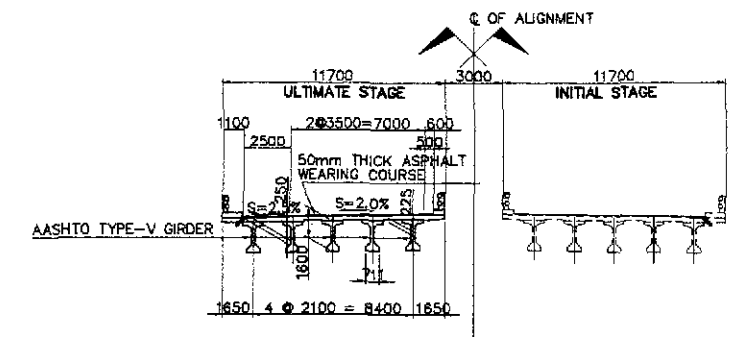
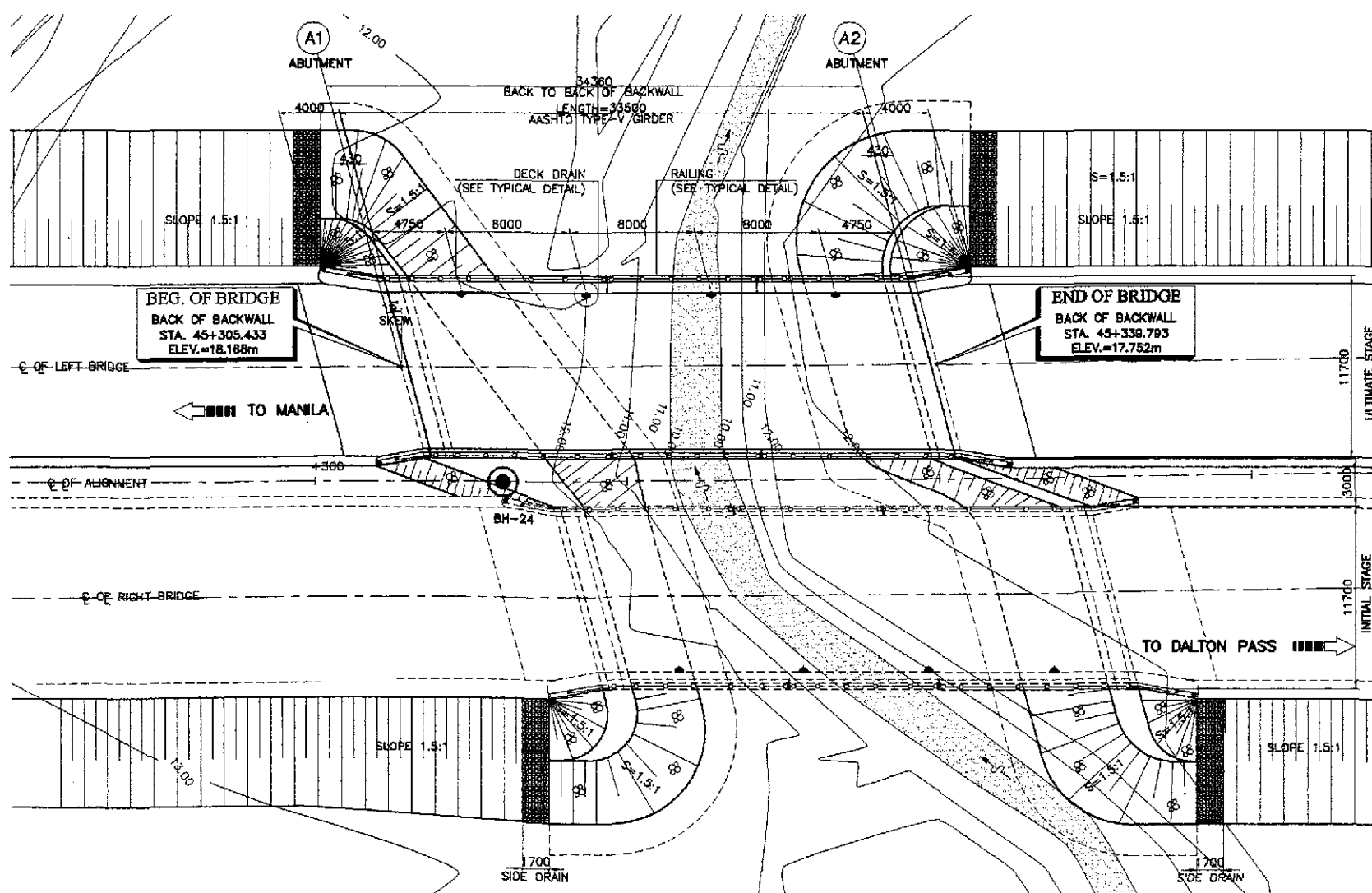


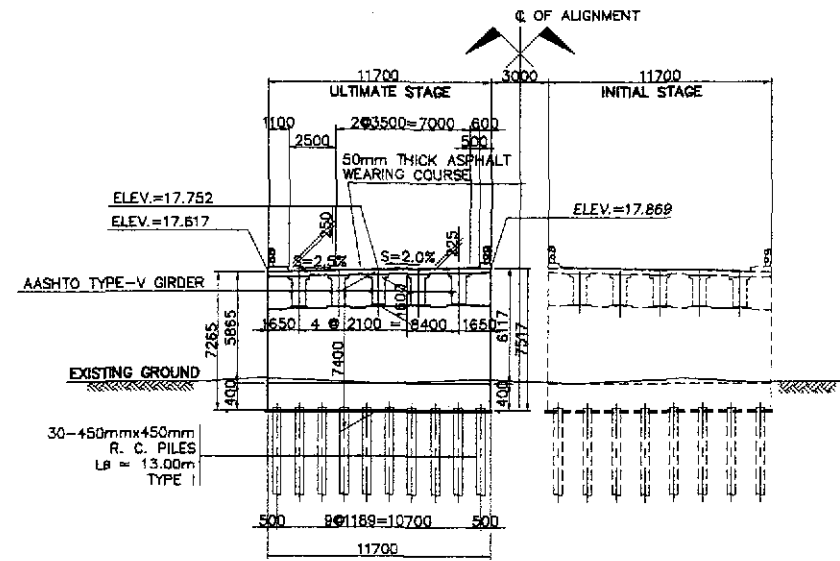
1 GENERAL ELEVATION
SCALE 1:200



3 SECTION @ MIDSPAN
SCALE 1:200



2 GENERAL PLAN
SCALE 1:200



4 SECTION @ ABUTMENT A2
SCALE 1:200

HYDRAULIC DESIGN DATA	
VELOCITY @ 50 YEARS, V_{50}	1.298 m/sec
DISCHARGE @ 50 YEARS, Q_{50}	85.600 cu.m/sec
CATCHMENT AREA, CA	7.175 sq. km

NOTE :
PRIOR TO CONSTRUCTION SOIL INVESTIGATION 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.

PLARIDEL BYPASS BRIDGE NO.5 (STA. 45+305.433)
SCALE AS SHOWN

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

JICA
JAPAN INTERNATIONAL COOPERATION AGENCY

KATAHIRA & ENGINEERS
INTERNATIONAL

YEO YACHYO ENGINEERING CO., LTD.

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

BUREAU OF DESIGN

OFFICE OF THE SECRETARY

DESIGNED: 7/21/02
CHECKED: 7/25/02
SUBMITTED: 7/29/02

Submitted By: DANILO C. TRAJANO
Reviewed By: ADRIANO M. DOROY
Recommended By: GILBERTO S. REYES
Recommended By: MANUEL M. BONDAN
Approved By: SIMEON A. DATUMANONG

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

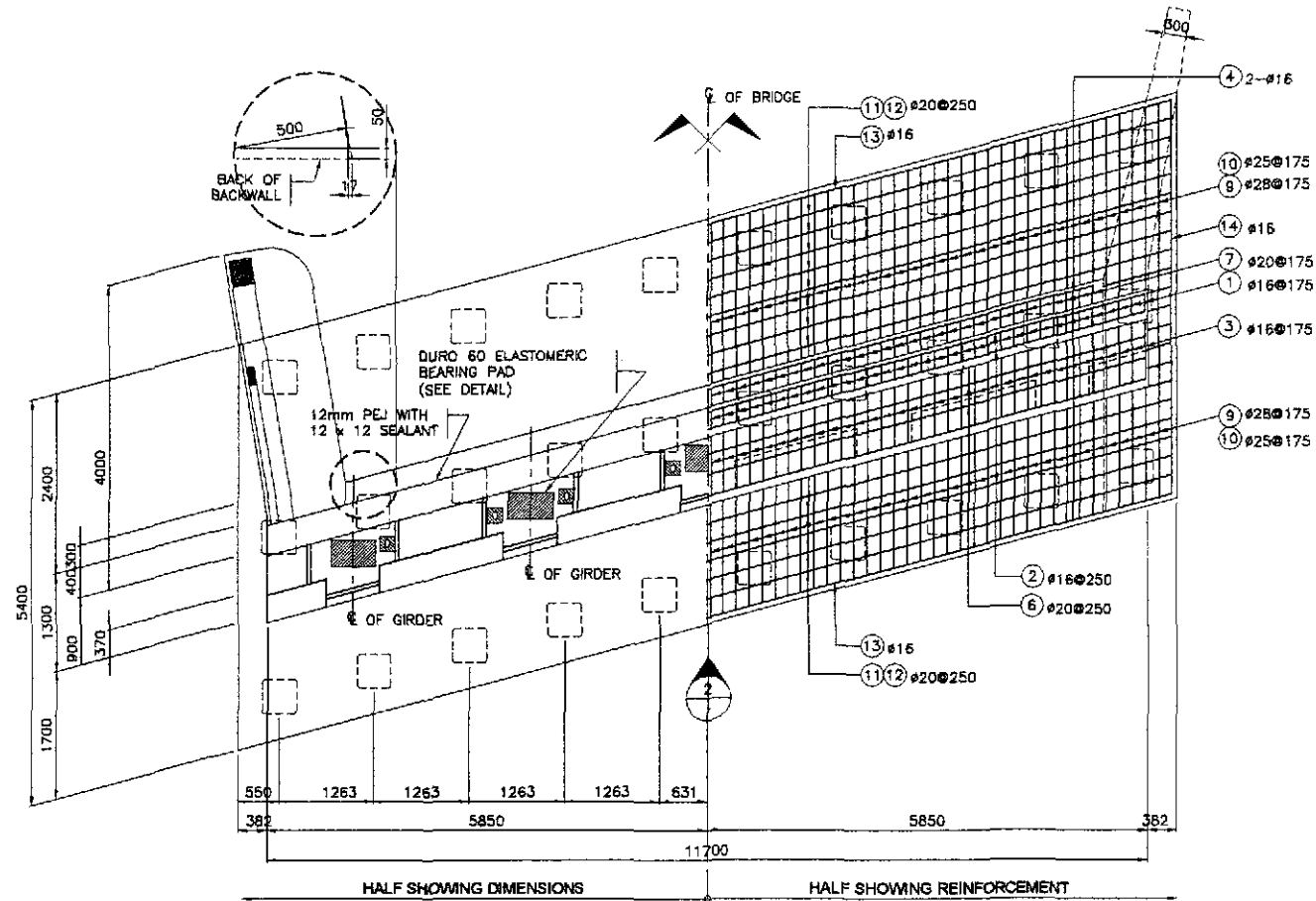
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SHEET CONTENTS : BRIDGE NO. 5 GENERAL PLAN, ELEVATION AND SECTIONS (ULTIMATE STAGE)

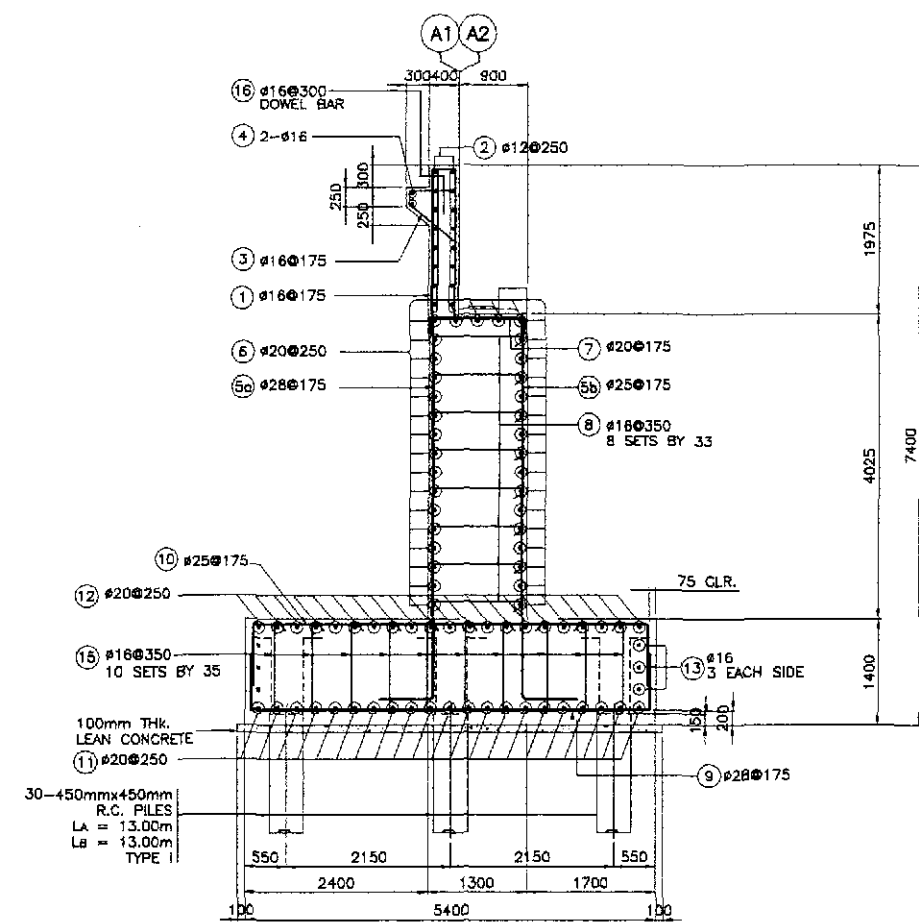
SHEET NO. : B5-01

PLARIDEL BYPASS - CONTRACT PACKAGE II

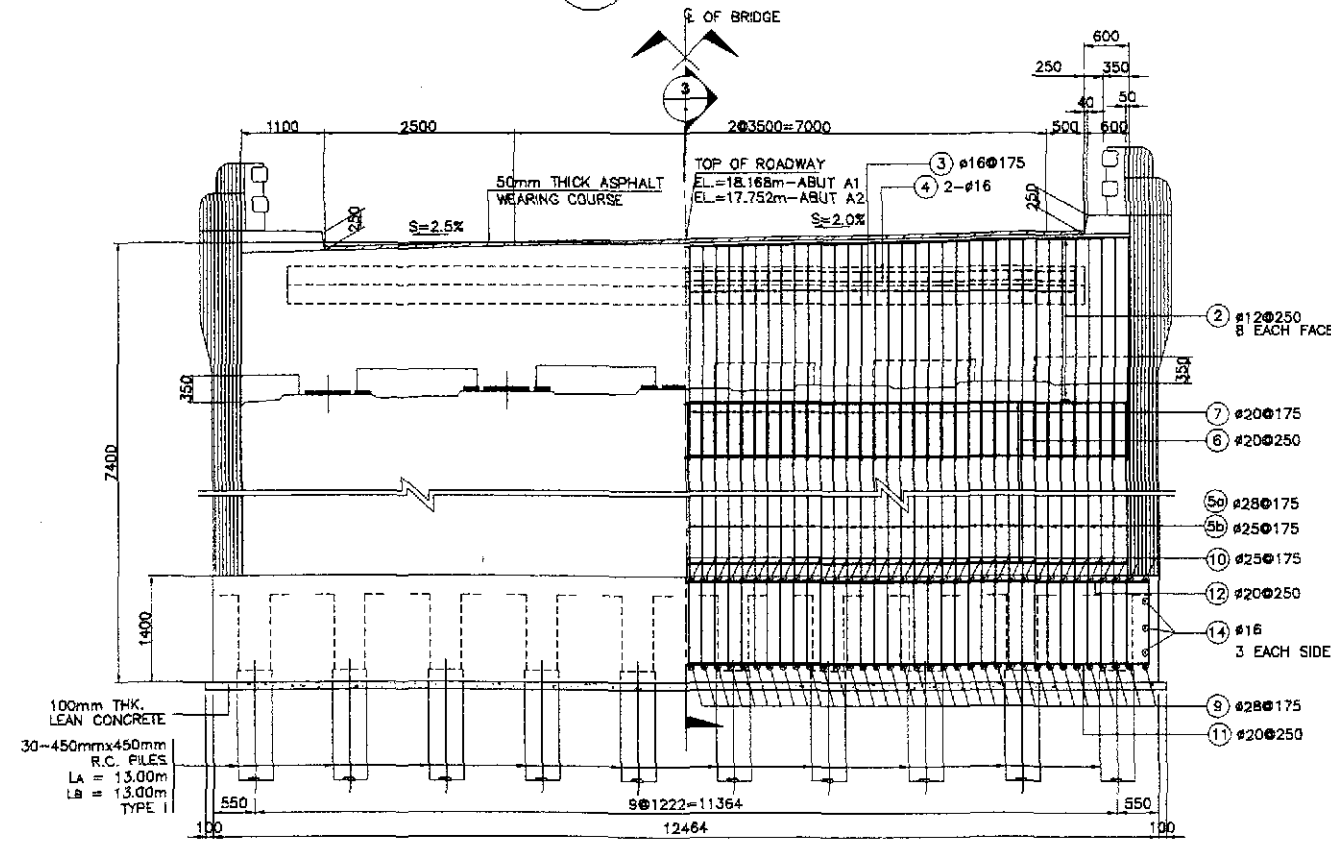
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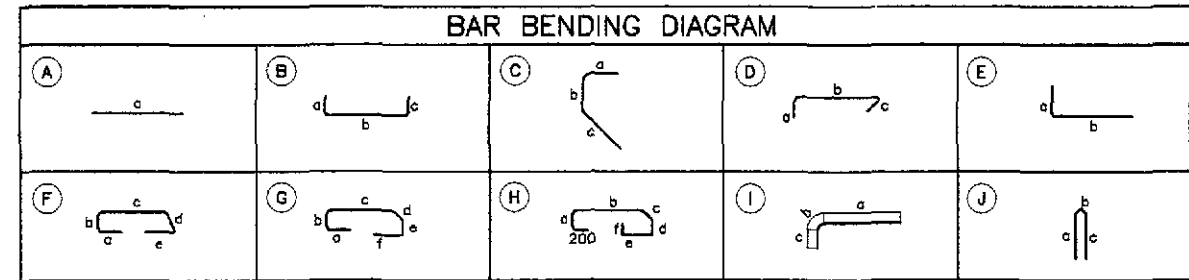
1 PLAN
SCALE 1:50



