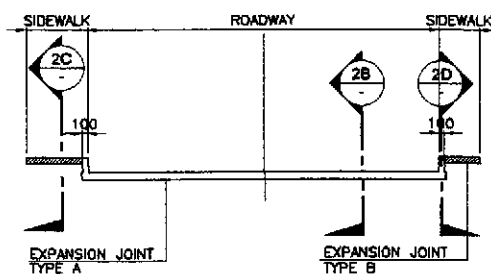
2B SECTION (TYPE A) SCALE 1:10



2C SECTION (TYPE B) SCALE 1:10



2D SECTION (TYPE A) SCALE 1:10



2A ELEVATION

2 EXPANSION JOINT DETAIL SCALE AS SHOWN

A.) QUALITY TESTING OF RUBBER COMPOUND

PROPERTIES	SPECIFICATION
HARDNESS (SHORE A)	50 ± 5
TENSILE STRENGTH (MPa)	13 MIN
ELONGATION AT BREAK (%)	400 MIN
COMPRESSION SET (AFTER 22h AT 70°C)	20% MAX
OZONE RESISTANCE (AFTER 72h AT 40°C, 20% STRAIN 100 ppm)	NO CRACK
OIL RESISTANCE IN ASTM NO. 3 OIL (168h AT 25°C VOLUME CHANGE)	15% MAX

B.) DIMENSION CHECK ON METAL PLATES

DIMENSION	SPECIFICATION
LENGTH	± 1
WIDTH	0 TO -1.5 MIN
THICKNESS	±0.5 MIN

C.) QUALITY CHECK

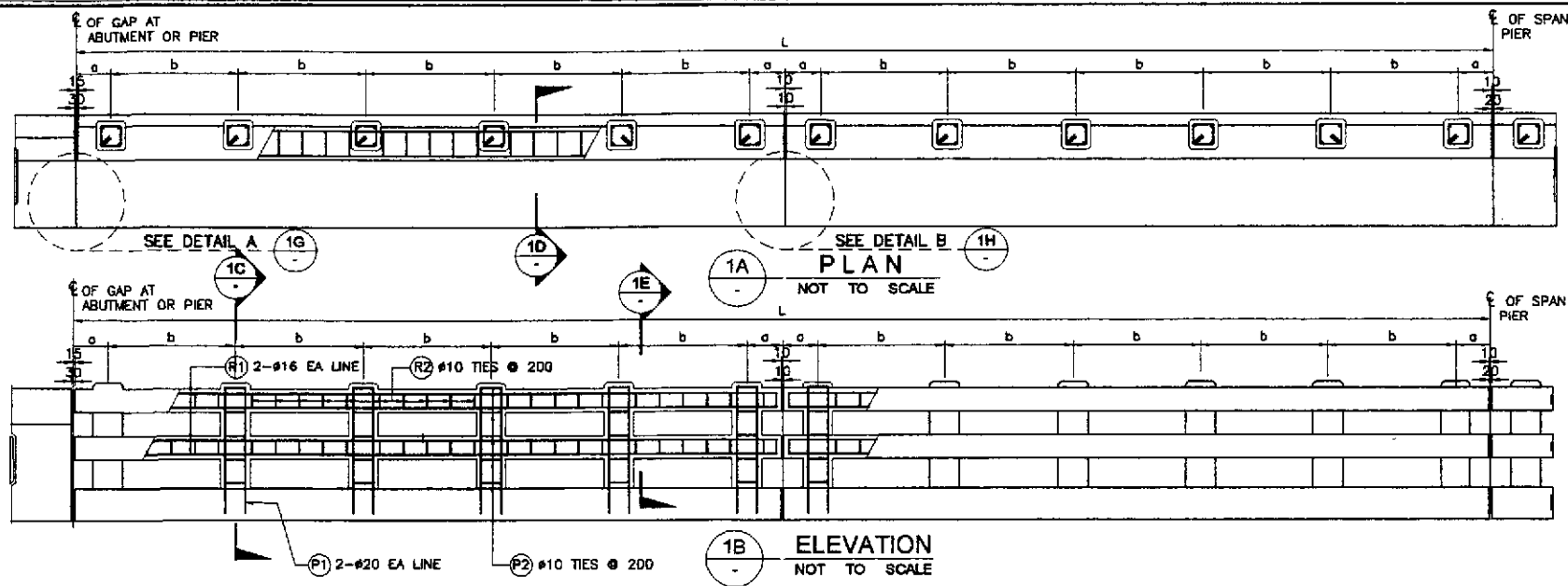
PROPERTY	SPECIFICATION
DIMENSION	ACCORDING TO PRODUCT DRAWING
SURFACE APPEARANCE	NO VISIBLE CRACK
RUBBER COVER HARDNESS (SHORE A)	50 ± 5

INSTALLATION MATERIALS

- EPOXY BEDDING
- EPOXY NOSING
- BOLT/NUTS
- SEALANT

LOCATION	EXPANSION JOINT TYPE	MOVEMENT (mm)	LENGTH (m)
BRIDGE 1	MULTIFLEX 80	30	26
BRIDGE 2	MULTIFLEX 80	30	26

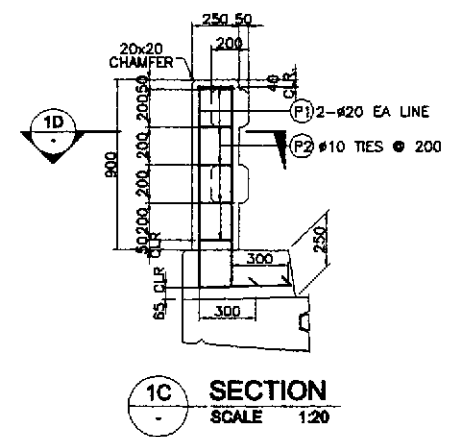
LOCATION	ELASTOMERIC BEARING PAD SIZE	QUANTITY
BRIDGE 1	600x350x50	20 PCS.
	200x200x50	28 PCS.
BRIDGE 2	600x350x50	30 PCS.
	200x200x50	40 PCS.



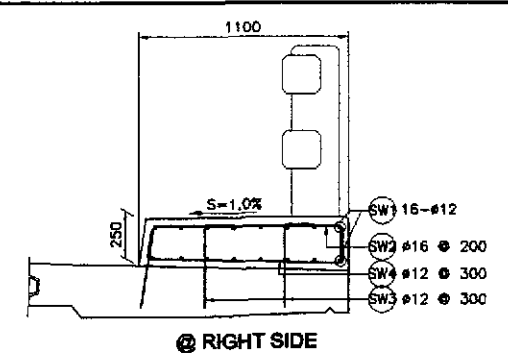
RAILING FOR BRIDGES

BRIDGE NO.	SPAN LENGTH (m)	NO. OF EXP. JT. INSIDE SPAN	NO. OF POST W/IN EXP. JT.	NO. OF RAIL POST PER SPAN	L (mm)	a (mm)	b (mm)
BR. 1	25.00	2	5	30	25015	250	1960
BR. 2	20.00	2	5	30	20015	250	1543
	22.00	2	5	30	22000	250	1709

NOTE: SIDEWALK SHALL BE PLACED AFTER THE SHOWING UNDER THE SUPERSTRUCTURE HAS BEEN RELEASED SUFFICIENTLY TO PERMIT THE SPANS TO ATTAIN FULL DEAD LOAD DEFLECTION.

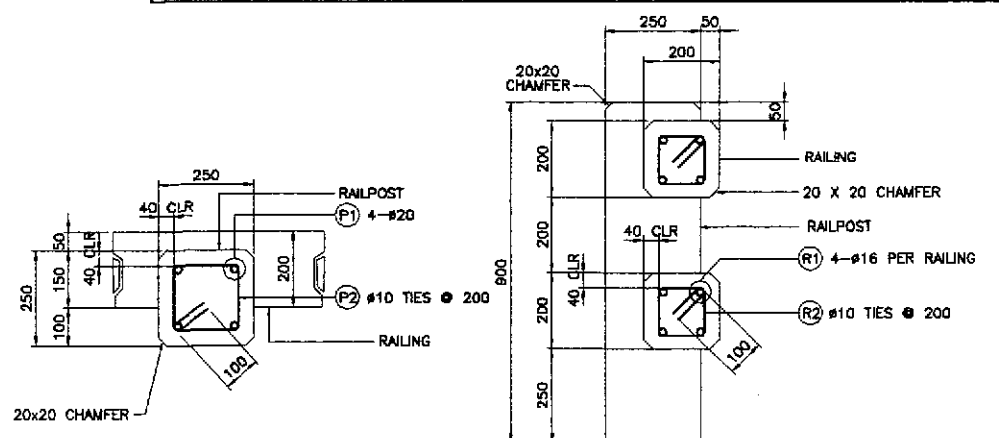


1D SIDEWALK DETAIL SCALE 1:20



@ LEFT SIDE

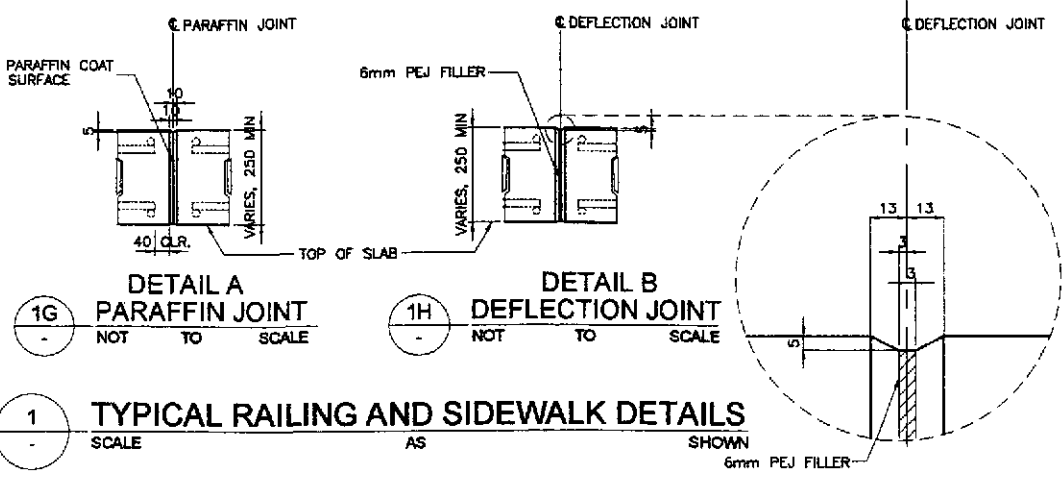
@ RIGHT SIDE



1F DETAIL SCALE 1:10

1E SECTION SCALE 1:10

NOTE: FOR LOCATION OF JOINTS SEE GENERAL PLAN OF BRIDGE.

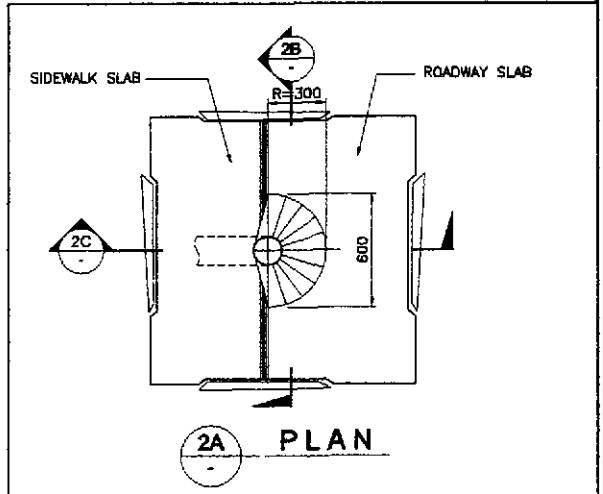


1G DETAIL A PARAFFIN JOINT NOT TO SCALE

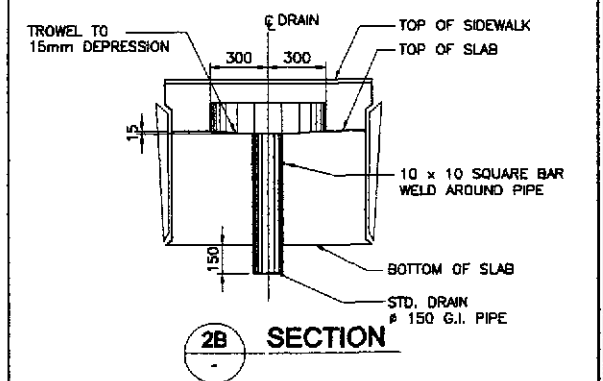
1H DETAIL B DEFLECTION JOINT NOT TO SCALE

1 TYPICAL RAILING AND SIDEWALK DETAILS SCALE AS SHOWN

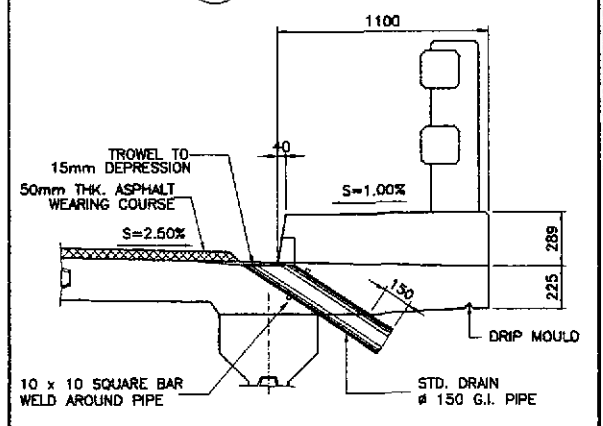
BAR BENDING DIAGRAM																	
SCHEDULE OF REINFORCEMENT (POST, RAILING AND SIDEWALK)																	
LOCATION	CONCRETE VOLUME (m ³)	BAR MARK	BAR SIZE	QTY.	SPACING	BAR SHAPE	DIMENSIONS (mm) OUT TO OUT				LENGTH EA. BAR (mm)	TOTAL LENGTH (m)	UNIT WEIGHT (kg/m)	WEIGHT (kg)	REBAR RATIO (kg/m)	REMARKS	
							a	b	c	d							
POST	3.38	P1	20	240	AS SHOWN	(B)	1045	450	-	-	1495	358.80	2.466	885	310.52		
			P2	10	300	200	(C)	170	170	100	-	880	264.00	0.616			163
GRADE 40 TOTAL = 163 kgs. GRADE 60 TOTAL = 885 kgs.																	
RAILING	8.00	R1	16	16	AS SHOWN	(A)	50600	-	-	-	50600	809.60	1.579	1279	209.13	b is ave.	
			R2	10	940	200	(C)	120	120 (AVE.)	100	-	680	639.20	0.616			394
GRADE 40 TOTAL = 1,673 kgs. GRADE 60 TOTAL = 885 kgs.																	
SIDEWALK	21.51	SW1	12	26	AS SHOWN	(A)	50600	-	-	-	50600	1315.60	0.888	1169	132.11		
			SW2	16	254	200	(D)	170	980	400	-	1550	393.70	1.579			622
			SW2a	16	254	200	(D)	170	480	400	-	1050	266.70	1.579			422
			SW3	12	507	300	(B)	400	250	-	-	650	329.55	0.888			293
			SW4	12	169	300	(E)	170	1020	170	-	1360	229.34	0.888			205
			SW5	12	169	300	(E)	170	520	170	-	860	145.34	0.888			130
GRADE 40 TOTAL = 2,841 kgs. GRADE 60 TOTAL = 885 kgs.																	
TOTAL	32.63	GRADE 40 GRAND TOTAL = 4,677 kgs. GRADE 60 GRAND TOTAL = 885 kgs.															
POST	5.06	P1	20	360	AS SHOWN	(B)	1045	450	-	-	1495	538.20	2.466	1328	310.52		
			P2	10	450	200	(C)	170	170	100	-	880	396.00	0.616			244
GRADE 40 TOTAL = 244 kgs. GRADE 60 TOTAL = 1328 kgs.																	
RAILING	9.92	R1	16	16	AS SHOWN	(A)	63200	-	-	-	63200	1011.20	1.579	1597	210.18	b is ave.	
			R2	10	1164	200	(C)	120	120 (AVE.)	100	-	680	862.24	0.616			488
GRADE 40 TOTAL = 2,085 kgs. GRADE 60 TOTAL = 1328 kgs.																	
SIDEWALK	26.86	SW1	12	26	AS SHOWN	(A)	63200	-	-	-	63200	1643.20	0.888	1460	132.12		
			SW2	16	317	200	(D)	170	980	400	-	1550	491.35	1.579			776
			SW2a	16	317	200	(D)	170	480	400	-	1050	332.45	1.579			526
			SW3	12	636	300	(B)	400	250	-	-	650	413.40	0.888			368
			SW4	12	212	300	(E)	170	1020	170	-	1360	288.32	0.888			257
			SW5	12	212	300	(E)	170	520	170	-	860	182.22	0.888			162
GRADE 40 TOTAL = 3,549.00 kgs. GRADE 60 GRAND TOTAL = 1,328 kgs.																	
TOTAL	41.33	GRADE 40 GRAND TOTAL = 5,878 kgs. GRADE 60 GRAND TOTAL = 1,328 kgs.															



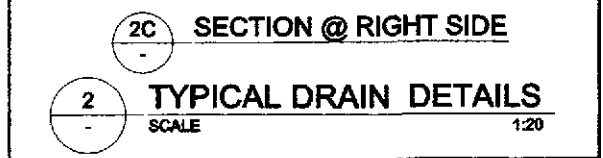
2A PLAN



2B SECTION



2C SECTION @ RIGHT SIDE



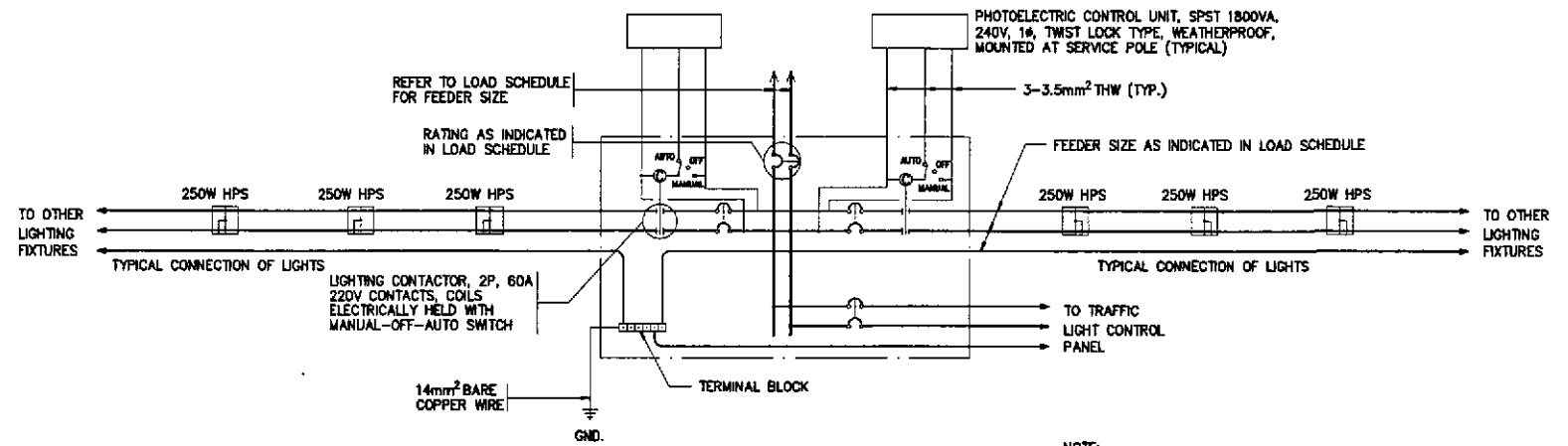
2 TYPICAL DRAIN DETAILS SCALE 1:20

	DATE: 9/27/02 DESIGNED: [Signature] CHECKED: [Signature] SUBMITTED: 10/16/02	SIGNATURE: [Signature] TEAM LEADER	REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS BUREAU OF DESIGN OFFICE OF THE 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: AS SHOWN FULL SIZE A1	SHEET CONTENTS: BRIDGE 1 & 2 TYPICAL SIDEWALK, RAILING AND DRAIN DETAILS (INITIAL STAGE)	SHEET NO.: BS-02	
	Submitted By: DANILO C. TRAJANO Project Director	Reviewed By: ADRIANO M. DORCY Chief, Bridge Division	Recommended By: GILBERTO S. REYES Director IV (JC)	Recommended By: MANUEL M. BONDAN Undersecretary	Approved By: SIMEON A. DATUMANGONG Secretary			
	JICA JAPAN INTERNATIONAL COOPERATION AGENCY			KATHIRA & ENGINEERS INTERNATIONAL YACHYO ENGINEERING CO., LTD.				
	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							

ELECTRICAL

LEGEND AND SYMBOLS:

- STREET LIGHTING POLE WITH 1 x 250 WATTS, 240 VOLTS HIGH PRESSURE SODIUM LUMINAIRE SINGLE BRACKET / SINGLE ARM, LOCATED AT 180° ON CENTER IES TYPE III MEDIUM SEMI CUT-OFF, SIMILAR TO GE M250A2
- DITTO- DOUBLE ARM LIGHT POLE WITH 2 x 250 WATTS HPS LAMP
- SERVICE ENTRANCE AND METERING PEDESTAL WITH LIGHTING CONTACTOR PANEL AS SHOWN IN THE DRAWINGS.
- CIRCUIT BREAKER, RATING AS SHOWN
- UNDERGROUND CONDUIT WITH CONCRETE ENVELOPE
- UNDERGROUND CONDUIT WITH STEEL REINFORCED CONCRETE ENVELOPE
- KILOWATT HOUR METER, SINGLE-PHASE, 240V, 60 Hz
- CIRCUIT HOMERUN



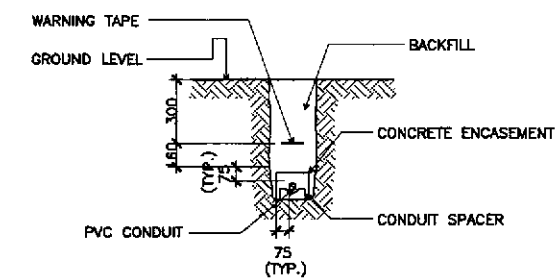
2 SCHEMATIC CONTROL DIAGRAM
ES-01 SCALE 1-20

GENERAL NOTES:

1. ALL ELECTRICAL WORKS SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, THE LAWS AND ORDINANCES OF THE LOCAL CODE, ENFORCING AUTHORITIES AND THE REQUIREMENTS OF THE LOCAL POWER COMPANY. THE ELECTRICAL WORK SHALL BE DONE UNDER THE DIRECT SUPERVISION OF A DULY REGISTERED ELECTRICAL ENGINEER.
2. THE CONTRACTOR SHALL SECURE ALL PERMITS AND PAY ALL FEES REQUIRED FOR THE WORK AND FURNISH THE OWNER, THROUGH THE ENGINEER'S FINAL CERTIFICATES OF ELECTRICAL INSPECTION AND APPROVAL FROM PROPER GOVERNMENT AUTHORITIES FOR COMPLETED WORK.
3. THE POWER SERVICE VOLTAGE SHALL BE 240V, 1φ, 2W, 60 Hz. ALL MATERIALS TO BE USED AND EQUIPMENT TO BE INSTALLED SHALL BE BRAND NEW AND MUST BE OF THE APPROVED TYPES FOR THE PARTICULAR LOCATION AND PURPOSE INTENDED.
4. ALL WIRES SHALL BE COPPER, THERMOPLASTIC INSULATED TYPE THW, 600V, UNLESS OTHERWISE INDICATED. BRAND SHALL BE PHELPS DODGE, DURAFLEX OR APPROVED EQUAL.
5. UNLESS OTHERWISE INDICATED, THE MINIMUM SIZE OF CIRCUIT CONDUCTORS FROM STEEL POLE JUNCTION BOX/HANDHOLE TO EACH LUMINAIRE SHALL BE 2-3.5mm² THW & 1-3.5mm² TW(GND) INSIDE STEEL POLE.
6. UNLESS OTHERWISE INDICATED ALL CONDUIT PIPES SHALL BE UNPLASTICIZED POLYVINYL CHLORIDE CONDUIT SCHEDULE 40 OR POLYETHYLENE PIPE AS MANUFACTURED BY MOLDEX, NELTEX OR APPROVED EQUAL. THE CONDUIT SIZE INDICATED IS THE INSIDE DIAMETER OF CONDUIT.
7. THE CONTRACTOR SHALL VERIFY AND COORDINATE TO LOCAL UTILITY COMPANY THE ACTUAL LOCATION OF THE SERVICE ENTRANCE FOR CONNECTION TO THE POWER SUPPLY. LIKEWISE, THE CONCRETE PEDESTAL SHALL BE PROVIDED BY THE CONTRACTOR.
8. ALL NON-CURRENT CARRYING PARTS OF EVERY ELECTRICAL EQUIPMENT/FIXTURE SHALL BE GROUNDED EFFECTIVELY.
9. UNDERGROUND CONDUIT RUN SHALL BE BURIED A MINIMUM OF 450mm BELOW GROUND LEVEL. UNLESS OTHERWISE INDICATED, CONDUIT RUN CROSSING STREET SHALL BE ENCASED IN STEEL REINFORCED 2500 PSI CONCRETE WITH MINIMUM OF 75mm (3 INCHES) THICKNESS COVERED ALL AROUND.
10. UNPROTECTED CONDUIT RISERS AND EXPOSED CONDUIT RUNS SHALL BE RIGID STEEL CONDUIT.
11. ALL PANELBOARD ENCLOSURES SHALL BE RAIN-TIGHT, NEMA 4X ENCLOSURE (1.5mm THICK MINIMUM GAUGE 14 FOR BOX AND COVER) WITH CONCEALED HINGE AND FLUSH LOCK KEY.
12. ALL STREET LUMINAIRE ASSEMBLY INCLUDING POLE AND FOUNDATION SHALL WITHSTAND WINDS UP TO 250 KPH PER HOUR GUSTING WITHOUT PERMANENT DEFORMATION.
13. DO NOT INSTALL POLE WITHOUT COMPLETE INSTALLATION/CONNECTION OF THE LUMINAIRE ASSEMBLY.
14. ALL CIRCUIT BREAKERS SHALL BE UL LISTED AS SWD (SWITCHING DUTY) SUITABLE FOR HIGH INITIAL INRUSH CURRENT FOR SWITCHING THE PRESSURE SODIUM LUMINAIRES. SIEMENS-ITE, SQUARE D, WESTINGHOUSE BRANDS SHALL BE USED OR APPROVED EQUIVALENT.
15. CONCRETE HANDHOLES OR OUTDOOR TYPE PULLBOXES OF CODE 1.61mm (GAGE 16) MINIMUM SHALL BE PROVIDED BY THE CONTRACTOR, WHENEVER NECESSARY, TO FACILITATE WIRE PULLING EVEN IF THESE ITEMS ARE NOT SHOWN IN THE PLANS.

NOTES:

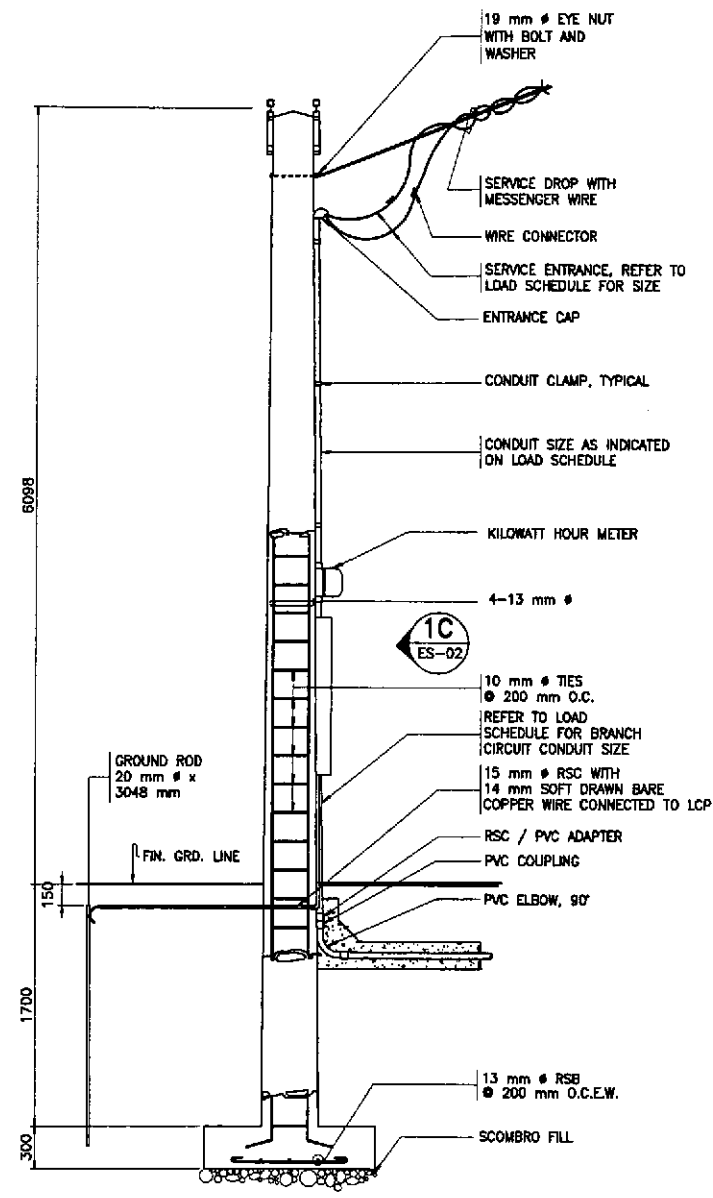
1. UNLESS OTHERWISE SPECIFIED, TOP OF CONCRETE ENVELOPE SHALL NOT BE LESS THAN 450mm BELOW FINISHED GRADE LINE EXCEPT, THAT UNDER ROAD AND PAVEMENT, IT SHALL BE NOT LESS THAN 800mm.
2. PROVIDE STEEL REBAR REINFORCEMENT ON PAVED AREA.
3. ULTIMATE COMPRESSIVE STRENGTH OF CONCRETE F_c SHALL BE 13.8MPa (2000PSI)
4. REINFORCING BARS SHALL CONFORM TO PS GRADE 227, F_y=227MPa (33,000PSI)
5. MAXIMUM SPACING OF PRECAST SPACER SHALL BE 1.5 METERS.
6. ALL DIMENSIONS ARE IN MILLIMETER, UNLESS OTHERWISE SPECIFIED.