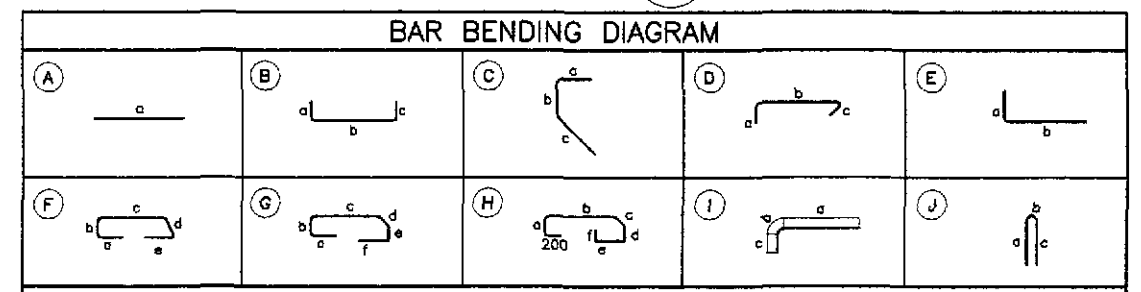
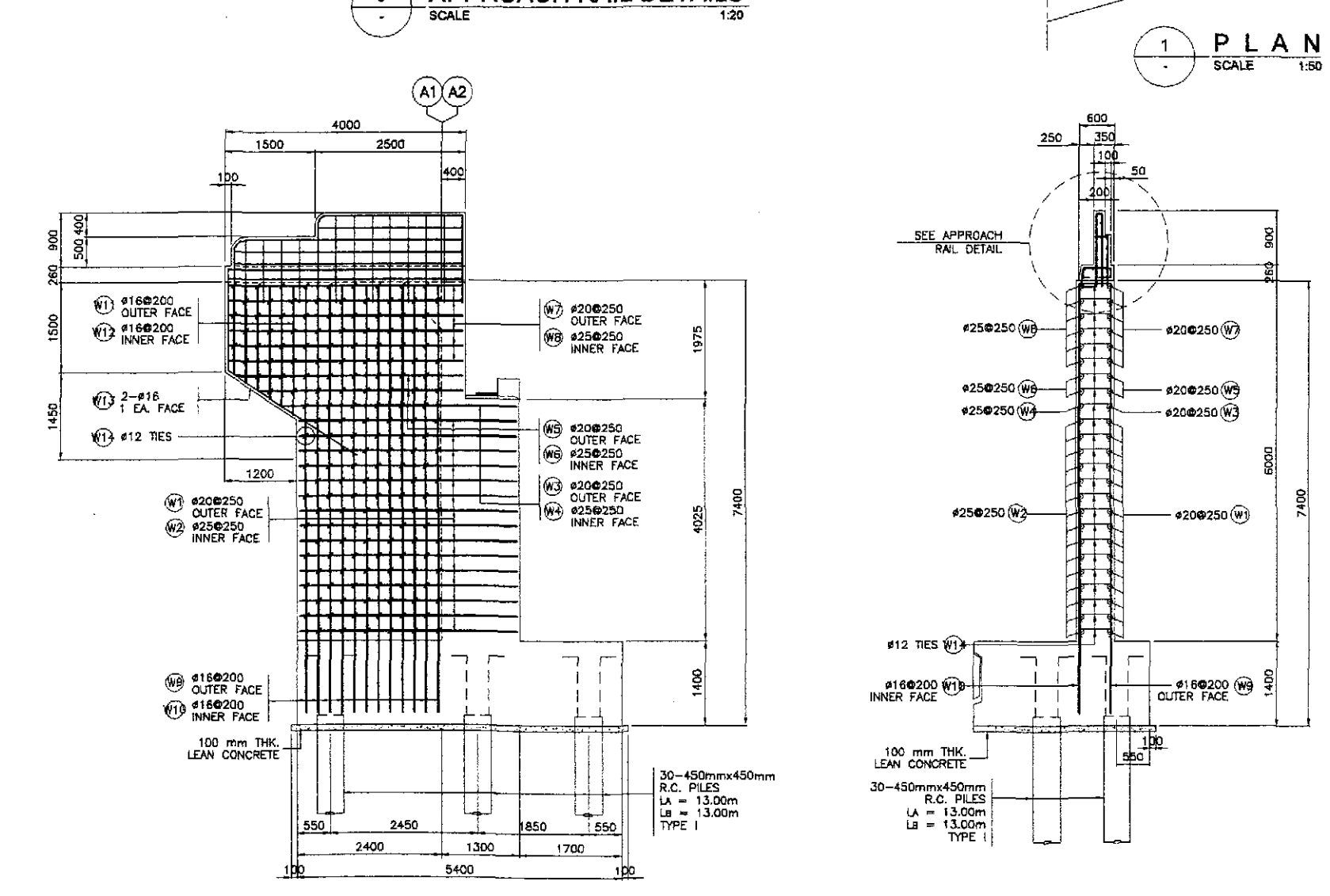
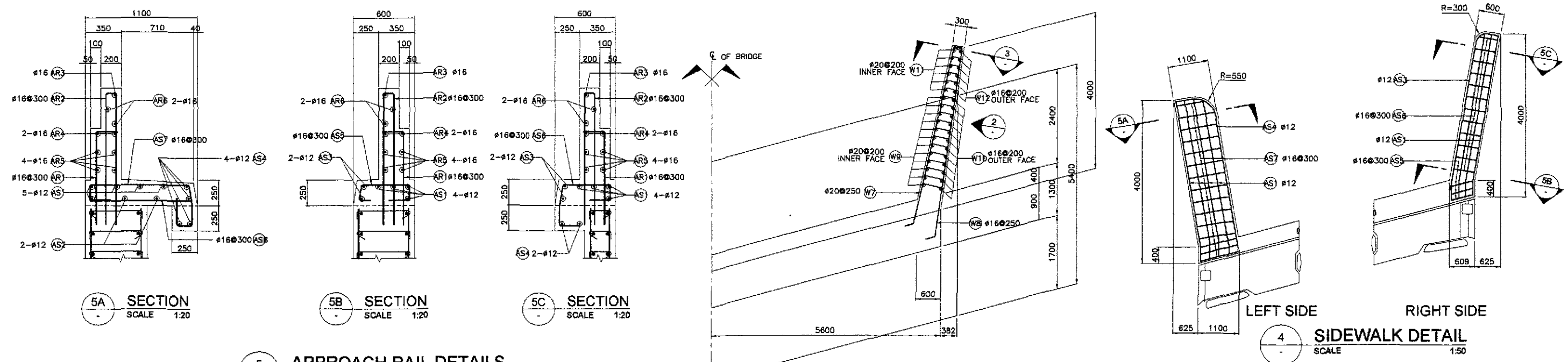
3 SECTION
SCALE 1:50



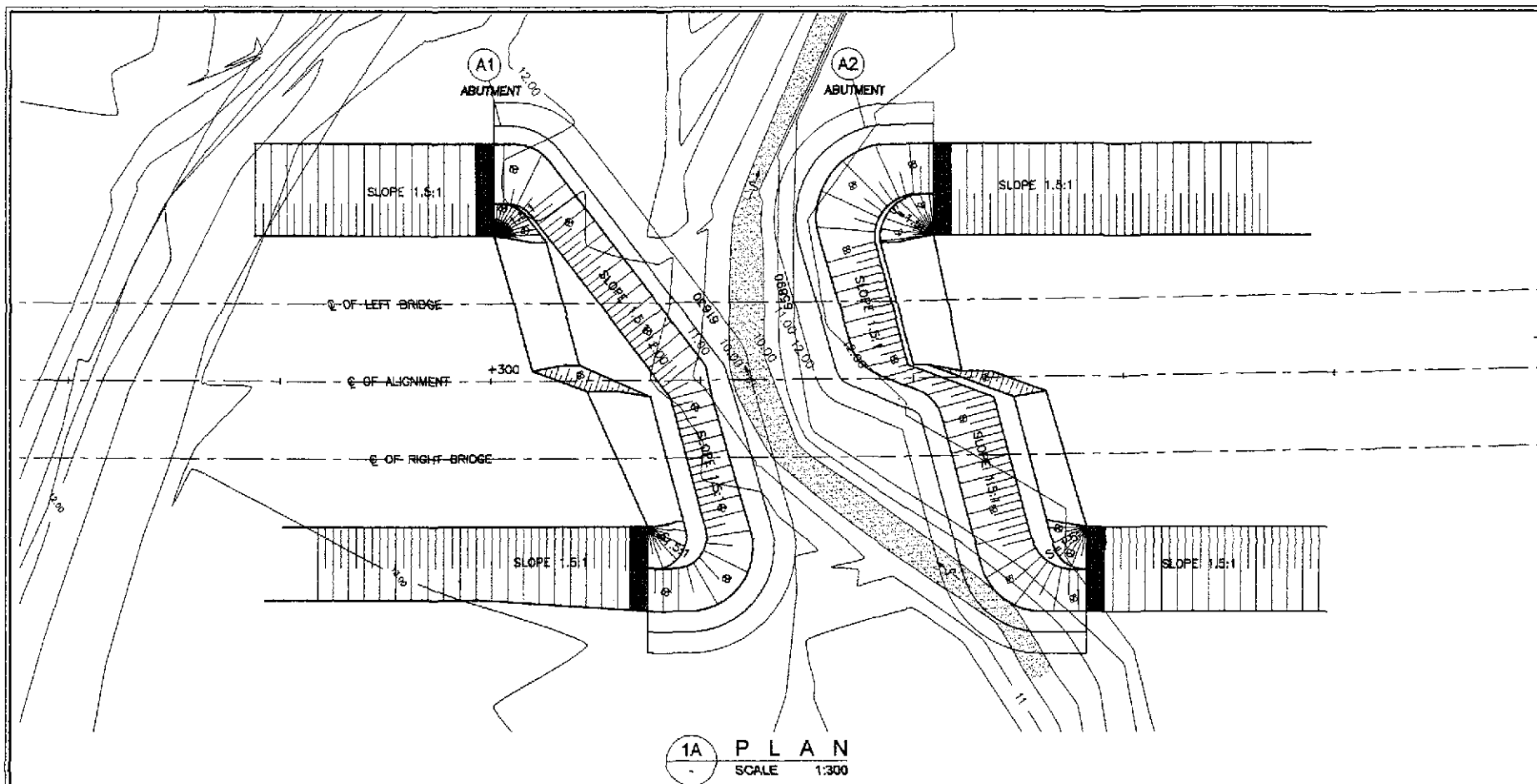
2 ELEVATION
SCALE 1:50



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	10.37	1	16	67	175	(B)	2100	300	2100	-	-	-	4500	301.00	1.578	477	78.99
		2	12	16	250	(A)	12000	-	-	-	-	-	12000	192.00	0.888	171	
		3	16	58	175	(C)	600	150	750	-	-	-	1500	87.00	1.579	138	
		4	16	2	AS SHOWN	(A)	10250	-	-	-	-	-	10250	20.50	1.579	33	
MAINWALL	61.22	5a	28	67	175	(E)	400	5150	-	-	-	5550	371.85	4.833	1798	85.89	
		5b	25	67	175	(E)	400	5150	-	-	-	5550	371.85	3.854	1434		
		6	20	35	250	(A)	12000	-	-	-	-	-	12000	420.00	2.466		1036
		7	20	67	175	(B)	250	1200	250	-	-	-	1700	113.90	2.466		281
FOOTING	94.23	8	16	264	350	(D)	250	1200	250	-	-	-	1700	448.80	1.579	709	71.62
		9	28	71	175	(B)	700	5250	700	-	-	-	6650	472.15	4.833	2282	
		10	25	71	175	(B)	700	5250	700	-	-	-	6650	472.15	3.854	1820	
		11	20	22	250	(B)	700	12755	700	-	-	-	14155	311.41	2.466	768	
		12	20	22	250	(B)	700	12755	700	-	-	-	14155	311.41	2.466	768	
		13	16	6	AS SHOWN	(A)	12755	-	-	-	-	-	12755	76.53	1.579	121	
DOWEL		14	16	6	AS SHOWN	(A)	5250	-	-	-	-	5250	31.50	1.579	50		
		15	16	350	350	(D)	250	1200	250	-	-	-	1700	595.00	1.579		940
TOTAL	185.82	16	16	34	300	(E)	650	500	-	-	-	1150	39.10	1.579	62		
		GRADE 40 TOTAL = 2,701 kgs. GRADE 60 TOTAL = 10,187 kgs.															

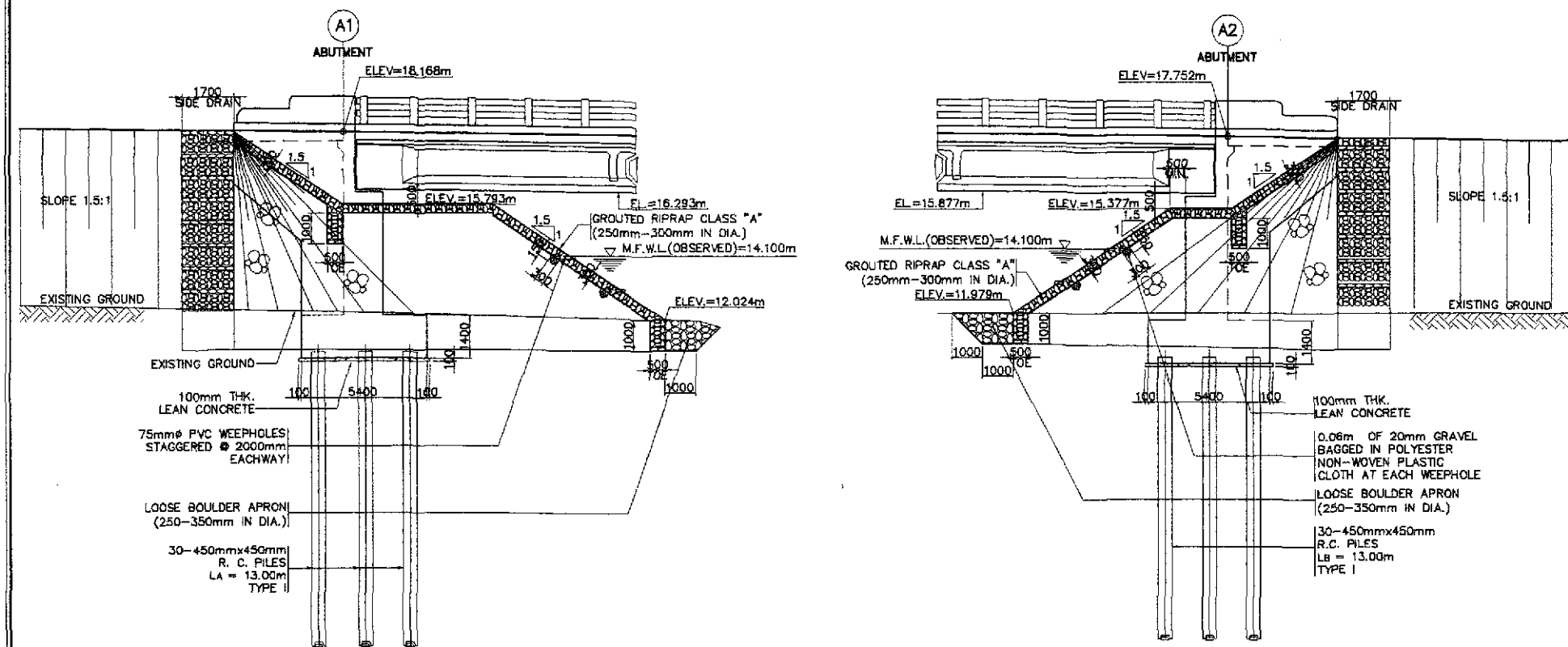
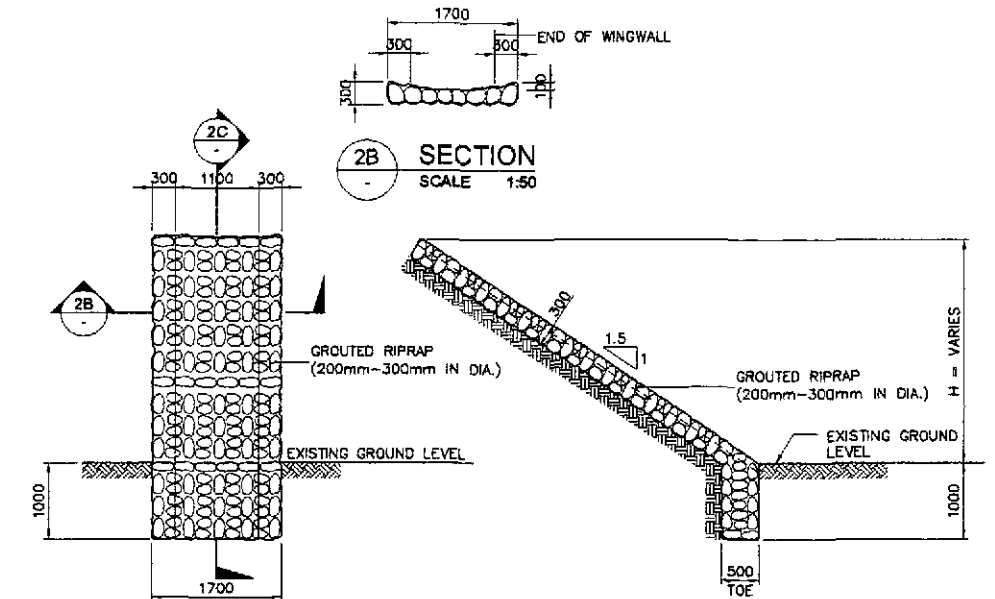


SCHEDULE OF REINFORCEMENT PER ABUTMENT																		
LOCATION	CONCRETE VOLUME (m ³)	BAR MARK	BAR SIZE	QTY.	SPACING	BAR SHAPE	DIMENSIONS (mm) OUT TO OUT					LENGTH EA. BAR (mm)	TOTAL LENGTH (m)	UNIT WT. (kg/m)	WEIGHT (kg)	REBAR RATIO (kg/m ³)		
							a	b	c	d	e	f						
WINGWALL	15.36	W1	20	30	250	(B)	400	3600	150	-	-	-	4150	124.50	2.466	308		
		W2	25	30	250	(B)	400	3600	150	-	-	-	4150	124.50	3.854	480		
		W3	20	2	250	(B)	400	3900	150	-	-	-	4450	8.90	2.466	22		
		W4	25	2	250	(B)	400	3900	150	-	-	-	4450	8.90	3.854	35		
		W5	20	4	250	(B)	400	3600	150	-	-	-	4150	16.60	2.466	41		
		W6	25	4	250	(B)	400	3600	150	-	-	-	4150	16.60	3.854	64		
		W7	20	12	250	(B)	400	3900	150	-	-	-	4450	53.40	2.466	132		
		W8	25	12	250	(B)	400	3900	150	-	-	-	4450	53.40	3.854	206		
		W9	16	24	200	(E)	250	7200	-	-	-	-	7450	178.80	1.579	283		
		W10	16	24	200	(E)	250	7200	-	-	-	-	7450	178.80	1.579	283		
		W11	15	12	200	(E)	250	2100	-	-	-	-	2350	28.20	1.579	45		
		W12	15	12	200	(E)	250	2100	-	-	-	-	2350	28.20	1.579	45		
		W13	16	4	AS SHOWN	(C)	250	1500	3000	-	-	-	-	4750	19.00	1.579	31	
		W14	12	332	AS SHOWN	(D)	170	450	170	-	-	-	-	790	262.28	0.888	233	
																GRADE 60 = 1,288 kgs.		
														GRADE 40 = 920 kgs.				
APPROACH RAILING AND SIDEWALK	3.93	AS	12	9	AS SHOWN	(A)	3900	-	-	-	-	-	3900	35.10	0.888	32		
		AS2	12	2	AS SHOWN	(A)	3900	-	-	-	-	-	3900	7.80	0.888	7		
		AS3	12	2	AS SHOWN	(A)	3900	-	-	-	-	-	3900	7.80	0.888	7		
		AS4	12	6	AS SHOWN	(A)	3900	-	-	-	-	-	3900	23.40	0.888	21		
		AS5	16	4	300	(F)	200	170	460	200	200	-	1230	4.92	1.579	8		
		AS6	16	11	300	(G)	200	170	460	200	170	200	1400	15.40	1.579	25		
		AS7	16	15	300	(H)	200	170	960	200	170	200	2100	31.80	1.579	51		
		AS8	16	15	300	(E)	200	1020	-	-	-	-	1220	18.30	1.579	29		
		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)	2400	236	1300	-	-	-	3936	7.87	1.579	13		
		AR4	16	4	AS SHOWN	(I)	3900	236	900	-	-	-	5036	20.14	1.579	32		
AR5	16	8	AS SHOWN	(A)	3900	-	-	-	-	-	3900	31.20	1.579	50				
AR6	16	4	AS SHOWN	(A)	2400	-	-	-	-	-	2400	9.60	1.579	16				
														GRADE 40 = 374 kgs.				
TOTAL	19.29															GRADE 60 TOTAL = 1,288 kgs.		
														GRADE 40 TOTAL = 1,284 kgs.				



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.
- FOR THE LOOSE BOULDER APRON, BOULDERS 250-350mm SHALL BE HAND-LAID, CLOSE TOGETHER AND SHALL BE FIRMLY BEDDED. ALL VOIDS BETWEEN BOULDERS SHALL BE FILLED WITH TIGHTLY DRIVEN SPALLS.
- 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/eq. m. (MIN.)
 - CBR PUNCTURE STRENGTH - 40DN (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.
- HAND-LAID ROCK SHALL BE MORE THAN 0.015cu.m. IN VOLUME AND SHALL CONSISTS OF HARD AND DURABLE STONES. ALL SHALL BE LAID FLAT AND SECURELY PLACED WITH LARGER STONES GENERALLY LOCATED IN THE LOWER PART OF THE STRUCTURE.
- NO CONCRETING UNDER WATER SHALL BE PERMITTED.
- PROVIDE 1.0m BERM WHEN HEIGHT (H) IS > 4.0m.



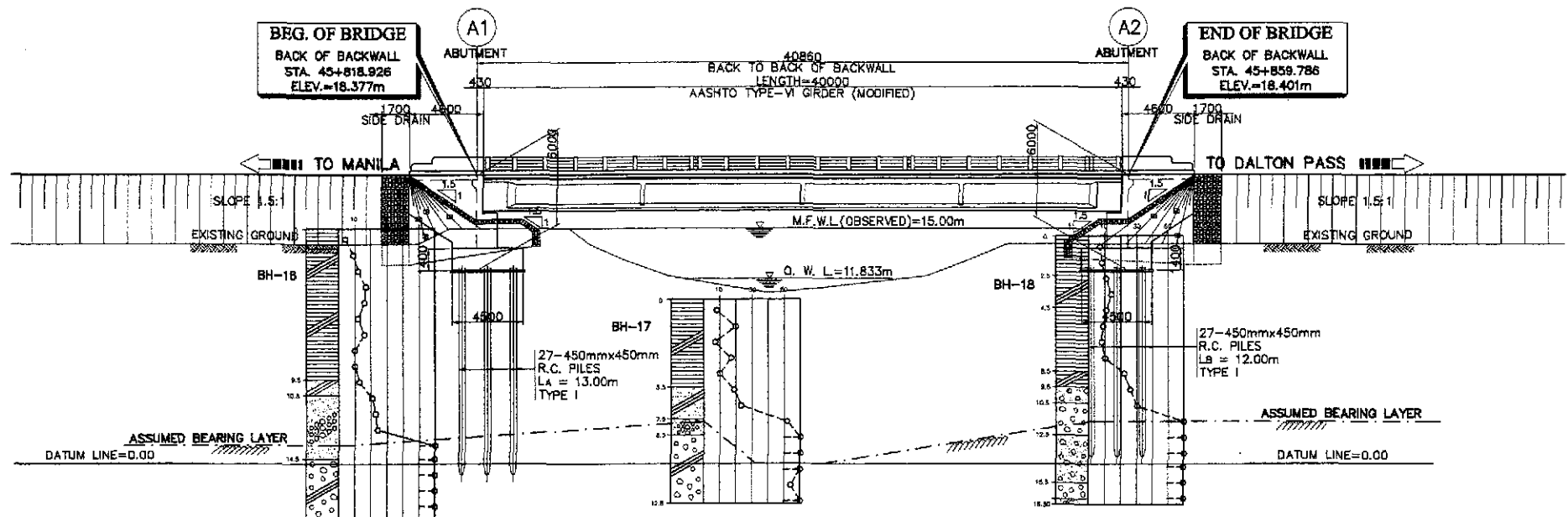
2 TYPICAL SIDE DRAIN DETAIL
SCALE AS SHOWN

VELOCITY (m/sec)	ROCK SIZE (mm)	
	VERY TURBULENT FLOW	SMOOTH FLOW
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

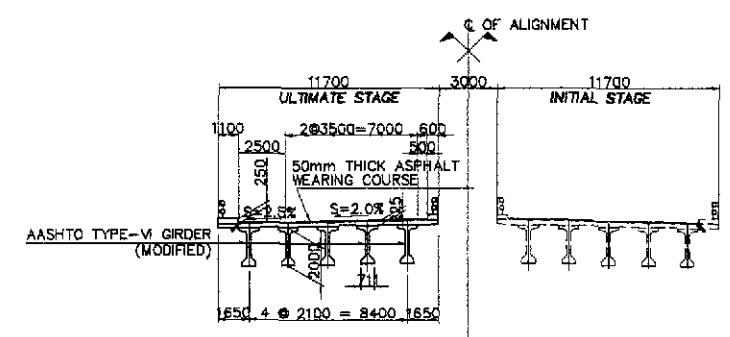
LOCATION	SIZES	PER ABUTMENT QUANTITY	
		ABUT. A1	ABUT. A2
BOULDER APRON	250mm-350mm IN DIA.	45.38 cu. m.	44.79 cu. m.
SIDE DRAIN	200mm-300mm IN DIA.	6.12 cu. m.	6.12 cu. m.
GROUTED RIPRAP	250mm-300mm IN DIA.	102.56 cu. m.	81.94 cu. m.

1 ABUTMENT SLOPE PROTECTION
SCALE AS SHOWN

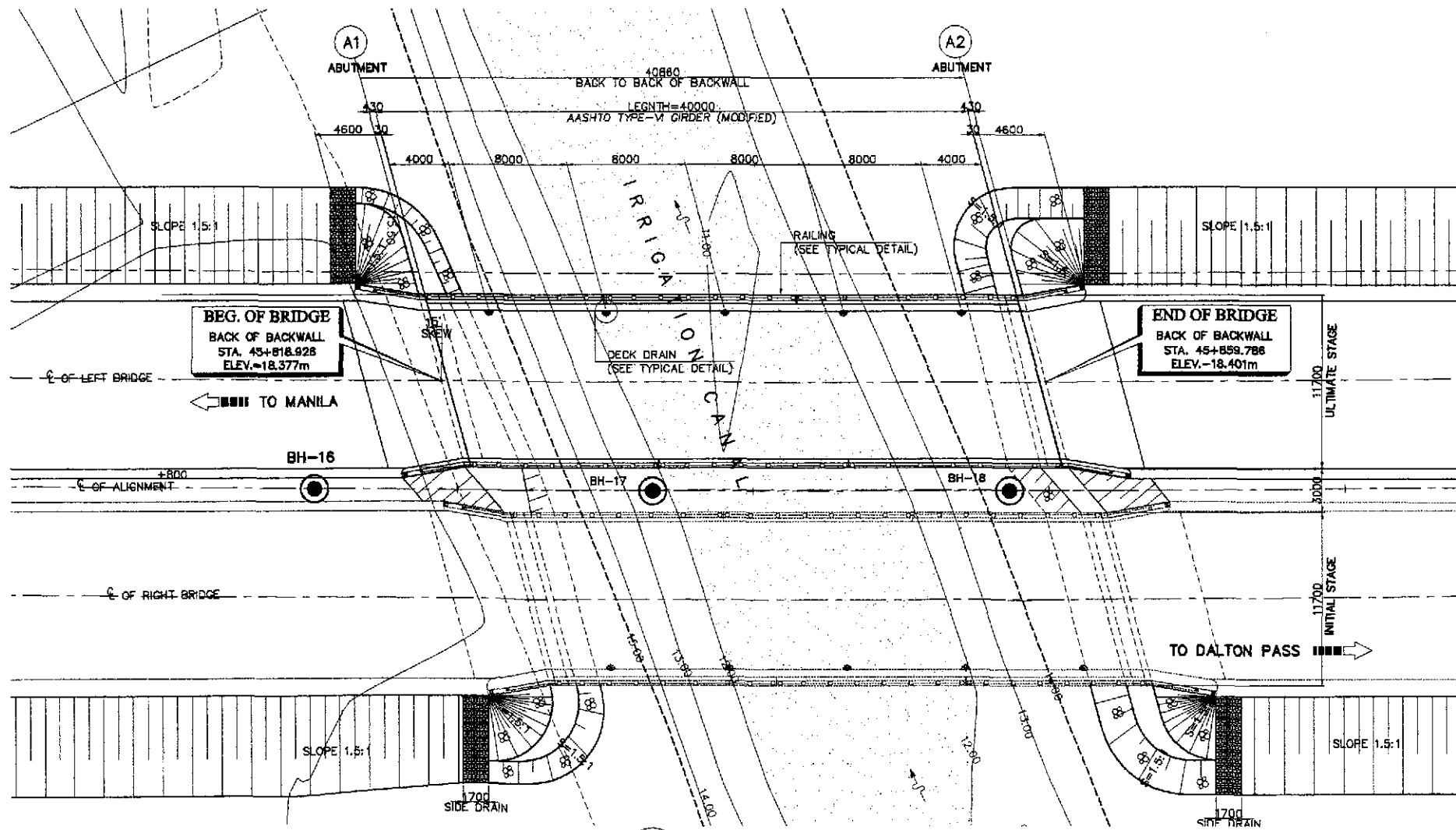
	DESIGNED: <i>[Signature]</i> DATE: 7/21/02	REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS				PROJECT AND LOCATION: THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)	SCALE: AS SHOWN	SHEET CONTENTS: BRIDGE NO. 5 ABUTMENT PROTECTION AND SIDE DRAIN DETAILS (ULTIMATE STAGE)	SHEET NO.:
	CHECKED: <i>[Signature]</i> DATE: 7/29/02	BUREAU OF DESIGN Submitted By: DANILLO C. TRAJANO Project Director		OFFICE OF THE SECRETARY Reviewed By: PERFECTO L. ZAPLAN JR. Chief, Hydraulic Division (OC)		Recommended By: GILBERTO S. REYES Director IV (CIC)		FULL SIZE A1	B5-09
	SUBMITTED: 7/29/02	Recommended By: MANUEL M. BONOAN Undersecretary		Approved By: SIMEON A. DATUMANONG Secretary		PLARIDEL BYPASS - CONTRACT PACKAGE II			