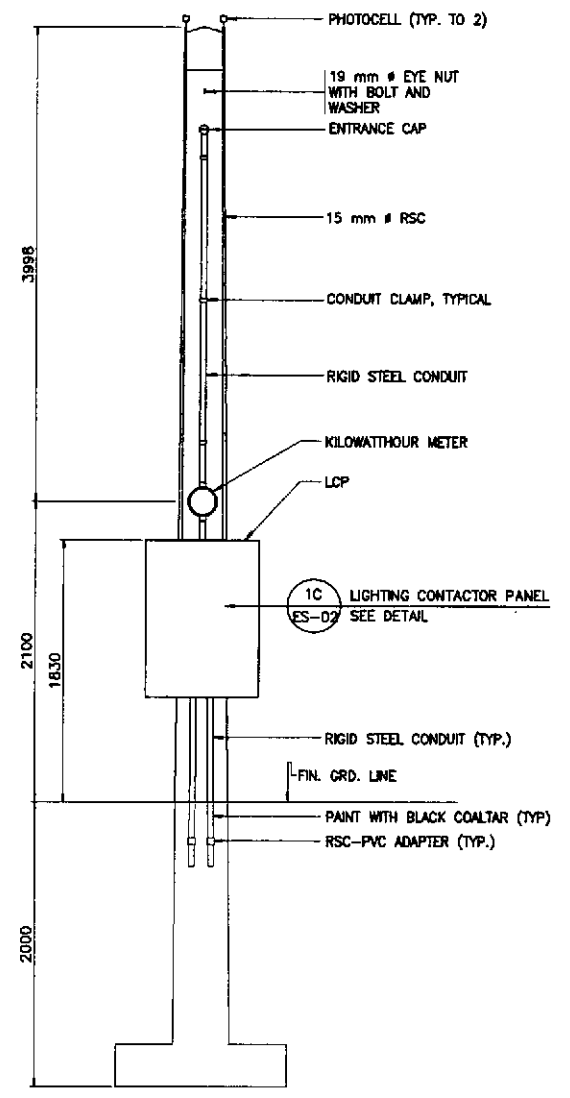
1 TYPICAL DUCT SECTION
ES-01 NOT TO SCALE

Ernesto M. Antioquia
ERNESTO M. ANTIOQUIA
ENGINEER
PTR. NO. 740384 P.E.E. NO. 3913
ISSUED ON 01/02/2002 ISSUED AT CAGAYAN DE ORO
T.A.N. 108-363-379

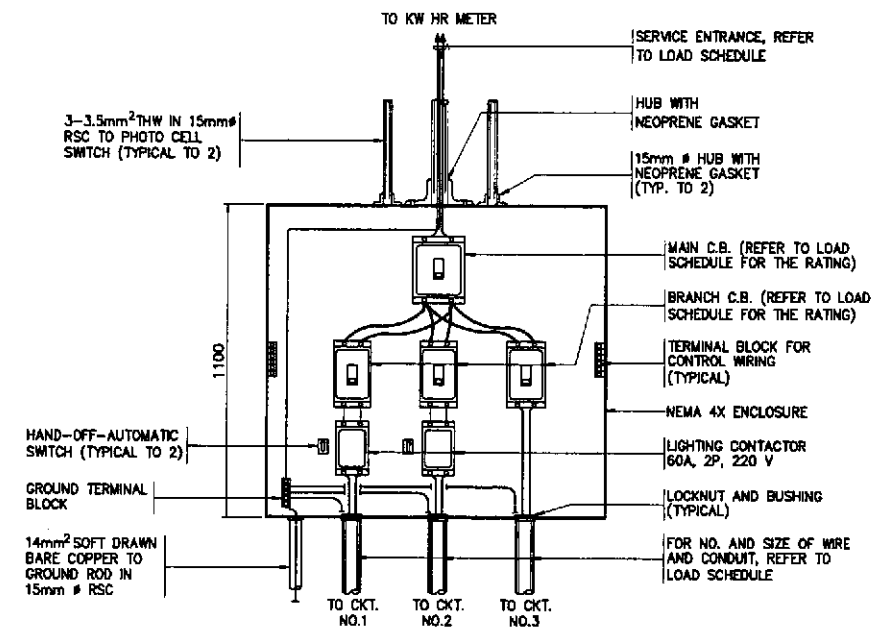
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	CHECKED	DATE	SIGNATURE		BUREAU OF DESIGN OFFICE OF THE SECRETARY	THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Piaridel, Cabanatuan and San Jose Bypasses)	AS SHOWN	NOTES & LEGENDS, SCHEMATIC CONTROL DIAG. & DUCT SECTION ALL INTERSECTIONS (INITIAL STAGE)	ES-01		
SUBMITTED	DATE	SIGNATURE	SUBMITTED BY: DANILLO C. TRAJANO Project Director	REVIEWED BY: FE. W. BARRIENTOS Chief, Mech-Elect Division	RECOMMENDED BY: GILBERTO S. REYES OIC, Director IV	RECOMMENDED BY: MANUEL M. BONICAN Undersecretary	APPROVED BY: SIMEDON A. DATUMANONG Secretary			CABANATUAN BYPASS - CONTRACT PACKAGE I	FULL SIZE A1



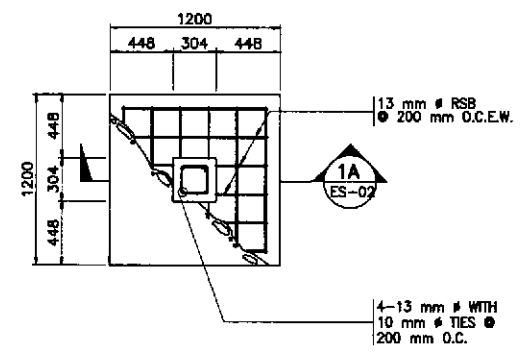
1A SECTION
ES-02



1B ELEVATION
ES-02



1C DETAIL
ES-02 SCALE 1:20



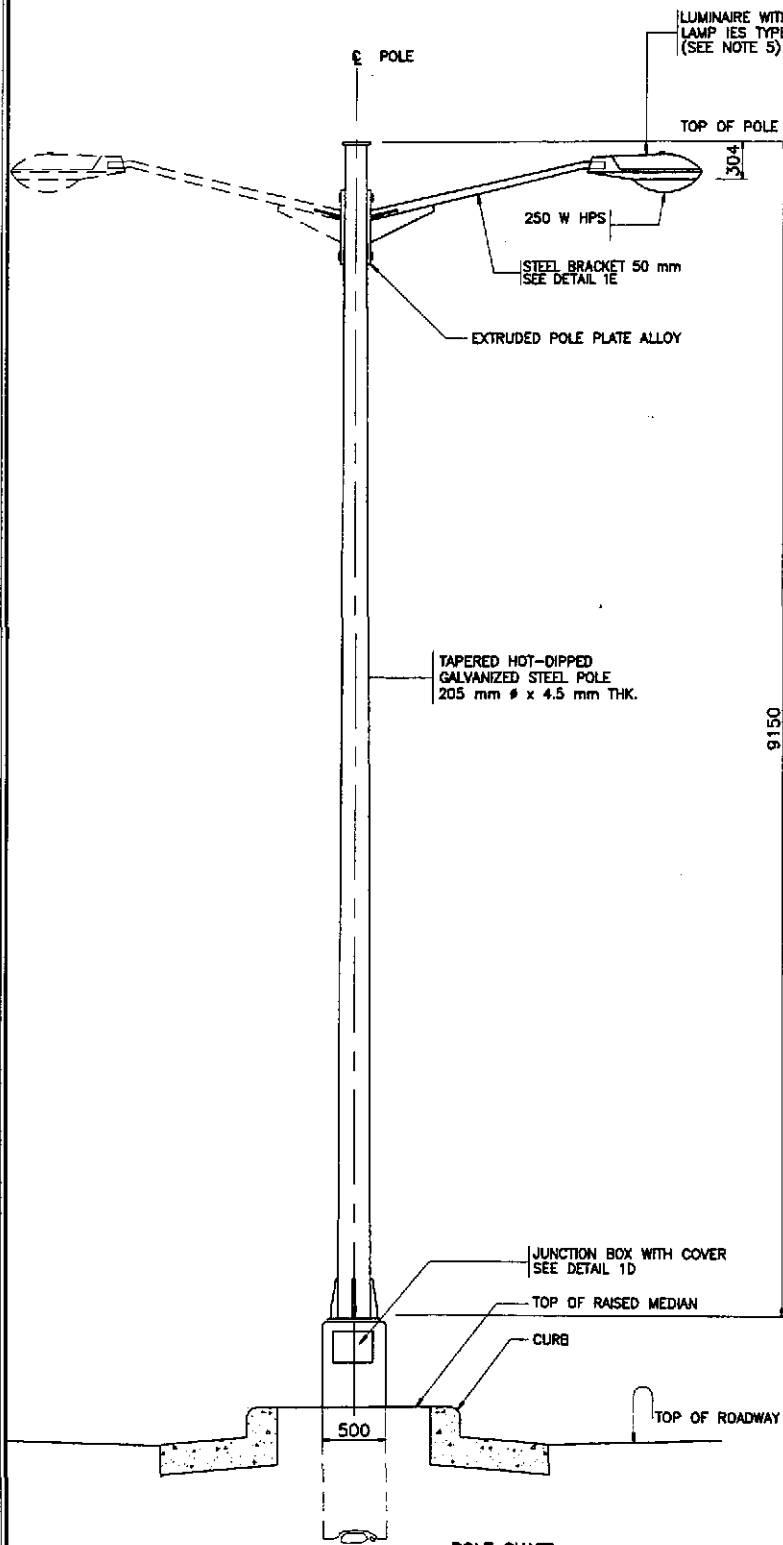
1D FOOTING PLAN
ES-02

1 SERVICE POLE DETAILS
ES-02 SCALE 1:20

Ernesto M. Antioquia
ERNESTO M. ANTIOQUIA
 ENGINEER

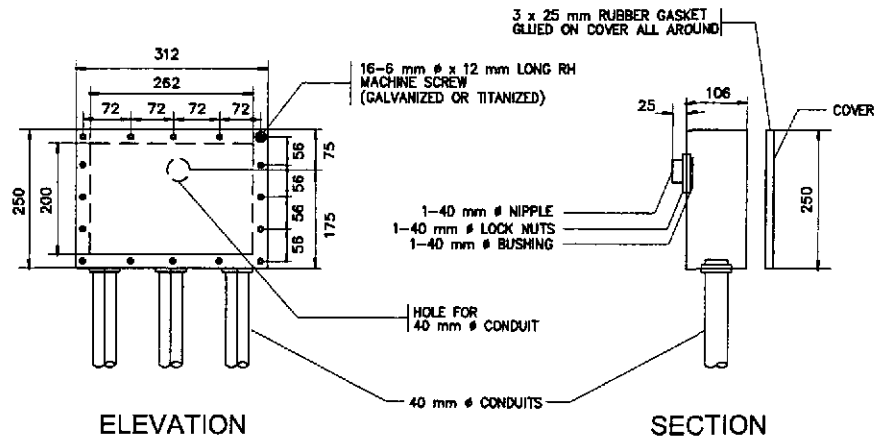
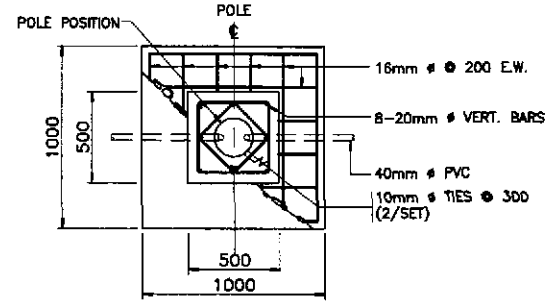
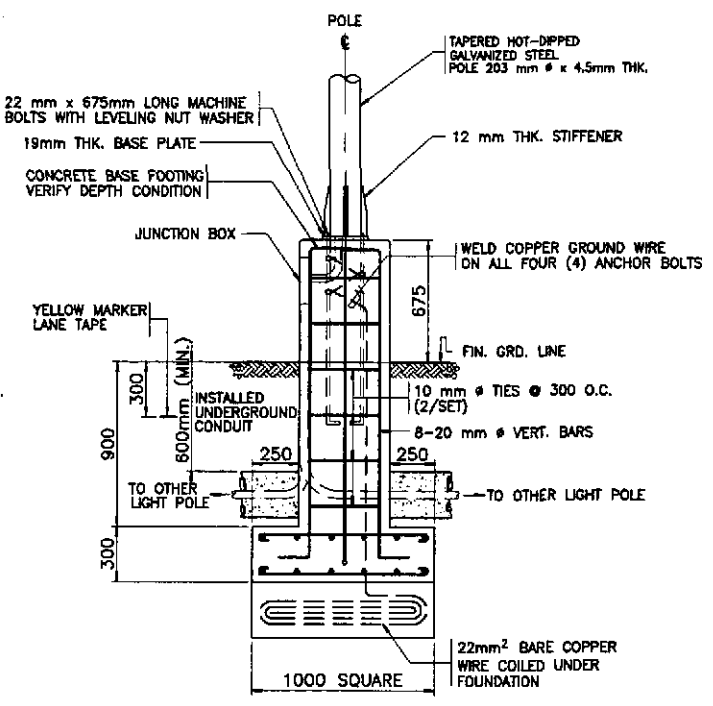
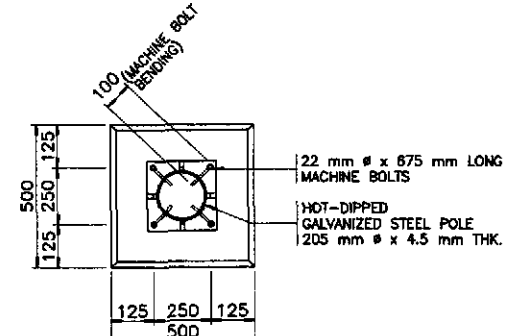
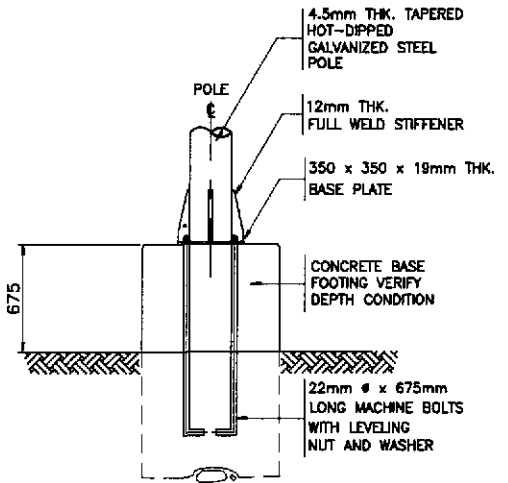
PTR. NO. 7403884 P.E.C. NO. 2913
 ISSUED ON 01/02/2002 ISSUED AT CAGAYAN DE ORO
 T.A.N. 100-382-378

	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 (Pinaridel, Cabanatuan and San Jose Bypasses) CABANATUAN BYPASS - CONTRACT PACKAGE I	SCALE : AS SHOWN FULL SIZE A1	SHEET CONTENTS : SERVICE POLE DETAILS ALL INTERSECTIONS (INITIAL STAGE)	SHEET NO. : ES-02
	CHECKED	DATE	SIGNATURE		Submitted By:	Reviewed By:	Recommended By:				
	SUBMITTED	DATE	SIGNATURE		DANILO C. TRAJANO Project Director	FE. M. BARRIENTOS Chief, Mech-Elect Division	GILBERTO S. REYES Dir., Director IV	MANUEL M. BONDAN Undersecretary	SIMEON A. DATUMANONG Secretary		



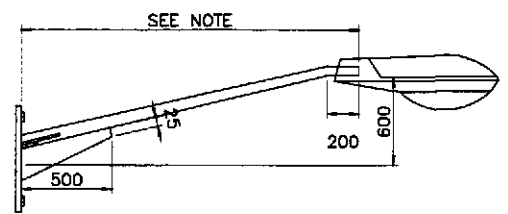
POLE SHAFT		
LENGTH	BASE DIA.	POLE TOP DIA.
9000	205	115

- NOTES:**
1. CONCRETE MIXTURE SHOULD BE 211 kg/cm (3000 PSI)
 2. PAINT ALL JOINTS IN BOX AND CONDUIT WITH RED LEAD PRIMER BEFORE POURING CONCRETE.
 3. FOR CONDUIT LARGER THAN 40mm Ø, KNOCKOUTS AND HOLES SHALL HAVE TO BE WIDENED BY THE USER TO THE DESIRED DIAMETER.
 4. FOR LOAM AND MUDDY SOIL, REFER TO CIVIL ENGINEERING FOR PROPER FOUNDATION DEPTH.
 5. LUMINAIRE LAMP SHALL BE 250W HIGH PRESSURE SODIUM WITH DIFFUSE FINISH AND INITIAL LUMENS OF 26,000. BALLAST SHALL BE UL LISTED, CONSTANT WATTAGE TRANSFORMER CWA OR REGULATOR, HIGH POWER FACTOR TYPE RATED 240V, 60 Hz WITH ALLOWABLE LINE VOLTAGE VARIATION OF ±10%.
 6. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.



- MATERIAL:**
- JUNCTION BOX - 50 mm THICK CAST ALUMINUM FOR BOX AND COVER
 - ANCHOR BOLT - ASTM A-36
- FINISH:**
- ANCHOR BOLT - ASTM A-153

1D ES-03 JUNCTION BOX DETAILS



- NOTE:**
- ARM LENGTH SHALL BE 3000mm UNLESS OTHERWISE INDICATED IN THE PLAN.
- MATERIAL:**
- MAST ARM - B.I. PIPE AS PER PNS 26: 1984 (MEDIUM SERIES)
 - POLE SHAFT AS PER ASTM A-53 MOUNTING PLATE AND STIFFENERS
 - MACHINE BOLT - ANSI-C135.
- FINISH:**
- HOT-DIP GALVANIZED PER LATEST EDITION OF ASTM A-123
 - MACHINE BOLT - ASTM A-153

1E ES-03 MAST ARM ELEVATION

1 ES-03 STREET LIGHT POLE DETAILS NOT TO SCALE

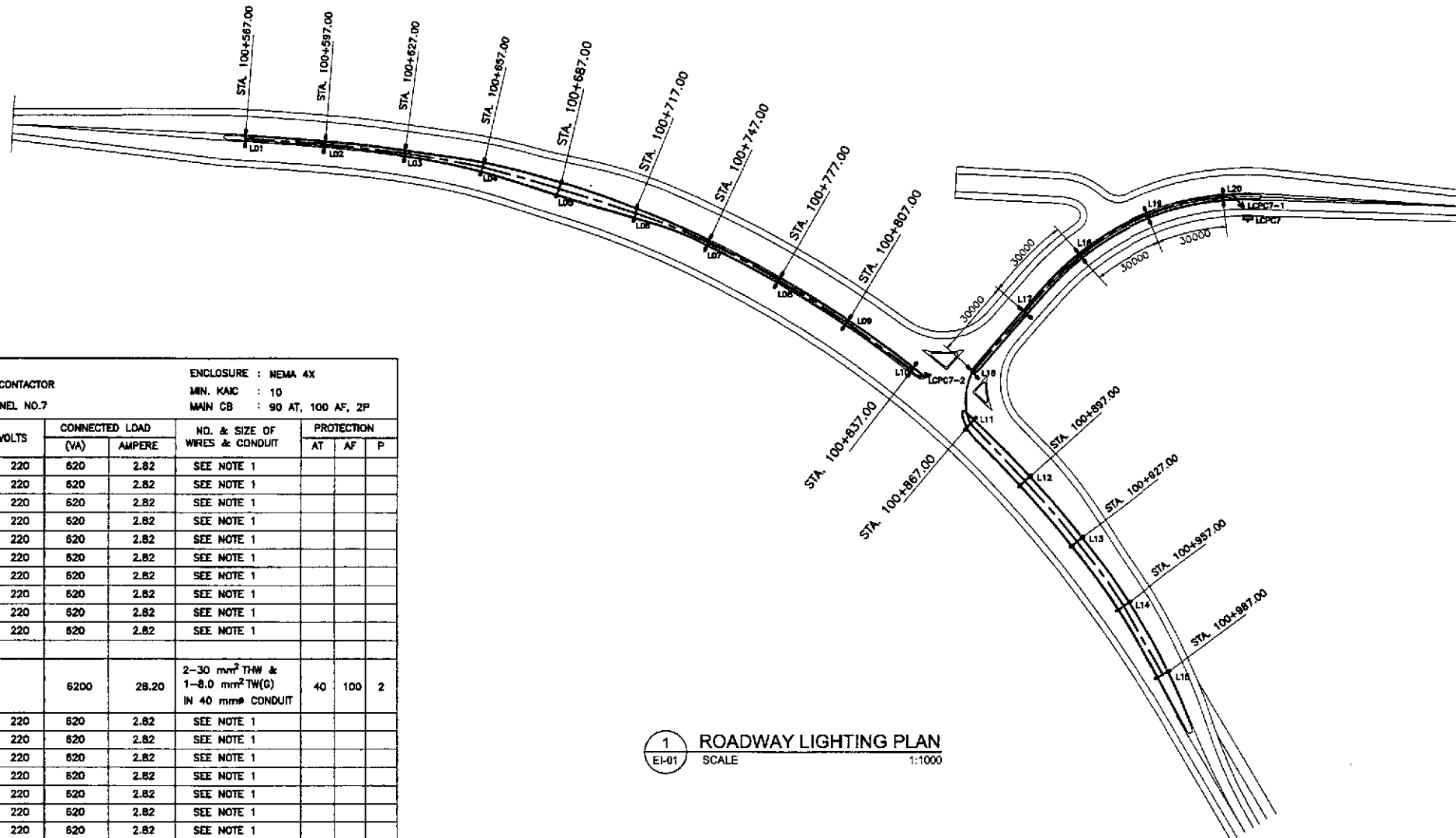
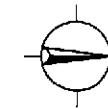
Ernesto M. Antioquia
ERNESTO M. ANTIOQUIA
 ENGINEER

PRJ. NO. 7483884 P.E.E. NO. 2913
 ISSUED ON 09/02/2009 ISSUED AT CAGAYAN LARANA
 T.J.M. 100-342-279

	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 : AS SHOWN FULL SIZE A1	SHEET CONTENTS : STREET LIGHT POLE DETAILS ALL INTERSECTIONS (INITIAL STAGE)	SHEET NO. : ES-03
	CHECKED	14/5/02	<i>E. Antioquia</i>		Submitted By:	Reviewed By:	Recommended By:				
	SUBMITTED	10/16/02	<i>M. K. K...</i>		DANILO C. TRAJANO Project Director	FE M. BARRIENTOS Chief, Mech-Elect Division	GILBERTO S. REYES Dir. Director IV	MANUEL M. BONGAN Undersecretary	SIMEON A. DATUMANONG Secretary		

NOTE:

1. UNLESS OTHERWISE INDICATED, THE MINIMUM SIZE OF CIRCUIT CONDUCTORS FROM STEEL POLE JUNCTION BOX/HANDHOLE TO EACH LUMINAIRE SHALL BE 2-3.5mm² THW AND 1-3.5mm² THW(GND) INSIDE STEEL POLE.



LOAD SCHEDULE

CKT. NO.	LOAD DESCRIPTION	VOLTS	CONNECTED LOAD		NO. & SIZE OF WIRES & CONDUIT	PROTECTION			
			(VA)	AMPERE		AT	AF	P	
1	L20 (2 x 250 W HPS)	220	620	2.82	SEE NOTE 1				
	L19 (2 x 250 W HPS)	220	620	2.82	SEE NOTE 1				
	L18 (2 x 250 W HPS)	220	620	2.82	SEE NOTE 1				
	L17 (2 x 250 W HPS)	220	620	2.82	SEE NOTE 1				
	L16 (2 x 250 W HPS)	220	620	2.82	SEE NOTE 1				
	L11 (2 x 250 W HPS)	220	620	2.82	SEE NOTE 1				
	L12 (2 x 250 W HPS)	220	620	2.82	SEE NOTE 1				
	L13 (2 x 250 W HPS)	220	620	2.82	SEE NOTE 1				
	L14 (2 x 250 W HPS)	220	620	2.82	SEE NOTE 1				
	L15 (2 x 250 W HPS)	220	620	2.82	SEE NOTE 1				
	SUB-TOTAL			6200	28.20	2-30 mm ² THW & 1-8.0 mm ² TW(G) IN 40 mm# CONDUIT	40	100	2
	2	L10 (2 x 250 W HPS)	220	620	2.82	SEE NOTE 1			
		L09 (2 x 250 W HPS)	220	620	2.82	SEE NOTE 1			
		L08 (2 x 250 W HPS)	220	620	2.82	SEE NOTE 1			
		L07 (2 x 250 W HPS)	220	620	2.82	SEE NOTE 1			
L06 (2 x 250 W HPS)		220	620	2.82	SEE NOTE 1				
L05 (2 x 250 W HPS)		220	620	2.82	SEE NOTE 1				
L04 (2 x 250 W HPS)		220	620	2.82	SEE NOTE 1				
L03 (2 x 250 W HPS)		220	620	2.82	SEE NOTE 1				
L02 (2 x 250 W HPS)		220	620	2.82	SEE NOTE 1				
L01 (2 x 250 W HPS)		220	620	2.82	SEE NOTE 1				
SUB-TOTAL			6200	28.20	2-50 mm ² THW & 1-8.0 mm ² TW(G) IN 40 mm# CONDUIT	40	100	2	
3	TRAFFIC LIGHTS	220	3450	15	WIRES AND CONDUITS (BY OTHERS)	30	100	2	
TOTAL			15850	71.40	2-50 mm ² THW IN 40 mm# CONDUIT	90	100	2	

1 ROADWAY LIGHTING PLAN
EI-01 SCALE 1:1000

Ernesto M. Antoquia
ERNESTO M. ANTOQUIA
 ENGINEER
 PTR. NO. 7402864 P.E.E. NO. 2813
 ISSUED ON 01/22/2008 ISSUED AT CAGAYAN LABANAN
 T.L.N. 108-382-378

	DESIGNED	9/27/02	<i>E. Antoquia</i>	<p>REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS</p>	PROJECT AND LOCATION :			SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	10/15/02	<i>E. Antoquia</i>		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	ROADWAY LIGHTING PLAN AND LOAD SCHEDULE INTERSECTION A-1 (INITIAL STAGE)	EI-01
	SUBMITTED	10/16/02	<i>E. Antoquia</i>		BUREAU OF DESIGN OFFICE OF THE SECRETARY (See cover sheet for Signature/Approval)			FULL SIZE A1		
Submitted By: DANILO C. TRAJANO Project Director Reviewed By: FE M. BARRIENTOS Chief, Mech-Elect Division Recommended By: GILBERTO S. REYES OIC, Director IV (See cover sheet for Signature) MANUEL M. BONDAN Undersecretary (See cover sheet for Signature/Approval) SIMEON A. DATUMANONG Secretary										

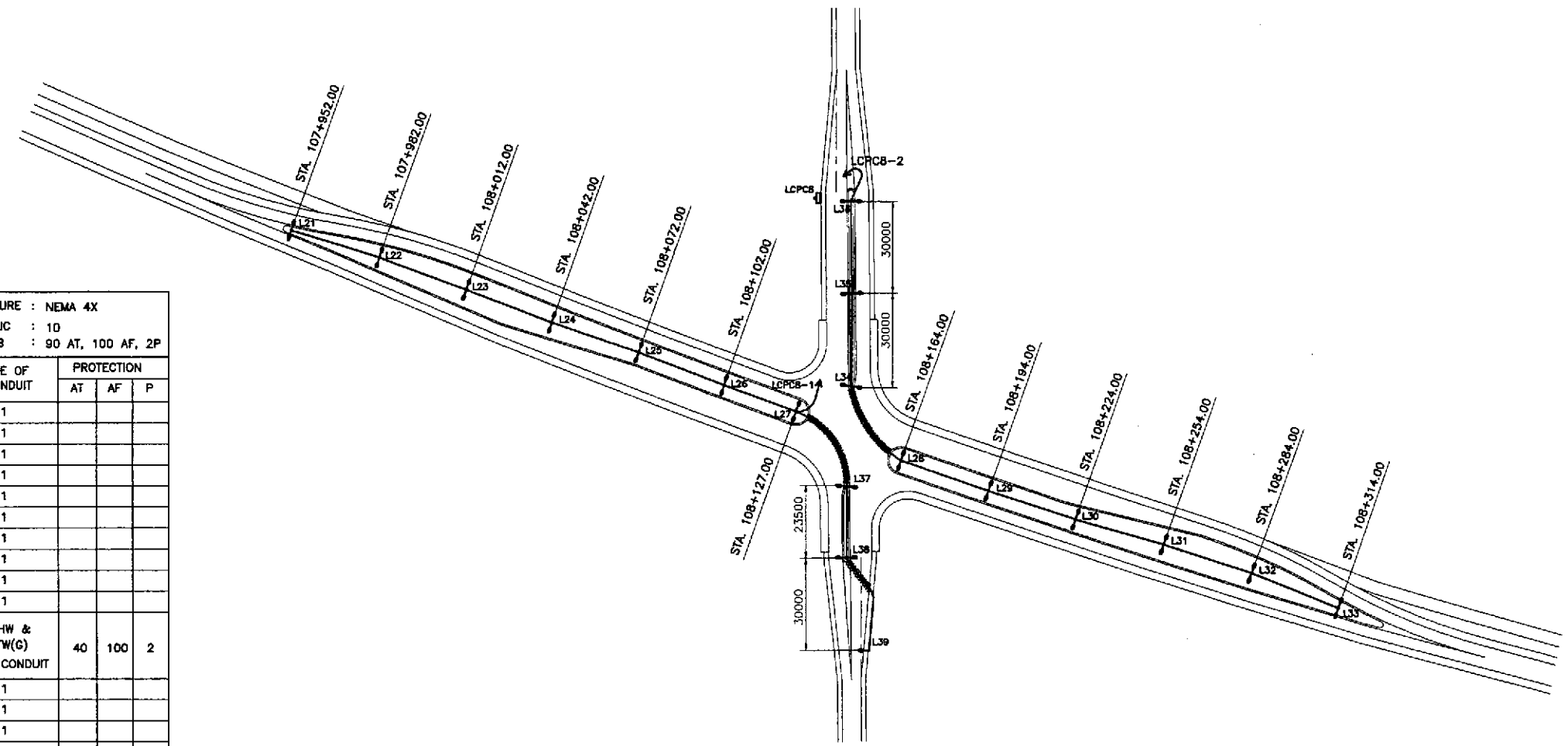
NOTE:

1. UNLESS OTHERWISE INDICATED, THE MINIMUM SIZE OF CIRCUIT CONDUCTORS FROM STEEL POLE JUNCTION BOX/HANDHOLE TO EACH LUMINAIRE SHALL BE 2-3.5mm² THW AND 1-3.5mm² TW(GND) INSIDE STEEL POLE.



LOAD SCHEDULE

CKT. NO.	LOAD DESCRIPTION	VOLTS	CONNECTED LOAD		NO. & SIZE OF WIRES & CONDUIT	PROTECTION		
			(VA)	AMPERE		AT	AF	P
1	L39 (1 x 250 W HPS)	220	310	1.41	SEE NOTE 1			
	L38 (2 x 250 W HPS)	220	620	2.82	SEE NOTE 1			
	L37 (2 x 250 W HPS)	220	620	2.82	SEE NOTE 1			
	L27 (2 x 250 W HPS)	220	620	2.82	SEE NOTE 1			
	L26 (2 x 250 W HPS)	220	620	2.82	SEE NOTE 1			
	L25 (2 x 250 W HPS)	220	620	2.82	SEE NOTE 1			
	L24 (2 x 250 W HPS)	220	620	2.82	SEE NOTE 1			
	L23 (2 x 250 W HPS)	220	620	2.82	SEE NOTE 1			
	L22 (2 x 250 W HPS)	220	620	2.82	SEE NOTE 1			
	L21 (2 x 250 W HPS)	220	620	2.82	SEE NOTE 1			
	SUB-TOTAL		5890	26.79	2-30 mm ² THW & 1-8.0 mm ² TW(G) IN 40 mm ϕ CONDUIT	40	100	2
2	L28 (2 x 250 W HPS)	220	620	2.82	SEE NOTE 1			
	L29 (2 x 250 W HPS)	220	620	2.82	SEE NOTE 1			
	L30 (2 x 250 W HPS)	220	620	2.82	SEE NOTE 1			
	L31 (2 x 250 W HPS)	220	620	2.82	SEE NOTE 1			
	L32 (2 x 250 W HPS)	220	620	2.82	SEE NOTE 1			
	L33 (2 x 250 W HPS)	220	620	2.82	SEE NOTE 1			
	L34 (2 x 250 W HPS)	220	620	2.82	SEE NOTE 1			
	L35 (2 x 250 W HPS)	220	620	2.82	SEE NOTE 1			
	SUB-TOTAL		5580	25.38	2-30 mm ² THW & 1-8.0 mm ² TW(G) IN 40 mm ϕ CONDUIT	40	100	2
3	TRAFFIC LIGHTS	220	3450	15	WIRES AND CONDUIT (BY OTHERS)	30	100	2
	TOTAL		14920	67.17	2-38 mm ² THW & IN 40 mm ϕ CONDUIT	90	100	2



1 ROADWAY LIGHTING PLAN
 EI-02 SCALE 1:1000

Emx
ERNESTO M. ANTICQUIA
 CHIEF
 P.R. NO. 7403884 P.E.E. NO. 2813
 ISSUED ON 01/29/2002 ISSUED AT CEBU/VAL LARUNA
 T.M. 100-342-379

	DESIGNED	9/27/02				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 (Pardel, Cabanatuan and San Jose Bypasses) CABANATUAN BYPASS - CONTRACT PACKAGE I	SCALE : 1:1000 FULL SIZE A1	SHEET CONTENTS : ROADWAY LIGHTING PLAN AND LOAD SCHEDULE INTERSECTION A-10 (INITIAL STAGE)	SHEET NO. : EI-02	
	CHECKED	10/15/02				P.U.H. - P.M.O. Submitted By:	BUREAU OF DESIGN Reviewed By:	OFFICE OF THE SECRETARY Recommended By:					Approved By:
	SUBMITTED	10/16/02				DANILLO C. TRAJANO Project Director	FE. M. BARRIENTOS Chief, Mech-Elect Division	GILBERTO S. REYES OIC, Director IV					MANUEL M. BONDAN Undersecretary

ENGR'S FIELD OFFICE & LIVING QUARTERS

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- 03 ENGINEER'S LIVING QUARTERS FLOOR PLAN FRONT & REAR ELEV. LEFT & RIGHT SIDE ELEV. LONGITUDINAL & CROSS SECT. REFLECTED CEILING PLAN
- 04 ENGINEER'S FIELD OFFICE/LABORATORY ROOF PLAN DET. CROSS SECTION SCHEDULE OF DOORS & WINDOWS
- 05 ENGINEER'S LIVING QUARTERS ROOF PLAN DET. CROSS SECTION SCHEDULE OF DOORS & WINDOWS

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- 03 SCHEDULE OF LOADS AND COMPUTATIONS ELECT'L RISER DIAGRAMS

ELECTRICAL

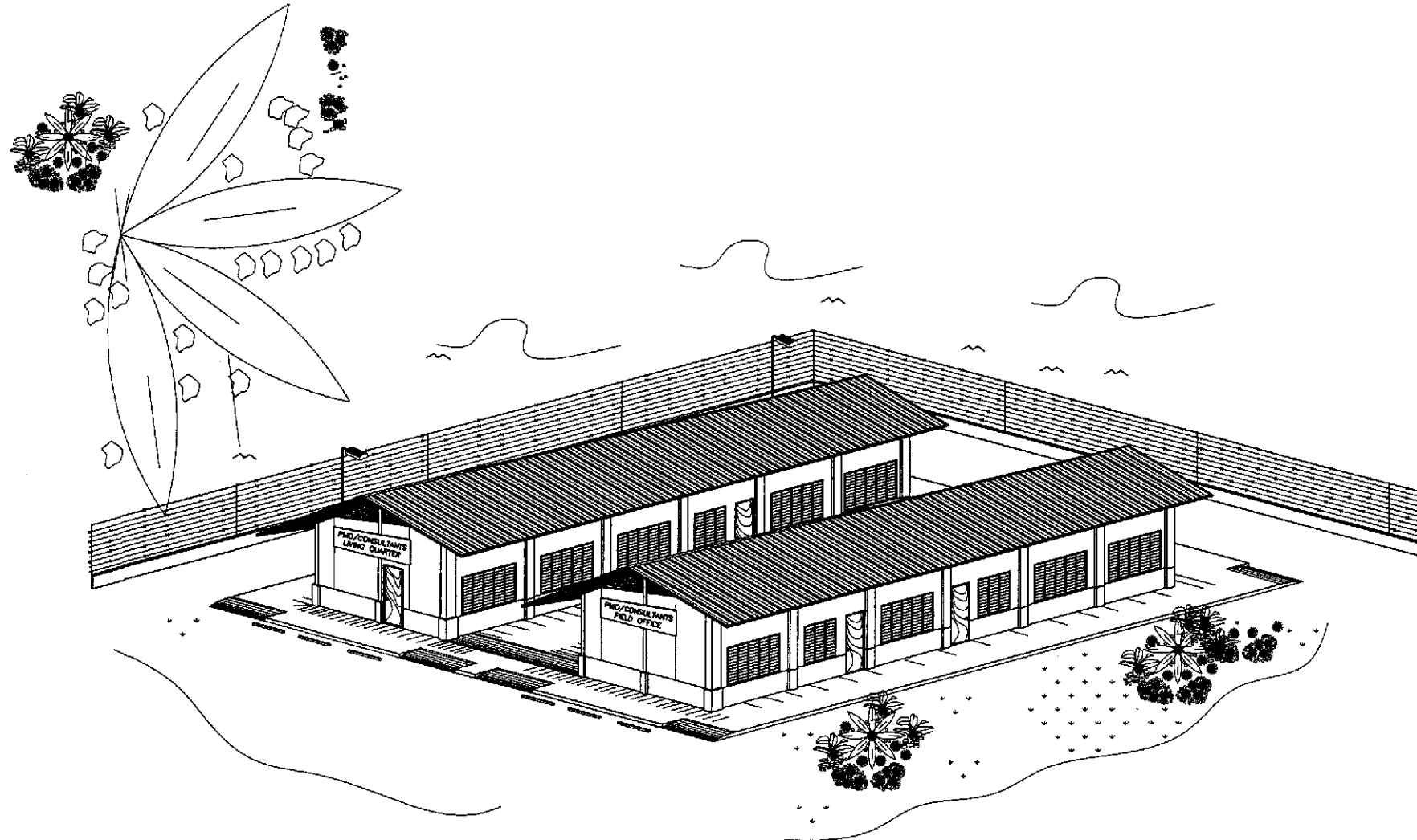
PLUMBING :

- FP-01 SEWER AND WATER LINE LAYOUT ISOMETRIC DIAGRAM
- 02 SEPTIC TANK DETAILS

MECHANICAL

EXTERNAL :

- FX-01 PLOT PLAN ELEV - FENCE & GATE FOUNDATION DETAIL



PERSPECTIVE

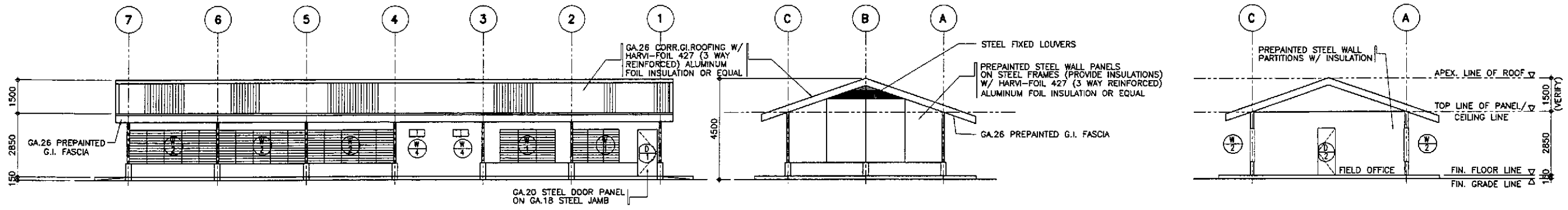
GENERAL NOTES :

IT IS THE INTENTION OF THE DPWH THAT AFTER COMPLETION OF THE PROJECTS ALL PRE-FABRICATED METAL FIELD OFFICES WITH LABORATORY AND ENGINEER'S QUARTERS BUILDINGS BE DONATED TO THE NEAREST PUBLIC SCHOOL THESE AFOREMENTIONED BUILDINGS SHOULD THEREFORE BE LOCATED WITHIN A PUBLIC SCHOOL COMPOUND OR ON A GOVERNMENT LOT THAT COULD BE EASILY ACQUIRED BY THE DEPARTMENT OF EDUCATION. FOR NEW SCHOOL SITE. IF NONE IS AVAILABLE, THEN THE PRE-FABRICATED METAL COMPONENTS SHALL BE DISMANTLED AFTER COMPLETION OF THE PROJECT FOR DONATION TO THE NEAREST PUBLIC SCHOOL AUTHORITIES OR TO THE LOCAL GOVERNMENT UNIT WHERE SAID PROJECT IS LOCATED.