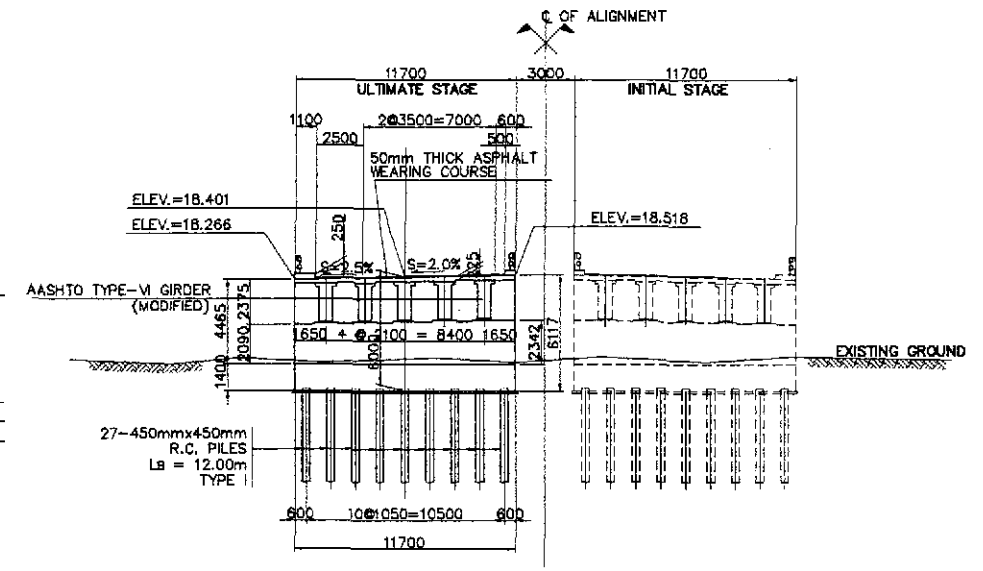
1 GENERAL ELEVATION
SCALE 1:200



3 SECTION @ MIDSPAN
SCALE 1:200



2 GENERAL PLAN
SCALE 1:200



4 SECTION @ ABUTMENT A2
SCALE 1:200

HYDRAULIC DESIGN DATA	
IRRIGATION CANAL	-

NOTE :
PRIOR TO CONSTRUCTION SOIL INVESTIGATION 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.

A PLARIDEL BYPASS BRIDGE NO.6 (STA. 45+818.926) AS SHOWN

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

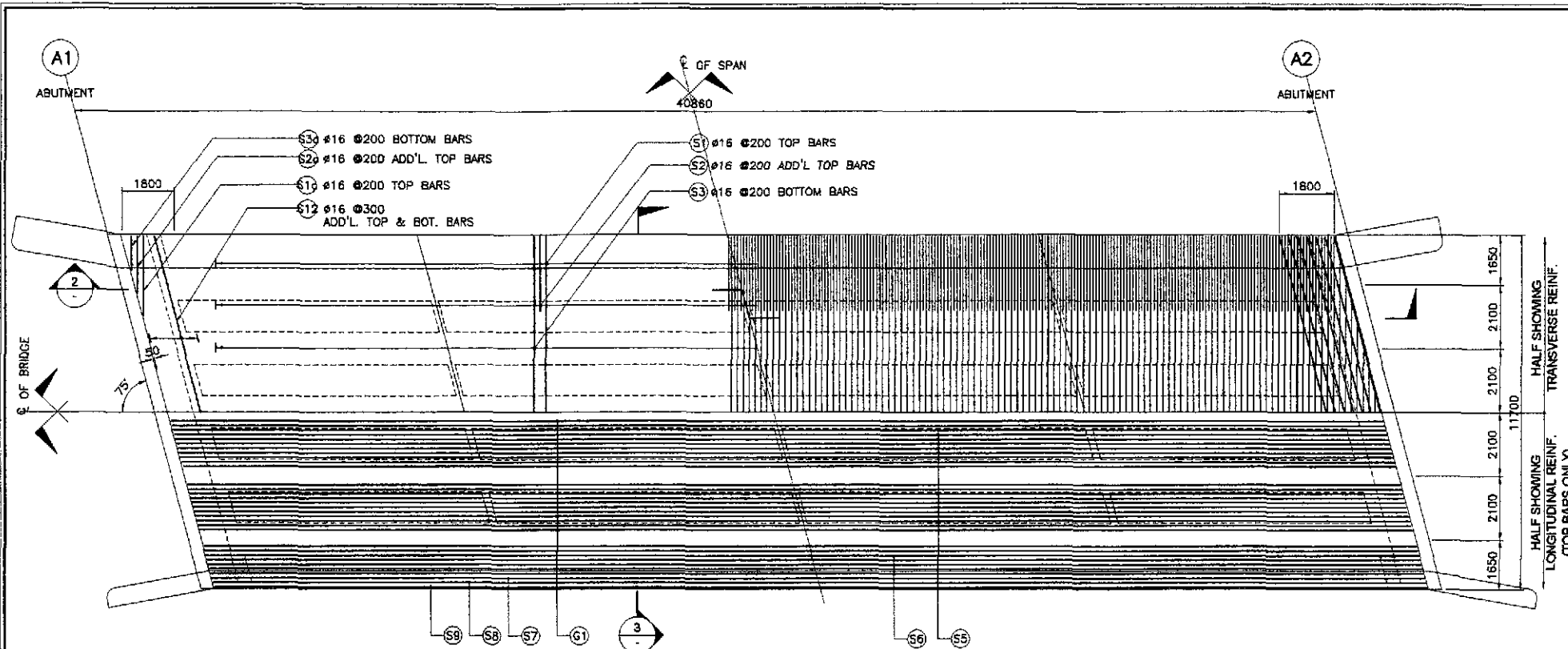
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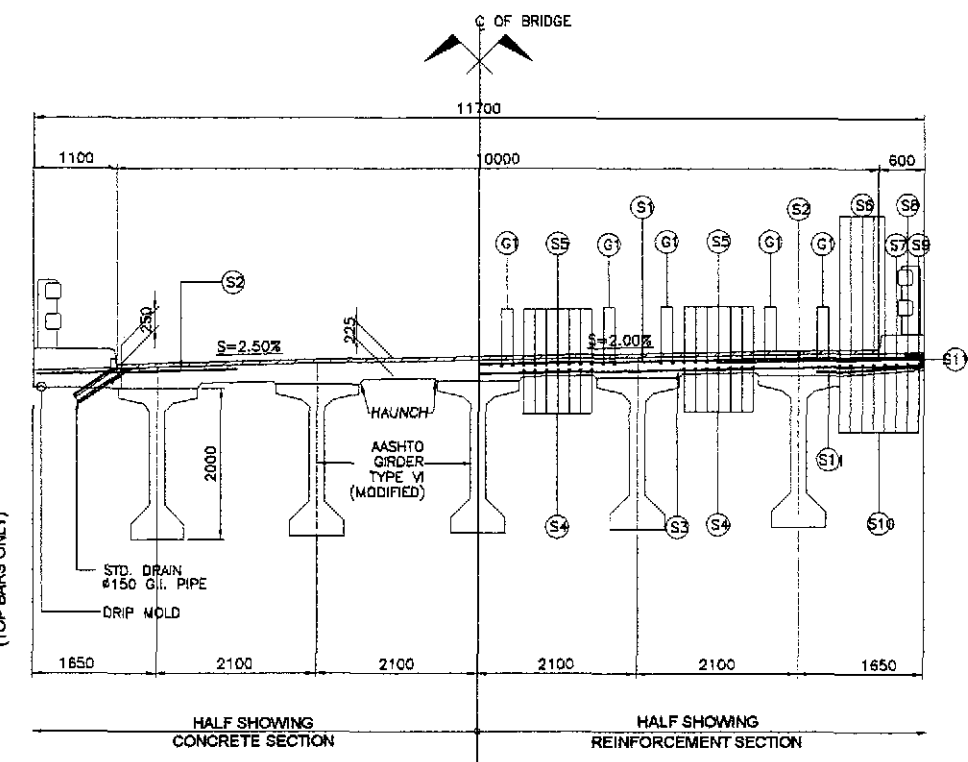
DESIGNED	CHECKED	SUBMITTED	DATE	SIGNATURE
7/14/07	7/15/07	7/17/07		

BUREAU OF DESIGN		OFFICE OF THE SECRETARY	
Submitted By: DANILLO C. TRAJANO Project Director	Reviewed By: ADRIANO M. DORCY Chief, Bridges Division	Recommended By: GILBERTO S. REYES Director IV (OIC)	Approved By: MANUEL M. BONDAN Undersecretary

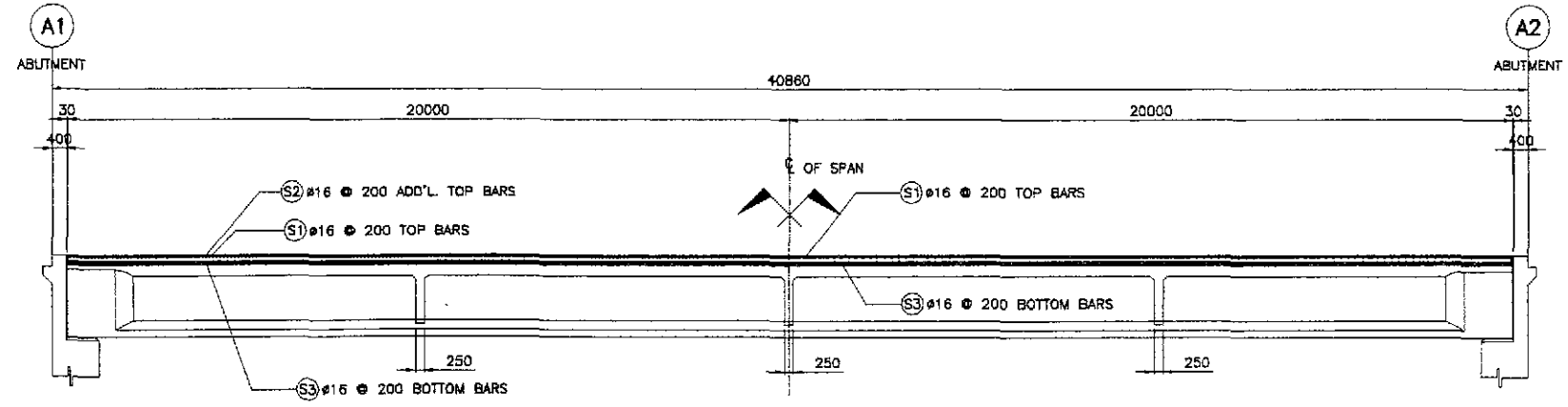
PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)	1:200 FULL SIZE A1	BRIDGE NO.6 GENERAL PLAN, ELEVATION AND SECTIONS (ULTIMATE STAGE)	B6-01



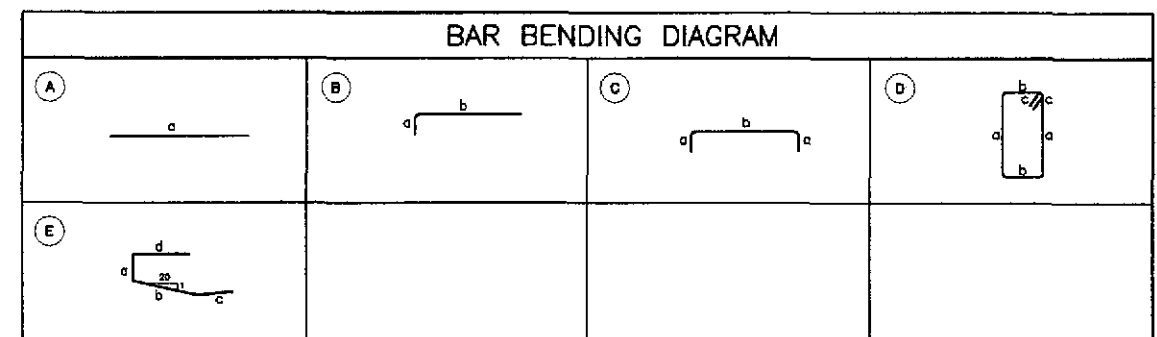
1 FRAMING PLAN
SCALE 1:100



3 TYPICAL CROSS-SECTION
SCALE 1:50



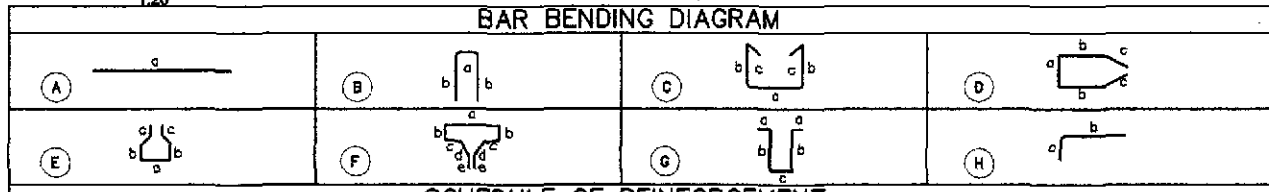
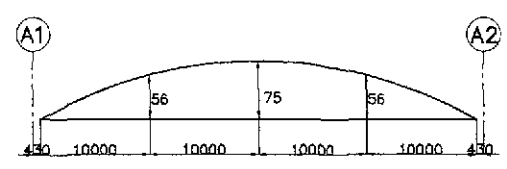
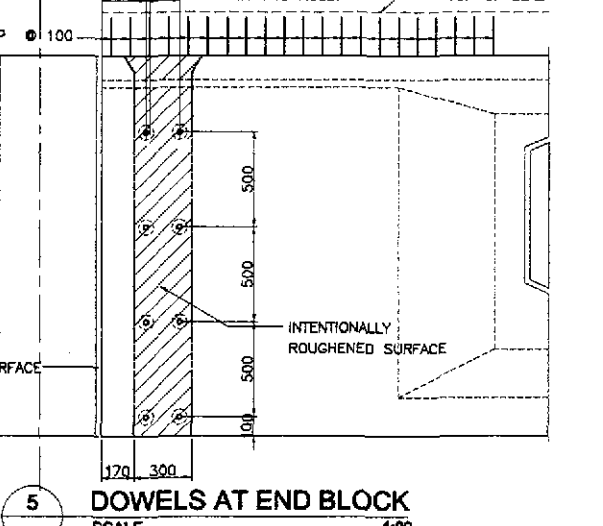
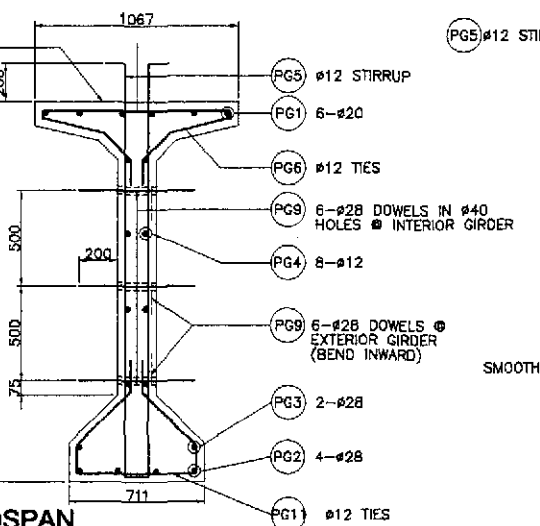
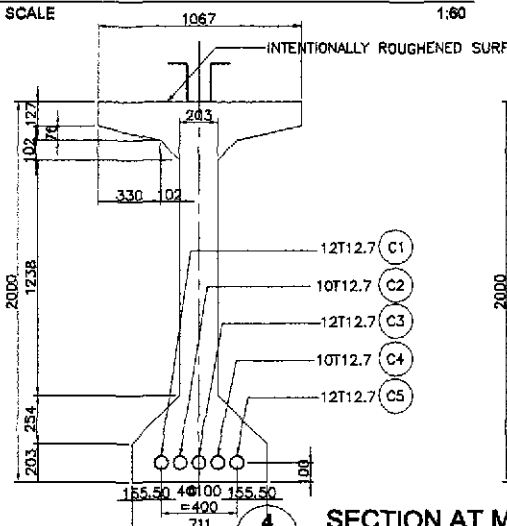
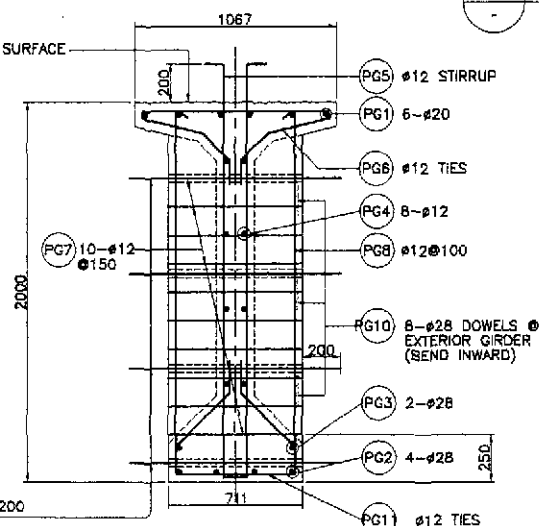
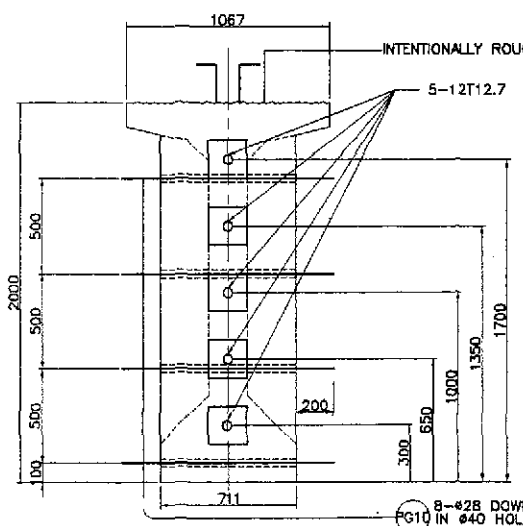
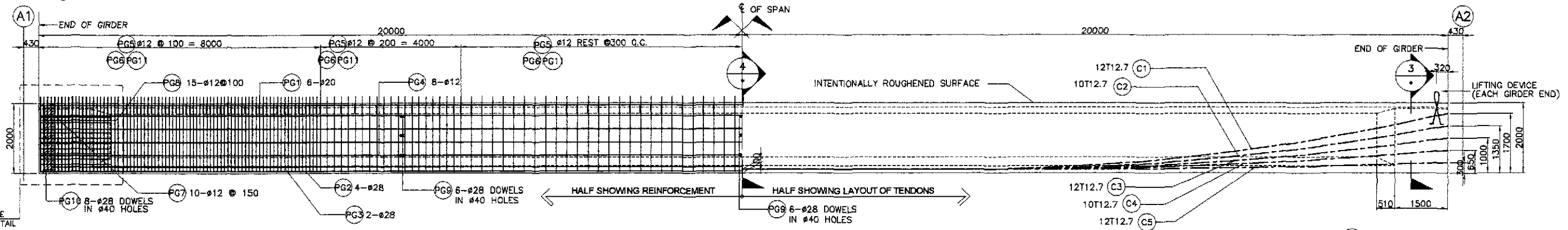
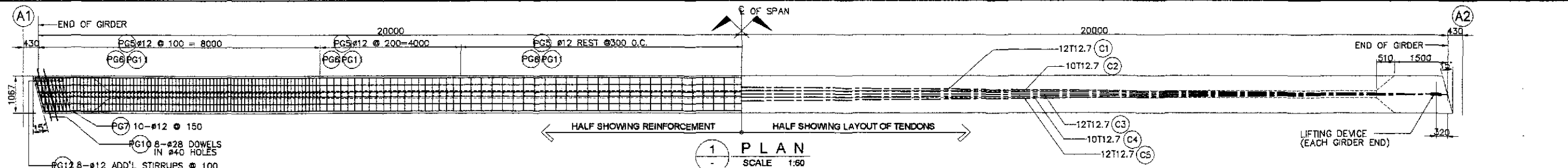
2 LONGITUDINAL SECTION
SCALE 1:100