Emmanuel P. Gonzales
EMMANUEL P. GONZALES
ENGINEER

PTR. NO. 5846340 P.R.C. NO. 53457
ISSUED ON 04/26/2002 T.I.N. 138-062-682
ISSUED AT SAN JUAN, M.M.

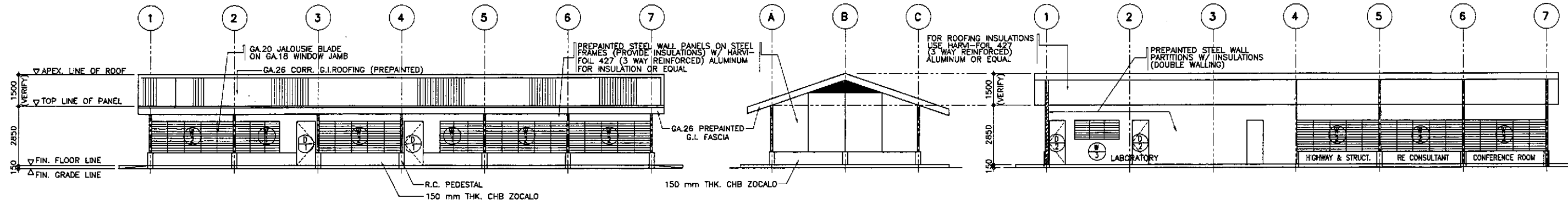
JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL YACHIYO ENGINEERING CO., LTD.	DESIGNED	DATE	SIGNATURE	REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS	PROJECT AND LOCATION :		SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	10/15/02	<i>Emmanuel P. Gonzales</i>		BUREAU OF DESIGN Submitted By: P.J.H.L. - P.M.O. Reviewed By: EMMANUEL P. CUNTAPAY Recommended By: GILBERT S. REYES (See cover sheet for Signature) (See cover sheet for Signature/Approval) MANUEL M. BONOAN SIMEON A. DATUMANONG Undersecretary Secretary	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	NOT TO SCALE FULL SIZE A1	ENGINEER'S FIELD OFFICE AND LIVING QUARTERS PERSPECTIVE AND TABLE OF CONTENTS	FA-01



3 REAR ELEVATION
FA-02 SCALE 1:100

5 LEFT SIDE ELEVATION
FA-02 SCALE 1:100

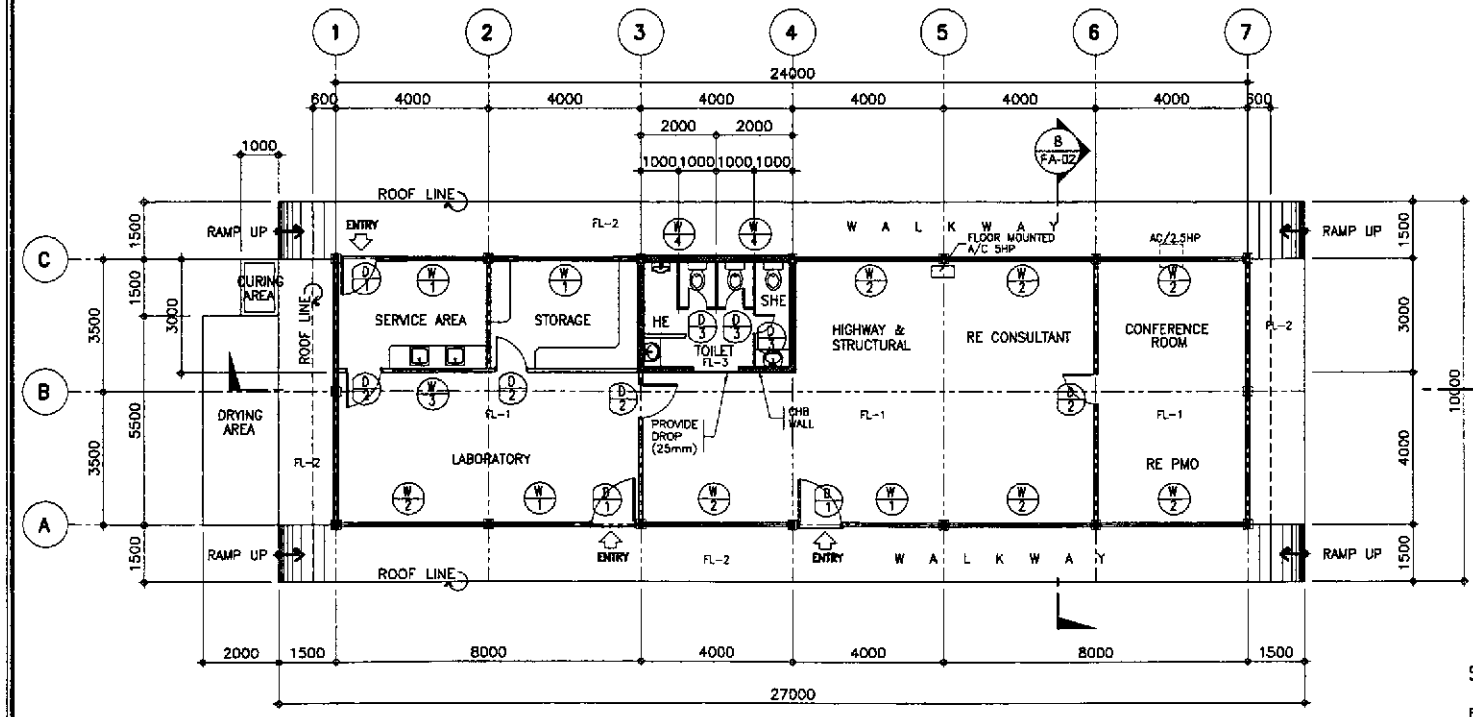
8 CROSS SECTION
FA-02 SCALE 1:100



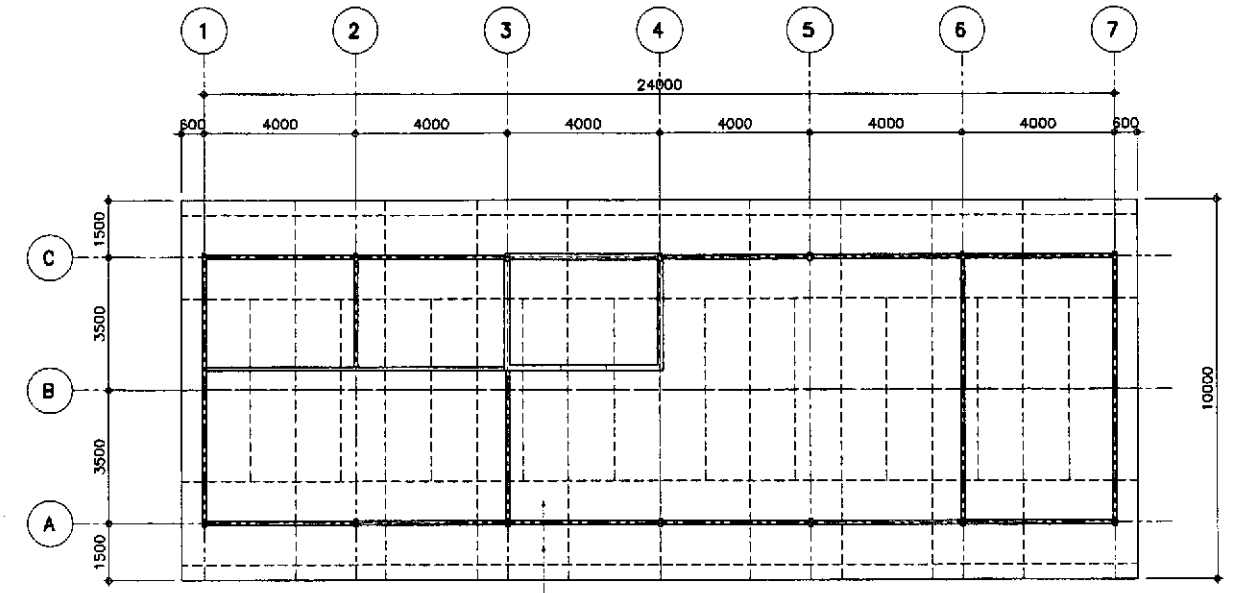
2 FRONT ELEVATION
FA-02 SCALE 1:100

4 RIGHT SIDE ELEVATION
FA-02 SCALE 1:100

7 LONGITUDINAL SECTION
FA-02 SCALE 1:100



1 FLOOR PLAN FOR ENGINEER'S FIELD OFFICE/LABORATORY
FA-02 SCALE 1:100



6 REFLECTED CEILING PLAN
FA-02 SCALE 1:100

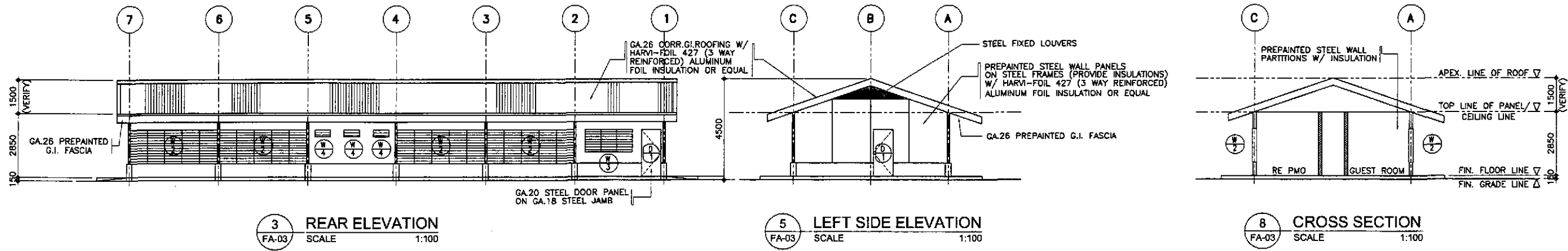
SCHEDULE OF FLOOR FINISHES

- FL-1 = PLAIN CEMENT FLOOR FINISH
- FL-2 = PLAIN CEMENT FLOOR FINISH WITH NON SKID CEMENT WITH GROOVE LINES
- FL-3 = UNGLAZED TILE FINISH, 200x200mm

MANUEL P. GONZALES
ENGINEER

PTR. NO. 5846340 P.R.C. NO. 53457
ISSUED ON 04/26/2002 T.I.N. 138-062-682
ISSUED AT SAN JUAN, M.M.

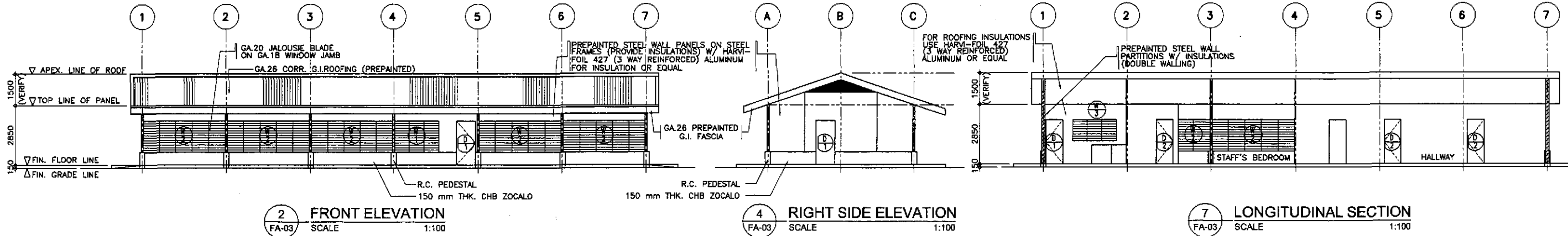
	DESIGNED	DATE	SIGNATURE		REPUBLIC OF THE PHILIPPINES			PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED				DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS			THE DETAILED DESIGN STUDY ON	AS SHOWN	ENGR'S FIELD OFFICE / LABORATORY	FA-02
	SUBMITTED				BUREAU OF DESIGN			UPGRADING INTER-URBAN HIGHWAY SYSTEM	FULL SIZE A1	FLOOR PLAN, ELEVATIONS, CROSS-SECTIONS	
Submitted By: DANILLO C. TRAJANO, Project Director Reviewed By: EMMANUEL P. CUNTAPAY, Chief, Architectural Division Recommended By: GILBERTO S. REYES, OIC, Director IV Recommended By: MANUEL M. BONOAN, Undersecretary Approved By: SIMEON A. DATUMANONG, Secretary				CABANATUAN BYPASS - CONTRACT PACKAGE I				ENGR'S FIELD OFFICE / LABORATORY AND REFLECTED CEILING PLAN			



3 REAR ELEVATION
FA-03 SCALE 1:100

5 LEFT SIDE ELEVATION
FA-03 SCALE 1:100

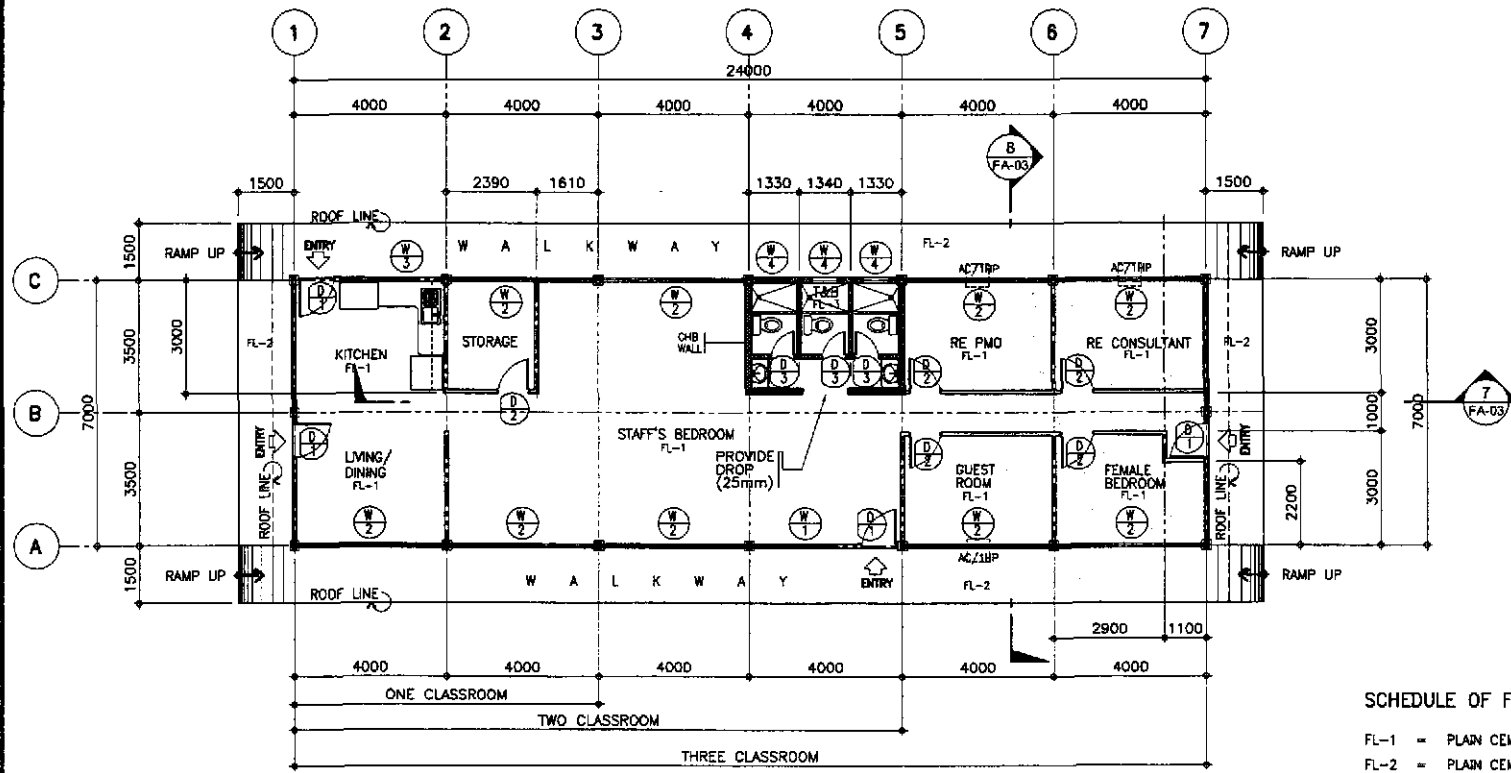
8 CROSS SECTION
FA-03 SCALE 1:100



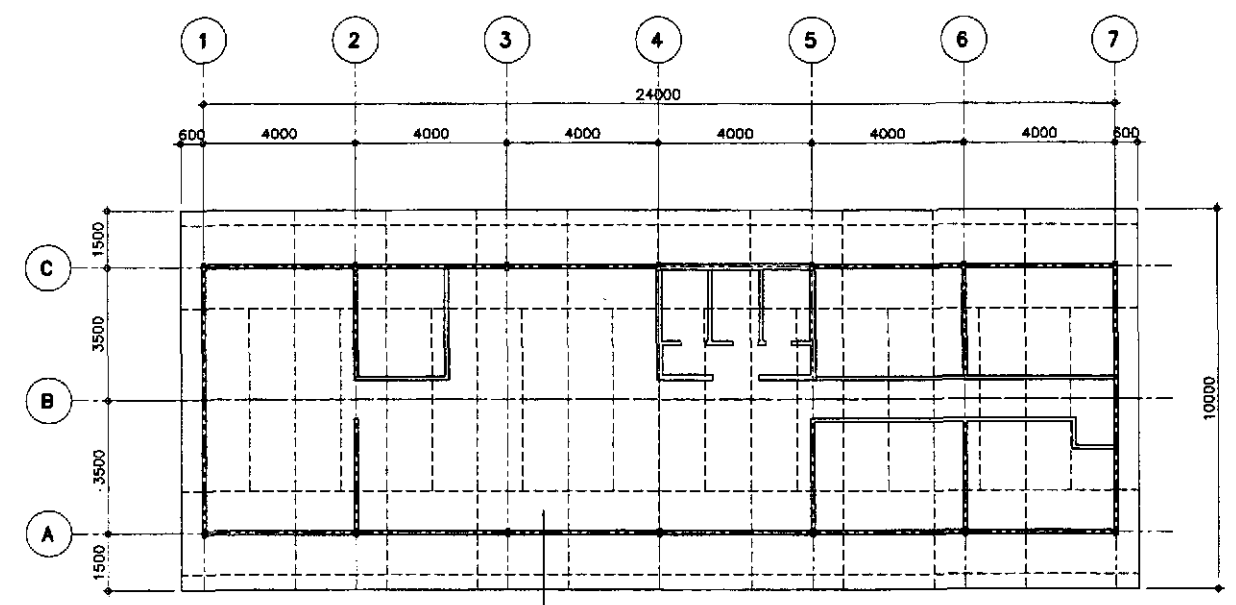
2 FRONT ELEVATION
FA-03 SCALE 1:100

4 RIGHT SIDE ELEVATION
FA-03 SCALE 1:100

7 LONGITUDINAL SECTION
FA-03 SCALE 1:100



1 FLOOR PLAN FOR ENGINEER'S LIVING QUARTER
FA-03 SCALE 1:100



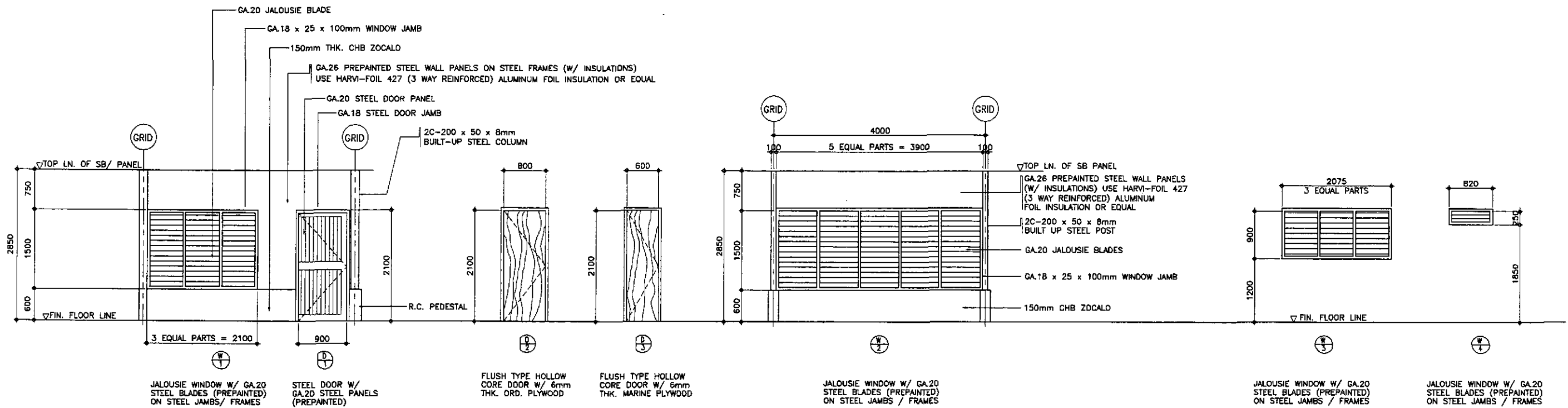
6 REFLECTED CEILING PLAN
FA-03 SCALE 1:100

SCHEDULE OF FLOOR FINISHES

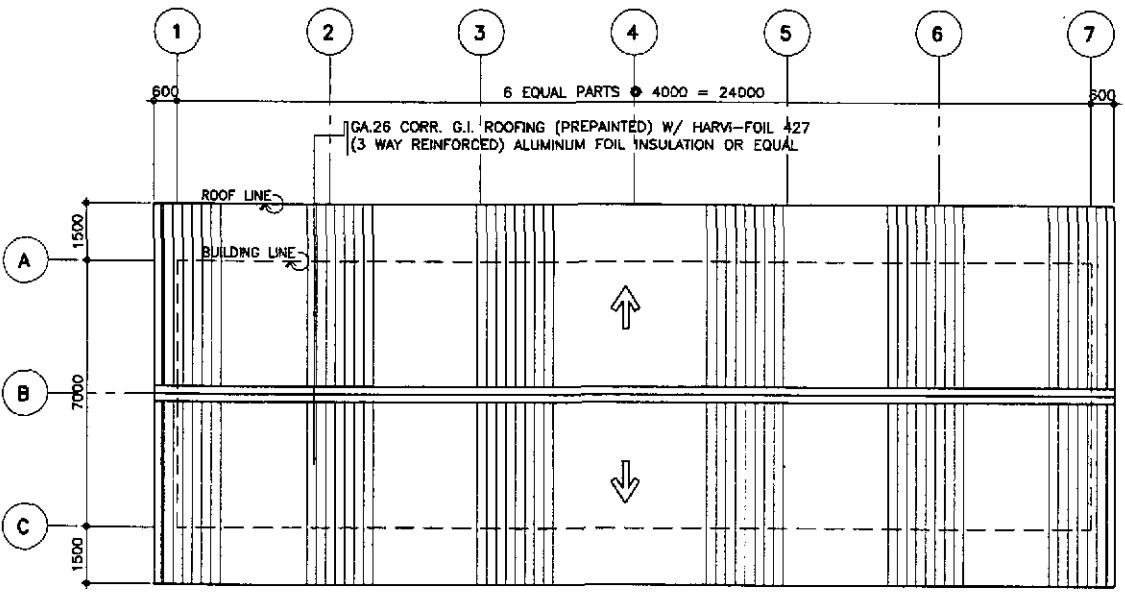
- FL-1 = PLAIN CEMENT FLOOR FINISH
- FL-2 = PLAIN CEMENT FLOOR FINISH WITH NON SKID CEMENT WITH GROOVE LINES
- FL-3 = UNGLAZED TILE FINISH, 200x200mm

ARDEL P. GONZALES
ENGINEER
PTR. NO. 5846340 P.R.C. NO. 53457
ISSUED ON 04/26/2002 T.I.N. 138-062-682
ISSUED AT SAN JUAN, M.M.

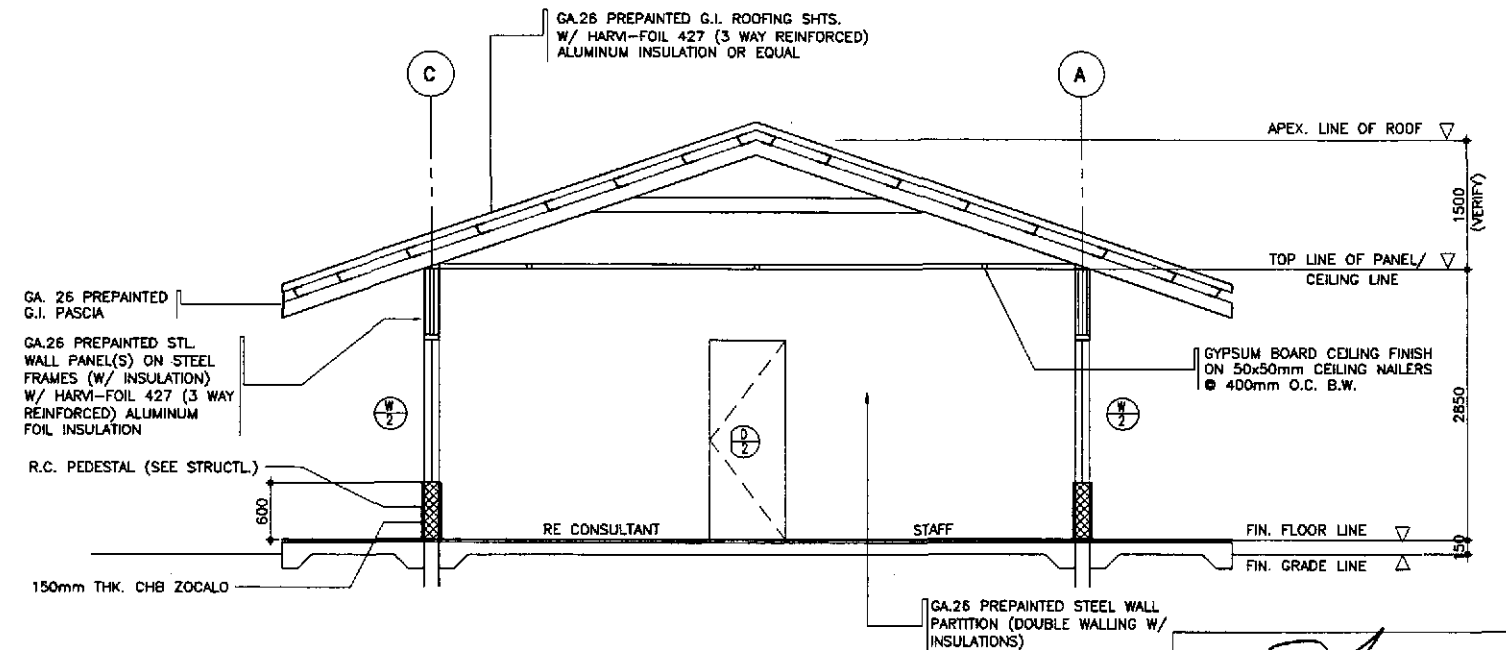
	DESIGNED	DATE	SIGNATURE		PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	9/27/02	A. P. GONZALES		THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)	AS SHOWN	ENGINEER'S LIVING QUARTERS FLOOR PLAN, ELEVATIONS, CROSS-SECTION AND REFLECTED CEILING PLAN	FA-03
	SUBMITTED	10/16/02	ARDEL P. GONZALES TEAM LEADER		CABANATUAN BYPASS - CONTRACT PACKAGE I	FULL SIZE A1		
Submitted By: DANILLO C. TRAJANO, Project Director Reviewed By: EMMANUEL P. CUNTAPAY, Chief, Architectural Division Recommended By: GILBERTO S. REYES, D.C., Director IV Approved By: MANUEL M. BONJAN, Undersecretary Approved By: SIMON A. DATUMANONG, Secretary								



3 FOR ENGINEER'S FIELD OFFICE
SCHEDULE OF DOORS & WINDOWS
 FA-04 SCALE 1:40



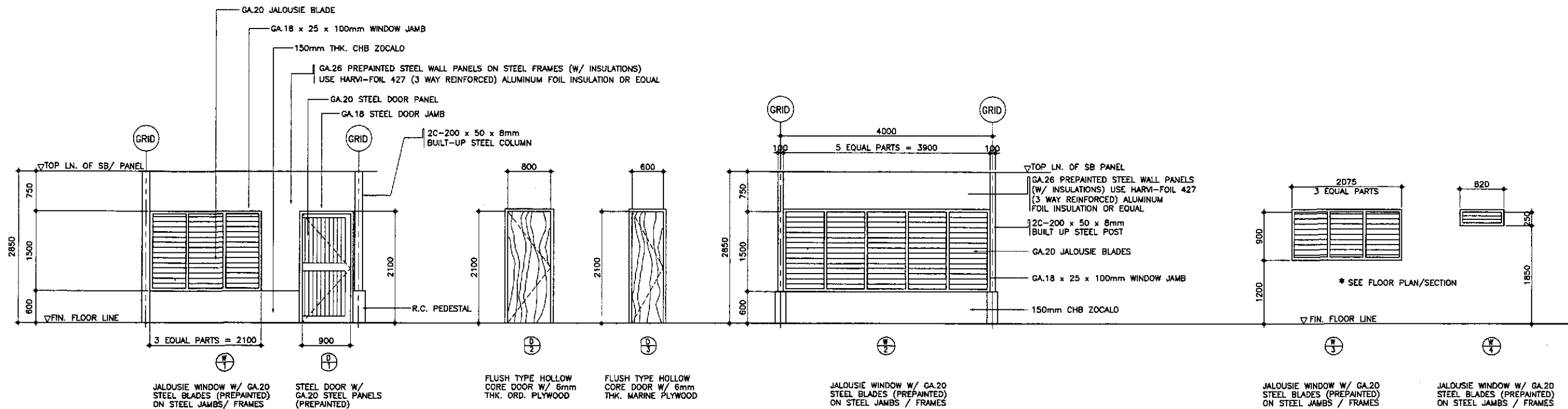
1 **ROOF PLAN**
 FA-04 SCALE 1:100



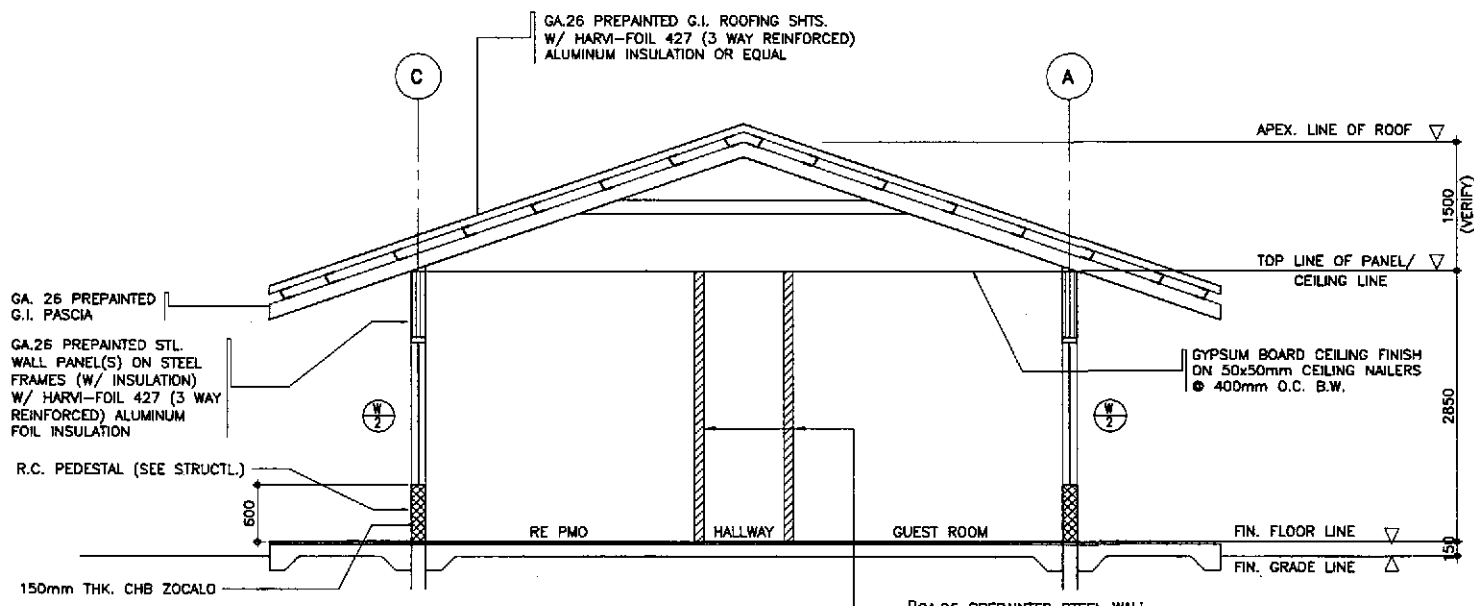
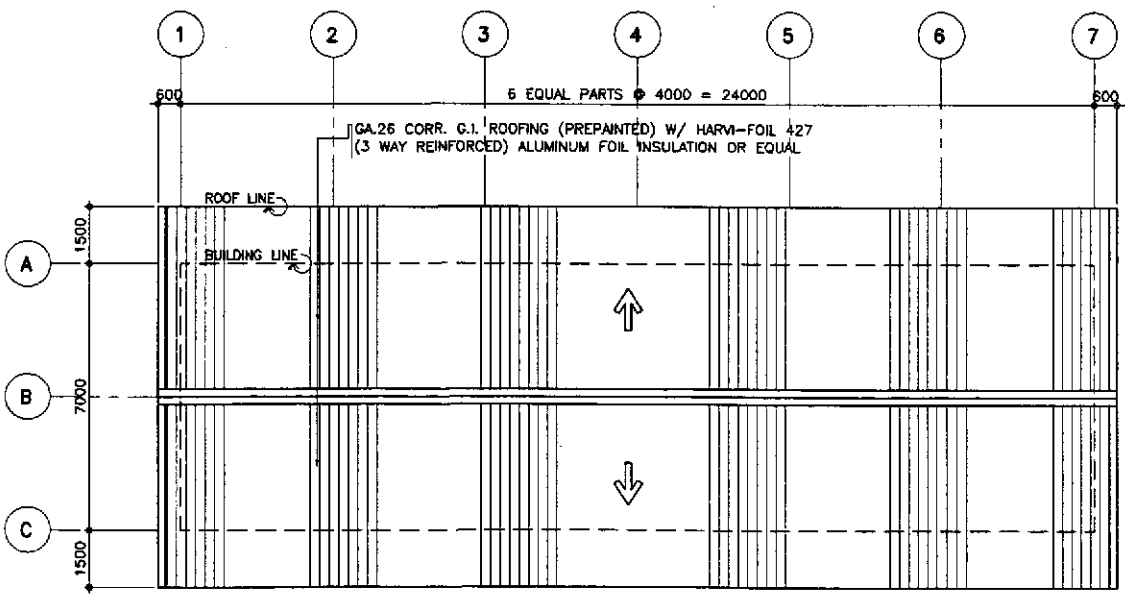
2 **DETAIL CROSS SECTION**
 FA-04 SCALE 1:40

APRIL P. GONZALES
 ENGINEER
 PTR. NO. 5846340 P.R.C. NO. 53457
 ISSUED ON 04/26/2002 T.I.N. 138-062-682
 ISSUED AT SAN JUAN, M.M.

	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 : AS SHOWN FULL SIZE A1	SHEET CONTENTS : ENGR'S FIELD OFFICE / LABORATORY ROOF PLAN, CROSS-SECTION AND SCHEDULE OF DOORS & WINDOWS	SHEET NO. : FA-04
	CHECKED	10/15/02	A. P. GONZALES		BUREAU OF DESIGN OFFICE OF THE SECRETARY							
	SUBMITTED	10/14/02	APRIL P. GONZALES TEAM LEADER	Submitted By:	Reviewed By:	Recommended By:	Recommended By:	Approved By:				
				DANILO C. TRAJANO Project Director	EMMANUEL P. CUNTAPAY Chief, Architectural Division	GILBERTO S. REYES DIC, Director IV	MANUEL M. BONGAON Undersecretary	SIMEON A. DATUMANONG Secretary				

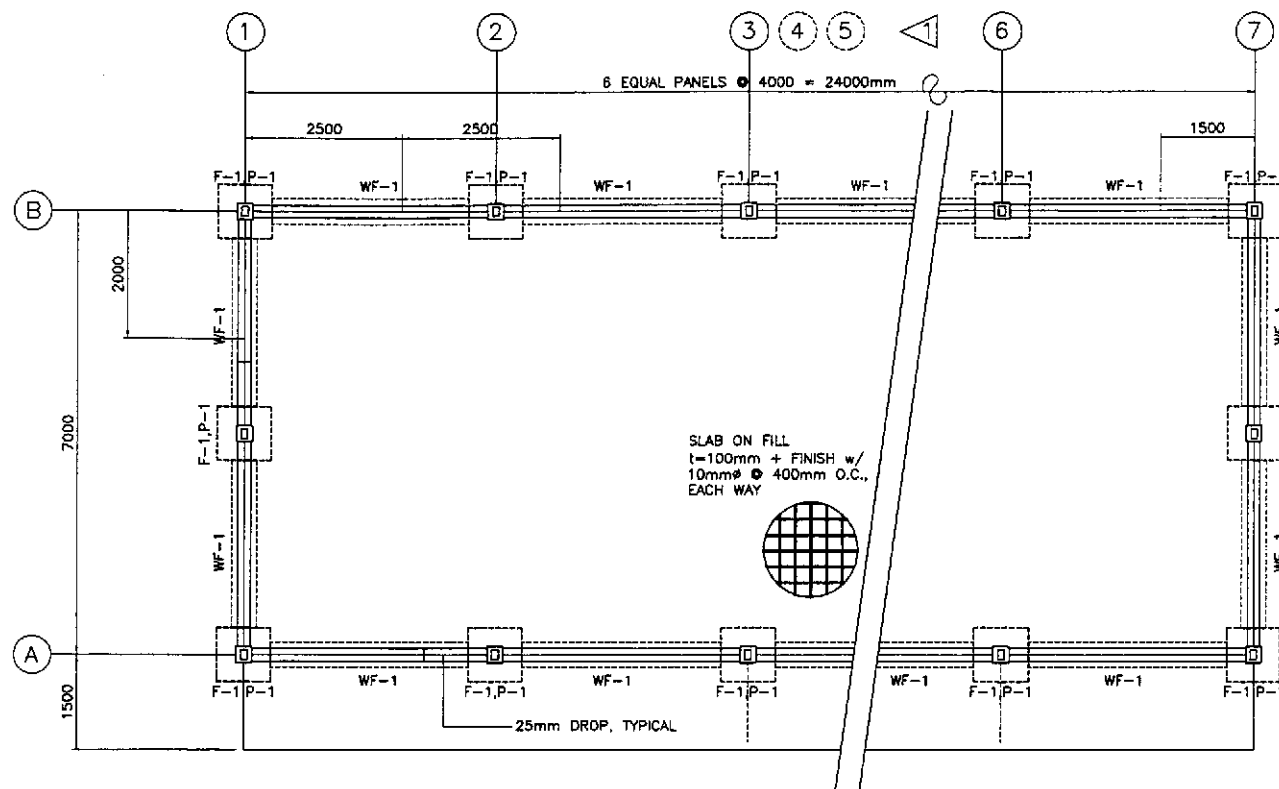


3 FOR ENGINEER'S LIVING QUARTERS
 SCHEDULE OF DOORS & WINDOWS
 FA-05 SCALE 1:40

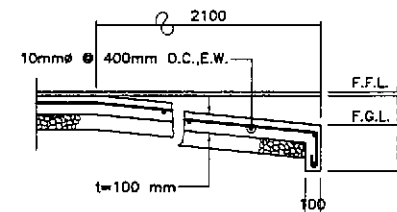


ARNEL P. GONZALES
 ENGINEER
 PTR. NO. 5846340 P.R.C. NO. 53457
 ISSUED ON 04/26/2002 T.I.N. 138-062-882
 ISSUED AT SAN JUAN, M.M.

	DESIGNED	9/27/02	P. GONZALES		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 (Paridol, Cabanatuan and San Jose Bypasses) CABANATUAN BYPASS - CONTRACT PACKAGE I	SCALE : AS SHOWN FULL SIZE A1	SHEET CONTENTS : ENGINEER'S LIVING QUARTERS ROOF PLAN, CROSS-SECTION AND SCHEDULE OF DOORS & WINDOWS	SHEET NO. : FA-05
	CHECKED	10/15/02	P. GONZALES		Submitted By:	Reviewed By:	Recommended By:	Approved By:				
	SUBMITTED	10/16/02	P. GONZALES	DANILO C. TRAJANO Project Director	EMMANUEL P. CUNTAPAY Chief, Architectural Division	GILBERTO S. REYES DIC, Director IV	MANUEL M. BONOAN Undersecretary	SIMEON A. DATUMANONG Secretary				



1 FOUNDATION PLAN
FA-06 SCALE 1:25



4 R.C. RAMP DETAIL
FA-06 SCALE 1:25

DESIGN CRITERIA :

I. LIVE LOAD

ROOF 0.58 KPa
OFFICE/LABORATORY 2.40 KPa

II. DEAD LOAD

CONCRETE 24 KN/m³
STEEL 78.10 KN/m³
CHB 2.73 KPa

III. WIND LOAD

$$p = C_e C_q Q_s I$$

WHERE :

p = ACTUAL WIND PRESSURE
C_e = GUST FACTOR COEFFICIENT (EXPOSURE B=0.63)
C_q = PRESSURE COEFFICIENT
Q_s = 1.50 KPa FOR ZONE 2&3, Q_s=1.92 FOR ZONE 1
I = OCCUPANCY IMPORTANCE = 1.00

IV. ALLOWABLE STRESSES

- CONCRETE (ALLOWABLE COMPRESSIBLE STRENGTH @ 28 DAYS)
 - FOR FOOTINGS AND PEDESTAL COLUMN
f_c' = 20.70 mpa f_c = 9.31 mpa
 - FOR SLAB ON FILL
f_c' = 17.26 mpa f_c = 7.76 mpa
- REINFORCING STEEL BARS (STRUCTURAL GRADE 33 DEFORMED BARS)
f_y = 227.0 mpa f_{st} = 124.02 mpa
- STRUCTURAL LIGHT GAGE COLD FORMED STEEL
STIFFENED LIGHT GAGE CHANNEL FOR RAFTERS, STUD & WALLS
f_s = 124.0 mpa (18,000 psi)
- STRUCTURAL BUILT-UP STEEL PLATES (ASTM A-36)
FOR STEEL BOX COLUMN
f_y = 248.0 mpa (36,000 psi)
- WELDS
USE E-80 XX ELECTRODES
f_w = 93.76 mpa
- BOLTS (ASTM A-307)
f_w = 69 mpa f_{st} = 96.60 mpa
- CONCRETE MASONRY UNITS (NON-LOAD BEARING CHB)
f_m' = 3.41 mpa (500 psi)
- ASSUMED ALLOWABLE SOIL BEARING CAPACITY OF 95.76 KPa (2,000 psf)

NOTES ON FOUNDATION :

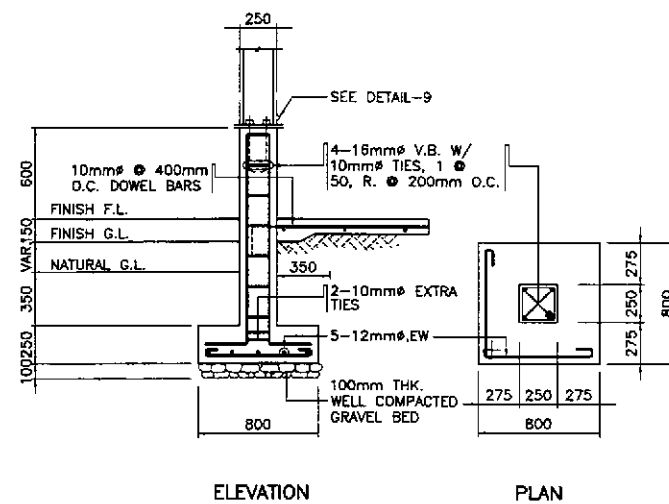
- IN CASE THE ACTUAL SOIL BEARING PRESSURE IS FOUND LESS THAN THE ASSUMED VALUE OF 95.76 KPa, NOTIFY THE DIRECTOR, BUREAU OF DESIGN FOR PROPER REVISION OF FOOTINGS.
- NO FOOTINGS SHALL REST ON FILL.

MATERIAL SPECIFICATIONS :

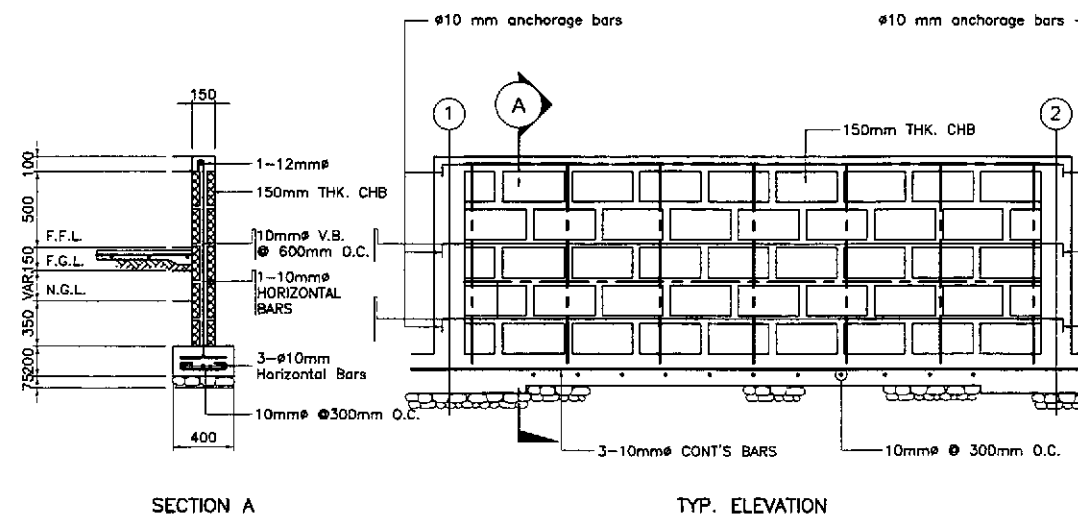
- FOR ROOFING SHEETS :
0.6mm THICK (GA.26) PREPAINTED CORRUGATED G.I. ROOFING SHEET, LONG SPAN.
- FOR WALLING SHEETS : USE ALUMINUM FOIL INSULATION HARVI-FOIL 427 (3-WAY REINFORCED OR EQUAL), DOUBLE WALL 0.6mm THICK (GA.26) HIGH TENSILE STEEL SHEET WALLING/CLADDING W/ ALUMINUM FOIL FOR INSULATION, HARVI-FOIL 427 (3-WAY REINFORCED OR EQUAL). BASE STEEL WITH 550 MPa YIELD STRESS. THE VERTICAL AND HORIZONTAL STUDS AND RAFTERS SHALL CONFORM WITH THE AMERICAN IRON AND STEEL INSTITUTE (AISI). SPECIFICATION OF LIGHT GAGE COLD-FORMED STEEL STRUCTURAL MEMBERS AS PER ASTM A246-LIGHT GAGE STRUCTURAL QUALITY FLAT ROLLED CARBON STEEL SHEET.
- ALL METAL PARTS SHALL BE GIVEN TWO(2) COATS OF ANTI-CORROSIVE PAINT OF APPROVED QUALITY WITH A MINIMUM TOTAL THICKNESS OF 3mm. FINISHING PAINT SHALL BE 2-COATS OF GLOSS OF APPROVED QUALITY, WEATHER RESISTANT AND OF THE SAME COLOR AS THE PREPAINTED SHEETINGS. BASE OF SIDINGS AND DOOR AND WINDOW JAMBS SHALL BE GIVEN ANOTHER TWO COATS OF BROWN OR MAHOGANY COLORED ENAMEL PAINT.

NOTES :

- ALL LOCATION OF ANCHOR BOLTS AND BOLT HOLES SHALL BE VERIFIED ON THE SITE PRIOR TO INSTALLATION / ASSEMBLY.
- HOLES FOR ALL BOLTS SHALL BE 1.6mm LARGER IN DIAMETER THAN BOLTS. BOLTS SHALL BE FITTED WITH STANDARD NUTS AND WASHERS TO ENSURE TIGHT FIT.
- THE STEEL MANUFACTURER / FABRICATOR / CONTRACTOR SHALL SUBMIT SHOP / FABRICATION DRAWINGS TO INCLUDE MATERIAL SCHEDULES, ASSEMBLY PROCEDURE, CONNECTIONS AND SPLICES AS PER APPROVED, PLANS FOR REVIEW AND APPROVAL OF THE DIRECTOR, BUREAU OF DESIGN.



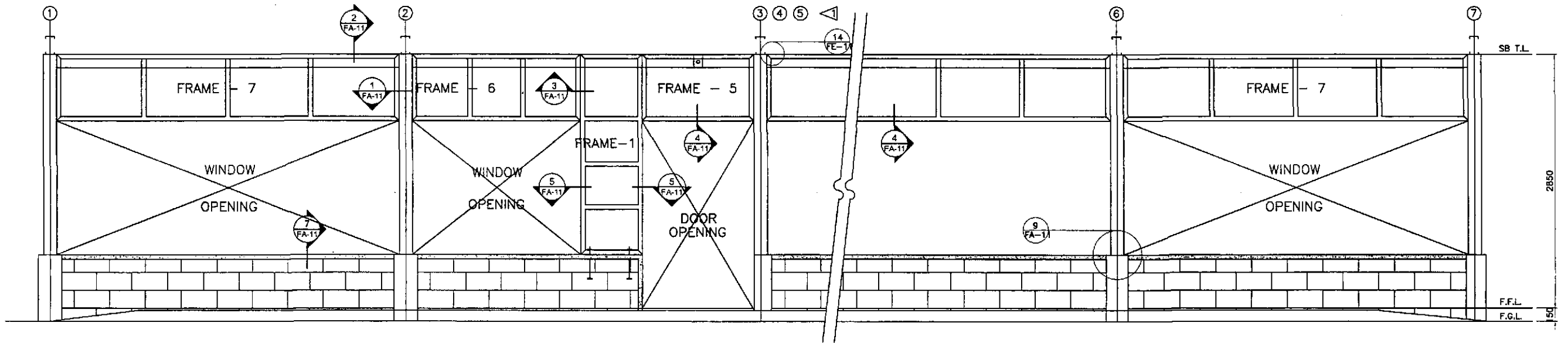
2 F-1, P-1
FA-06 SCALE 1:25



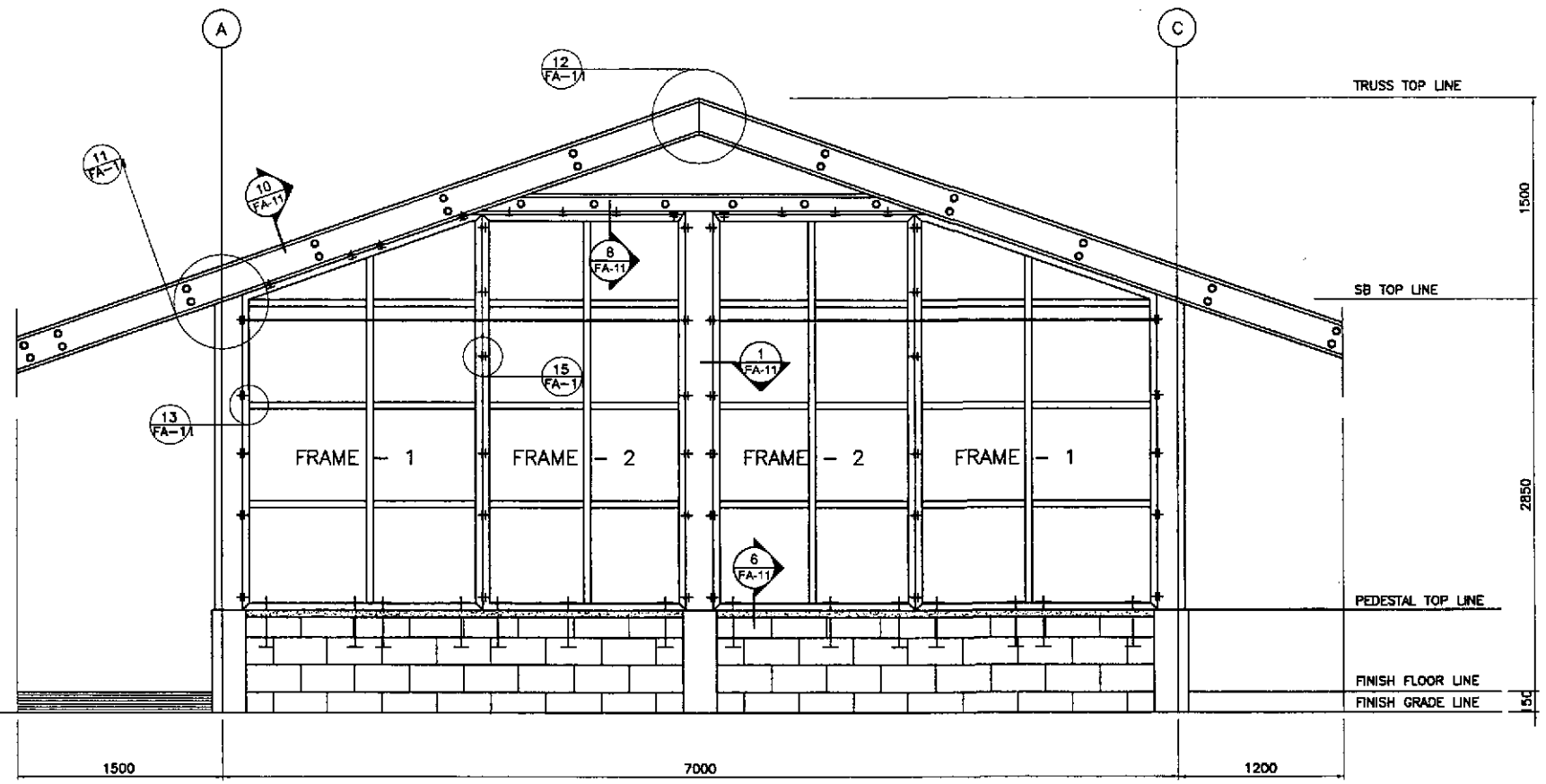
3 WF-1
FA-06 SCALE 1:25

ABRUEL P. GONZALES
ENGINEER
PTR. NO. 5846340 P.R.C. NO. 53457
ISSUED ON 04/26/2002 T.I.N. 138-062-682
ISSUED AT SAN JUAN, M.M.

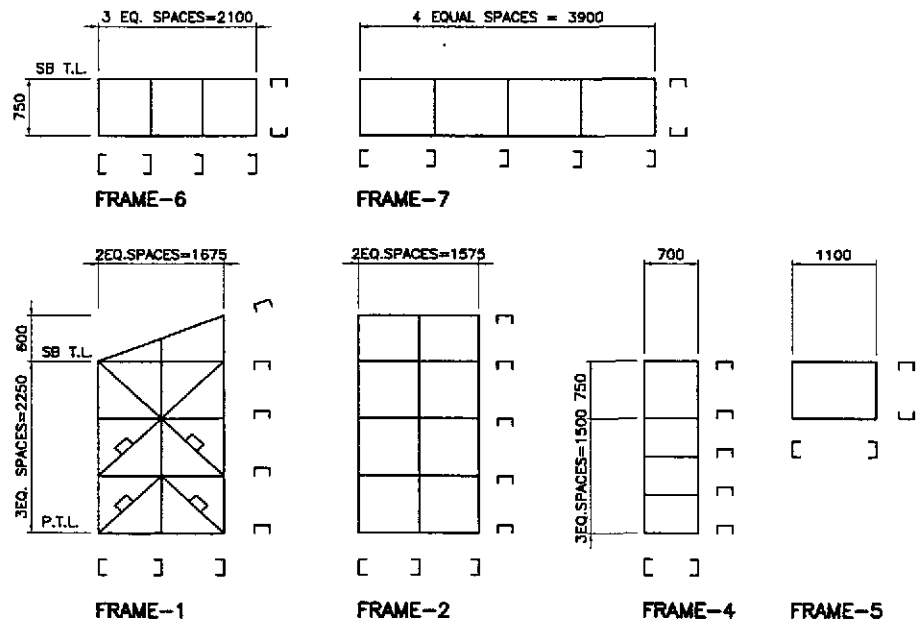
	DATE	SIGNATURE	REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS				PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
	DESIGNED	9/27/02	A. GONZALES	BUREAU OF DESIGN		OFFICE OF THE SECRETARY	THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)	AS SHOWN	ENGINEER'S FIELD OFFICE AND LIVING QUARTERS	FA-06
CHECKED	10/15/02	A. GONZALES	Submitted By:	Reviewed By:	Recommended By:	CABANATUAN BYPASS - CONTRACT PACKAGE I	FULL SIZE A1	FOUNDATION PLAN, R.C. RAMP, DETAILS OF F1, P-1 & WF1 AND DESIGN CRITERIA		
SUBMITTED	10/15/02	A. GONZALES	DANILO C. TRAJANO Project Director	WILFREDO S. LOPEZ Chief, Structural Division	GILBERTO S. REYES OIC, Director IV					



2 FRONT ELEVATION
FA-07 SCALE 1:25



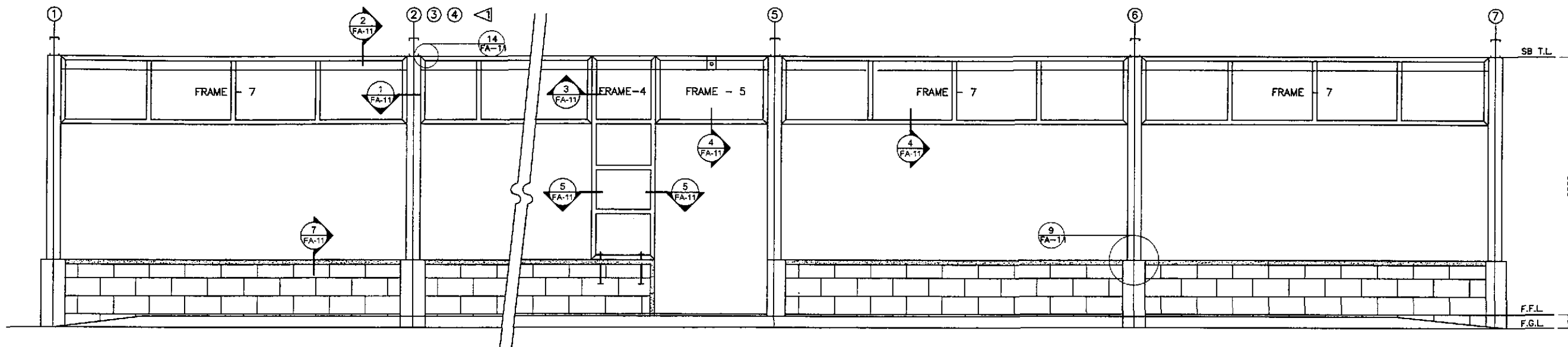
3 RIGHT SIDE ELEVATION
FA-07 SCALE 1:25



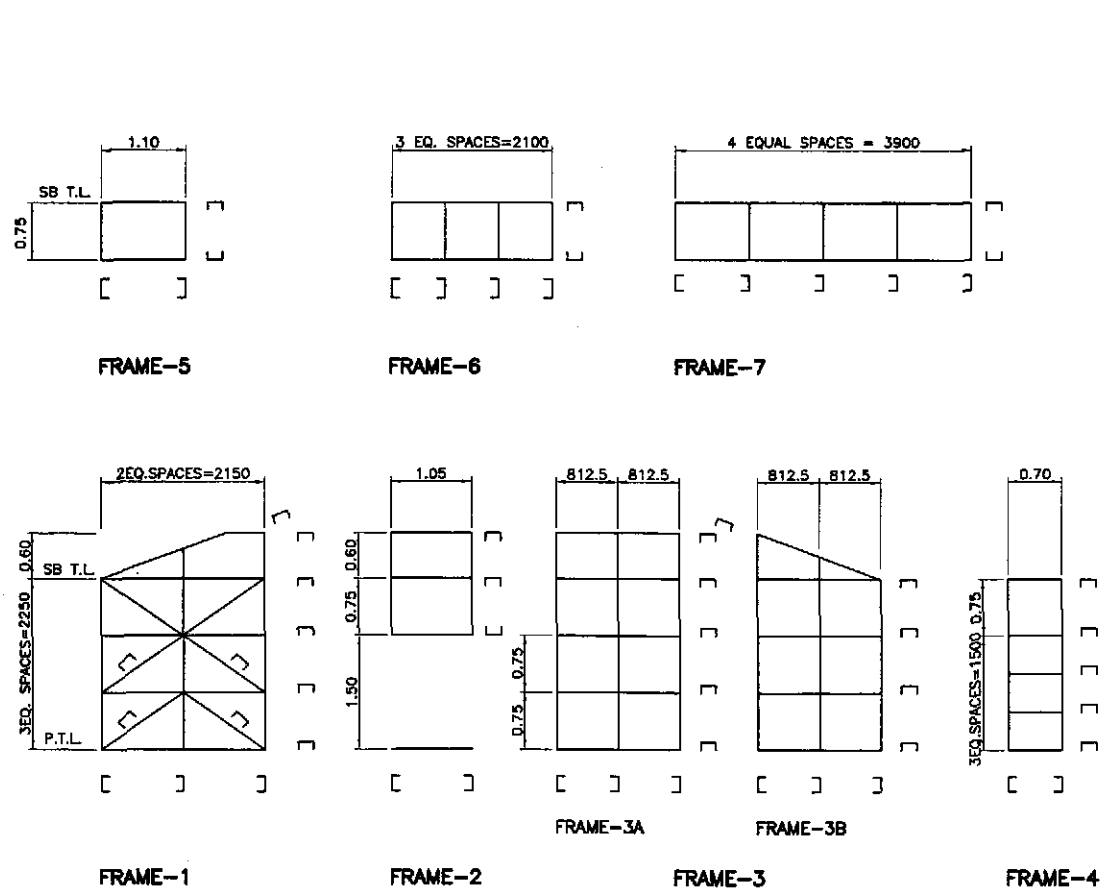
1 FRAMES SCHEMATIC DIAGRAMS
FA-07 SCALE 1:50

ARTELO F. GONZALES
ENGINEER
PTR. NO. 5848348 P.R.C. NO. 53457
ISSUED ON 04/26/2002 T.I.N. 138-062-682
ISSUED AT SAN JUAN, M.M.

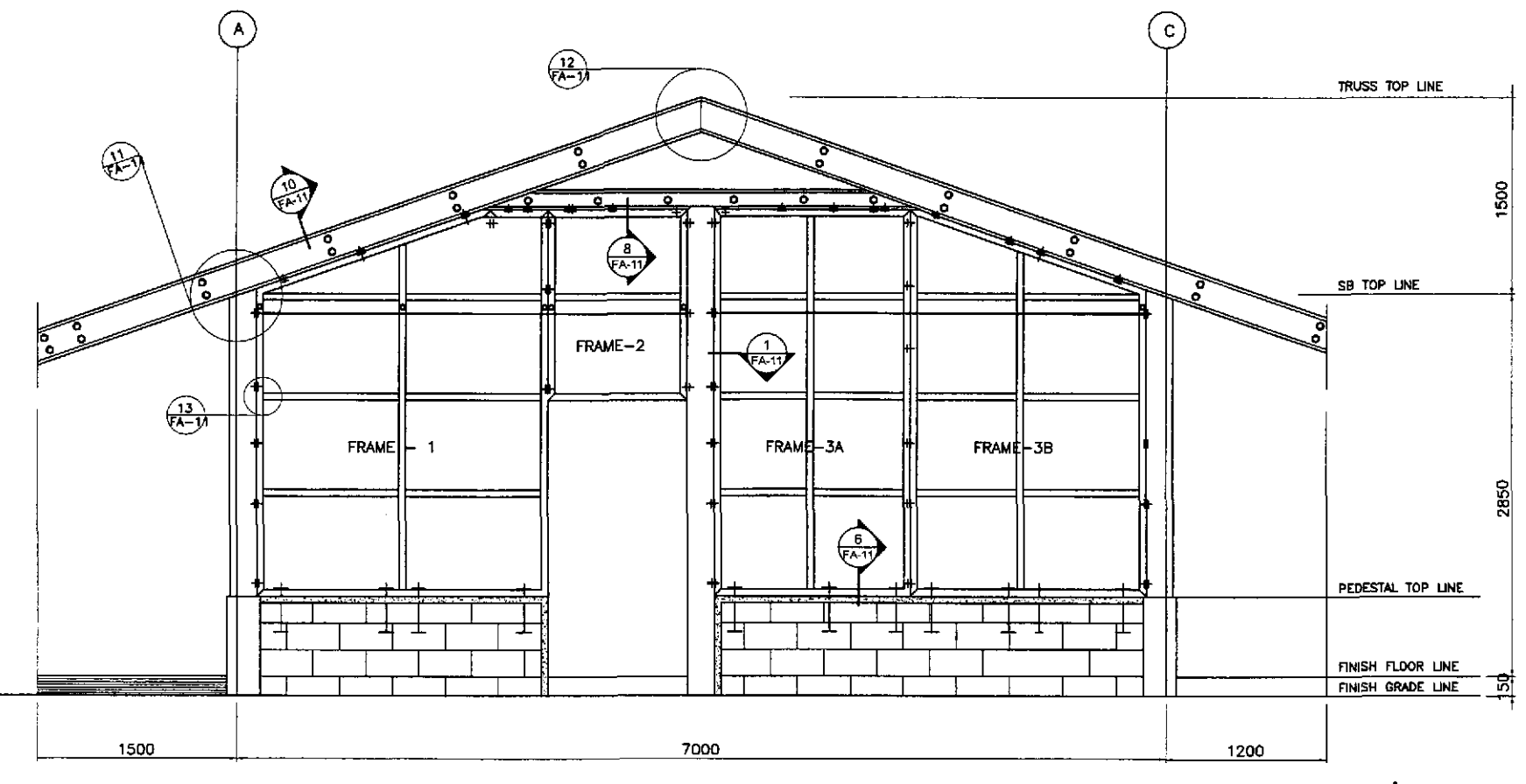
	DESIGNED	DATE	SIGNATURE	<p>REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS</p>	<p>PROJECT AND LOCATION :</p> <p>THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)</p> <p>CABANATUAN BYPASS - CONTRACT PACKAGE I</p>	SCALE :	<p>SHEET CONTENTS :</p> <p>ENGR'S FIELD OFFICE / LABORATORY FRONT AND RIGHT SIDE ELEVATION OF STEEL STUD FRAMES & SCHEMATIC DIAGRAM</p>	SHEET NO. :	
	CHECKED	10/15/02	A. B. GONZALES			BUREAU OF DESIGN		AS SHOWN	<p>FA-07</p>
	SUBMITTED	10/16/02	A. B. GONZALES			<p>Submitted By: DANILO C. TRAJANO Project Director</p> <p>Reviewed By: WILFREDO S. LOPEZ Chief, Structural Division</p> <p>Recommended By: GILBERTO S. REYES DIC, Director IV</p> <p>Recommended By: MANUEL N. BONDAN Undersecretary</p> <p>Approved By: SIMEON A. DATUMANONG Secretary</p>		FULL SIZE A1	
						OFFICE OF THE SECRETARY			



2 FRONT ELEVATION
FA-08 SCALE 1:25



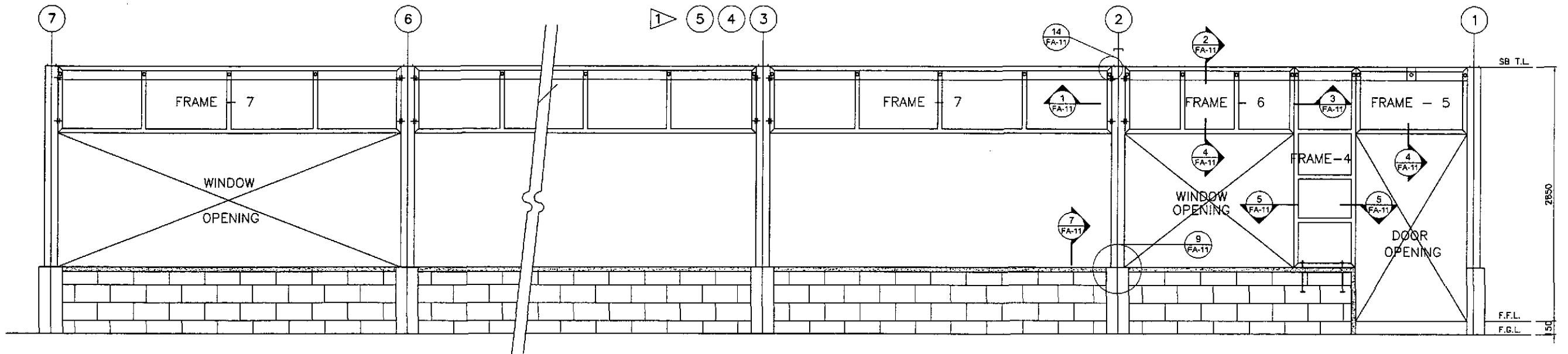
1 FRAMES SCHEMATIC DIAGRAMS
FA-08 SCALE 1:50



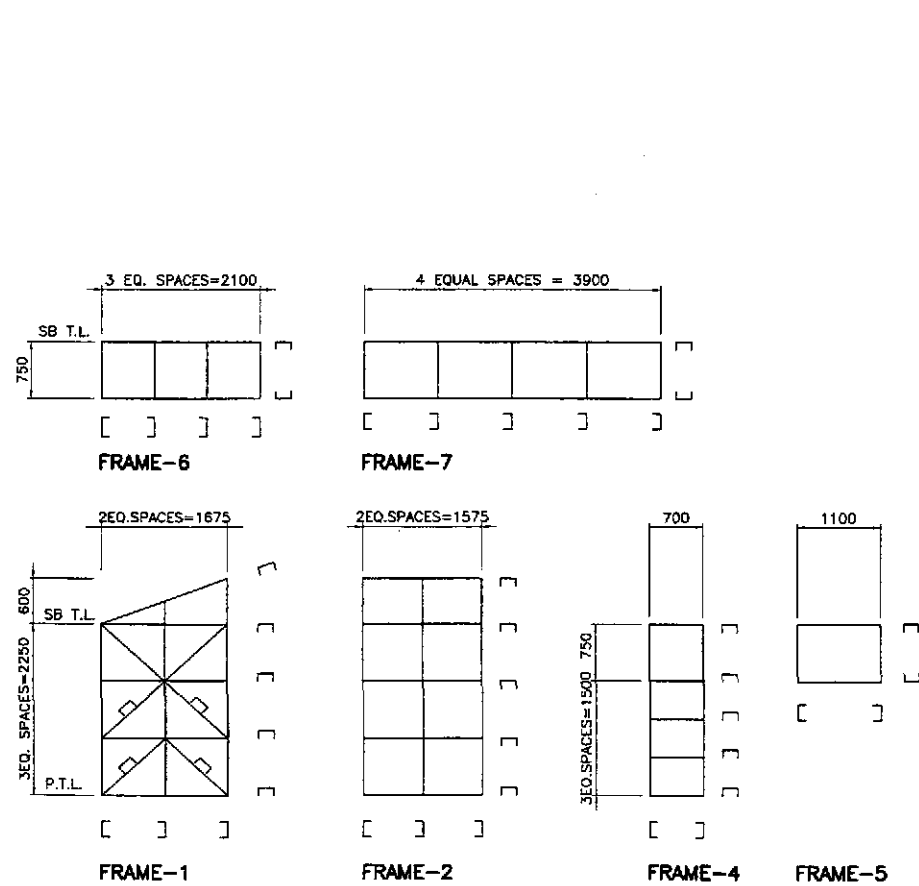
3 RIGHT SIDE ELEVATION
FA-08 SCALE 1:25

ARMEL P. GONZALES
ENGINEER
PTR. NO. 5846340 P.R.C. NO. 53457
ISSUED ON 04/26/2002 T.I.N. 138-062-682
ISSUED AT SAN JUAN, M.M.