ESTIMATED QUANTITIES OF SUPERSTRUCTURE			
ITEM NO.	DESCRIPTION	UNIT	TOTAL
404(1)a	REINFORCING STEEL GRADE 40	kg.	35713
	DECK SLAB	17061	
	DIAPHRAGM	502	
	GIRDER	13030	
	SIDEWALK, RAILING, & POST	3688	
	APPROACH SLAB	1432	
	404(1)b	REINFORCING STEEL GRADE 60	kg.
DECK SLAB		0	
DIAPHRAGM		1702	
GIRDER		9475	
SIDEWALK, RAILING, & POST		708	
APPROACH SLAB		4350	
405(1)	STRUCTURAL CONCRETE	cu. m.	346.56
	DECK SLAB	116.47	
	DIAPHRAGM	16.75	
	GIRDER	160.35	
	SIDEWALK, RAILING, & POST	17.00	
	APPROACH SLAB	35.99	

SCHEDULE OF REINFORCEMENT															
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)	WEIGHT IN (kg)	REBAR RATIO (kg/m ³)
							a	b	c	d					
DECK SLAB	116.47	G1	16	20	AS SHOWN	(A)	39920	-	-	-	39920	798.40	1.579	1261	146.48
		S1	16	185	200	(C)	145	11600	145	-	11890	2199.65	1.579	3474	
		S1a	16	32	200	(C)	145	6400	145	-	6690	214.08	1.579	339	
		S2	16	390	200	(B)	145	2650	-	-	2785	1090.05	1.579	1722	
		S2a	16	12	200	(B)	145	1850	-	-	2785	19.62	1.579	31	
		S3	16	185	200	(A)	11600	12000	145	-	11600	2146.00	1.579	3389	
		S3a	16	32	200	(A)	12000	6400	-	-	6400	204.80	1.579	324	
		S4	16	28	150	(A)	39920	-	-	-	39920	1117.76	1.579	1765	
		S5	16	28	150	(A)	39920	-	-	-	39920	1117.76	1.579	1765	
		S6	16	10	AS SHOWN	(A)	39920	-	-	-	39920	399.20	1.579	631	
		S7	16	2	AS SHOWN	(A)	39920	-	-	-	39920	79.84	1.579	127	
		S8	16	2	AS SHOWN	(A)	39920	-	-	-	39920	79.84	1.579	127	
S9	16	2	AS SHOWN	(A)	39920	-	-	-	39920	79.84	1.579	127			
S10	16	16	AS SHOWN	(A)	39920	-	-	-	39920	638.72	1.579	1009			
S11	12	202	400	(E)	145	1100	900	300	2445	493.89	1.579	439			
S12	16	28	300	(A)	12000	-	-	-	12000	336.00	1.579	531			
TOTAL	116.47														GRADE 40 TOTAL = 17,081 kgs.

	DESIGNED	DATE	SIGNATURE		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS					PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	9/28/02	<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	BRIDGE NO. 6 DECK FRAMING PLAN AND SECTIONS (ULTIMATE STAGE)	B6-02
	SUBMITTED	9/27/02	<i>[Signature]</i>		OFFICE OF THE SECRETARY					PLARIDEL BYPASS - CONTRACT PACKAGE II	FULL SIZE A1		



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)	39920	-	-	-	-	39920	239.52	2.466	591	32.07	140.35	QUANTITIES ARE FOR ONE (1) GIRDER ONLY
	PG2	28	4	AS SHOWN	(A)	39920	-	-	-	-	39920	159.68	4.833	772			
	PG3	28	2	AS SHOWN	(A)	39920	-	-	-	-	39920	79.84	4.833	386			
	PG4	12	8	AS SHOWN	(A)	39920	-	-	-	-	39920	319.36	0.888	284			
	PG5	12	252	100	(C)	100	2150	103	-	-	4603	1159.86	0.888	1031			
	PG6	12	252	100	(F)	1000	50	340	200	150	2480	624.96	0.888	555			
	PG7	12	20	150	(D)	635	1450	550	-	-	4635	92.70	0.888	83			
	PG8	12	30	100	(C)	635	1920	150	-	-	4775	143.25	0.888	128			
	PG9	28	18	AS SHOWN	(A)	603	-	-	-	-	603	10.85	4.833	53			
	PG10	28	16	AS SHOWN	(A)	1200	-	-	-	-	1200	19.20	4.833	93			
	PG11	12	252	100	(E)	635	160	400	150	-	2055	517.86	0.888	460			
	PG12	12	16	100	(B)	635	1920	-	-	-	4475	71.60	0.888	64			

- NOTES :
- SEE GENERAL NOTES. -2, FOR GIRDER DESIGN GUIDE.
 - JACKING FORCE PER GIRDER, $P_j = 8261$ KN.
 - JACKING WILL BE DONE AT BOTH ENDS.
 - FINAL PRESTRESSING FORCE @ MIDSPAN, $F_{NET} = 6023$ KN.

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

BUREAU OF DESIGN OFFICE OF THE SECRETARY

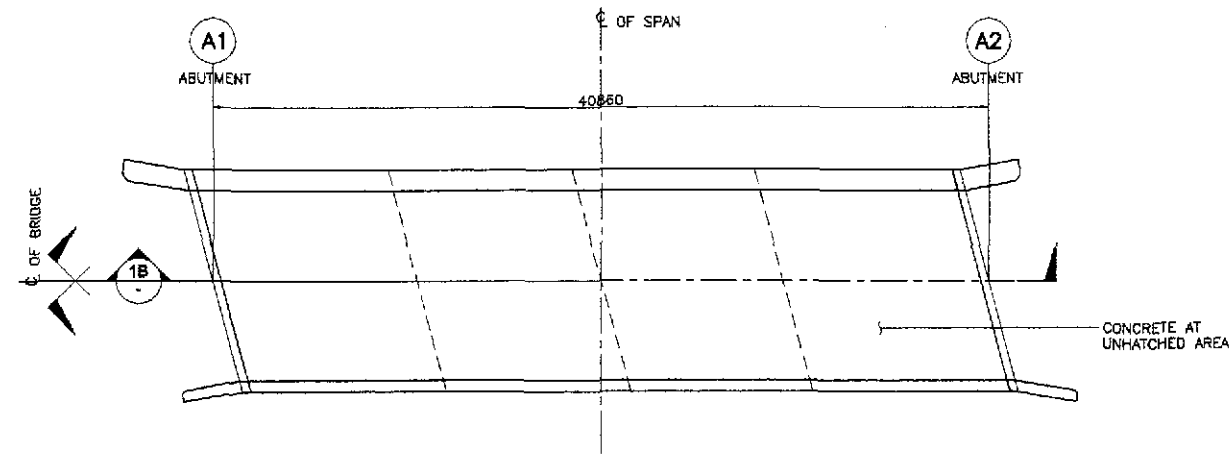
Submitted By: DANILLO C. TRAJANO, Project Director
Reviewed By: ADRIANO M. DOROY, Chief, Bridges Division
Recommended By: GILBERTO S. REYES, Director IV (DC)
Recommended By: MANUEL M. BONDAN, Undersecretary
Approved By: SIMEON A. DATUNANING, Secretary

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

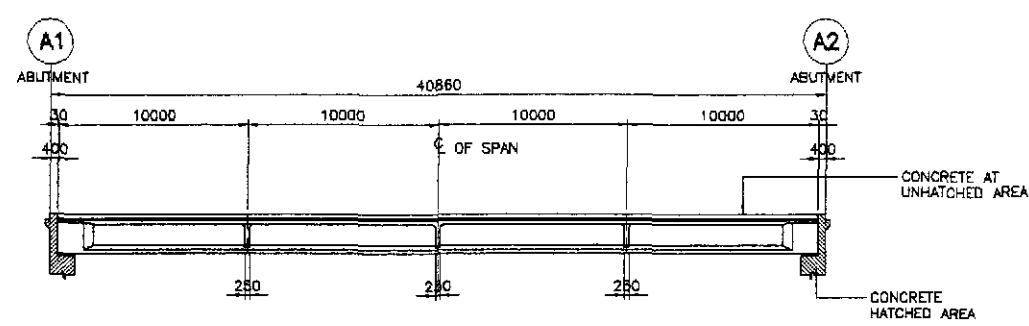
SHEET CONTENTS :
BRIDGE NO. 6
AASHTO TYPE VI GIRDER
(MODIFIED)
(ULTIMATE STAGE)

SHEET NO. :
B6-03



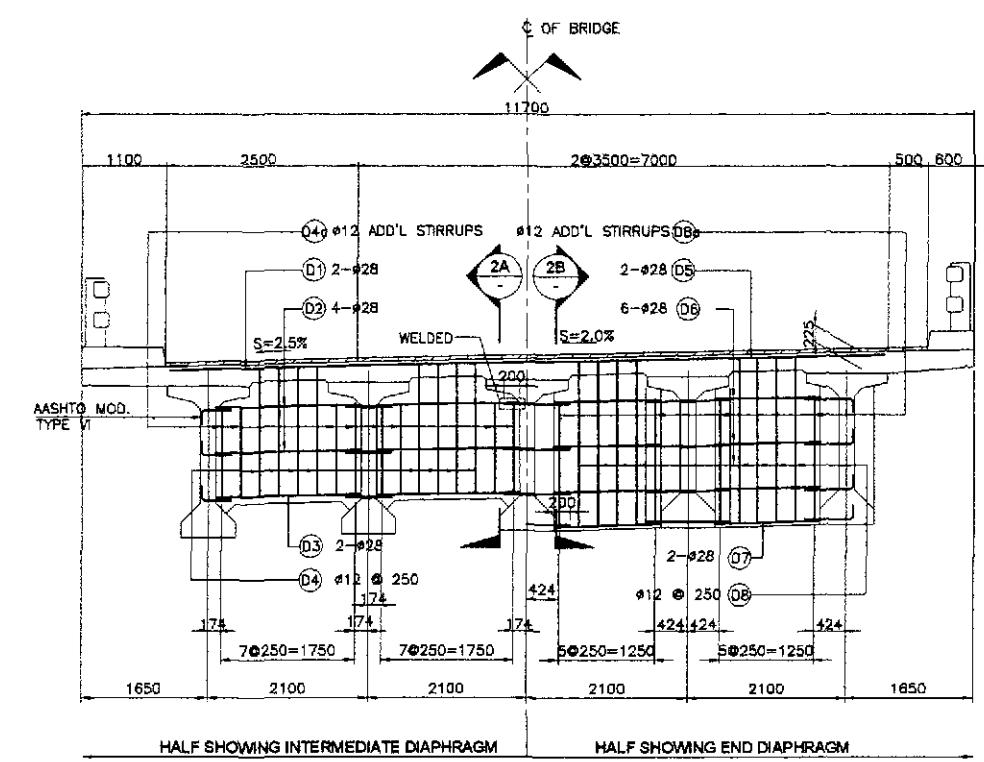
1A PLAN SCALE 1:200

- NOTES:
- CONCRETE AT HATCHED AREAS SHALL BE PLACED AT LEAST TWENTY ONE (21) DAYS AHEAD OF CONCRETE AT UNHATCHED AREAS.
 - REINFORCEMENT SHALL BE CONTINUOUS AT CONSTRUCTION JOINTS.
 - SEE GIRDER DETAIL FOR SPACING OF #28 DOWELS.