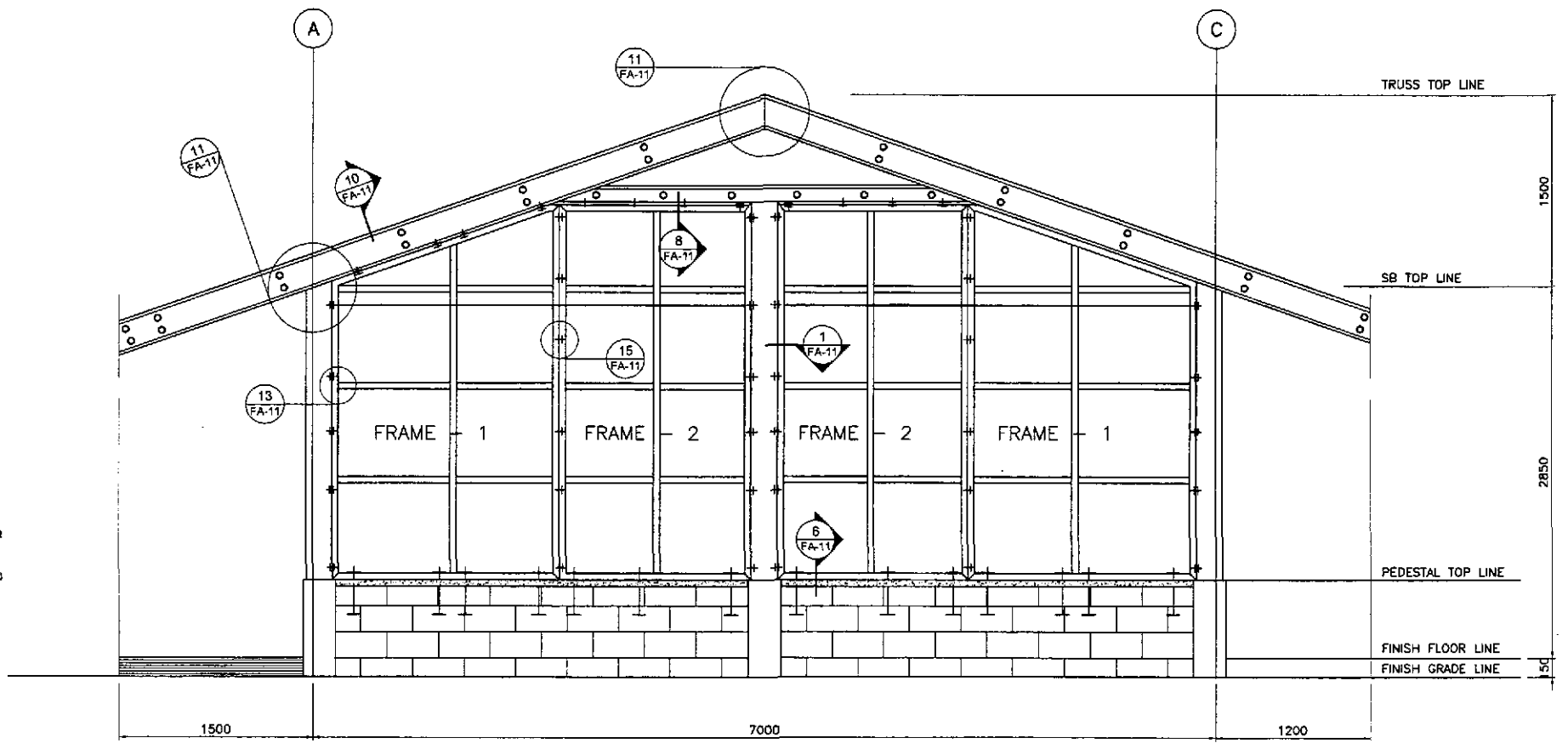
		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS BUREAU OF DESIGN OFFICE OF THE SECRETARY				PROJECT AND LOCATION : THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)		SCALE : AS SHOWN FULL SIZE A1		SHEET CONTENTS : ENGINEER'S LIVING QUARTERS FRONT AND RIGHT SIDE ELEVATION OF STEEL STUD FRAMES & SCHEMATIC DIAGRAM		SHEET NO. : FA-08
DESIGNED	DATE	SIGNATURE	Submitted By:	Reviewed By:	Recommended By:	Approved By:						
CHECKED	10/15/02	A.P. GONZALES	DANILO C. TRAJANO Project Director	EMMANUEL P. CUNTAPAY Chief, Architectural Division	GILBERTO S. REYES OIC, Director IV	MANUEL M. BONDAN Undersecretary						
SUBMITTED	10/15/02	R. R. RIVERA TEAM LEADER										



2 REAR ELEVATION
FA-09 SCALE 1:25



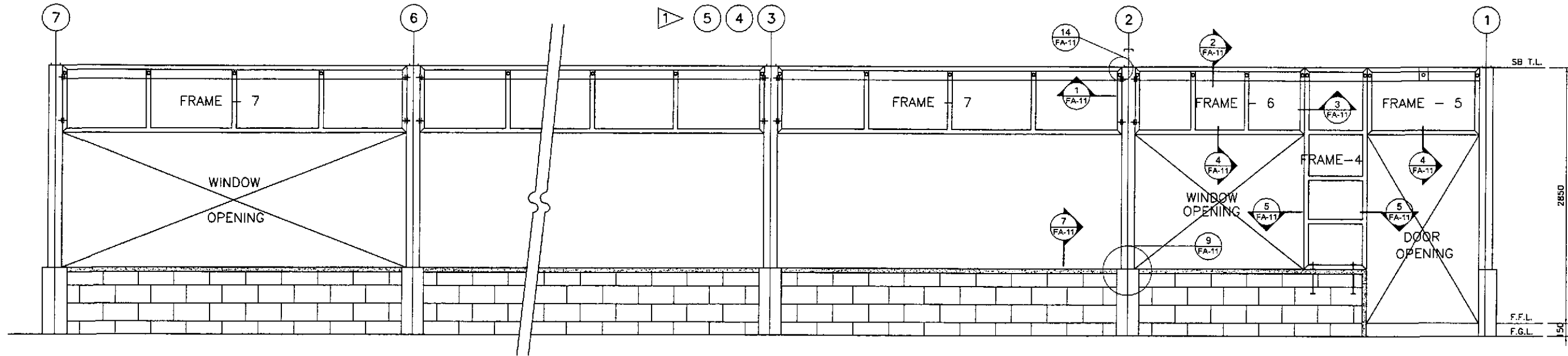
1 FRAMES SCHEMATIC DIAGRAMS
FA-09 SCALE 1:50



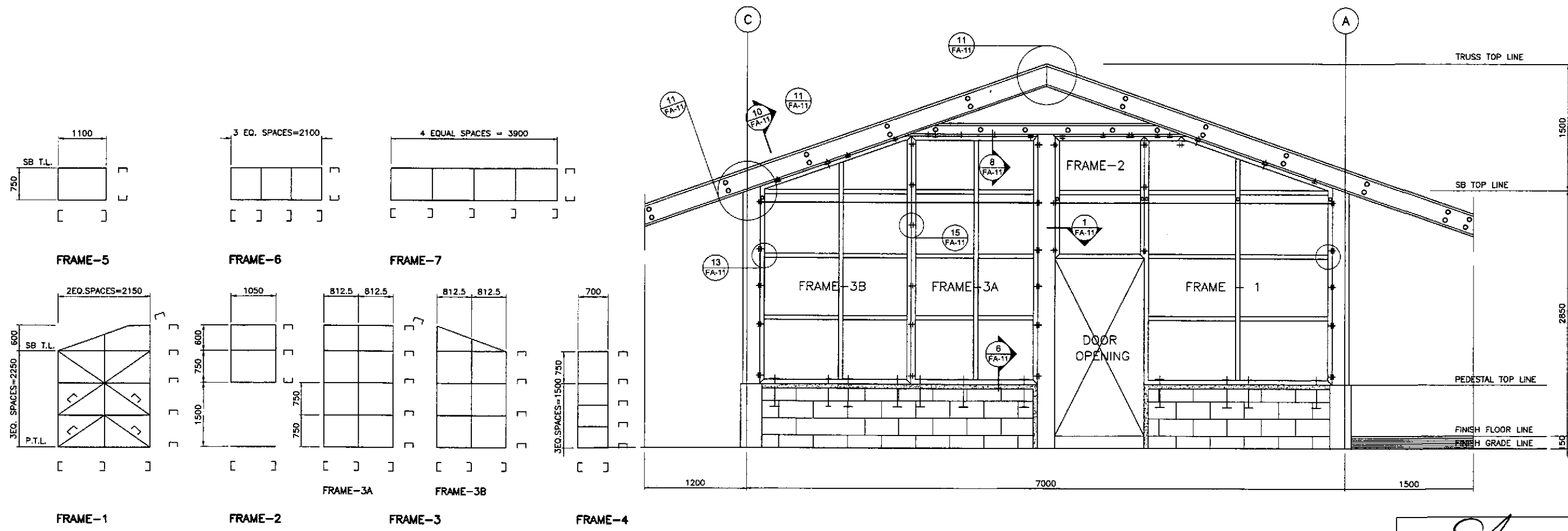
3 LEFT SIDE ELEVATION
FA-09 SCALE 1:25

ARNEL P. GONZALES
ENGINEER
PTR. NO. 5846340 P.R.C. NO. 53457
ISSUED ON 04/26/2002 T.I.N. 138-062-682
ISSUED AT SAN JUAN, M.V.

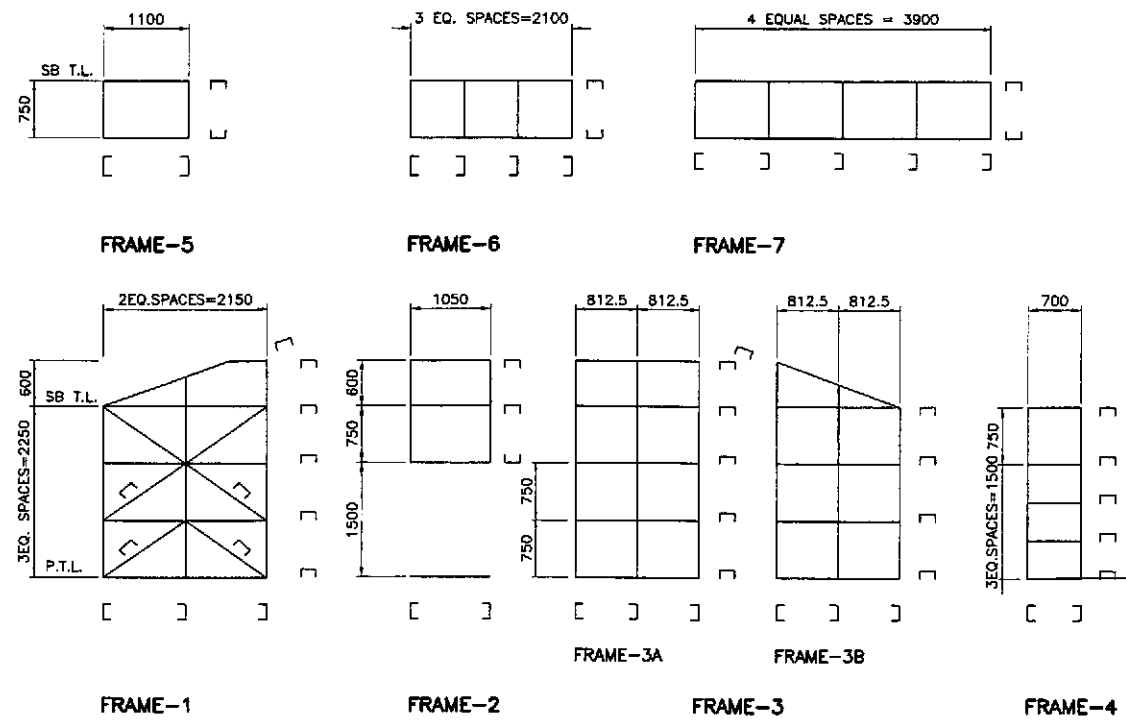
	DESIGNED	DATE	SIGNATURE		PROJECT AND LOCATION : THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)			SCALE :	SHEET CONTENTS : ENGR'S FIELD OFFICE / LABORATORY REAR AND LEFT SIDE ELEVATION OF STEEL STUD FRAMES & SCHEMATIC DIAGRAM	SHEET NO. : FA-09
	CHECKED				BUREAU OF DESIGN Submitted By: DANILO C. TRAJANO (Project Director) Reviewed By: EMMANUEL P. CUNTAPAY (Chief, Architectural Division) Recommended By: GILBERTO S. REYES (DIC, Director IV) Recommended By: MANUEL M. BONOAN (Undersecretary) Approved By: SIMEON A. DATUMANONG (Secretary)	CABANATUAN BYPASS - CONTRACT PACKAGE I	AS SHOWN			
								FULL SIZE A1		



2 REAR ELEVATION
FA-10 SCALE 1:25



3 LEFT SIDE ELEVATION
FA-10 SCALE 1:25



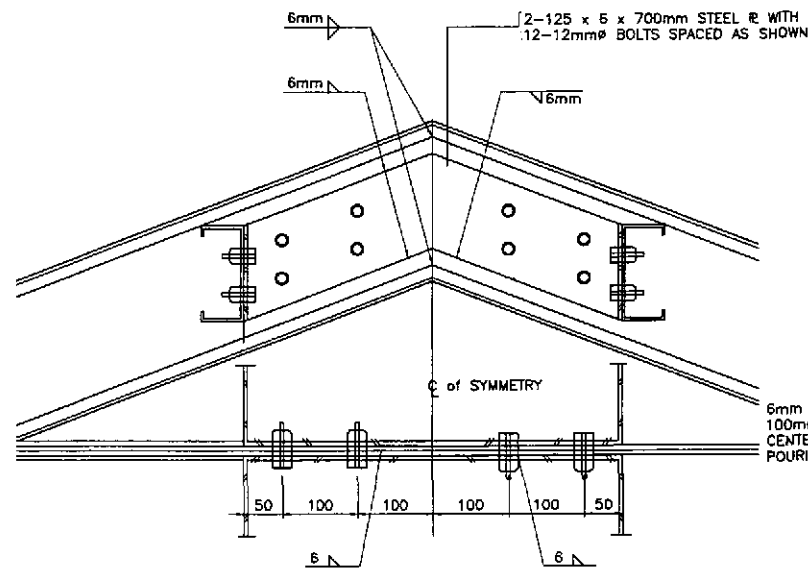
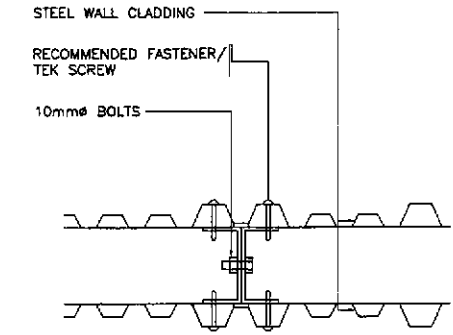
1 FRAMES SCHEMATIC DIAGRAMS
FA-10 SCALE 1:50

ASHEL P. GONZALES
ENGINEER
PTR. NO. 5846340 P.R.C. NO. 53457
ISSUED ON 04/28/2002 T.I.N. 138-062-682
ISSUED AT SAN JUAN, M.M.

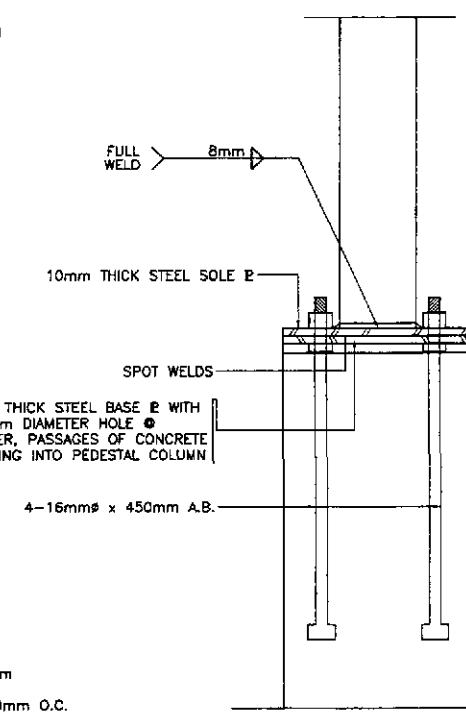
	DESIGNED	DATE	SIGNATURE	REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS			PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	10/10/02	A. P. GONZALES	BUREAU OF DESIGN OFFICE OF THE SECRETARY			THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) CABANATUAN BYPASS - CONTRACT PACKAGE I	AS SHOWN	ENGINEER'S LIVING QUARTERS REAR AND LEFT SIDE ELEVATION OF STEEL STUD FRAMES & SCHEMATIC DIAGRAMS	FA-10
	SUBMITTED	10/10/02	A. P. GONZALES	Submitted By:	Reviewed By:	Recommended By:				
			DANILO C. TRAJANO Project Director	WILFREDO S. LOPEZ Chief, Structural Division	GILBERTO S. REYES OC, Director IV	MANUEL M. BONJAN Undersecretary	SIMEON A. DATUMANONG Secretary			

NOTES :

1. ALL VERTICAL AND HORIZONTAL STUDS SHALL BE 100x50x2mm UNSTIFFENED FLANGED UNLESS OTHERWISE SPECIFIED.
2. HORIZONTAL STUDS MUST BE INSERTED TO AND WELDED IN THE VERTICAL STUDS UNLESS OTHERWISE SPECIFIED.
3. REVISION IN THE ATTACHMENT/ CONNECTIONS THAT WILL IMPROVE DESIGN MAYBE DONE W/ PRIOR APPROVAL OF FABRICATION DRAWINGS.

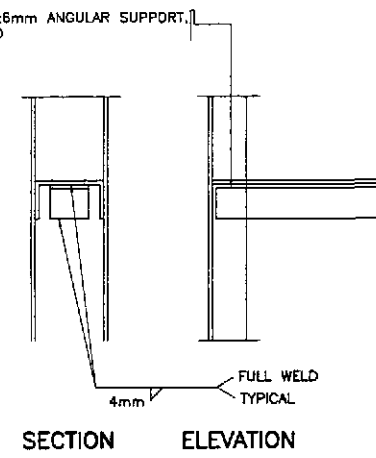


3 **DETAIL - 12**
FA-11 SCALE 1:5

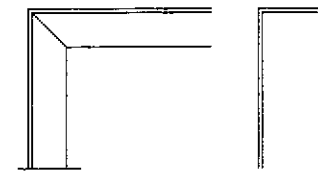


ELEVATION

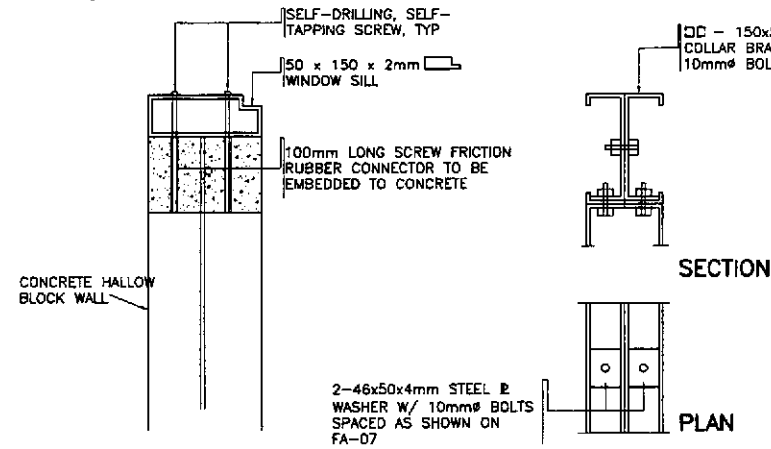
10 **DETAIL - 13**
FA-11 SCALE 1:5



13 **DETAIL - 14**
FA-11 SCALE 1:5

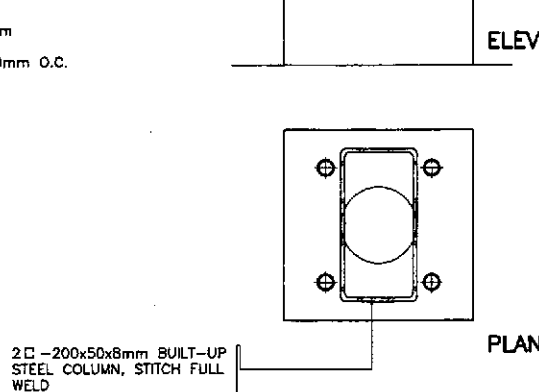


15 **DETAIL - 15**
FA-11 SCALE 1:5

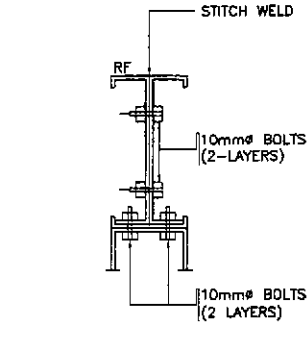


2 **DETAIL - 7**
FA-11 SCALE 1:5

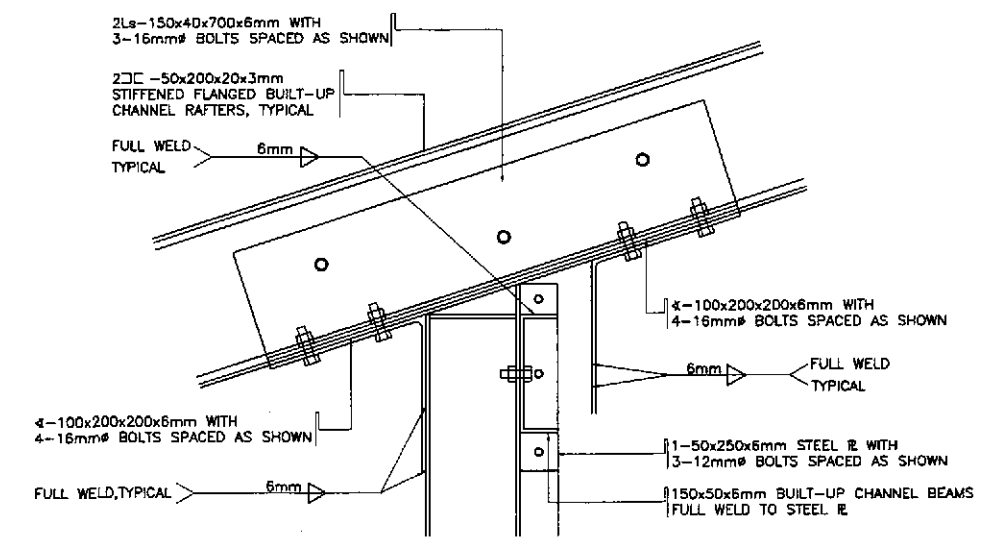
5 **DETAIL - 8**
FA-11 SCALE 1:5



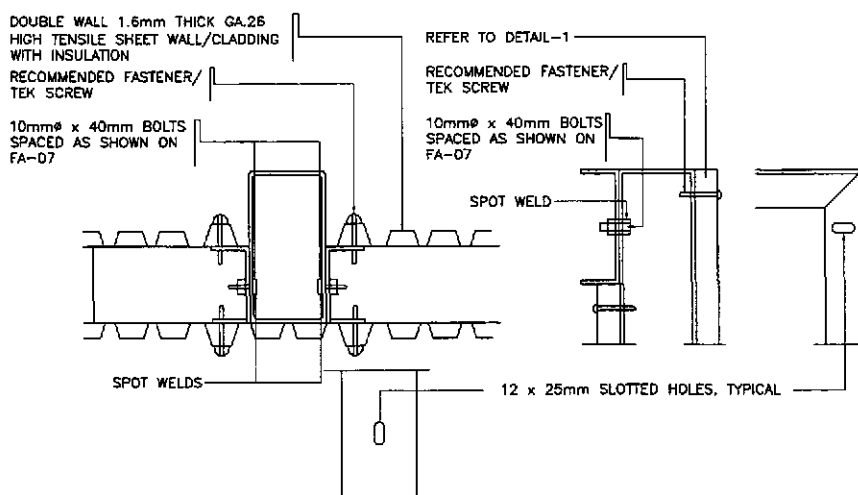
7 **DETAIL - 9**
FA-11 SCALE 1:5



9 **DETAIL - 10**
FA-11 SCALE 1:5

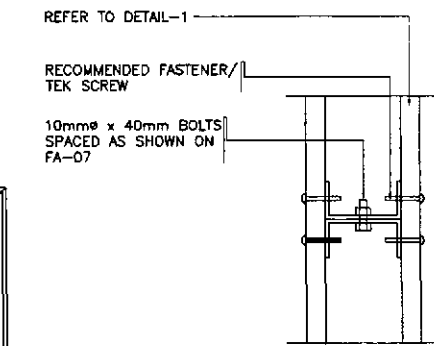


12 **DETAIL - 11**
FA-11 SCALE 1:5

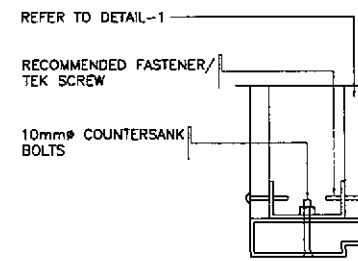


1 **DETAIL - 1**
FA-11 SCALE 1:5

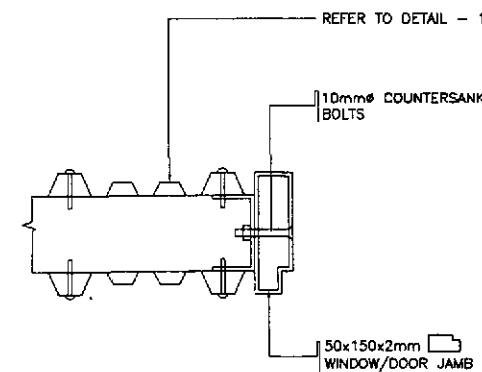
4 **DETAIL - 2**
FA-11 SCALE 1:5



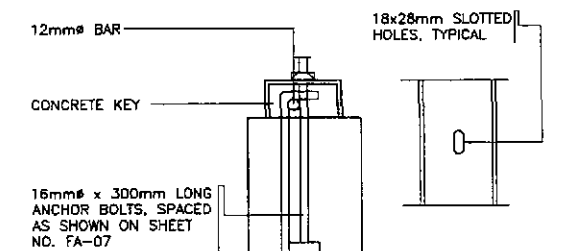
6 **DETAIL - 3**
FA-11 SCALE 1:5



8 **DETAIL - 4**
FA-11 SCALE 1:5



11 **DETAIL - 5**
FA-11 SCALE 1:5



14 **DETAIL - 6**
FA-11 SCALE 1:5

PAVEL P. CONZALES
ENGINEER
PTR. NO. 5846340 P.R.C. NO. 53457
ISSUED ON 04/26/2002 T.I.N. 138-062-882
ISSUED AT SAN JUAN.M.M.

<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 (Plaridel, Cabanatuan and San Jose Bypasses)</p>	<p>SCALE : AS SHOWN FULL SIZE A1</p>	<p>SHEET CONTENTS : ENGINEER'S FIELD OFFICE AND LIVING QUARTERS DETAILS OF CONNECTIONS DETAIL 1 TO 15</p>	<p>SHEET NO. : FA-11</p>
<p>DESIGNED: P. CONZALES</p>	<p>CHECKED: P. CONZALES</p>	<p>SUBMITTED: P. CONZALES</p>	<p>RUHL - PMO Submitted By: DANILO C. TRAJANO Project Director</p>	<p>BUREAU OF DESIGN Reviewed By: WILFREDO S. LOPEZ Chief, Structural Division</p>	<p>OFFICE OF THE SECRETARY Recommended By: GILBERTO S. REYES OIC, Director IV</p>	<p>Approved By: MANUEL M. BONDAN Undersecretary</p>	<p>Approved By: SIMEDON A. DATUMANONG Secretary</p>	<p>CABANATUAN BYPASS - CONTRACT PACKAGE I</p>	

ALUMINUM FOIL INSULATION, TYP.
USE HAVIFOIL 427(3-WAY REINFORCE-
MENT) OR EQUAL
[-150x50x15x2mm. STIFFENER FLANGE LIGHT GAGE PURLINS
5 mm. # 1 -HOOK BOLTS W/ LEAD WASHERS
● EVERY 5-UPPER CORRUGATION

1 -75x75x50x6.0mm. CLIP ANGLES W/
2 -10mm. # BOLTS

UPPER CORRUGATION
LOWER CORRUGATION

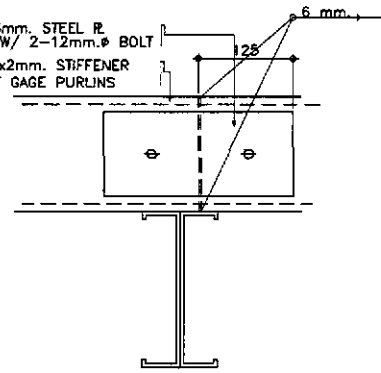
10mm # SAG RODS

6 mm.

6 mm.

ELEVATION

2-125x250x6mm. STEEL P.
CONNECTION W/ 2-12mm.# BOLT
[-150x50x15x2mm. STIFFENER
FLANGE LIGHT GAGE PURLINS

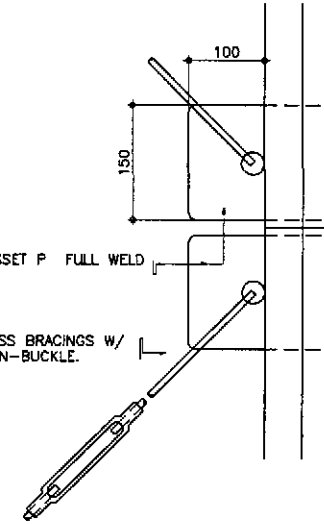


SECTION, SPLICE CONNECTION

2 PURLIN CONNECTION
FA-12 SCALE 1:5

10 mm Thk. GUSSET P FULL WELD
TO RF.

16 mm.# CROSS BRACINGS W/
STANDARD TURN-BUCKLE.



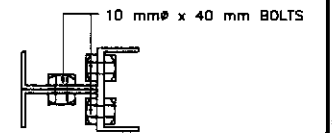
PLAN

4 CROSS-BRACING CONNECTION
FA-12 SCALE 1:5

16 mm# x 200mm LONG
ANCHOR BOLTS SPACED
AS SHOWN ON SCHEM.
DIAG. OF INT. WALLS.

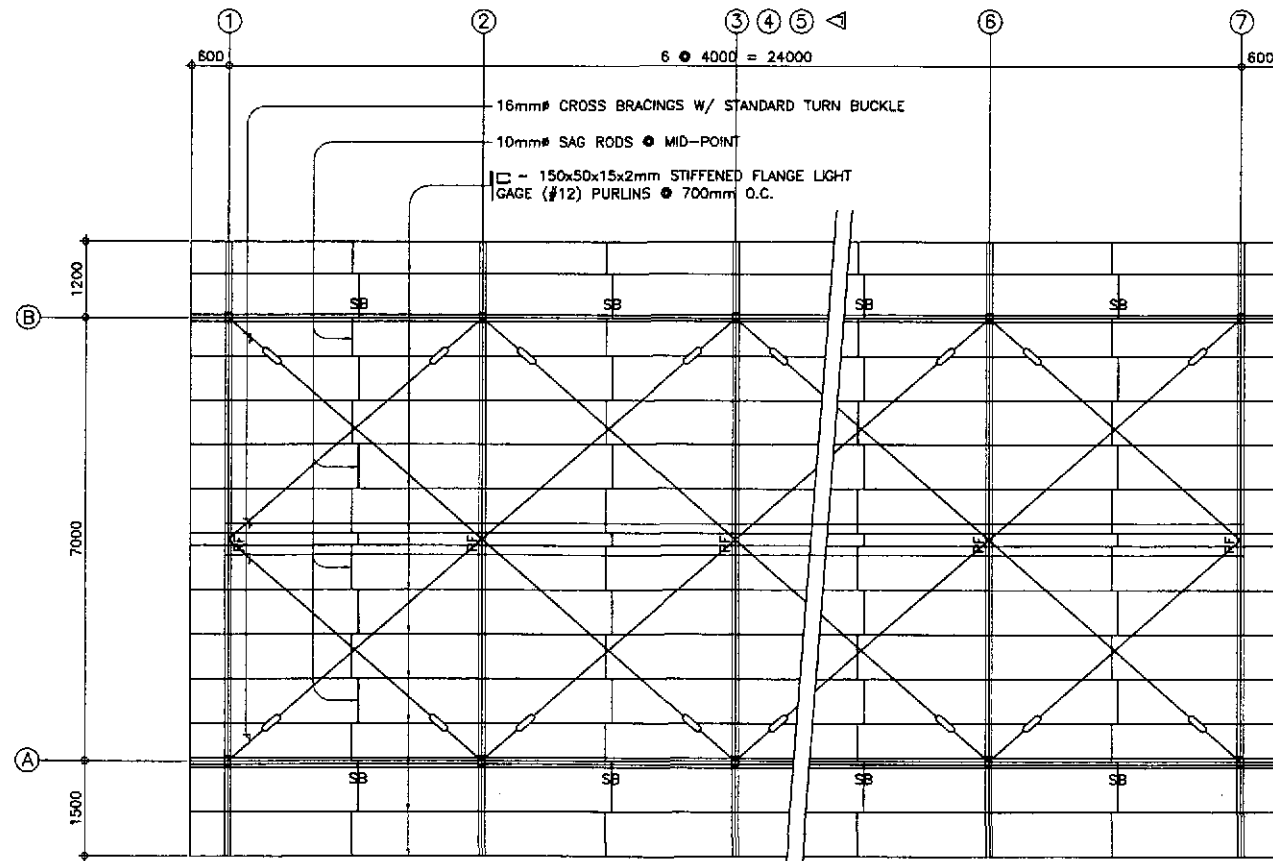


5 DETAIL - a
FA-12 SCALE 1:5

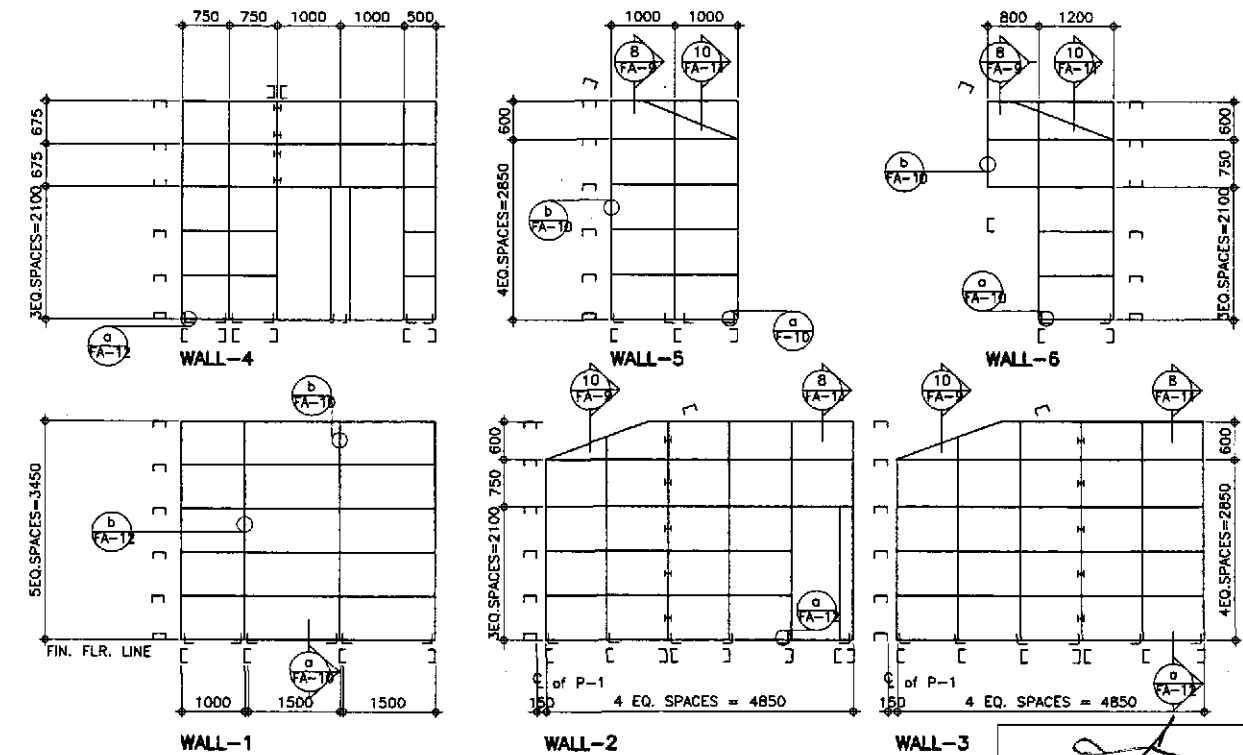


6 DETAIL - b
FA-12 SCALE 1:5

SECTION



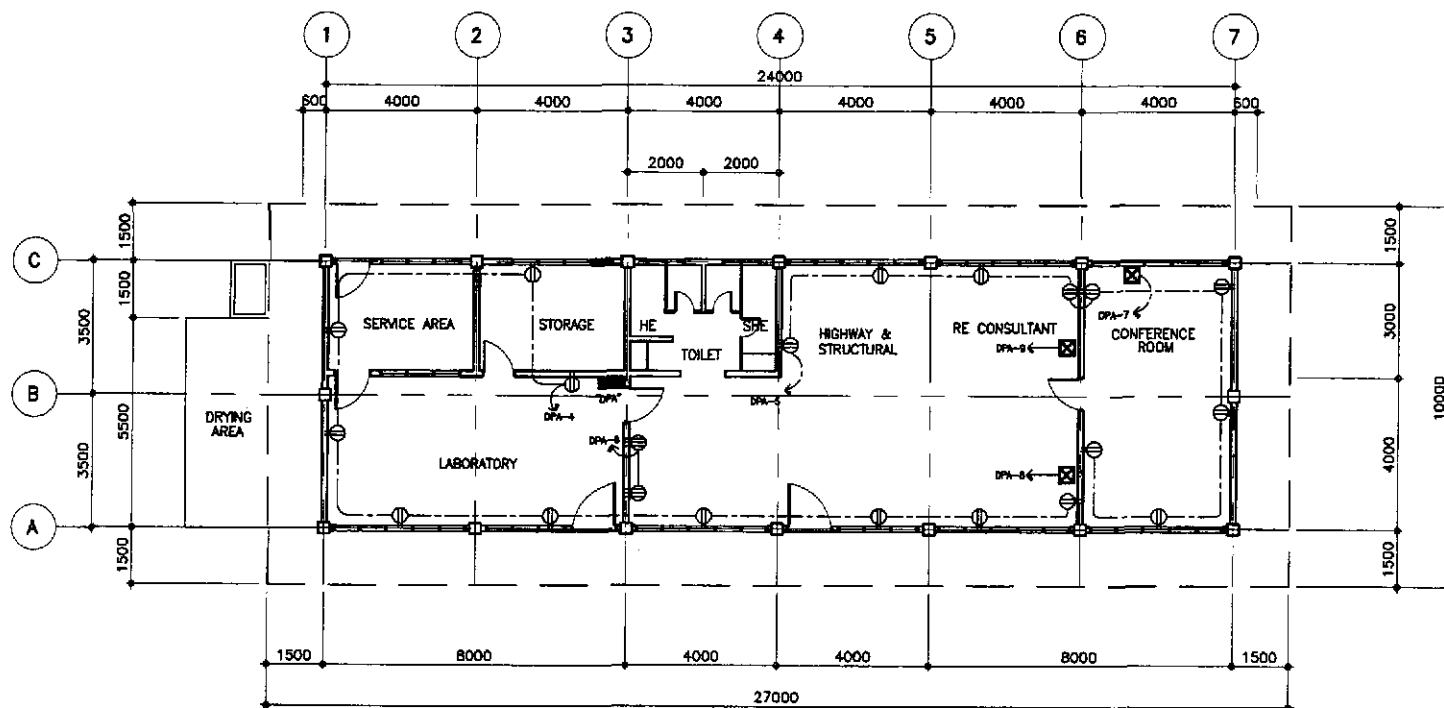
1 ROOF FRAMING PLAN
FA-12 SCALE 1:60



3 SCHEMATIC DIAGRAMS OF INTERIOR WALLS
FA-12 SCALE 1:60

ARNEL P. GONZALES
ENGINEER
PTR. NO. 5846340 P.R.C. NO. 53457
ISSUED ON 04/26/2002 T.I.N. 138-062-682
ISSUED AT SAN JUAN, M.M.

	DESIGNED	9/27/02	A.P. GONZALES		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 : AS SHOWN FULL SIZE A1	SHEET CONTENTS : ENGR'S FIELD OFF. & LIVING QUARTERS ROOF FRAMING PLAN, SCHEMATIC DIAGRAM PURLIN CONN. & CROSS-BRACING CONN.	SHEET NO. : FA-12
	CHECKED	10/15/02	A.P. GONZALES		Submitted By:	Reviewed By:	Recommended By:				
	SUBMITTED	10/16/02	A.P. GONZALES TEAM LEADER		DANLO C. TRAJANO Project Director	WILFREDO S. LOPEZ Chief, Structural Division	GILBERTO S. REYES DIE, Director IV	MANUEL M. BONDAN Undersecretary			



2 POWER LAYOUT OF THE ENGINEER'S FIELD OFFICE / LABORATORY
FE-01 SCALE 1:100

GENERAL NOTES:

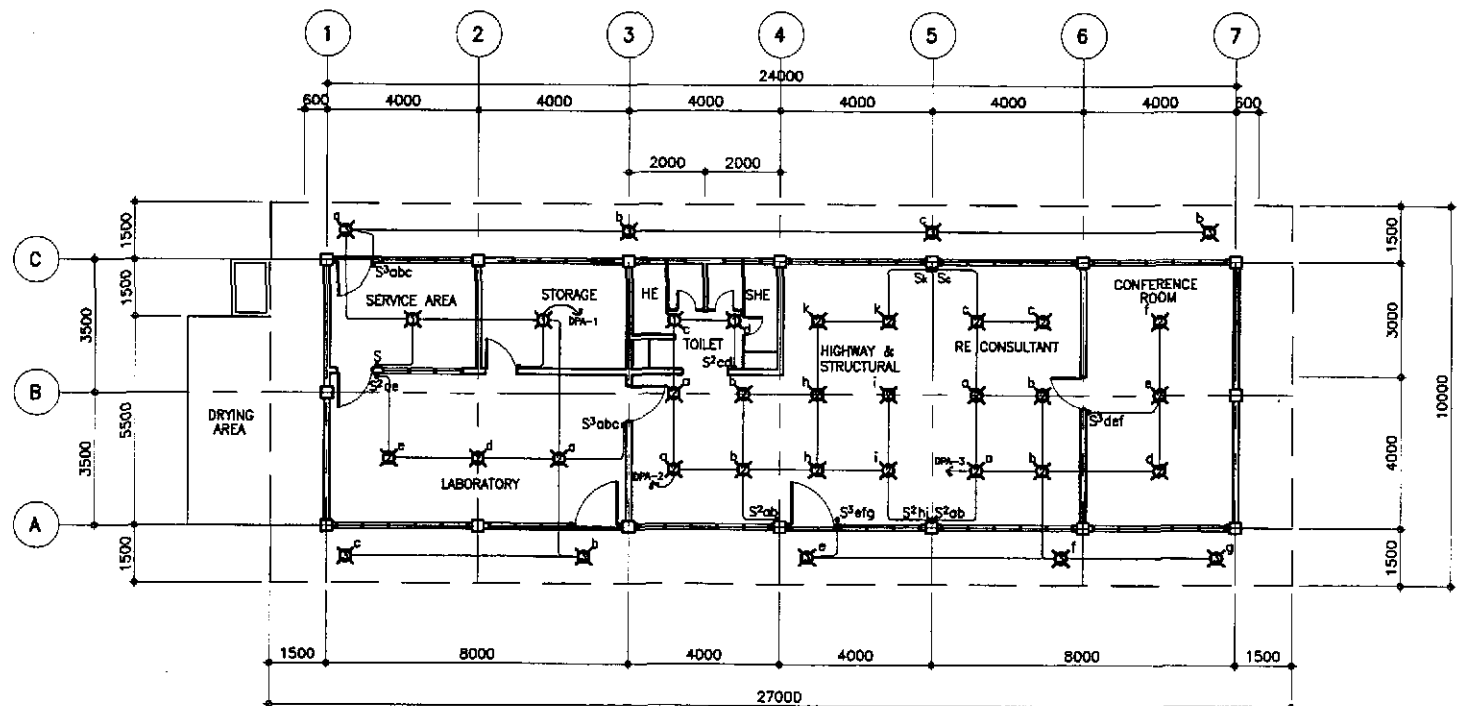
1. ALL ELECTRICAL WORKS SHALL BE DONE IN STRICT COMPLIANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE PHIL. ELECT. CODE, EXISTING APPLICABLE ORDINANCES, RULES AND REGULATIONS OF THE LOCAL GOVERNMENT AND THE REQUIREMENTS OF THE POWER COMPANY.
2. THE TYPE OF POWER SERVICE TO USED SHALL BE SINGLE-PHASE 2-WIRE, 240 VOLTS, 60Hz, AC.
3. ALL WIRINGS SHALL BE INSTALLED IN STANDARD GALVANIZED RIGID STEEL CONDUIT, RUN EMBEDDED INSIDE THE CONCRETE AND HOLLOW BLOCK STRUCTURES, SLABS, COLUMNS, WALLS PARTITIONS AND/OR RUN BETWEEN DOUBLE WALL WOODED PARTITIONS OR INSIDE THE CEILING SPACES.
4. ALL LIGHTING CIRCUIT HOMERUNS AND CONVENIENCE OUTLETS SHALL BE WIRED WITH NOT LESS THAN 3.5mm IN SIZE.
5. THE MINIMUM SIZES OF WIRE AND CONDUIT TO BE USED SHALL BE 2.0mm² AND 15mm NOMINAL DIAMETER, RESPECTIVELY.
6. ALL NON-CURRENT CARRYING METAL PARTS OF ELECTRICAL EQUIPMENT SHALL BE PROPERLY GROUNDED IN ACCORDANCE WITH THE PROVISIONS OF ARTICLE IV OF THE PHIL. ELECT. CODE, PART I, LATEST EDITION.
7. WHENEVER REQUIRED AND NECESSARY, PULL BOXES OF PROPER SIZES SHALL BE INSTALLED AT CONVENIENT AND INCONSPICUOUS LOCATIONS, ALTHOUGH SUCH BOXES ARE NOT SHOWN ON THE PLAN IS NOR MENTIONED IN THE SPECIFICATIONS.
8. ALL WALL OUTLETS SHALL BE INSTALLED AT THE FOLLOWING HEIGHT ABOVE THE FINISHED FLOOR LEVEL, UNLESS OTHERWISE NOTED.
A. WALL SWITCHES1200 mm
B. CONVENIENCE OUTLETS300 mm
C. AIR CONDITIONING OUTLETSAT CONVENIENT HEIGHT NEAR THE EQUIPMENT
9. STANDARD TYPE OF ACCESSORIES, SPLICING DEVICES, TERMINATORS AND OTHER APPURTENANCES FOR THE ENTIRE ELECTRICAL INSTALLATION SHALL BE USED.
10. ALL MATERIALS TO BE USED SHALL BE BRAND NEW AND OF THE APPROVED TYPE FOR THE LOCATION AND PURPOSE.
11. THE CONTRACTOR SHALL VERIFY AND ORIENT THE ACTUAL LOCATION OF THE SERVICE ENTRANCE FOR CONNECTION TO POWER COMPANY SERVICE POINT.
12. ALL ELECTRICAL WORKS SHALL BE DONE UNDER THE STRICT SUPERVISION OF A DULY REGISTERED ELECTRICAL ENGINEER.

NOTE:


ALL FLUORESCENT LIGHTING FIXTURES SHALL BE EQUIPPED WITH A HIGH POWER FACTOR PRE-HEAT WITH STARTER TYPE BALLAST, COMPLETE WITH ALL NECESSARY ACCESSORIES, WIRED AND READY FOR SERVICE USED.


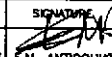


ELECTRICAL SYMBOLS:

- ☒ CEILING LIGHT; REFER TO SCHEDULE OF LIGHTING FIXTURES AND LAMPS
- ELECTRICAL RISER
- S ONE-WAY WALL SWITCH, 15A, 250V
- S² 2 ONE-WAY WALL SWITCHES ON ONE-GANG PLATE, 15A, 250V
- S³ 3 ONE-WAY WALL SWITCHES ON ONE-GANG PLATE, 15A, 250V
- ⊕ DUPLEX CONVENIENCE OUTLET, GROUNDING TYPE, 20A, 250V
- ⊕ HEAVY DUTY CONVENIENCE OUTLETS, SINGLE-GROUNDING TYPE, 30A, 250V
- ☒ AIR CONDITIONING OUTLET GROUNDING TYPE WITH AUTOMATIC CIRCUIT BREAKER IN ONE ENCLOSURE
- ☒ ENCLOSED AUTOMATIC CIRCUIT BREAKER (ACB) 70AT, 100AF, 2P, 240V
- DISTRIBUTION PANEL BOARD
- PULL BOX OR JUNCTION BOX
- ⊕ ELECTRIC SERVICE METER
- PROPOSED SERVICE ENTRANCE WITH CAP
- CONCEALED OR EMBEDDED CONDUIT RUN
- UNDERGROUND OR UNDER FLOOR CONDUIT RUN
- CIRCUIT HOMERUN TO PANEL BOARD



2 LIGHTING LAYOUT OF THE ENGINEER'S FIELD OFFICE / LABORATORY
FE-01 SCALE 1:100


 ERNESTO M. ANTICOQUIA
 ENGINEER
 PTR. NO. 7403684 P.E.E. NO. 2913
 ISSUED ON 01/02/2002 ISSUED AT CABUYAO, LAGUNA
 T.I.N. 109-382-379

	DATE	SIGNATURE	REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS			PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :	
	DESIGNED	9/27/02		BUREAU OF DESIGN			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	AS SHOWN	ENGR'S FIELD OFFICE / LABORATORY LIGHTING LAYOUT, POWER LAYOUT ELECTRICAL SYMBOLS & GENERAL NOTES	FE-01
	CHECKED	10/15/02		Submitted By:	Reviewed By:	Recommended By:				
SUBMITTED	10/16/02		DANILO C. TRAJANO Project Director	FE M. BARRIENTOS Chief, Mechanical-Elect. Div.	GILBERTO S. REYES DC, Director IV	MANUEL M. BONOAN Underscretary				

SCHEDULE OF LOADS AND COMPUTATIONS

CRT. NO.	LOAD DESCRIPTION	VA	RATING OF BRANCH BREAKER			SIZE OF HOMERUN WIRES IN CONDUIT
			VOLTS	AF	P AT	
1	LIGHT OUTLETS	455	220	50	2 15	2-3.5mm ² TW ² in 15mm [∅] C
2	LIGHT OUTLETS	640	220	50	2 15	2-3.5mm ² TW ² in 15mm [∅] C
3	CONVENIENCE OUTLET	1440	220	50	2 20	2-3.5mm ² TW ² in 15mm [∅] C
4	CONVENIENCE OUTLET	1620	220	50	2 20	2-3.5mm ² TW ² in 15mm [∅] C
5	REFRIGERATOR	500	220	50	2 20	2-3.5mm ² TW ² + 1-20mm ² TW(G) IN 15mm [∅] C
6	ELECTRIC STOVE	3000	220	50	2 30	2-5.5mm ² THW+1-3.5mm ² TW(G) IN 20mm [∅] C
7	1hp, 1 ϕ WDO, TYPE ACU	1980	220	50	2 30	2-5.5mm ² THW+1-3.5mm ² TW(G) IN 20mm [∅] C
8	1hp, 1 ϕ WDO, TYPE ACU	1980	220	50	2 30	2-5.5mm ² THW+1-3.5mm ² TW(G) IN 20mm [∅] C
9	1hp, 1 ϕ WDO, TYPE ACU	1980	220	50	2 30	2-5.5mm ² THW+1-3.5mm ² TW(G) IN 20mm [∅] C
10	SPARE	1500	220	50	2 20	-
11	SPARE	1500	220	50	2 20	-
12	SPARE	1500	220	50	2 20	-
TOTAL		18,095				

$I_v @ 90\% D.F. = \frac{18095}{220} (0.90) + 0.25(23) = 76.03 \text{ Amps}$
 $I_g = \frac{18095}{220} (0.90) + 1.5(8) = 86.03 \text{ Amps}$
 MAIN ACB: 100AF, 2P, 250 V, 100AT, 15KAIC
 USE : 2-38mm² THW + 1-14mm² TW(G) IN 40mm[∅] RSC

SCHEDULE OF LIGHTING FIXTURES & LAMPS

SYMBOLS	DESCRIPTION	MOUNTING & INSTALLATION
①	ONE (1) 40 WATTS, 220V, FLUORESCENT LIGHTING FIXTURES, BOX TYPE	SURFACE CEILING MOUNTED
②	ONE (2) 40 WATTS, 220V, FLUORESCENT LIGHTING FIXTURES, BOX TYPE	SURFACE CEILING MOUNTED
③	ONE (1)-SL-18 LAMP WITH HEXLESS TYPE, MEDIUM BASE PORCELAIN RECEPTACLE	SURFACE CEILING MOUNTED

NOTE:
 ALL FLUORESCENT LIGHTING FIXTURES SHALL BE EQUIPPED WITH A HIGH POWER FACTOR PRE-HEAT WITH STARTER TYPE BALLAS, COMPLETE WITH ALL NECESSARY ACCESSORIES, WIRED AND READY FOR USE.

ENGINEER'S LIVING QUARTERS

SCHEDULE OF LOADS AND COMPUTATIONS

CRT. NO.	LOAD DESCRIPTION	VA	RATING OF BRANCH BREAKER			SIZE OF HOMERUN WIRES IN CONDUIT
			VOLTS	AF	P AT	
1	LIGHT OUTLETS	590	220	50	2 15	2-3.5mm ² TW ² in 15mm [∅] C
2	LIGHT OUTLETS	1210	220	50	2 15	2-3.5mm ² TW ² in 15mm [∅] C
3	LIGHT OUTLETS	1065	220	50	2 15	2-3.5mm ² TW ² in 15mm [∅] C
4	CONVENIENCE OUTLETS	1800	220	50	2 20	2-3.5mm ² TW ² + 1-2.0mm ² TW(G) IN 15mm [∅] C
5	CONVENIENCE OUTLETS	1620	220	50	2 20	2-3.5mm ² TW ² + 1-2.0mm ² TW(G) IN 15mm [∅] C
6	PHOTOCOPY MACHINE /HEAVY DUTY CO.	2500	220	50	2 20	2-3.5mm ² TW ² + 1-2.0mm ² TW(G) IN 15mm [∅] C
7	3TR, 1 ϕ , SPLIT TYPE ACU	6930	220	100	2 70	2-8mm ² THW + 1-5.5mm ² TW(G) IN 25mm [∅] C
8	3TR, 1 ϕ , SPLIT TYPE ACU	6930	220	100	2 70	2-8mm ² THW + 1-5.5mm ² TW(G) IN 25mm [∅] C
9	3TR, 1 ϕ , SPLIT TYPE ACU	6930	220	100	2 70	2-8mm ² THW + 1-5.5mm ² TW(G) IN 25mm [∅] C
10	SPARE	5000	220	100	2 70	
11	SPARE FOR PERIMETER LIGHTS	1500	220	50	2 30	2-5.5mm ² THW + 1-3.5mm ² TW(G) IN 25mm [∅] C
12	SPARE	1500	220	50	2 20	-
TOTAL		37,575				

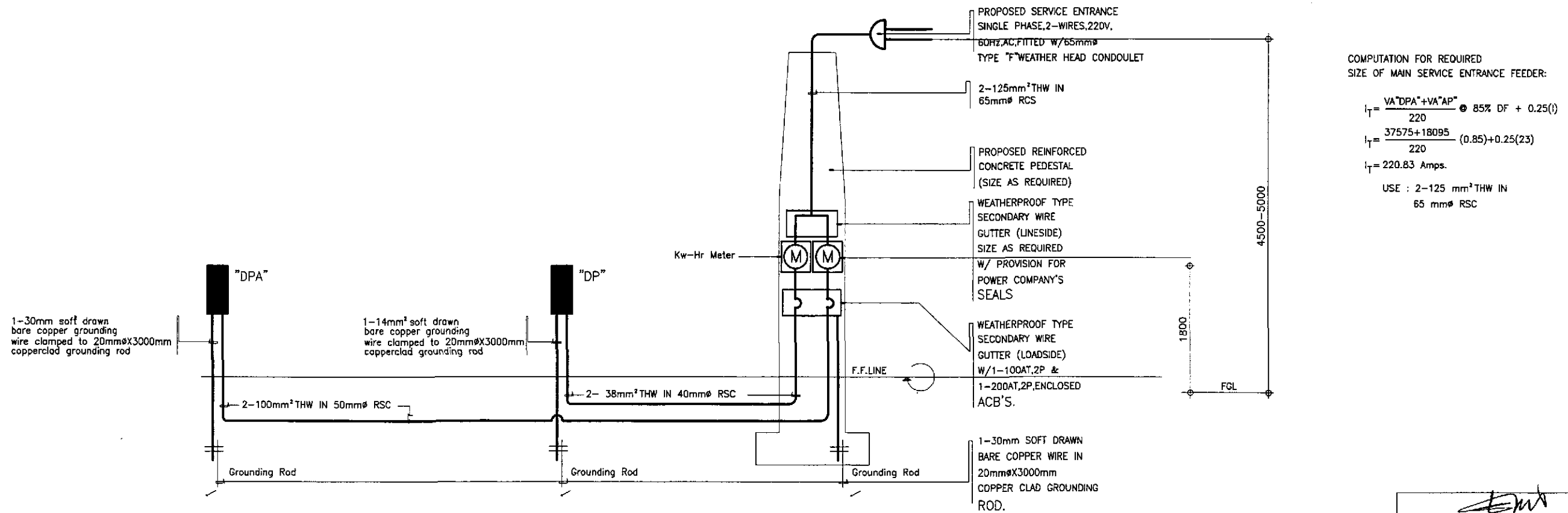
$I_v @ 95\% D.F. = \frac{37575(0.95)}{220} + 0.25(23) = 168 \text{ Amps}$
 USE : 2-100mm² THW + 1-30mm² TW IN 50mm[∅] RSC
 $I_g = 162.25567 + 1.5(23) = 196.75 \text{ Amps}$
 MAIN ACB: 225AF, 2P, 250 V, 200AT, 18 KAIC

SCHEDULE OF LIGHTING FIXTURES & LAMPS

SYMBOLS	DESCRIPTION	MOUNTING & INSTALLATION
①	ONE (1) 40 WATTS, 220V, FLUORESCENT LIGHTING FIXTURES, BOX TYPE	SURFACE CEILING MOUNTED
②	ONE (2) 40 WATTS, 220V, FLUORESCENT LIGHTING FIXTURES, BOX TYPE	SURFACE CEILING MOUNTED
③	ONE (1)-SL-18 LAMP WITH HEXLESS TYPE, MEDIUM BASE PORCELAIN RECEPTACLE	SURFACE CEILING MOUNTED

NOTE:
 ALL FLUORESCENT LIGHTING FIXTURES SHALL BE EQUIPPED WITH A HIGH POWER FACTOR PRE-HEAT WITH STARTER TYPE BALLAS, COMPLETE WITH ALL NECESSARY ACCESSORIES, WIRED AND READY FOR USE.

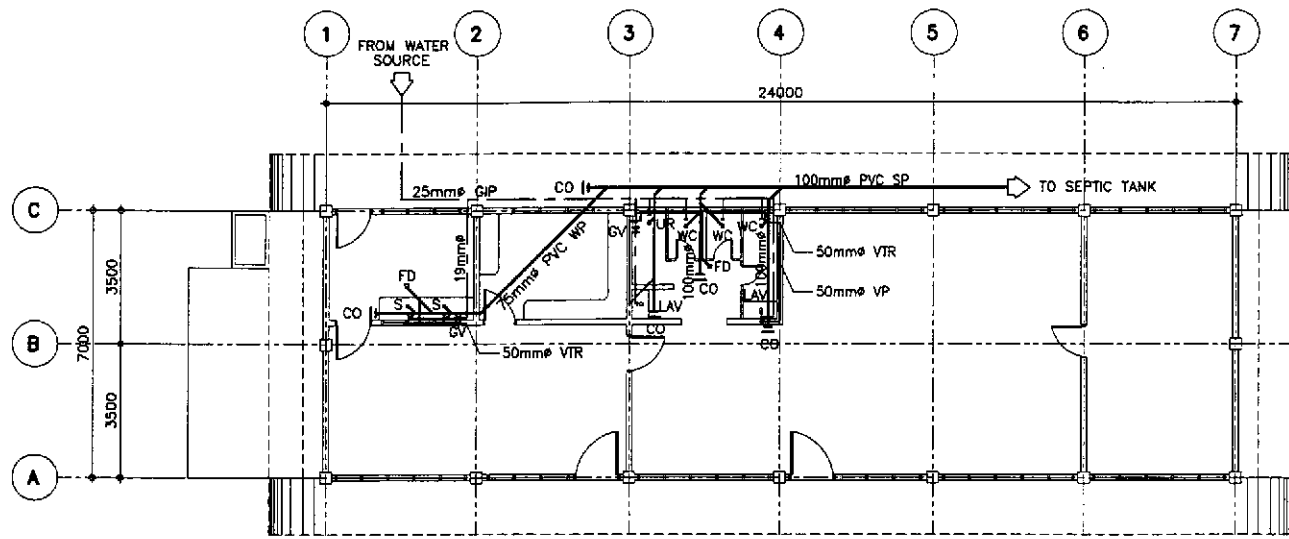
ENGINEER'S FIELD OFFICE/LABORATORY



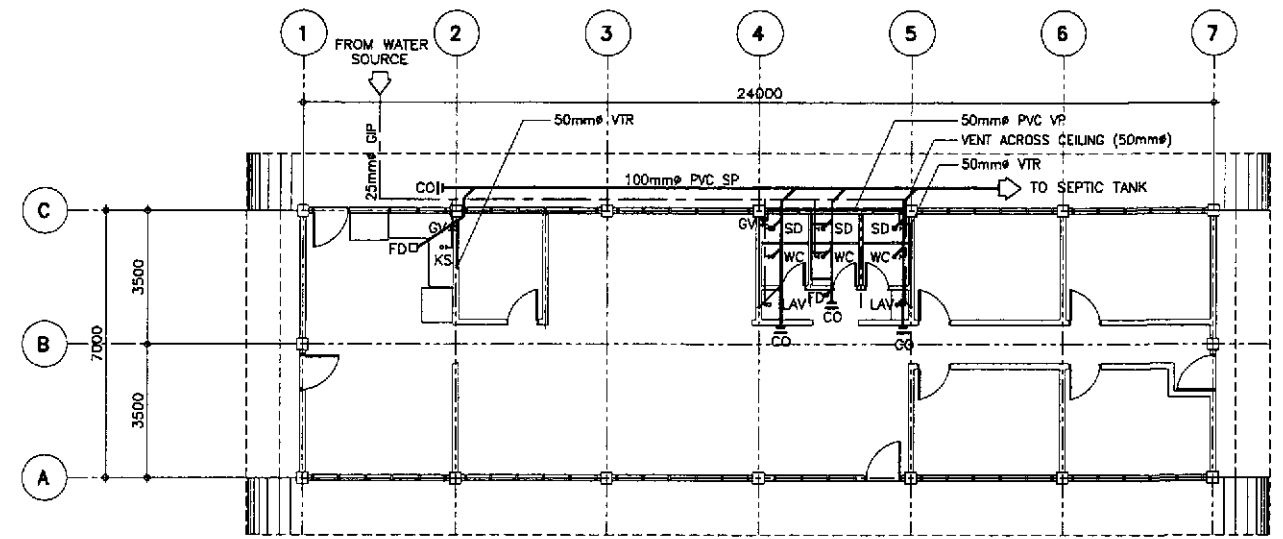
COMPUTATION FOR REQUIRED SIZE OF MAIN SERVICE ENTRANCE FEEDER:
 $I_T = \frac{VA^{DPA} + VA^{AP}}{220} @ 85\% DF + 0.25(1)$
 $I_T = \frac{37575 + 18095}{220} (0.85) + 0.25(23)$
 $I_T = 220.83 \text{ Amps}$
 USE : 2-125 mm² THW IN 65 mm[∅] RSC

1 ELECTRICAL RISER DIAGRAMS
 FE-03 NOT TO SCALE

ERNESTO M. ANTIOQUIA
 ENGINEER
 PTR. NO. 7403664 P.E.E. NO. 2913
 ISSUED ON 01/02/2002 ISSUED AT CABUYAO, LAGUNA
 T.I.N. 109-382-379