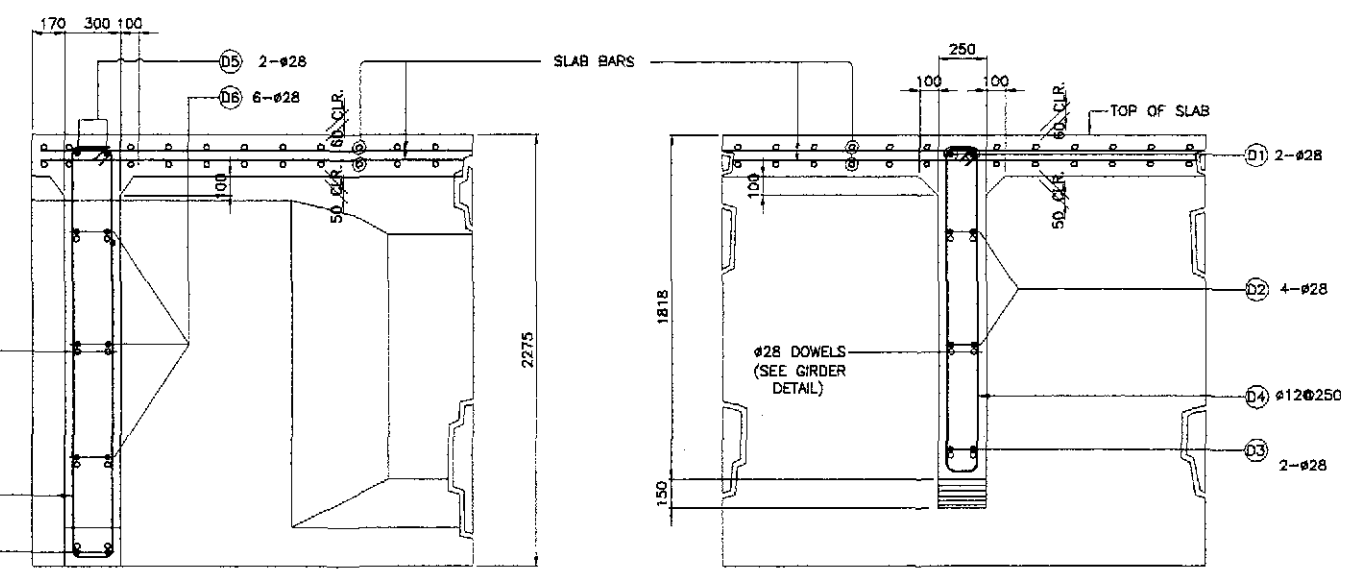


1B LONGITUDINAL SECTION SCALE 1:200

1 CONCRETE POURING SEQUENCE SCALE 1:200



2A ELEVATION SCALE 1:25

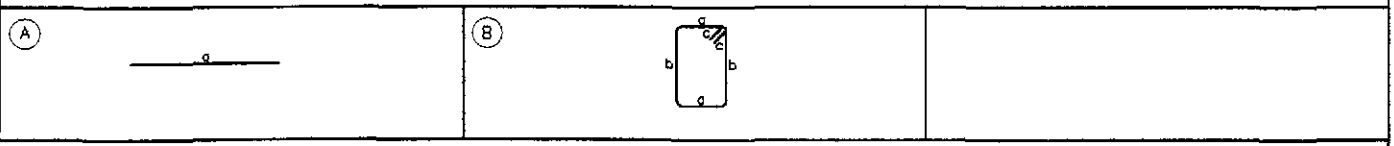


2B SECTION SCALE 1:20

2C SECTION SCALE 1:20

2 DETAIL OF END & INTERMEDIATE DIAPHRAGM SCALE AS SHOWN

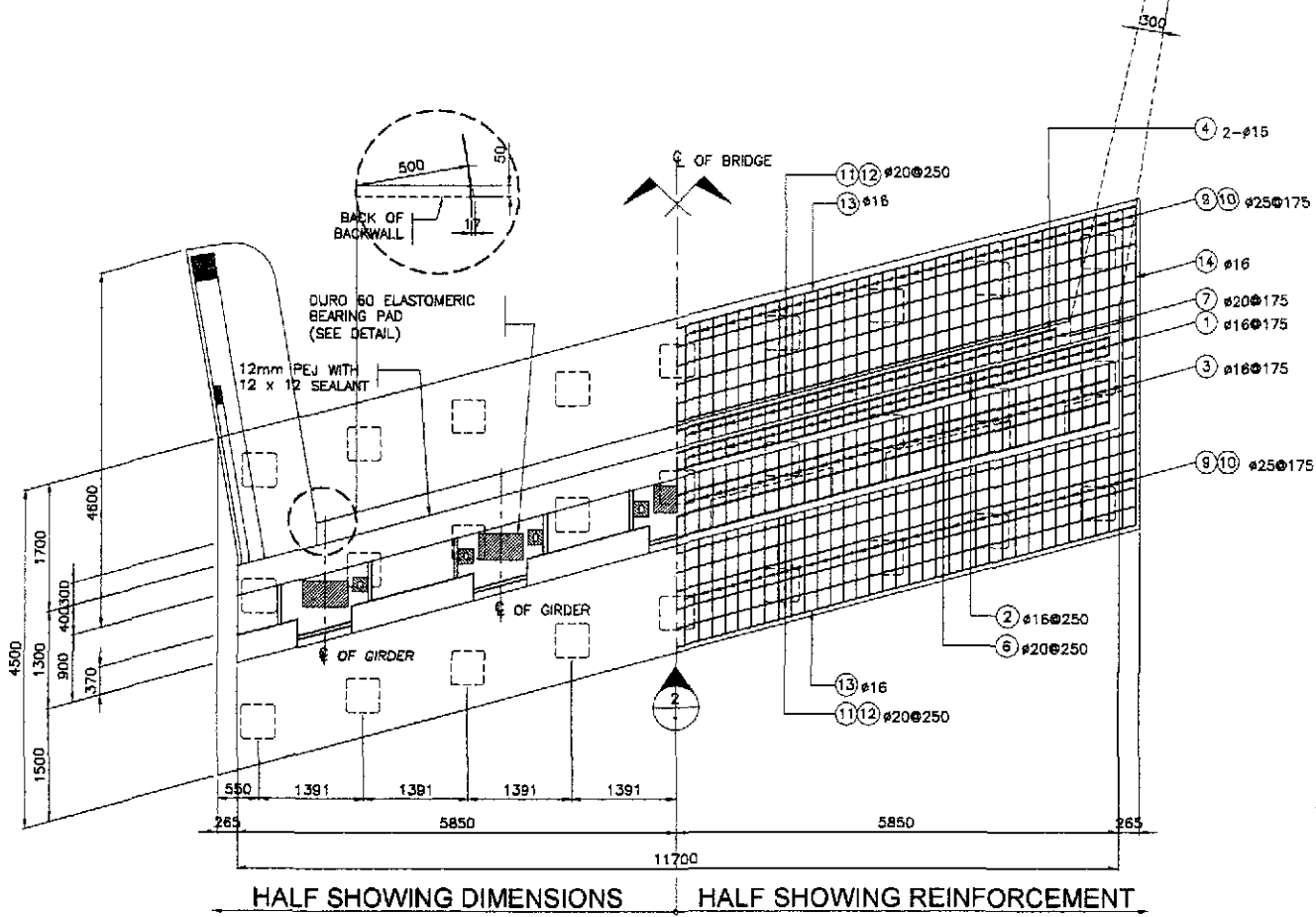
BAR BENDING DIAGRAM



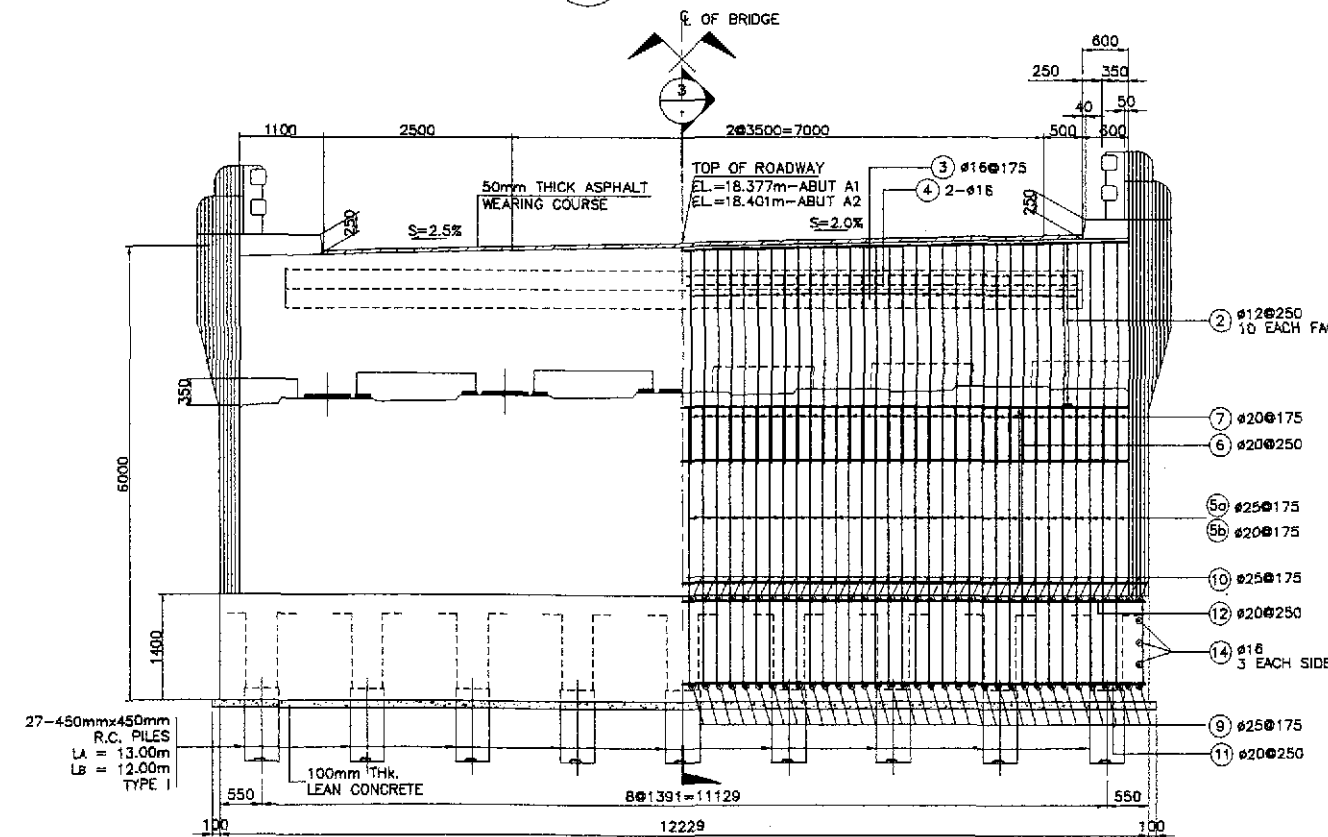
SCHEDULE OF REINFORCEMENT

STRUCTURE COMPONENT	LOCATION	CONCRETE VOLUME (m³)	BAR MARK	BAR SIZE	QTY.	SPACING	BAR SHAPE	DIMENSIONS (mm) OUT TO OUT				LENGTH PER BAR (mm)	TOTAL LENGTH (m)	UNIT WT. (kg/m)	TOTAL WEIGHT IN (kg)	REBAR RATIO (kg/m³)	REMARKS
								a	b	c	d						
DIAPHRAGM	INTERMEDIATE DIAPHRAGM	9.92	D1	28	6	AS SHOWN	A	9400				9400	56.40	4.833	273	124.20	TOP BARS
			D2	28	48	AS SHOWN	A	1895				1895	90.96	4.833	440		DIST. BARS
			D3	28	24	AS SHOWN	A	1895				1895	45.48	4.833	220		BOTT. BARS
			D4	12	48	250	B	150	1700 (ave.)	150		4000	192.00	0.888	171		STIRRUPS
			D4a	12	48	200	B	150	1200	150		3000	144.00	0.888	128		ADD'L. STIRRUPS
	END DIAPHRAGM	6.83	D5	28	4	AS SHOWN	A	9400				9400	37.60	4.833	182		TOP BARS
			D6	28	48	AS SHOWN	A	1895				1895	90.96	4.833	440		DIST. BARS
			D7	28	16	AS SHOWN	A	1895				1895	30.32	4.833	147		BOTT. BARS
			D8	12	32	250	B	200	2175	150		5050	161.60	0.888	144		STIRRUPS
			D8a	12	16	AS SHOWN	B	200	1700 (ave.)	150		4100	65.60	0.888	59		ADD'L. STIRRUPS
TOTAL		16.75														GRADE 60 TOTAL = 1,702 kgs GRADE 40 TOTAL = 502 kgs	

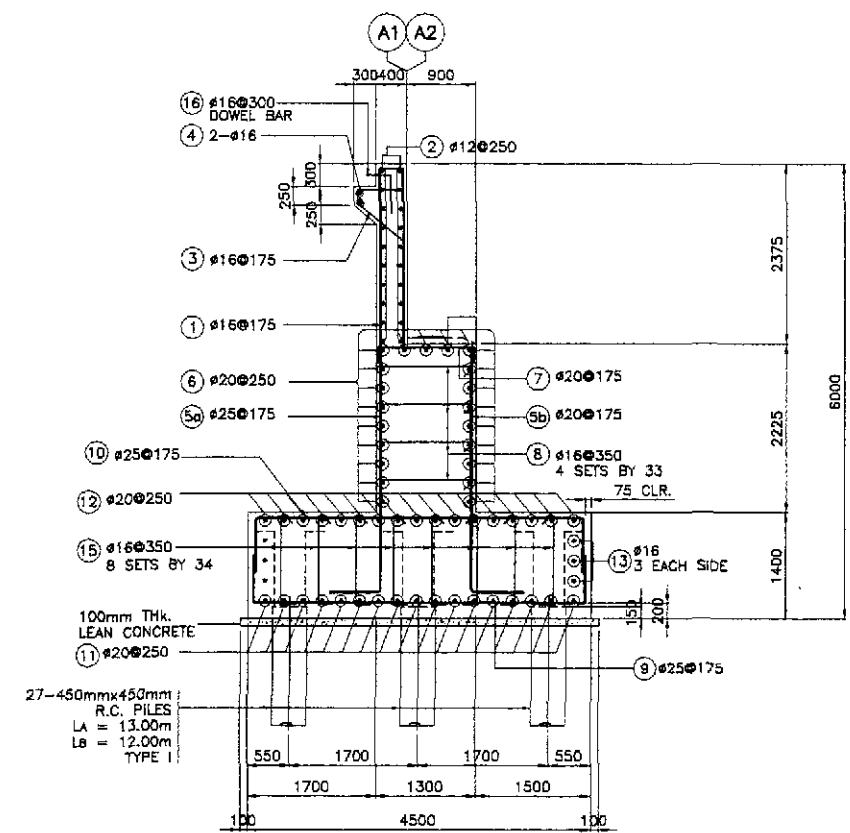
	DESIGNED	DATE	SIGNATURE		REPUBLIC OF THE PHILIPPINES			PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	9/25/02	E. R. SALLAN		DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS			THE DETAILED DESIGN STUDY ON	AS SHOWN	BRIDGE NO. 6	B6-04
	SUBMITTED	11/25/02	MANUEL M. BONDAN		BUREAU OF DESIGN			UPGRADING INTER-URBAN HIGHWAY SYSTEM	FULL SIZE A1	CONCRETE POURING SEQUENCE AND DIAPHRAGM DETAILS (ULTIMATE STAGE)	
Submitted By: DANILLO C. TRAJANG, Project Director			Reviewed By: ADRIANO M. DORCY, Chief, Bridges Division			Recommended By: GILBERTO S. REYES, Director IV (C)			OFFICE OF THE SECRETARY		
Submitted By: MANUEL M. BONDAN, Undersecretary			Recommended By: SIMEON A. DATUMANONG, Secretary			PLARDEL BYPASS - CONTRACT PACKAGE II					