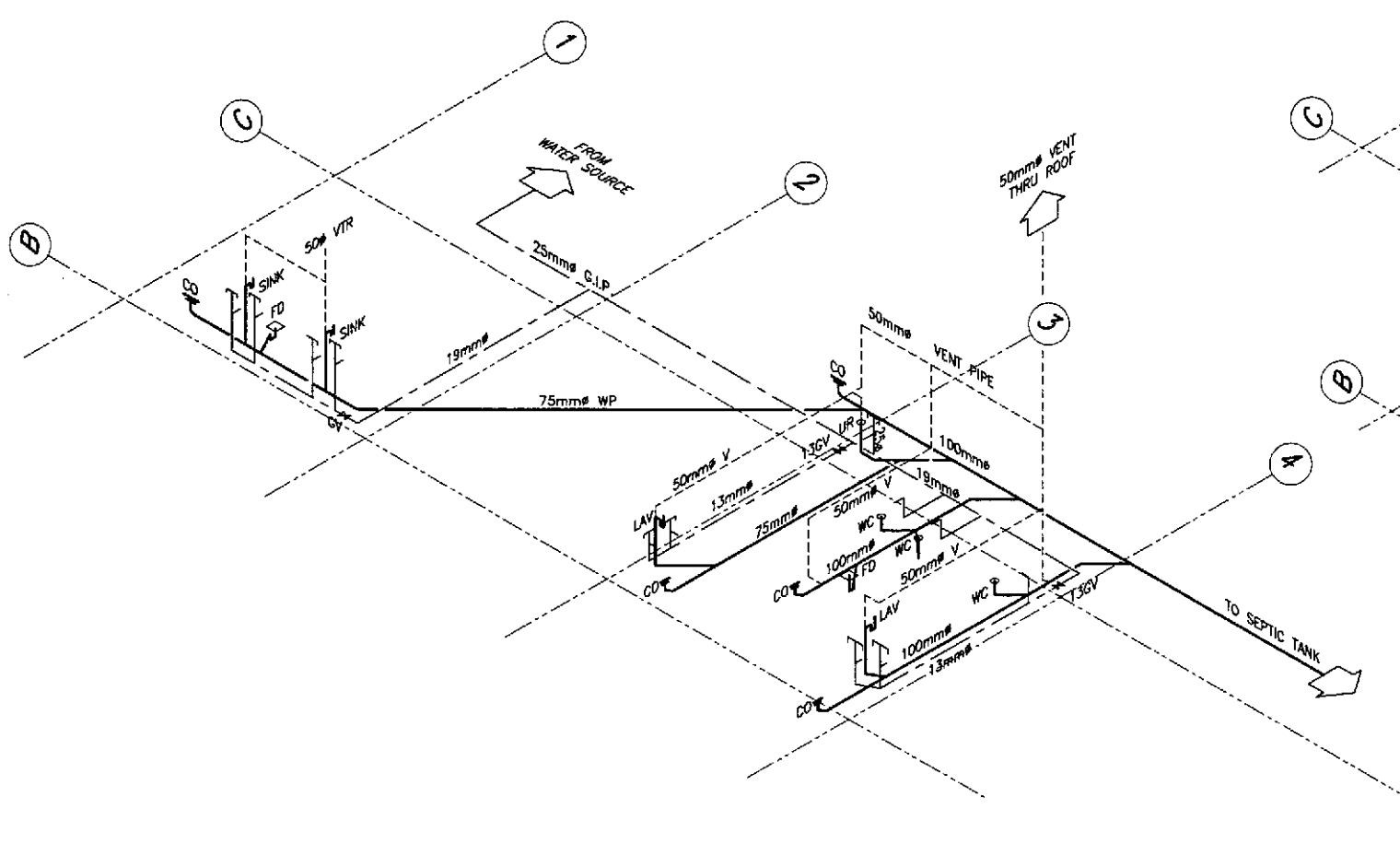


1 ENGINEER'S FIELD OFFICE
SEWER AND WATER LINE LAYOUT
FP-01 SCALE 1:100

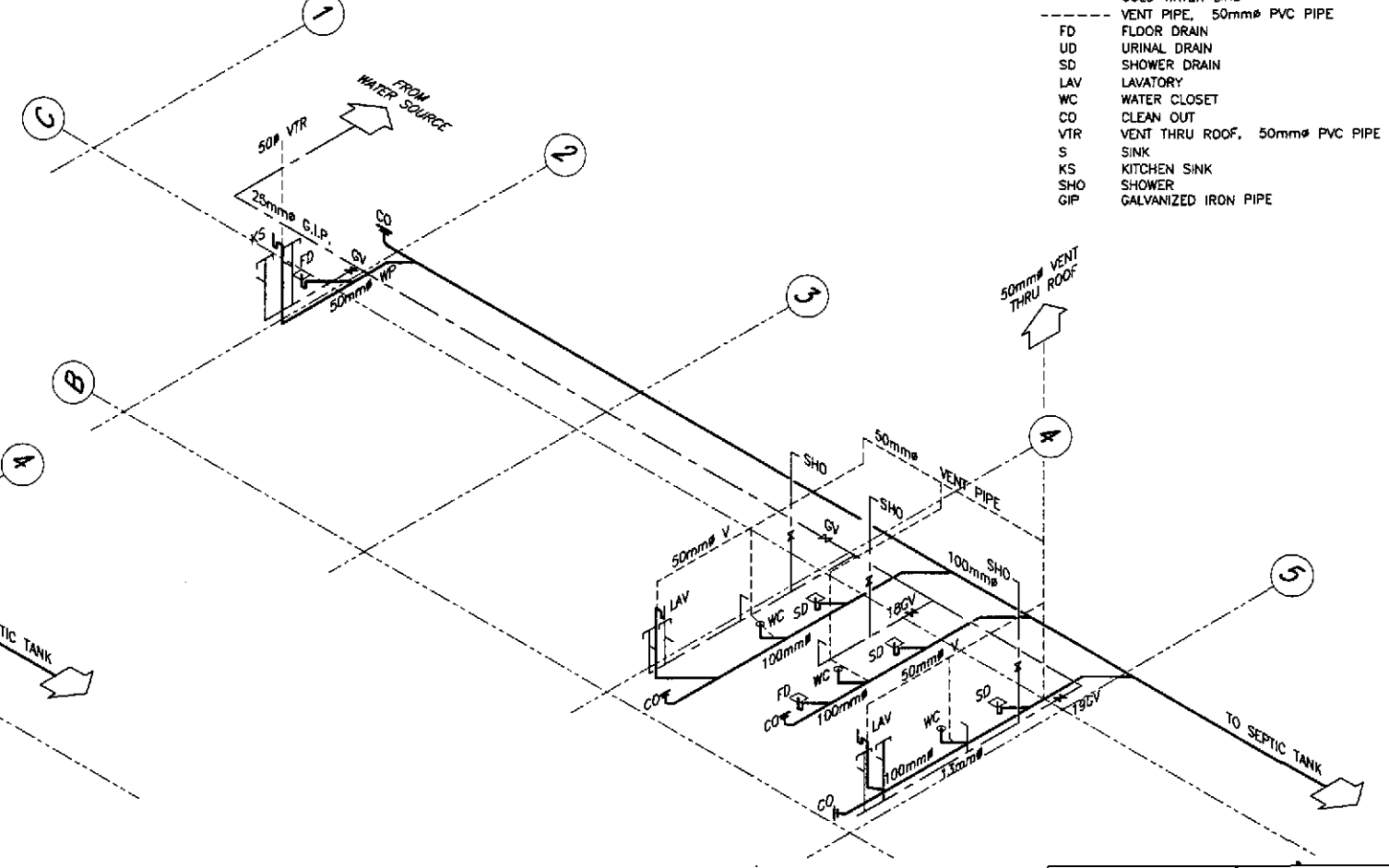


2 ENGINEER'S LIVING QUARTER
SEWER AND WATER LINE LAYOUT
FP-01 SCALE 1:100

- LEGEND :
- SEWER LINE
 - COLD WATER LINE
 - - - VENT PIPE, 50mm PVC PIPE
 - FD FLOOR DRAIN
 - UD URINAL DRAIN
 - SD SHOWER DRAIN
 - LAV LAVATORY
 - WC WATER CLOSET
 - CO CLEAN OUT
 - VTR VENT THRU ROOF, 50mm PVC PIPE
 - S SINK
 - KS KITCHEN SINK
 - SHO SHOWER
 - GIP GALVANIZED IRON PIPE



3 (SHOWING SEWER AND WATER LINE)
ISOMETRIC DIAGRAM
FP-01 SCALE 1:50

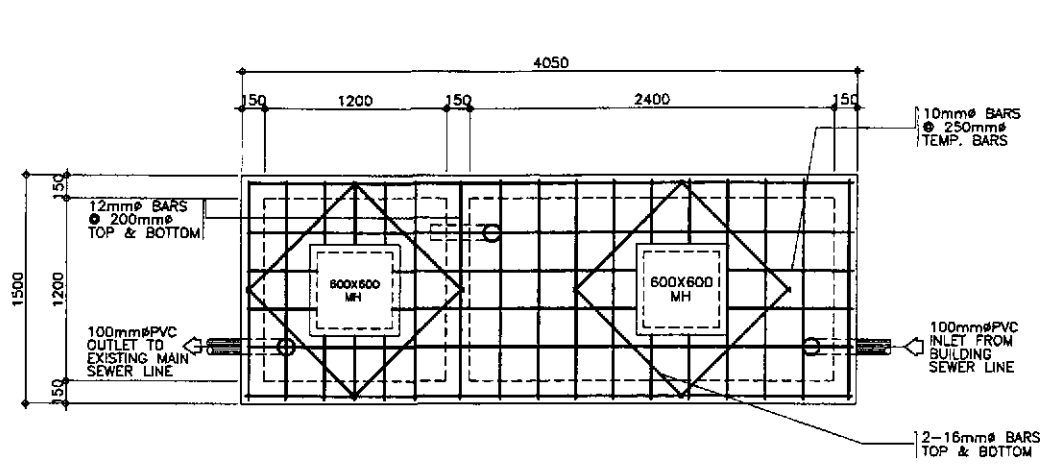


4 (SHOWING SEWER AND WATER LINE)
ISOMETRIC DIAGRAM
FP-01 SCALE 1:50

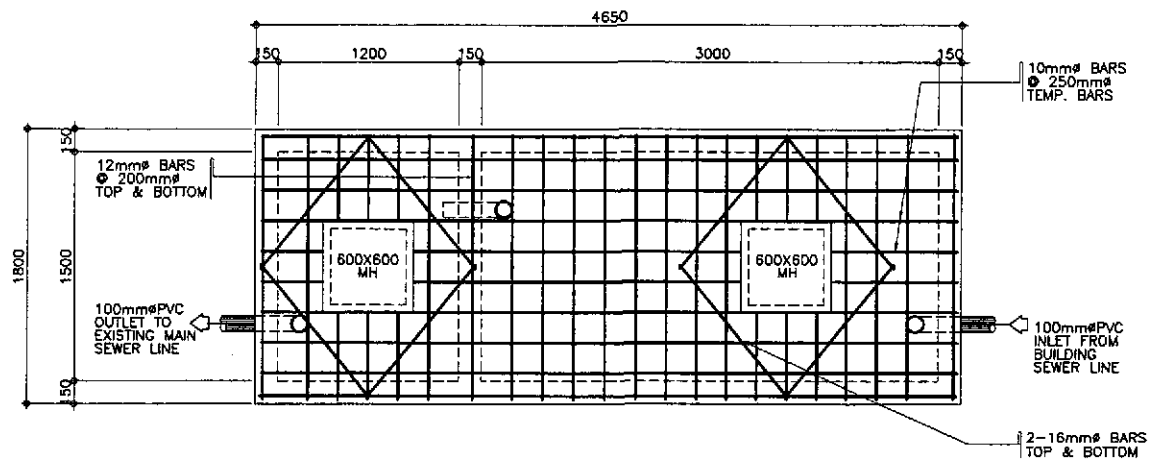
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SANITARY ENGINEER

PTR. NO. 0083138 P.R.C. NO. 0000695
ISSUED ON 03/28/2002 T.I.N. 119-878-225
ISSUED AT SAN MATEO, RIZAL

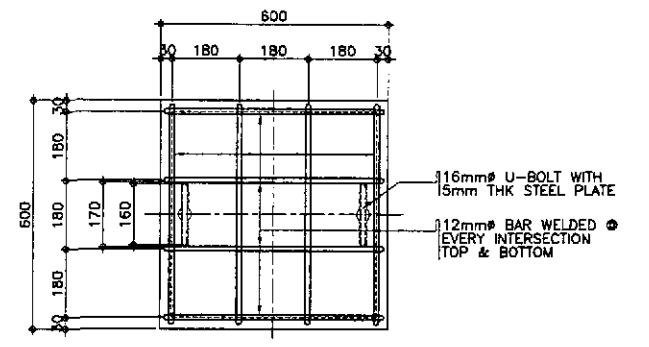
	DESIGNED	DATE	SIGNATURE	<p>REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS</p>	PROJECT AND LOCATION :			SCALE :	SHEET CONTENTS :	SHEET NO. :	
	CHECKED	10/15/02	<i>[Signature]</i>		BUREAU OF DESIGN	THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)			AS SHOWN	ENGINEER'S FIELD OFFICE AND LIVING QUARTERS SEWER AND WATER LINE LAYOUT AND ISOMETRIC DIAGRAM	FP-01
	SUBMITTED	10/15/02	<i>[Signature]</i>		OFFICE OF THE SECRETARY	CABANATUAN BYPASS - CONTRACT PACKAGE I			FULL SIZE A1		
Submitted By:		Reviewed By:		Recommended By:		Approved By:					
DANILO C. TRAJANO Project Director		EMMANUEL P. CUNTAPAY Chief, Architectural Division		GILBERTO S. REYES OC, Director IV		MANUEL M. BONDAN Undersecretary		SIMEON A. DATUMANONG Secretary			



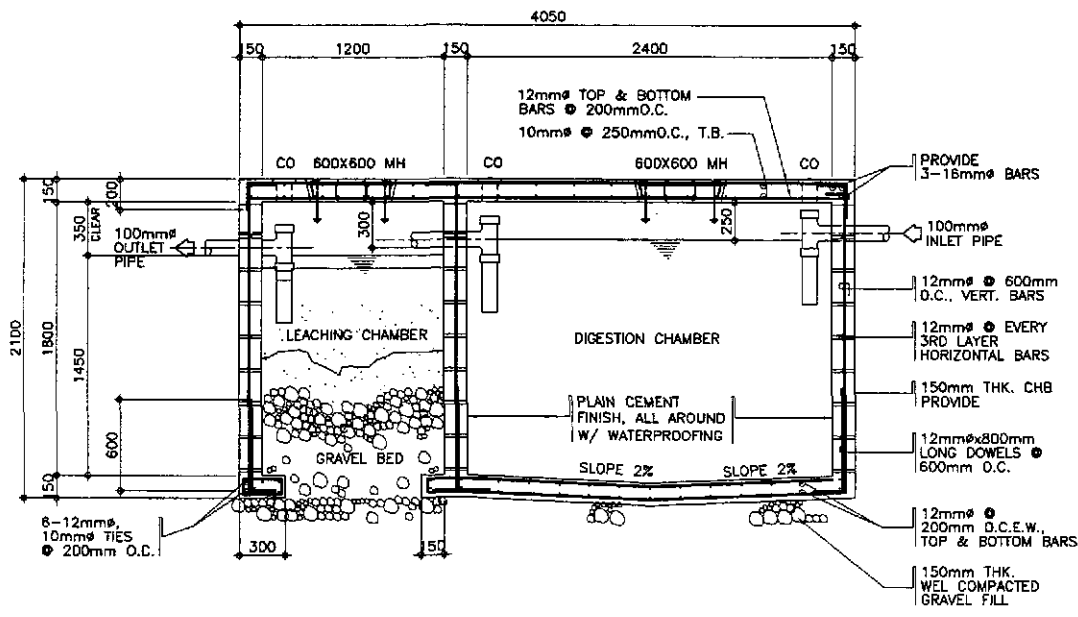
1A PLAN
FP-02 SCALE 1:20



1C PLAN
FP-02 SCALE 1:20

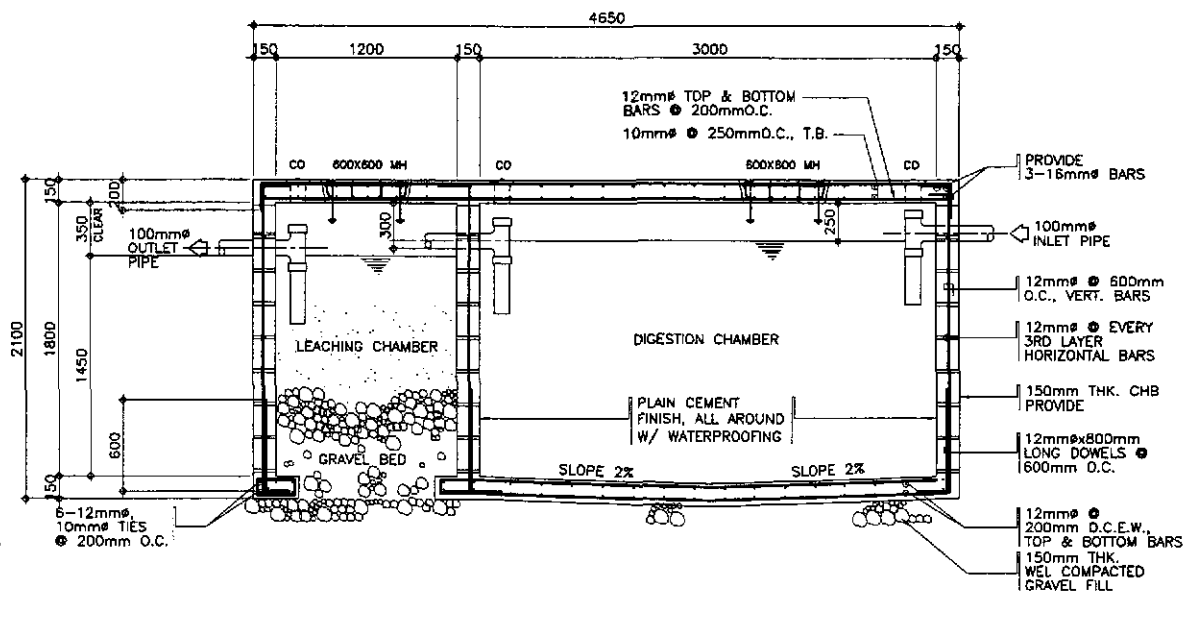


2A PLAN
FP-02 SCALE 1:20



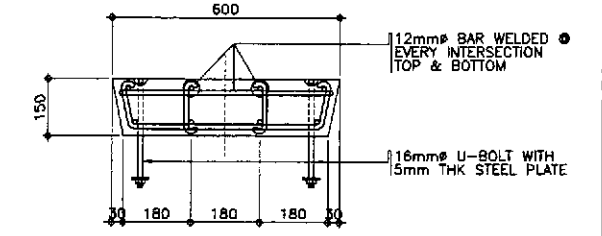
1B SECTION
FP-02 SCALE 1:20

ENGINEER'S FIELD OFFICE



1D SECTION
FP-02 SCALE 1:20

ENGINEER'S LIVING QUARTER



2B SECTION
FP-02 SCALE 1:20

2 CONCRETE COVER DETAIL
FP-02 SCALE AS SHOWN

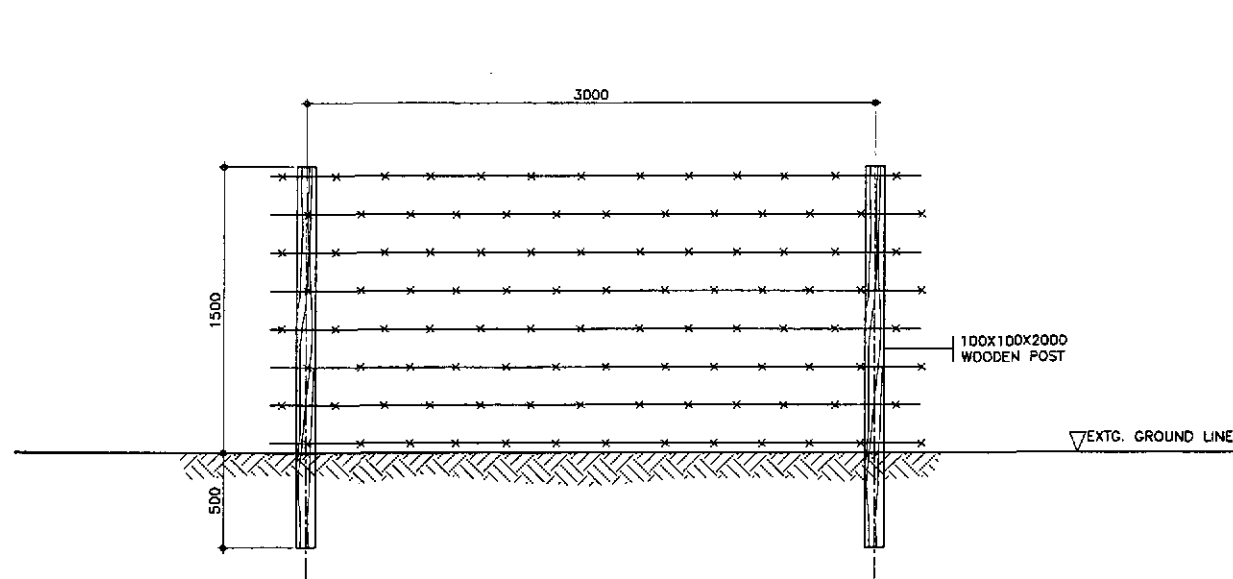
- GENERAL NOTES:**
- ALL PLUMBING WORKS INCLUDED HEREIN EXECUTED ACCORDING TO THE PROVISIONS AND REQUIREMENTS OF THE PHILIPPINE NATIONAL PLUMBING CODE.
 - SOIL AND WASTE PIPE LINE SHALL BE PVC, SIZE AS IN DRAWING.
 - ALL WATER LINES SHALL BE G.I. PIPE SCHEDULE 40 AND SIZE OF PIPES TO THE FIXTURES SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS.
 - PROVIDE 2% SLOPE FOR HOUSE AND SEWER LINES.
 - ALL G.I. PIPES AND FITTINGS BURIED UNDERGROUND SHALL BE LEAD COATED OR TAR COATED.
 - VENT THRU ROOF PIPE SHALL BE AT LEAST 0.30m ABOVE ROOF.
 - ALL DOWNSPOUTS SHALL BE PVC PIPES 75mm (3") UNLESS OTHERWISE SPECIFIED.

1 SEPTIC TANK DETAILS
FP-02 SCALE AS SHOWN

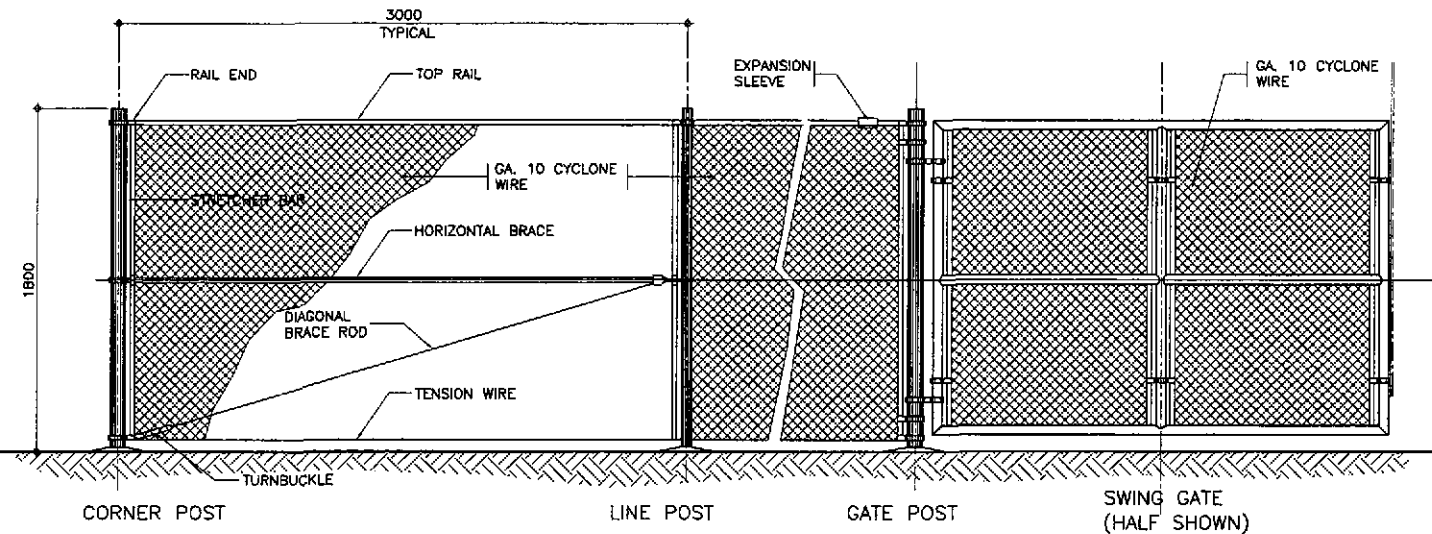
[Signature]
SANTARIN ENGINEER

PTR. NO. 0083138 P.R.C. NO. 0000695
ISSUED ON 03/26/2002 T.I.N. 119-878-225
ISSUED AT SAN MATEO, RIZAL

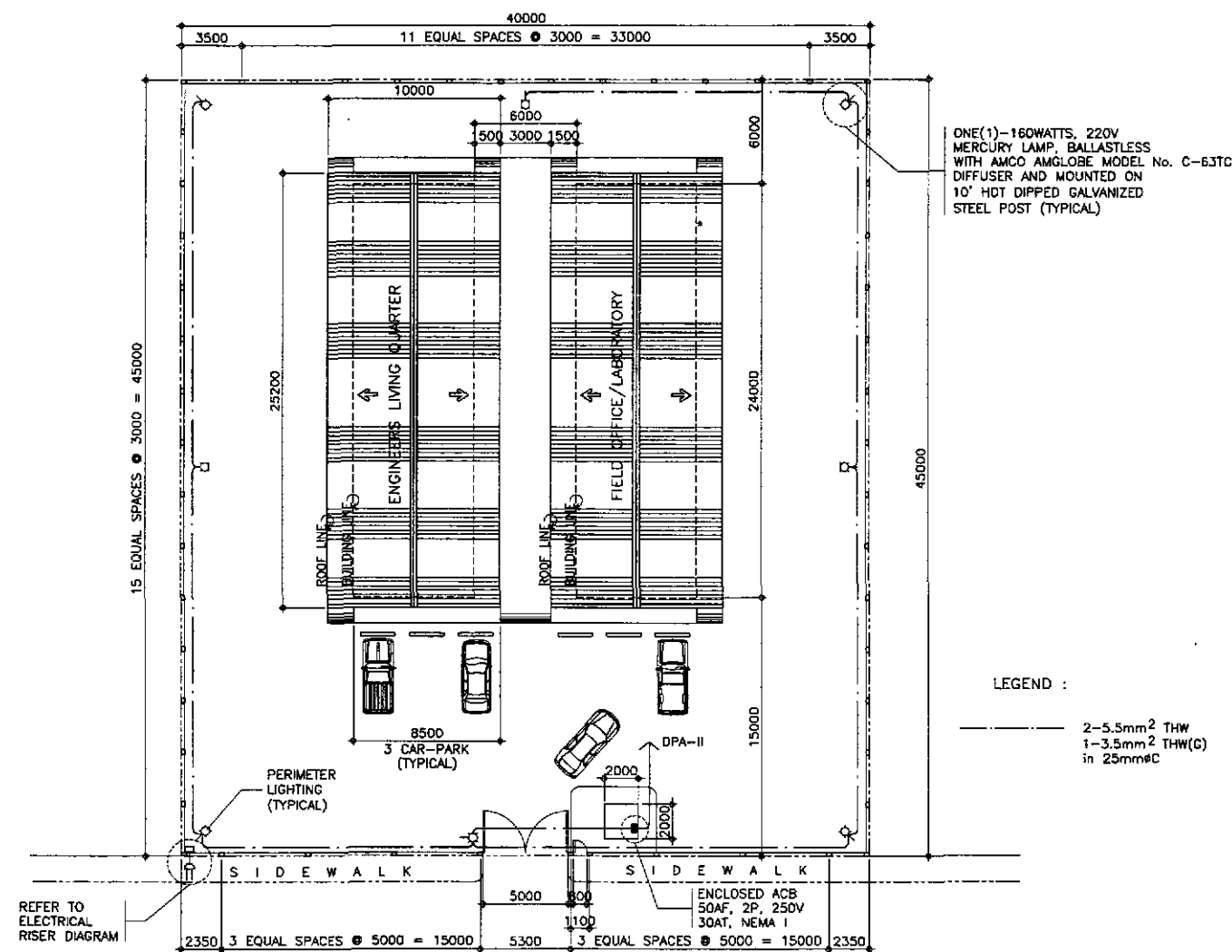
	DESIGNED	DATE	SIGNATURE		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS			PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED				PJHL - PWO BUREAU OF DESIGN OFFICE OF THE SECRETARY	THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)	AS SHOWN	ENGINEER'S FIELD OFFICE AND LIVING QUARTERS SEPTIC TANK DETAILS	FP-02		
SUBMITTED				DANILDO C. TRAJANO Project Director	EMMANUEL P. CUNTAPAY Chief, Architectural Division	GILBERTO S. REYES C/C, Director IV	MANUEL M. BONOAN Undersecretary	SIMÉON A. DATUMANONG Secretary	CABANATUAN BYPASS - CONTRACT PACKAGE 1	FULL SIZE A1	



3 TYPICAL ELEVATION FENCE (REAR & SIDE)
FX-01 SCALE 1:20



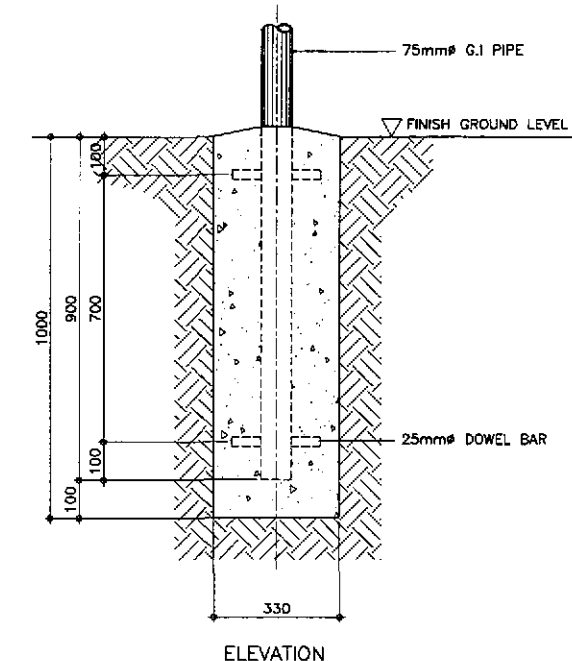
2 TYPICAL ELEVATION - FENCE AND GATE
FX-01 SCALE 1:20



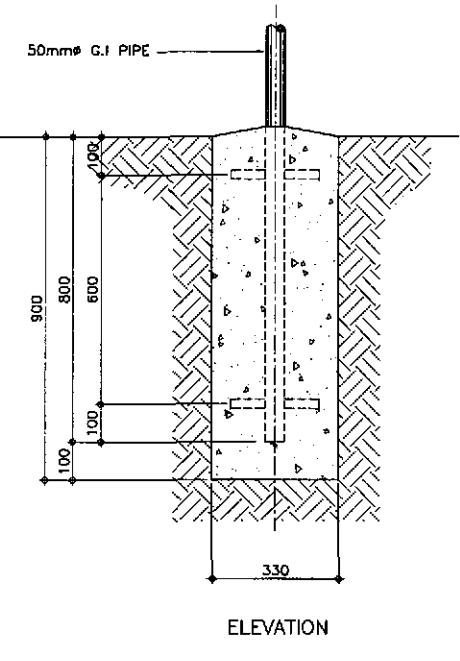
1 PLOT PLAN
FX-01 SCALE 1:200

ONE(1)-160WATTS, 220V
MERCURY LAMP, BALLASTLESS
WITH AMCO AMGLOBE MODEL No. C-6.3TC
DIFFUSER AND MOUNTED ON
10" HOT DIPPED GALVANIZED
STEEL POST (TYPICAL)

LEGEND :
----- 2-5.5mm² THW
----- 1-3.5mm² THW(C)
in 25mmØC



ELEVATION
PLAN
CORNER AND GATE POST



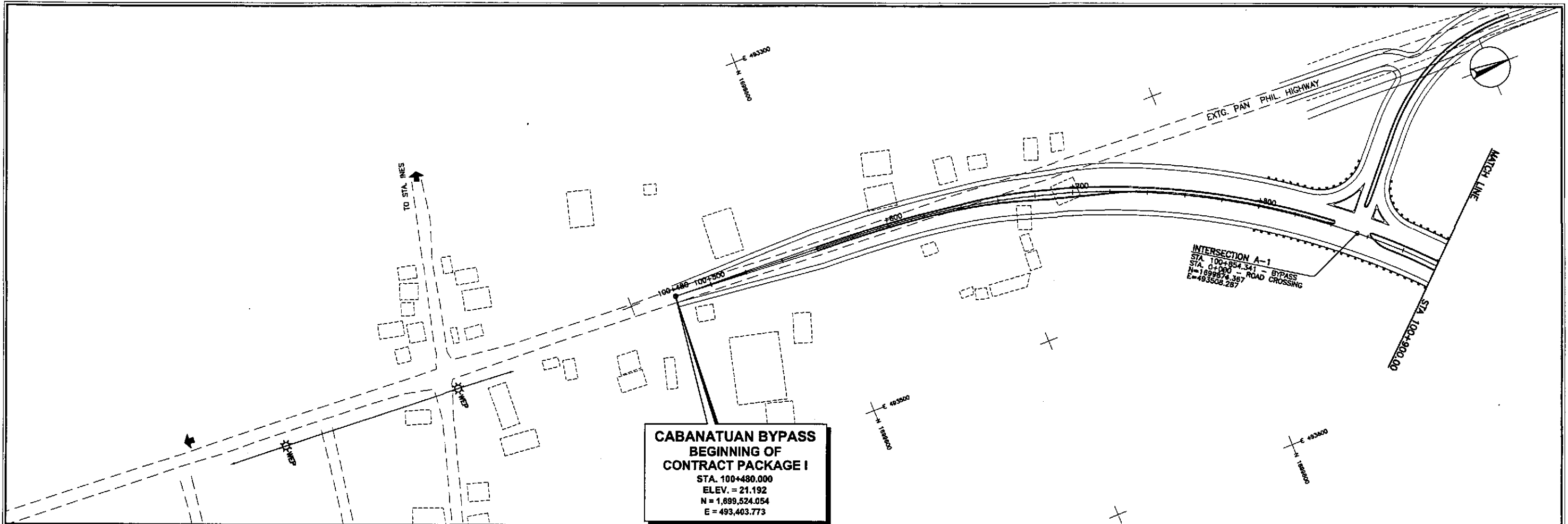
ELEVATION
PLAN
LINE POST

4 TYPICAL FOUNDATION DETAIL
FX-01 SCALE 1:10

ENRIEL P. GONZALES
ENGINEER
PTR. NO. 5848340 P.R.C. NO. 53457
ISSUED ON 04/26/2002 T.I.N. 138-062-682
ISSUED AT SAN JUAN, M.M.

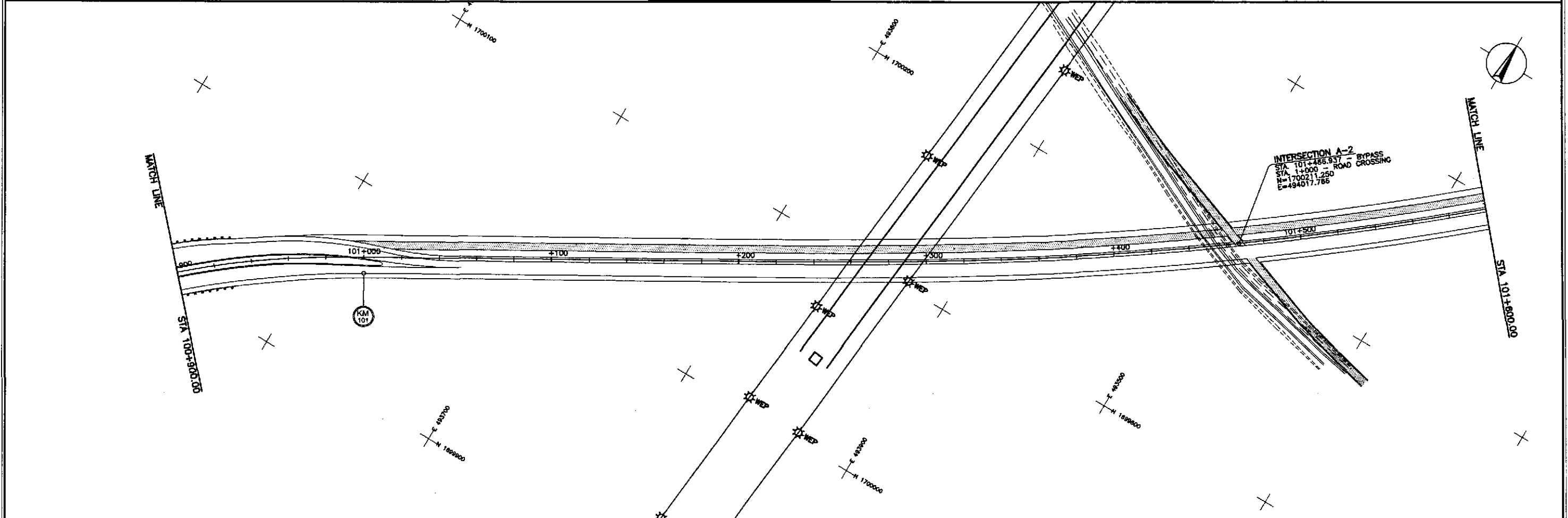
	DESIGNED	DATE	SIGNATURE		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS			PROJECT AND LOCATION : THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)	SCALE : AS SHOWN FULL SIZE A1	SHEET CONTENTS : ENGINEER'S FIELD OFFICE AND LIVING QUARTERS PLOT PLAN, ELEVATION OF FENCE & GATE TYPICAL FOUNDATION DETAILS	SHEET NO. : FX-01
	CHECKED				BUREAU OF DESIGN Submitted By: DANILLO C. TRAJANO Project Director	OFFICE OF THE SECRETARY Reviewed By: EMMANUEL P. CUNTAPAY Chief, Architectural Division	Recommended By: GILBERTO S. REYES OIC, Director IV				

OTHERS



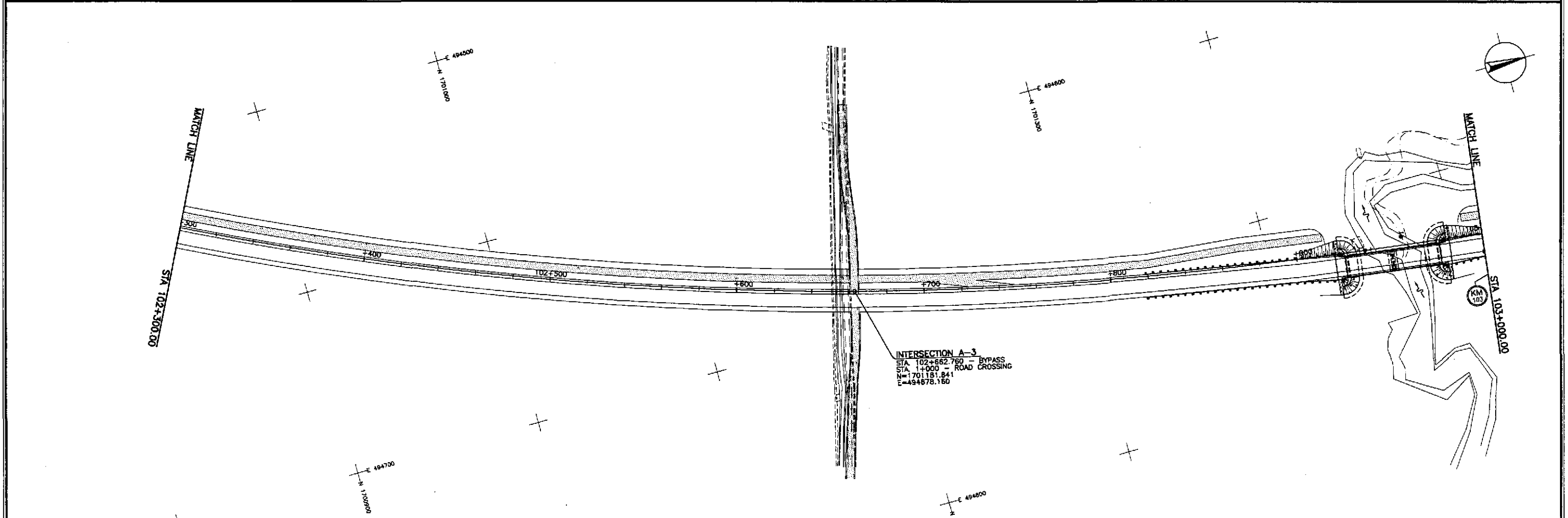
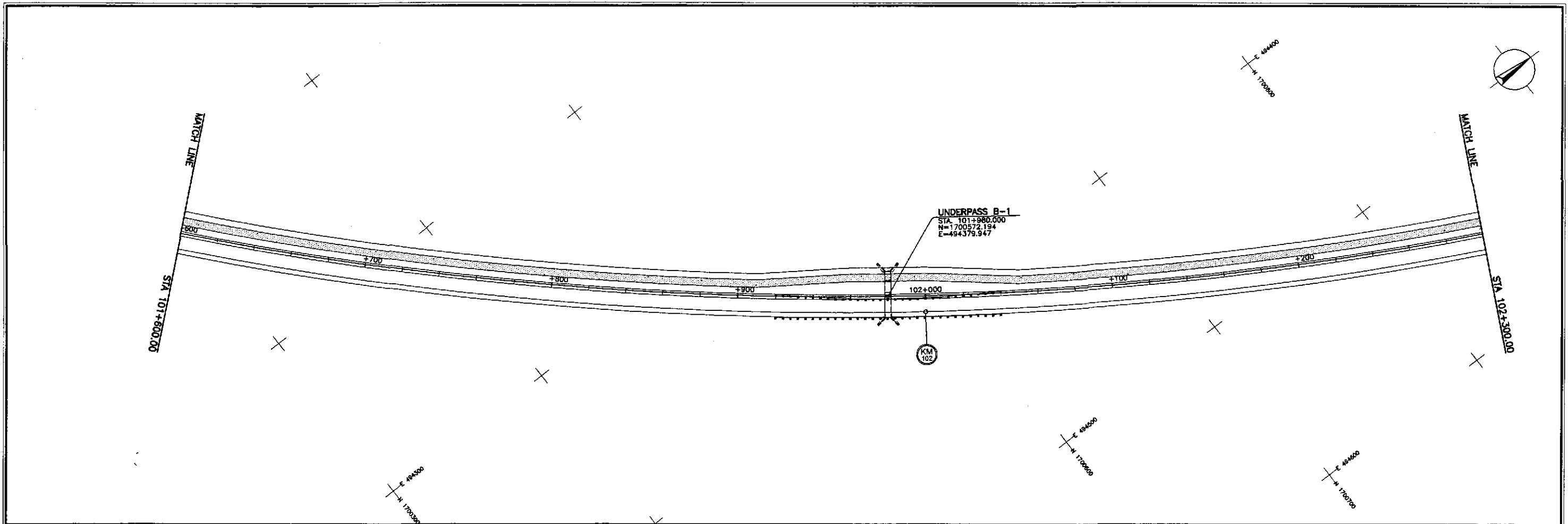
**CABANATUAN BYPASS
BEGINNING OF
CONTRACT PACKAGE I**
STA. 100+480.000
ELEV. = 21.192
N = 1,699,524.054
E = 493,403.773

INTERSECTION A-1
STA. 100+854.341 - BYPASS
STA. 0+000 - ROAD CROSSING
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E=493508.287

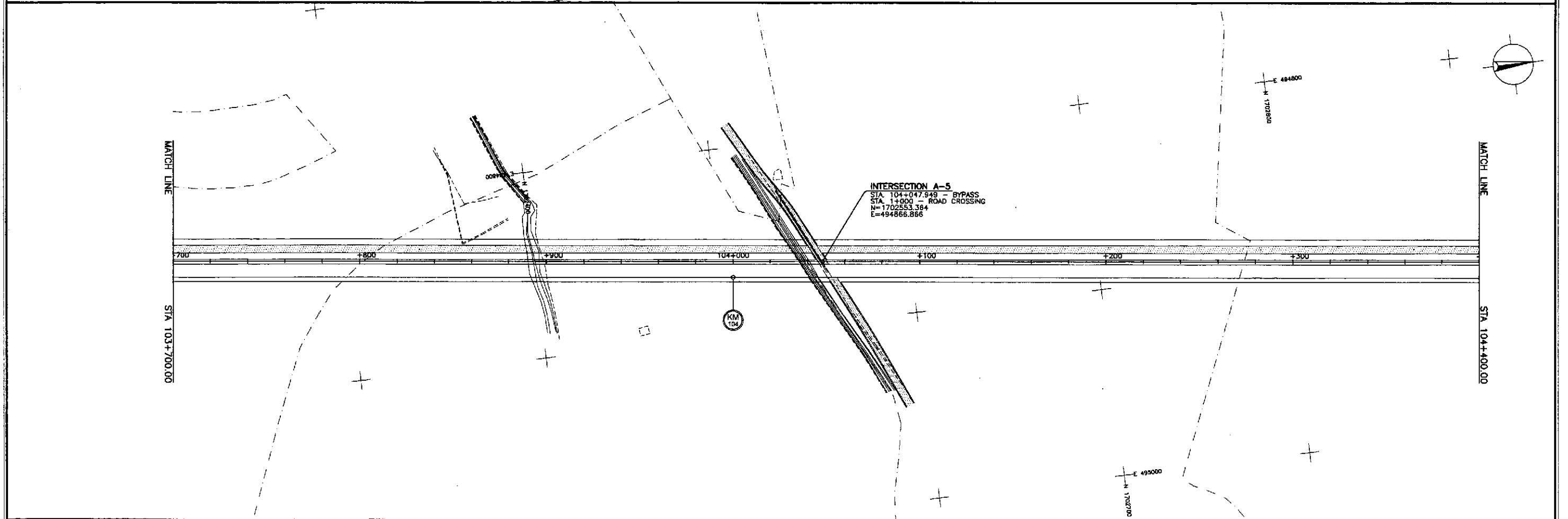
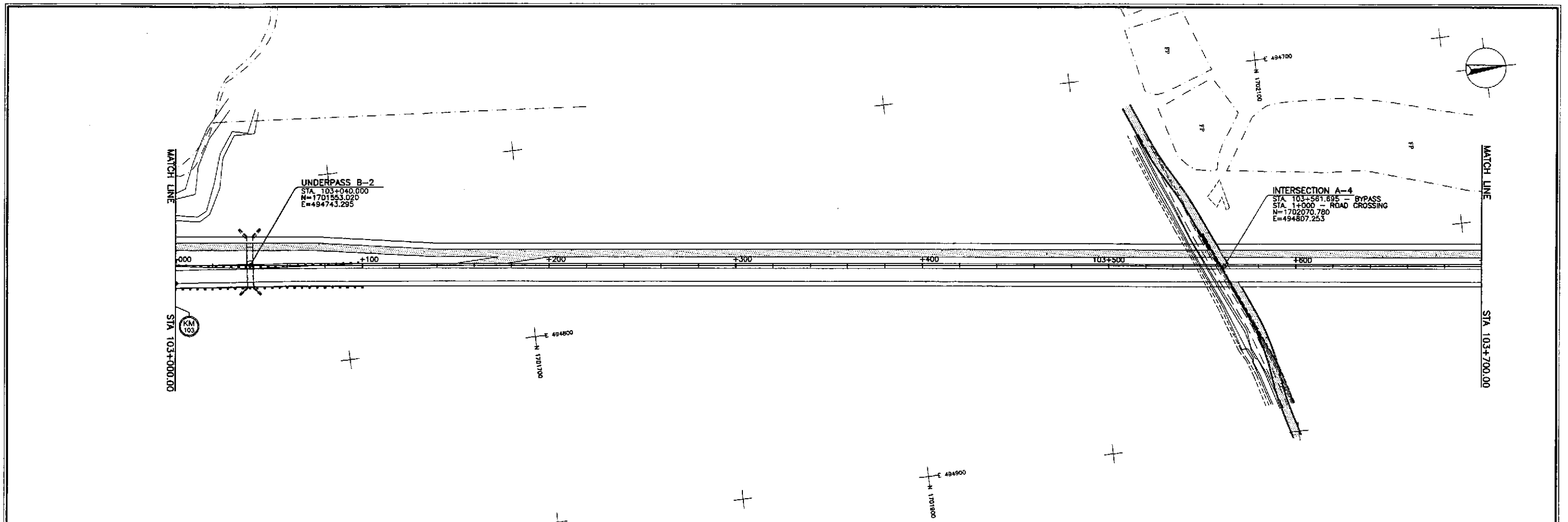


INTERSECTION A-2
STA. 101+468.937 - BYPASS
STA. 1+000 - ROAD CROSSING
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E=494017.766

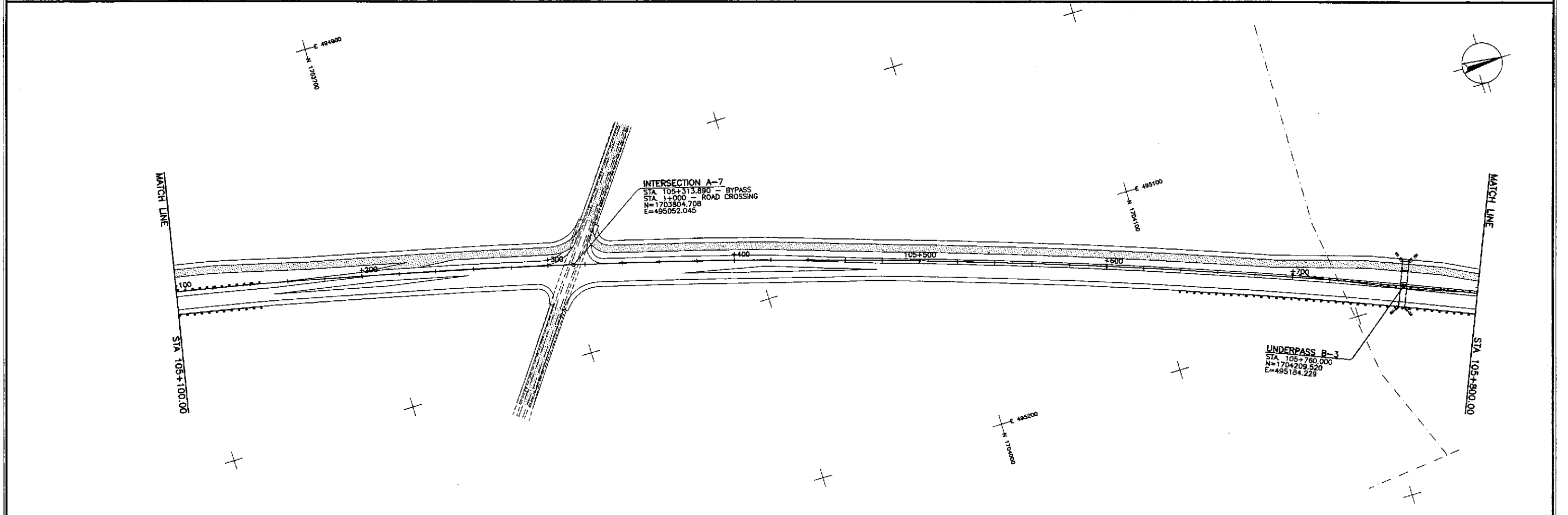
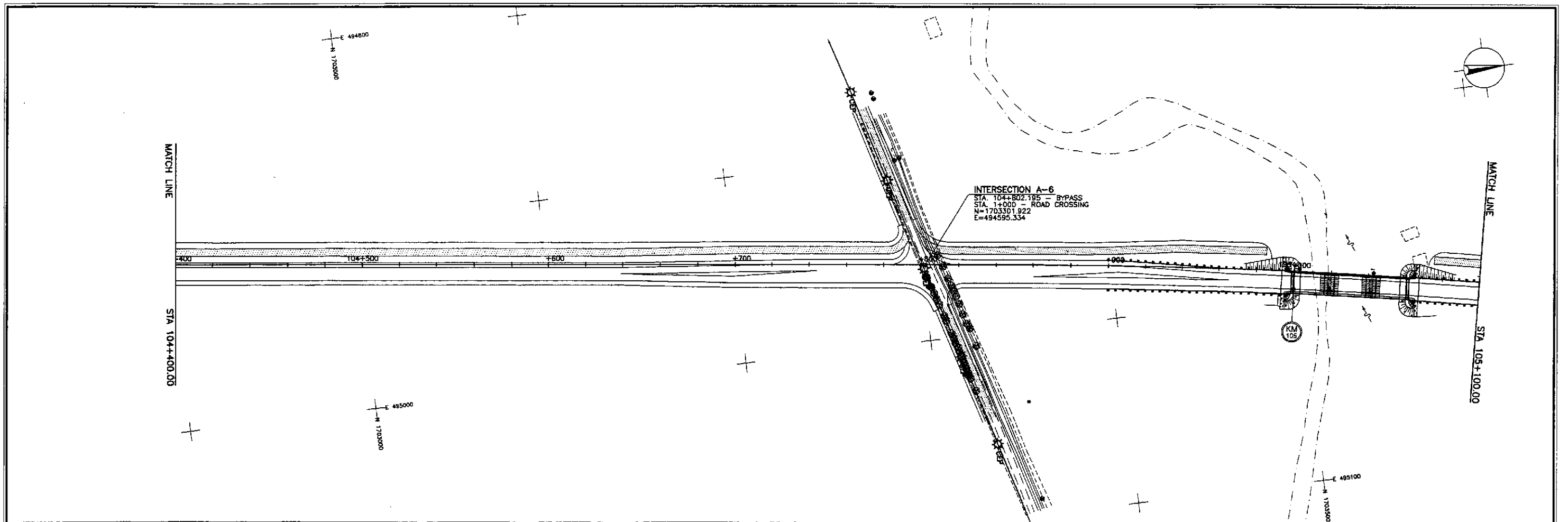
	DESIGNED	9/27/02	S. Gose	<p>REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS</p>	PROJECT AND LOCATION :			SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	10/15/02	S. Gose		THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Pinaridel, Cabanatuan and San Jose Bypasses)			1:1000	UTILITY RELOCATION REFERENCE LAYOUT PLAN ALONG BYPASS STA. 100+480 - STA. 101+600	OE-01
	SUBMITTED	10/16/02	M. K. K...		CABANATUAN BYPASS - CONTRACT PACKAGE I			FULL SIZE A1		
Submitted By:		Reviewed By:		Recommended By:		Approved By:				
DANILO C. TRAJANO Project Director		JOSEFINA M. ALAGAR Chief, Highways Division		GILBERTO S. REYES OIC, Director IV		MANUEL M. BONGMAN Undersecretary		SIMEON A. DATUMANONG Secretary		



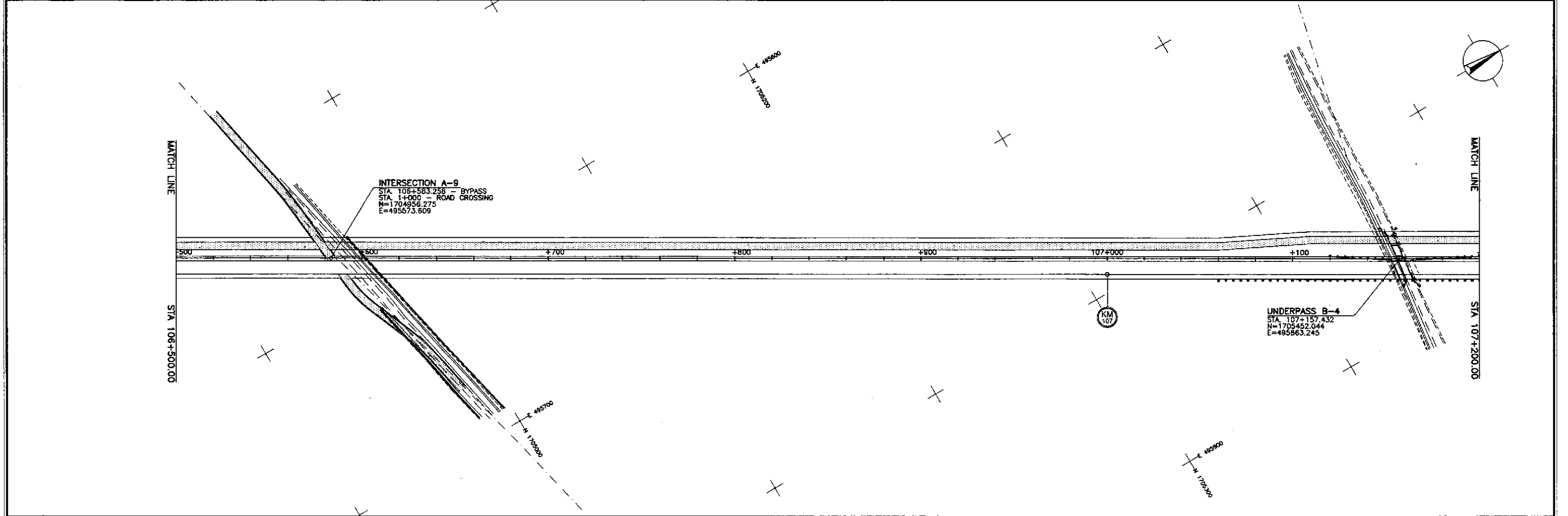
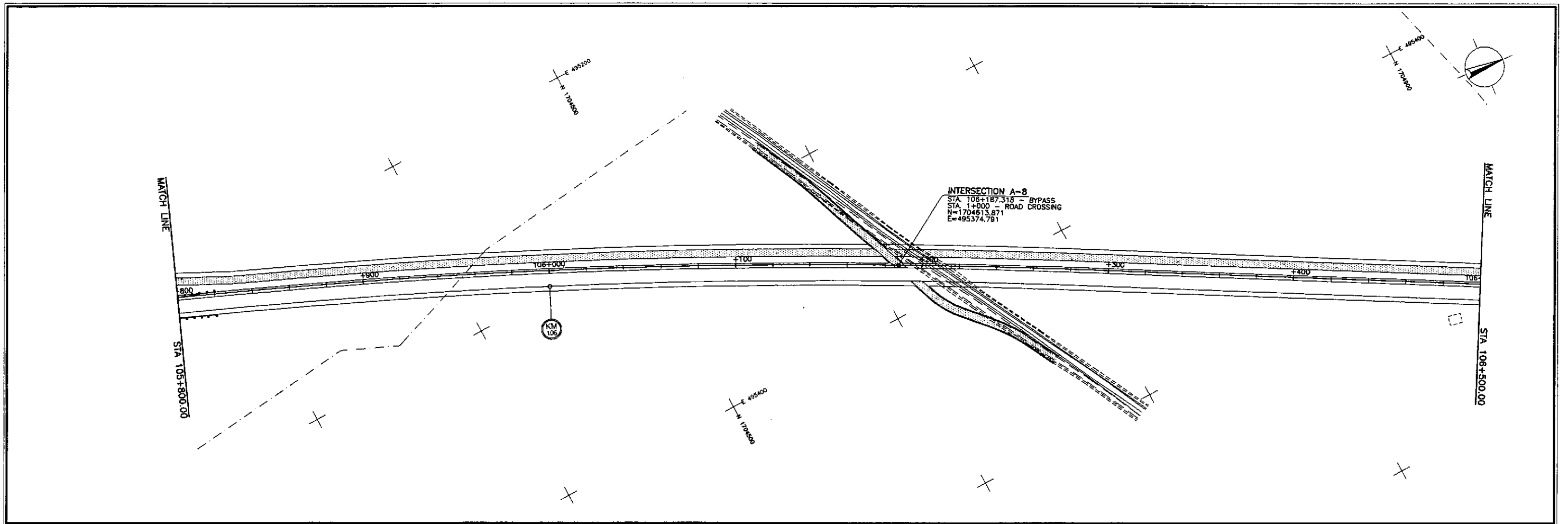
	DESIGNED	DATE	SIGNATURE	<p>REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS</p>	PROJECT AND LOCATION :		SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	12/16/02	<i>[Signature]</i>		<p>THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Paridel, Cabanatuan and San Jose Bypasses)</p>	1:1000	UTILITY RELOCATION REFERENCE LAYOUT PLAN ALONG BYPASS STA. 101+600 - STA. 103+000	OE-02	
	SUBMITTED	12/16/02	<i>[Signature]</i>		<p>BUREAU OF DESIGN</p> <p>Submitted By: DANIL C. TRAJANO Reviewed By: JOSEFINA M. ALAGAR Recommended By: GILBERTO S. REYES Office of the Secretary: MANUEL M. BONJAN Approved By: SIMEON A. DATUMANONG</p>	<p>CABANATUAN BYPASS - CONTRACT PACKAGE I</p>	FULL SIZE A1		



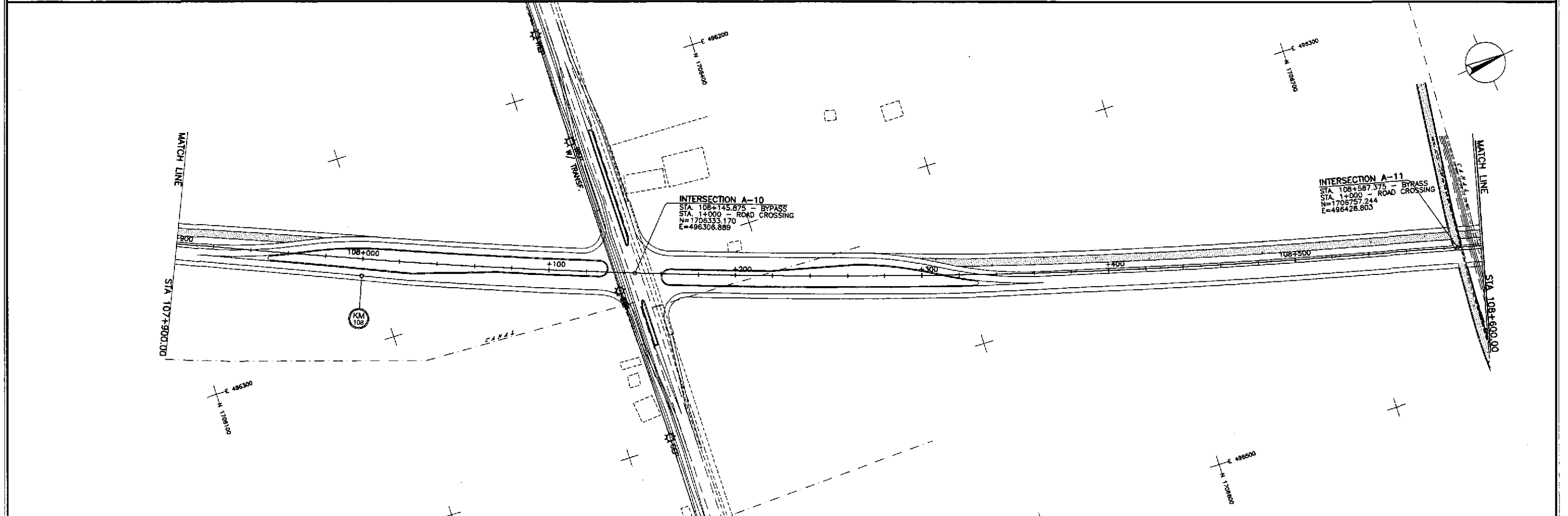
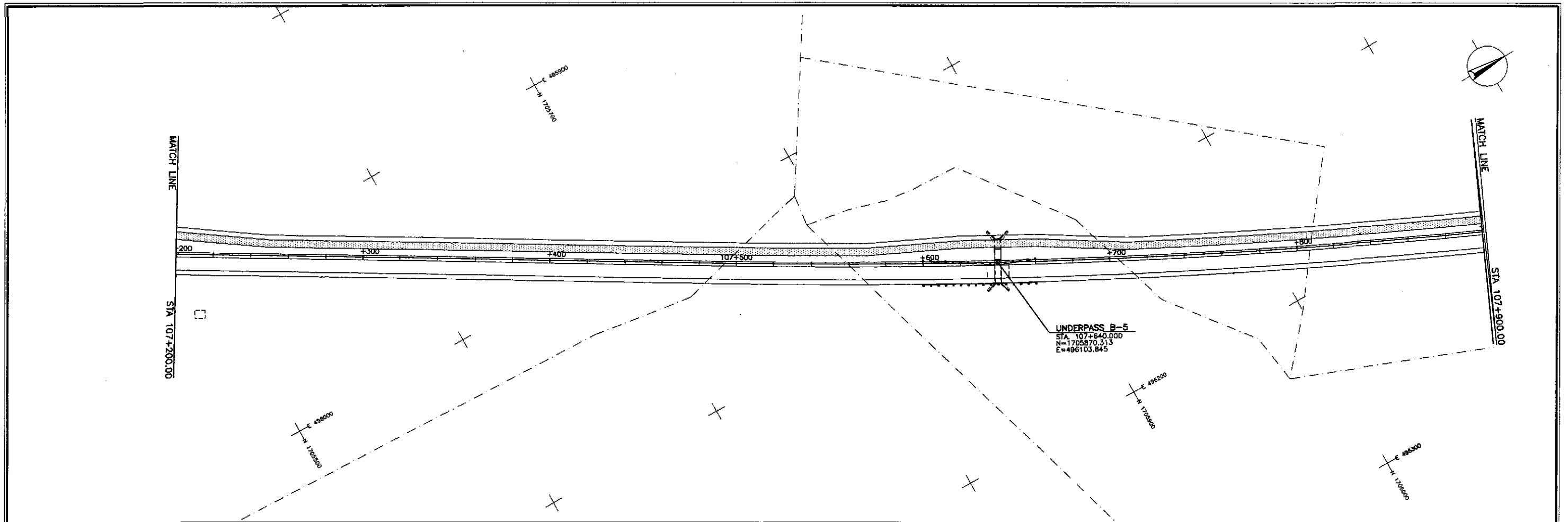
	DATE	SIGNATURE				PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :	
	DESIGNED	01/27/02	S. G. G. G. G.	DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS BUREAU OF DESIGN			THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) CABANATUAN BYPASS - CONTRACT PACKAGE I	1:1000 FULL SIZE A1	UTILITY RELOCATION REFERENCE LAYOUT PLAN ALONG BYPASS STA. 103+000 - STA. 104+400	OE-03
	CHECKED	10/15/02	S. G. G. G. G.	Submitted By: DANILLO C. TRAJANO Project Director	Reviewed By: JOSEFINA M. ALAGAR Chief, Highways Division	Recommended By: GILBERTO S. REYES OIC, Director IV				
SUBMITTED	10/16/02	S. G. G. G. G.								



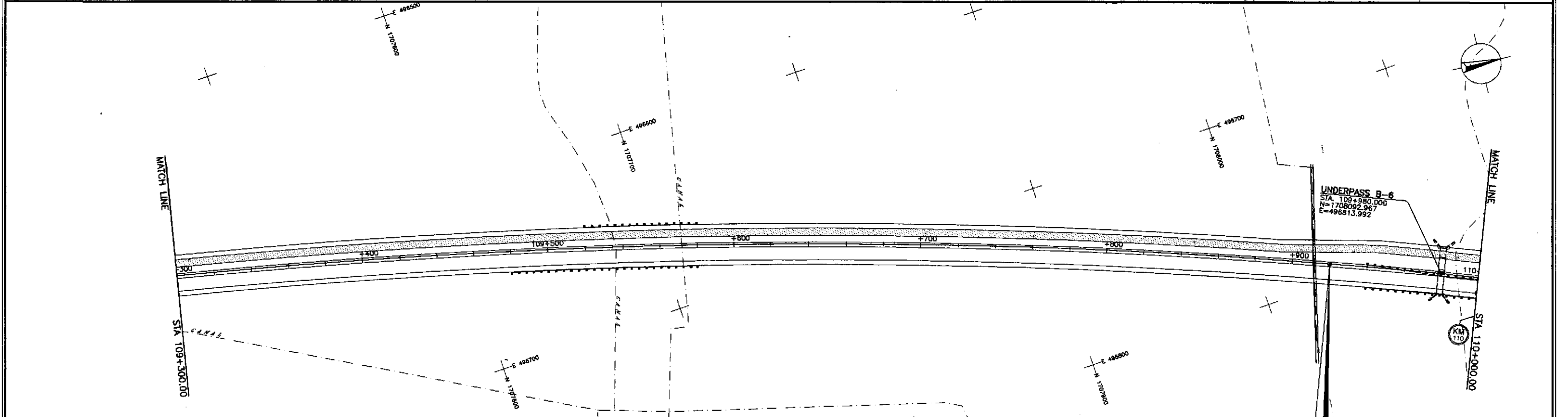
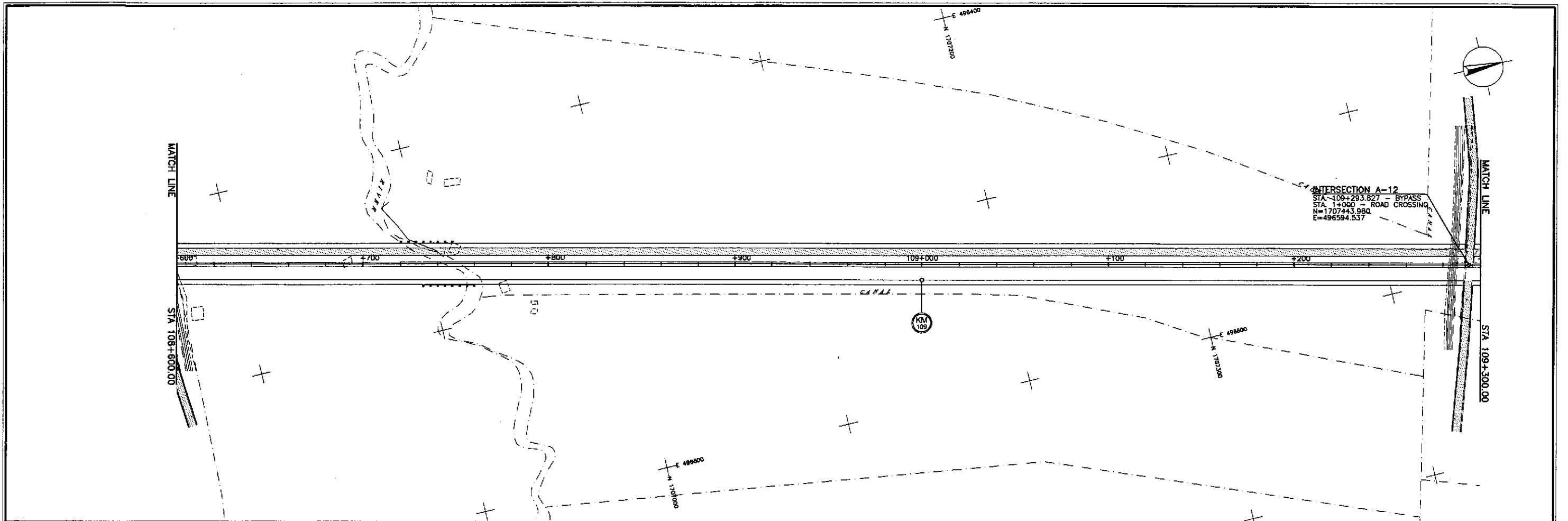
	DATE	SIGNATURE	 REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS			PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :	
	DESIGNED	9/27/02	<i>[Signature]</i>	BUREAU OF DESIGN		THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)		1:1000 FULL SIZE A1	UTILITY RELOCATION REFERENCE LAYOUT PLAN ALONG BYPASS STA. 104+400 - STA. 105+800	OE-04
	CHECKED	10/15/02	<i>[Signature]</i>	Submitted By:	Reviewed By:	Recommended By:	Approved By:			
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	SIMEDN A. DATUMANONG Secretary			



	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 : UTILITY RELOCATION REFERENCE LAYOUT PLAN ALONG BYPASS STA. 105+800 - STA. 107+200	SHEET NO. : OE-05
	CHECKED	10/15/02	<i>[Signature]</i>		BUREAU OF DESIGN		OFFICE OF THE SECRETARY						
	SUBMITTED	10/16/02	<i>[Signature]</i>		Submitted By: DANILO C. TRAJANO Project Director	Reviewed By: JOSEFINA M. ALAGAR Chief, Highways Division	Recommended By: GILBERTO S. REYES DIC, Director IV	Recommended By: MANUEL M. BONOAN Undersecretary	Approved By: SIMEON A. DATUMANONG Secretary				



 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)		SCALE : 1:1000 FULL SIZE A1	SHEET CONTENTS : UTILITY RELOCATION REFERENCE LAYOUT PLAN ALONG BYPASS STA. 107+200 - STA. 108+600	SHEET NO. : OE-06
DESIGNED 9/21/02 	SIGNATURE 	BUREAU OF DESIGN Submitted By:		OFFICE OF THE SECRETARY Reviewed By:		Approved By:				
CHECKED 10/10/02 		DANILLO C. TRAJANO Project Director	JOSEFINA M. ALAGAR Chief, Highways Division	GILBERTO S. REYES OK, Director IV	MANUEL M. BONDAN Undersecretary	SIMEON A. DATUMANONG Secretary				
SUBMITTED 10/16/02 	M. KILICH TEAM LEADER									



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 = 496,789.783

	DESIGNED	DATE	SIGNATURE	REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS					PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	9/27/02	[Signature]	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) CABANATUAN BYPASS - CONTRACT PACKAGE I	1:1000	UTILITY RELOCATION REFERENCE LAYOUT PLAN ALONG BYPASS STA. 108+600 - STA. 109+920	OE-07
	SUBMITTED	10/14/02	[Signature]	Submitted By: DANILO C. TRAJANO Project Director	Reviewed By: JOSEFINA M. ALAGAR Chief, Highways Division	Recommended By: GILBERTO S. REYES Dir. Director IV	Recommended By: MANUEL M. BONDAN Undersecretary	Approved By: SIMEON A. DATUMANONG Secretary				