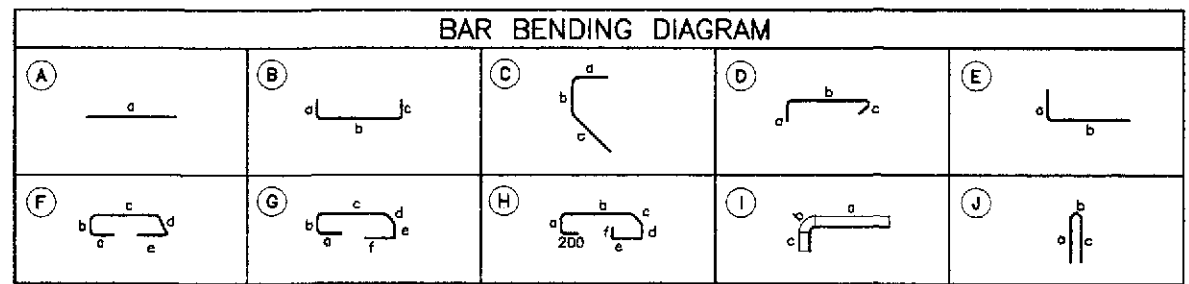
1 PLAN
SCALE 1:50



2 ELEVATION
SCALE 1:50

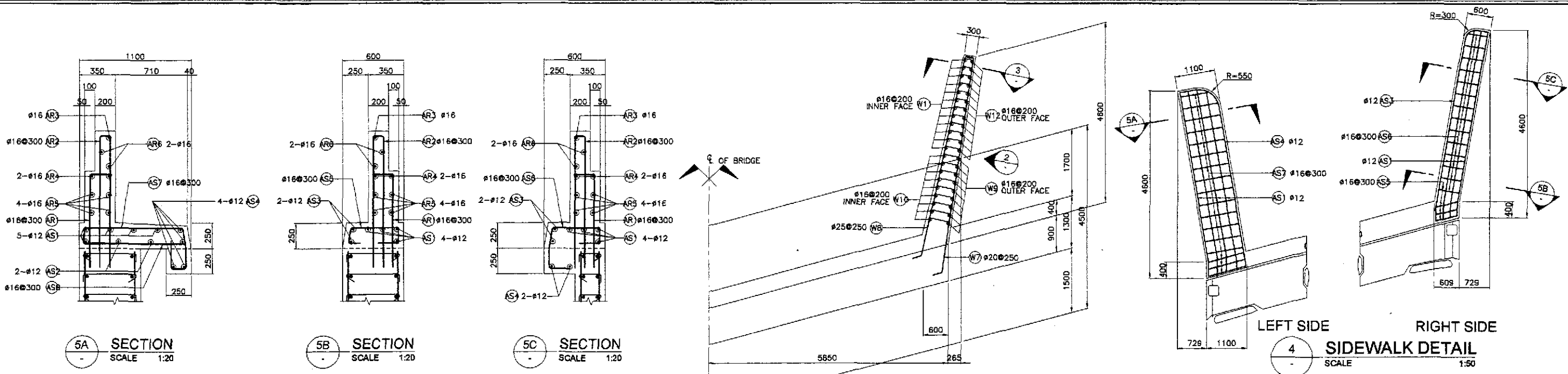


3 SECTION
SCALE 1:50



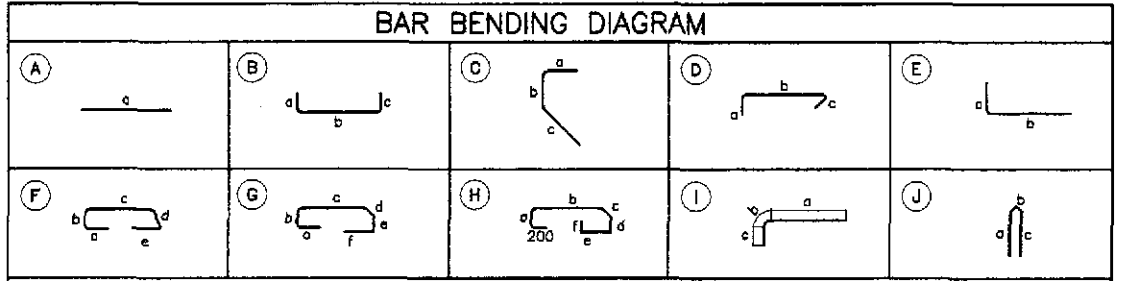
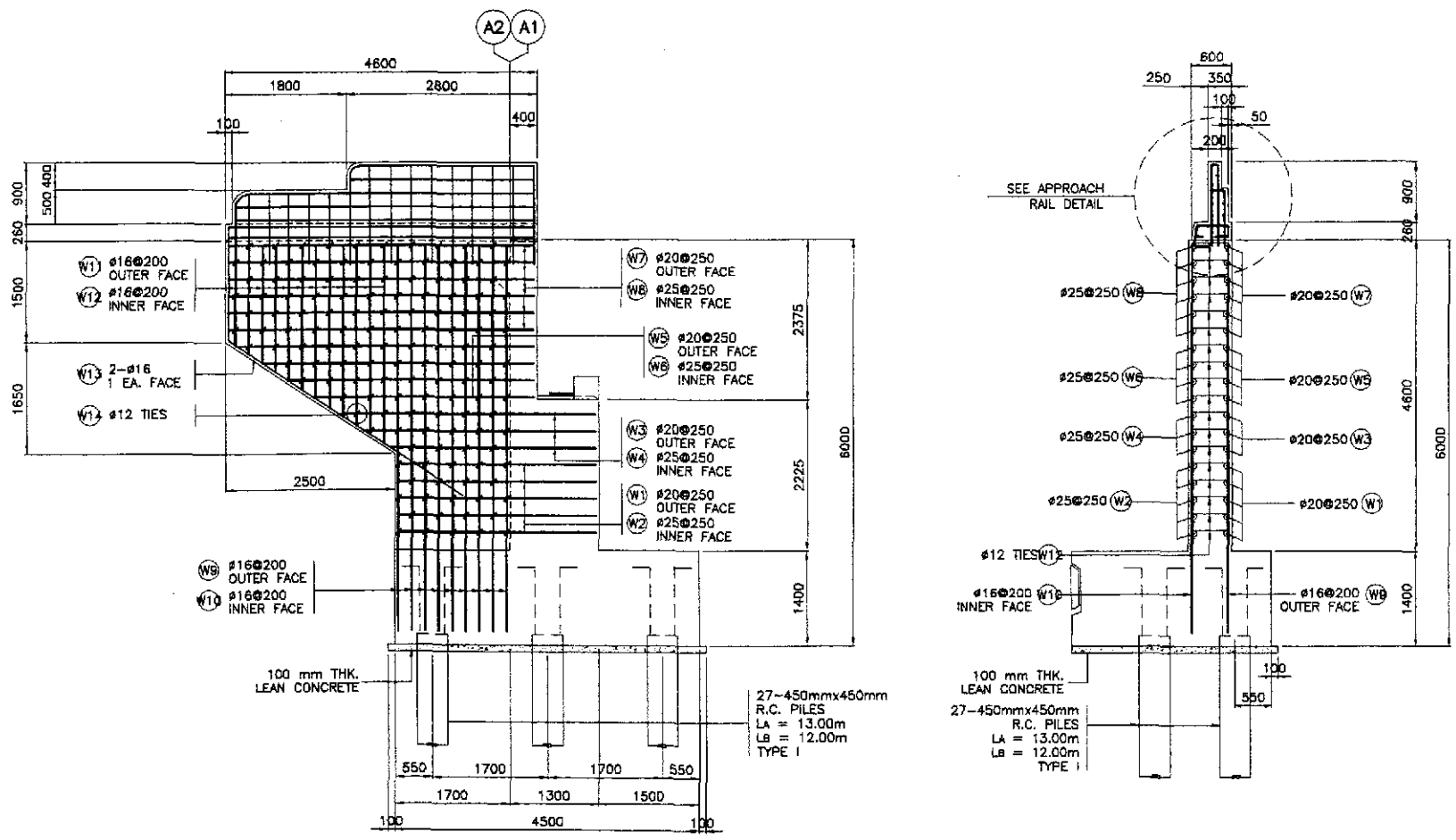
LOCATION	CONCRETE VOLUME (m ³)	BAR MARK	BAR SIZE	QTY.	SPACING	BAR SHAPE	DIMENSIONS (mm) DUT TO DUT						LENGTH EA. BAR (mm)	TOTAL LENGTH (m)	UNIT WT. (kg/m)	WEIGHT (kg)	REBAR RATIO (kg/m ³)	
							a	b	c	d	e	f						
BACKWALL	12.24	1	16	67	175	B	2500	300	2500	-	-	-	5300	355.10	1.578	561	77.29	
		2	12	20	250	A	12000	-	-	-	-	-	12000	240.00	0.888	214		
		3	16	58	175	C	800	150	750	-	-	-	1500	87.00	1.579	138		
		4	16	2	AS SHOWN	A	10250	-	-	-	-	-	10250	20.50	1.579	33		
MAINWALL	33.84	5a	25	67	175	E	400	3375	-	-	-	3775	252.93	3.854	975	84.42		
		5b	20	67	175	E	400	3375	-	-	-	3775	252.93	2.466	624			
		6	20	21	250	A	12000	-	-	-	-	-	12000	252.00	2.466		622	
		7	20	67	175	B	250	1200	250	-	-	-	1700	113.90	2.466		281	
FOOTING	77.05	8	16	132	350	D	250	1200	250	-	-	-	1700	224.40	1.579	355	67.93	
		9	25	70	175	B	700	4350	700	-	-	-	5750	402.50	3.854	1522		
		10	25	70	175	B	700	4350	700	-	-	-	5750	402.50	3.854	1522		
		11	20	18	250	B	700	12530	700	-	-	-	13930	250.74	2.466	619		
		12	20	18	250	B	700	12530	700	-	-	-	13930	250.74	2.466	619		
		13	16	6	AS SHOWN	A	12530	-	-	-	-	-	12530	75.18	1.579	119		
DOWEL		14	16	6	AS SHOWN	A	4350	-	-	-	-	-	4350	26.10	1.579	42		
		15	16	272	350	D	250	1200	250	-	-	-	1700	462.40	1.579	731		
TOTAL	123.13																	

GRADE 40 TOTAL = 2,255 kgs.
GRADE 60 TOTAL = 6,844 kgs.

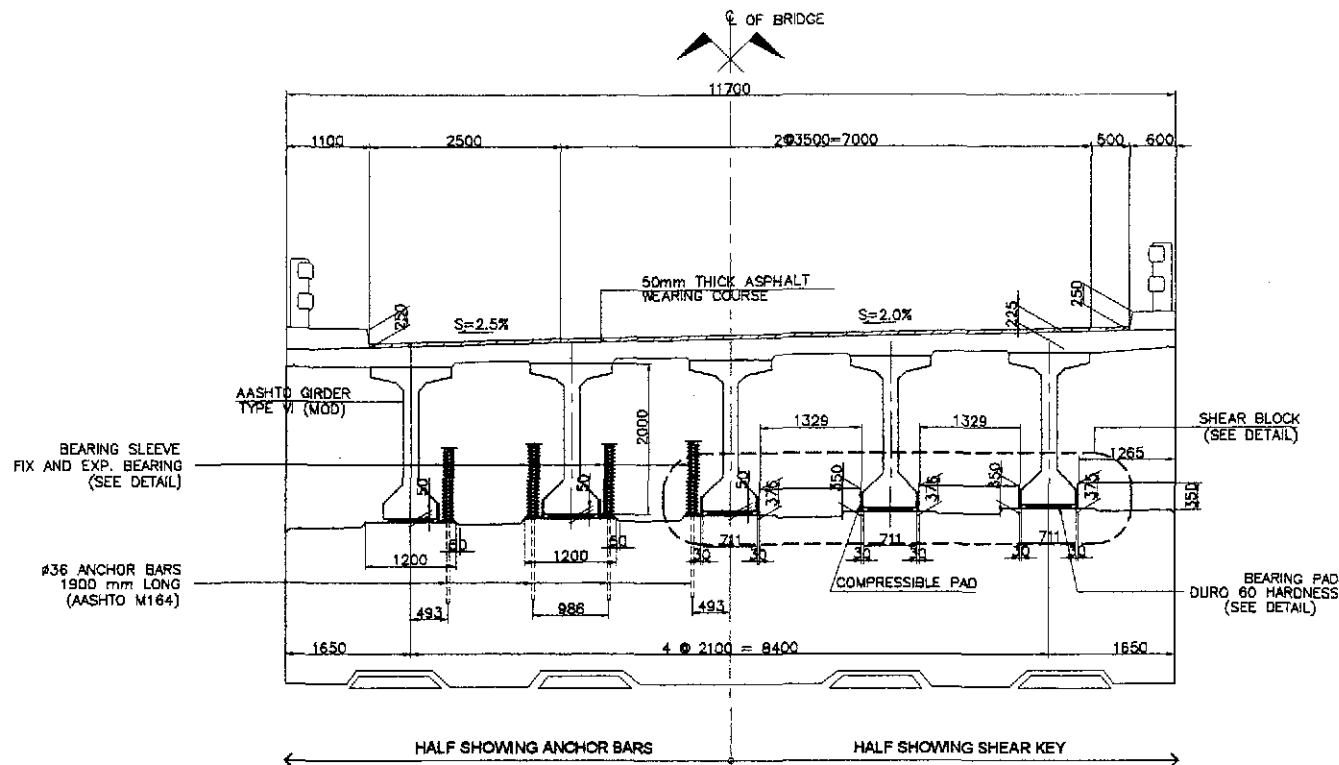


5 APPROACH RAIL DETAILS SCALE 1:20

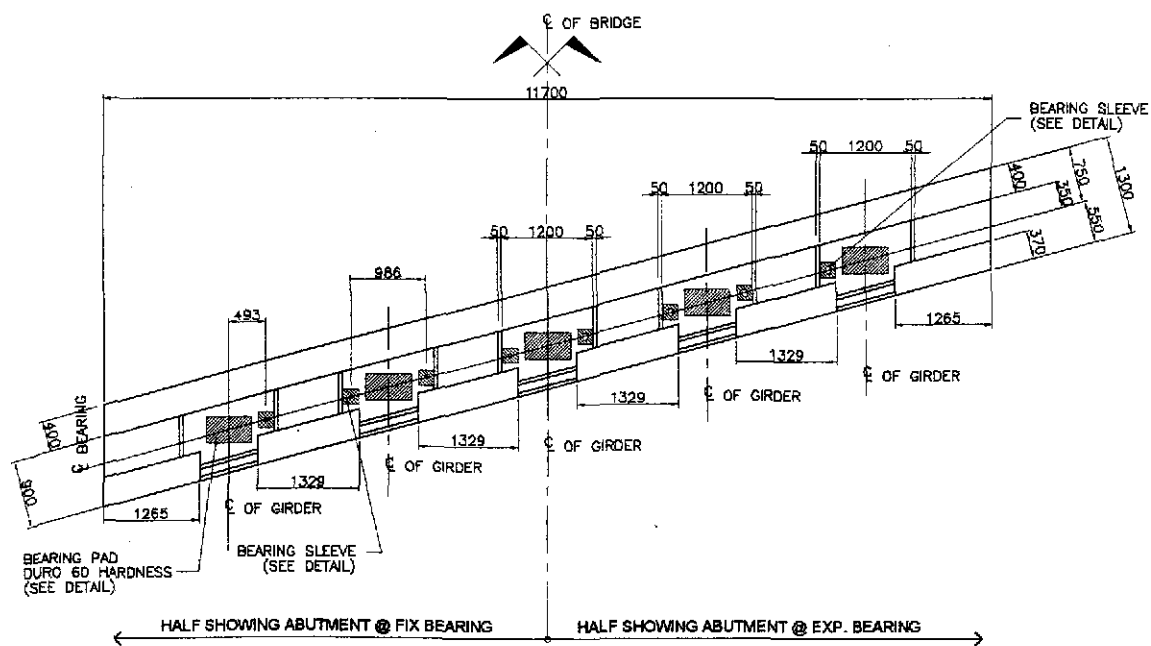
1 PLAN SCALE 1:50



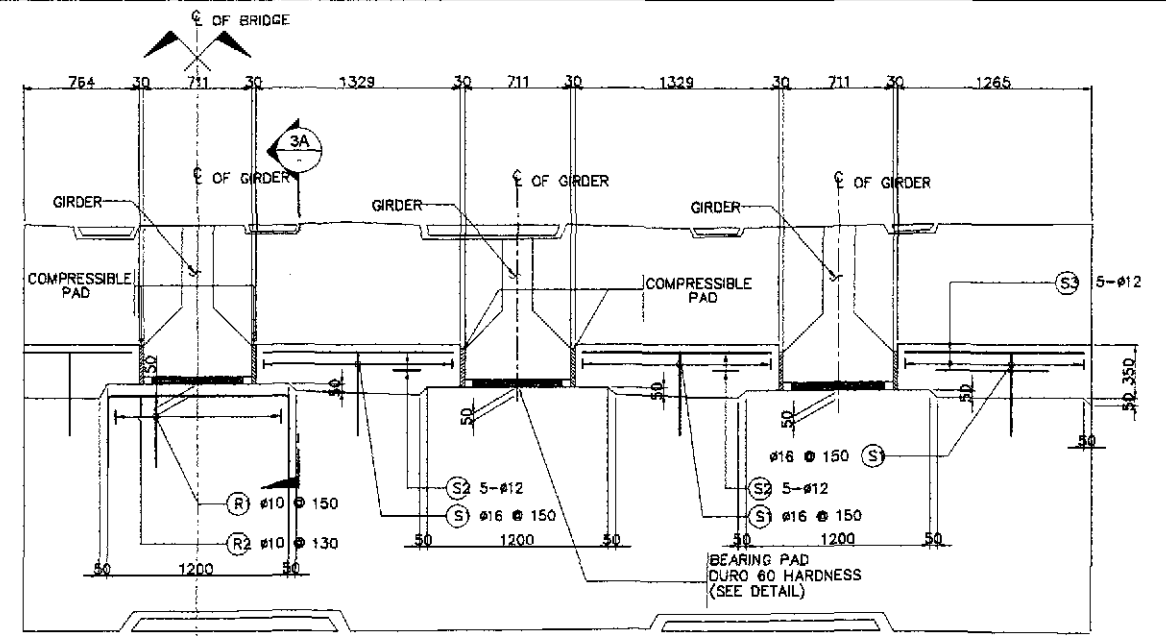
SCHEDULE OF REINFORCEMENT PER ABUTMENT																		
LOCATION	CONCRETE VOLUME (m ³)	BAR MARK	BAR SIZE	QTY.	SPACING	BAR SHAPE	DIMENSIONS (mm) OUT TO OUT						LENGTH EA. BAR (mm)	TOTAL LENGTH (m)	UNIT WT. (kg/m)	WEIGHT (kg)	REBAR RATIO (kg/m ³)	
							a	b	c	d	e	f						
WINGWALL	12.27	W1	20	10	250	B	400	2900	150	-	-	-	3450	34.50	2.466	86		
		W2	25	10	250	B	400	2900	150	-	-	-	3450	34.50	3.854	133		
		W3	20	6	250	B	400	3400	150	-	-	-	3950	23.70	2.466	59		
		W4	25	6	250	B	400	3400	150	-	-	-	3950	23.70	3.854	92		
		W5	20	8	250	B	400	4000	150	-	-	-	4550	36.40	2.466	90		
		W6	25	8	250	B	400	4000	150	-	-	-	4550	36.40	3.854	141		
		W7	20	12	250	B	400	4500	150	-	-	-	5050	60.60	2.466	150		
		W8	25	12	250	B	400	4500	150	-	-	-	5050	60.60	3.854	234		
		W9	16	18	200	E	250	5800	-	-	-	-	6050	108.90	1.579	172		
		W10	16	18	200	E	250	5800	-	-	-	-	6050	108.90	1.579	172		
		W11	16	24	200	E	250	2200	-	-	-	-	2450	58.80	1.579	93		
		W12	16	24	200	E	250	2200	-	-	-	-	2450	58.80	1.579	93		
		W13	16	4	AS SHOWN	C	250	1500	4100	-	-	-	5850	23.40	1.579	37		
W14	12	272	AS SHOWN	D	170	450	170	-	-	-	790	214.88	0.888	191				
													GRADE 80 TOTAL = 985 kgs.					
													GRADE 40 TOTAL = 758 kgs.					
APPROACH RAILING AND SIDEWALK	4.50	AS	12	9	AS SHOWN	A	4500	-	-	-	-	4500	40.50	0.888	36			
		AS2	12	2	AS SHOWN	A	4500	-	-	-	-	4500	9.00	0.888	8			
		AS3	12	2	AS SHOWN	A	4500	-	-	-	-	4500	9.00	0.888	8			
		AS4	12	6	AS SHOWN	A	4500	-	-	-	-	4500	27.00	0.888	24			
		AS5	16	4	300	F	200	170	480	200	200	-	1250	5.00	1.579	8		
		AS6	16	13	300	G	200	170	480	200	170	200	1420	18.46	1.579	30		
		AS7	16	17	300	H	200	170	980	200	170	200	2120	36.04	1.579	57		
		AS8	16	17	300	E	200	1020	-	-	-	-	1220	20.74	1.579	33		
		AR1	16	10	300	E	200	900	-	-	-	-	1100	11.00	1.579	18		
		AR2	16	18	300	J	1300	120	1300	-	-	-	2720	48.96	1.579	78		
		AR3	16	2	AS SHOWN	I	2700	236	1300	-	-	-	4236	6.47	1.579	14		
		AR4	16	4	AS SHOWN	I	4400	236	900	-	-	-	5536	22.14	1.579	35		
		AR5	16	8	AS SHOWN	A	4400	-	-	-	-	-	4400	35.20	1.579	56		
AR6	16	4	AS SHOWN	A	2700	-	-	-	-	-	2700	10.80	1.579	18				
													GRADE 40 TOTAL = 423 kgs.					
TOTAL	16.77														GRADE 80 TOTAL = 985 kgs.		GRADE 40 TOTAL = 1,181 kgs.	



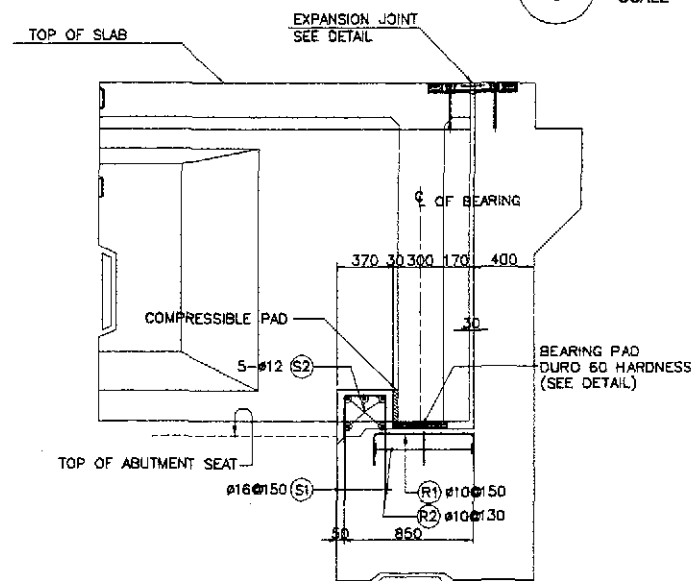
1 SECTION AT ABUTMENT SEAT
SCALE 1:50



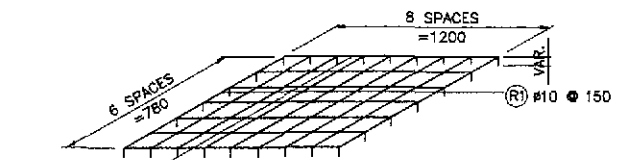
2 PLAN AT ABUTMENT SEAT
SCALE 1:50



3 SHEAR BLOCK DETAIL
SCALE 1:25



3A SECTION
SCALE 1:25

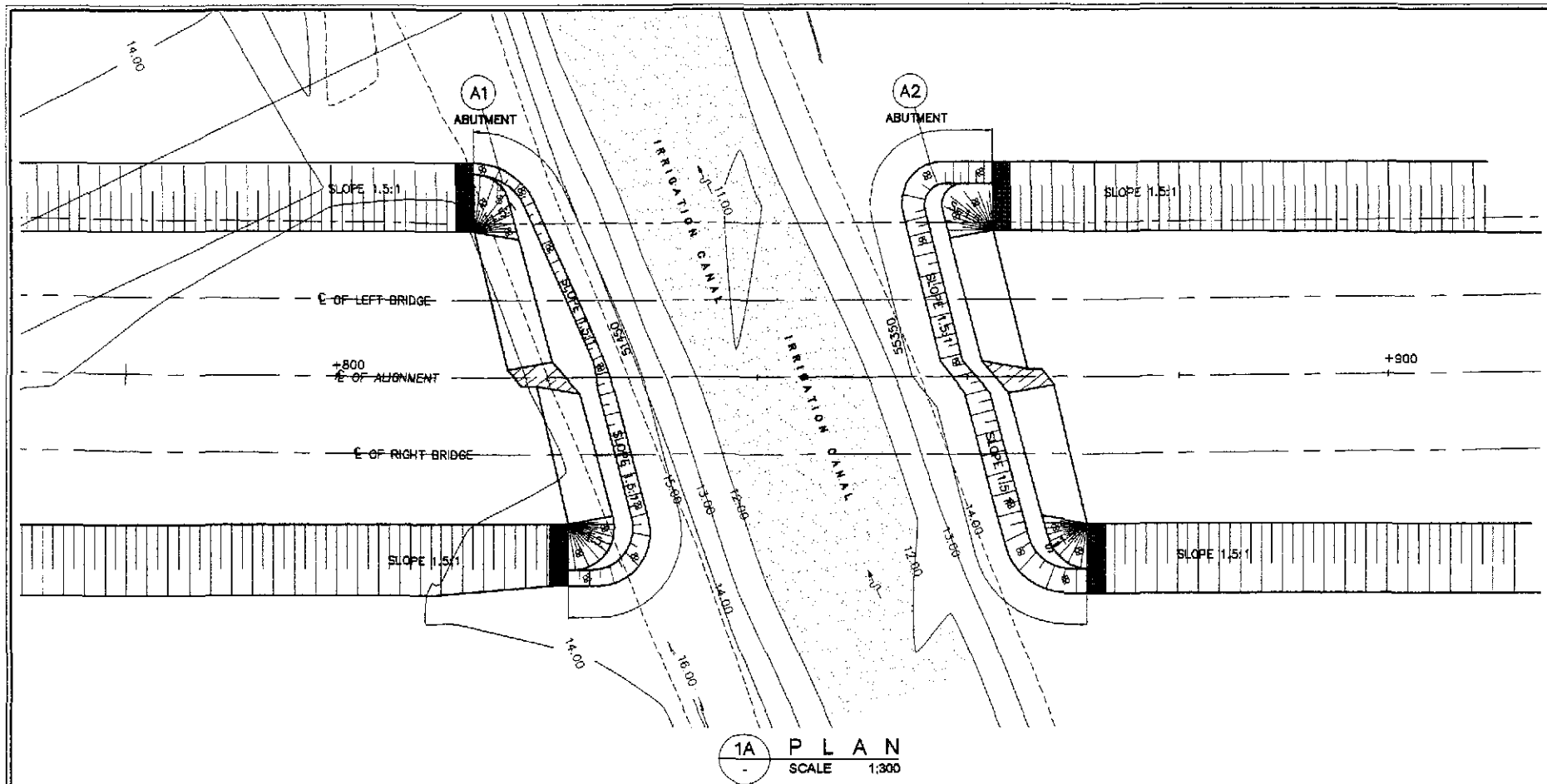


4 RISER REINFORCEMENT
SCALE NOT TO SCALE

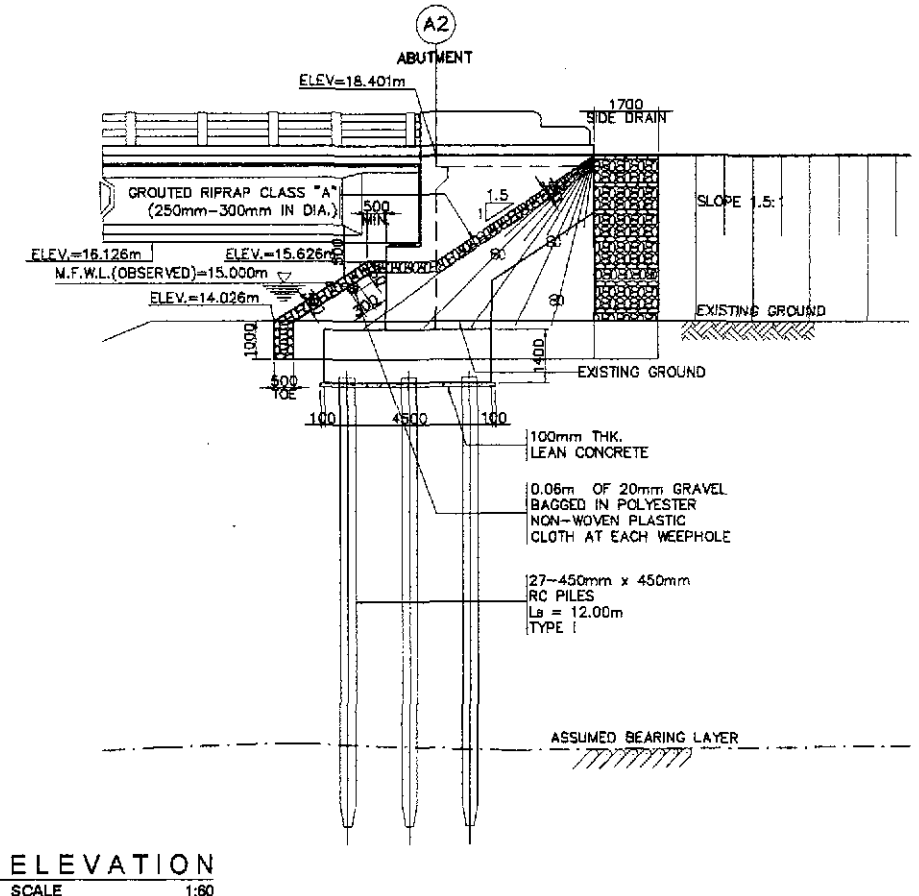
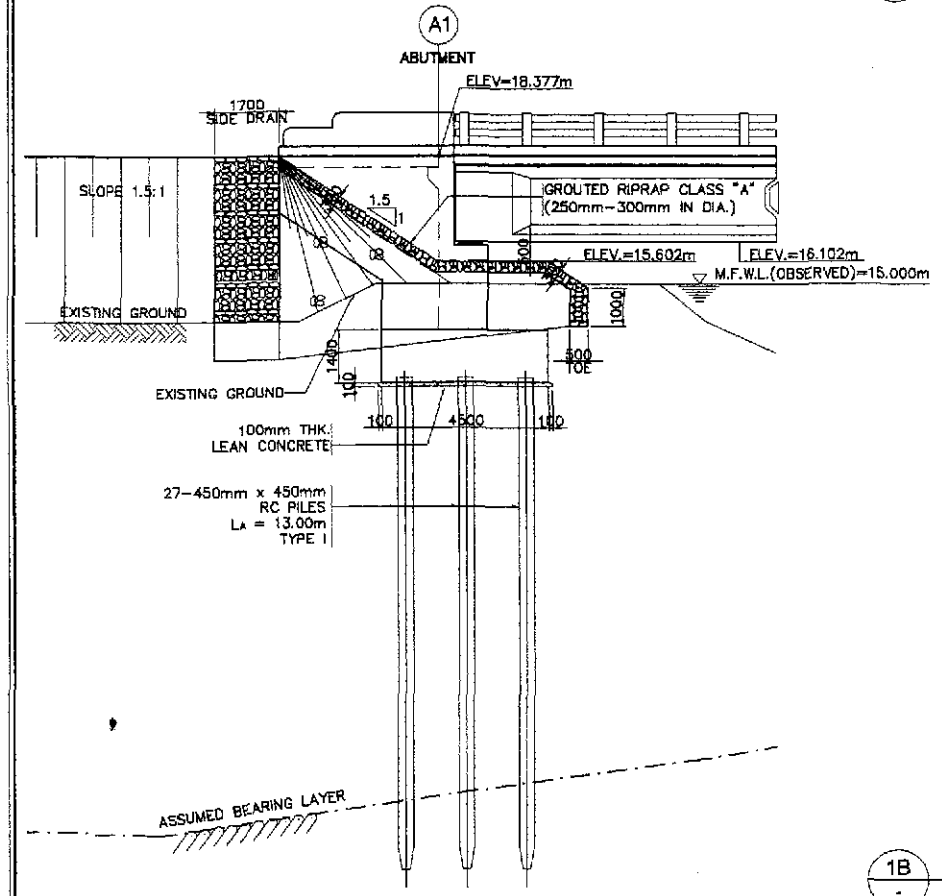
BAR BENDING DIAGRAM																
SCHEDULE OF REINFORCEMENT																
LOCATION	CONCRETE VOLUME (m ³)	BAR MARK	BAR SIZE	QTY.	SPACING	BAR SHAPE	DIMENSION (mm) OUT TO OUT					LENGTH EACH BAR (m)	TOTAL LENGTH (m)	UNIT WEIGHT (kg/m)	WEIGHT (kg)	REBAR RATIO (kg/m ³)
							a	b	c	d	e					
SHEAR KEY & RISER	1.59	S1	16	54	150	(B)	560	290	560			1410	76.14	1.579	121	160.68
		S2	12	20	AS SHOWN	(A)	1295					1295	25.90	0.888	23	
		S3	12	10	AS SHOWN	(A)	1230					1230	12.30	0.888	11	
		R1	10	45	150	(B)	500	810	500			1810	81.45	0.616	51	
		R2	10	35	130	(B)	500	1250	500			2250	78.75	0.616	49	
TOTAL	1.59															(PER ABUTMENT) GRADE 40 TOTAL = 255 kgs.

THE REINFORCEMENT SHOWN ON THIS TABLE IS FOR REFERENCE ONLY. THE CONTRACTOR SHOULD CHECKED AND VERIFY ALL DIMENSIONS, SIZES AND QUANTITIES OF REINFORCEMENT.

	DATE: 9/21/02 DESIGNED: [Signature] CHECKED: 9/25/02 SUBMITTED: 7/27/02	SIGNATURE: [Signature] E. N. SALLAN Submitted By: [Signature] DANLO C. TRAJANO Project Director	REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS BUREAU OF DESIGN Reviewed By: [Signature] ADRIANO M. DORON Chief, Bridges Division	OFFICE OF THE SECRETARY Recommended By: [Signature] MANUEL M. BONDAN Undersecretary	Approved By: [Signature] SIMEON A. DATUMANONG 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: BRIDGE NO. 6 SHEAR KEY AND RISER DETAILS (ULTIMATE STAGE)	SHEET NO.: B6-08
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1A PLAN
SCALE 1:300

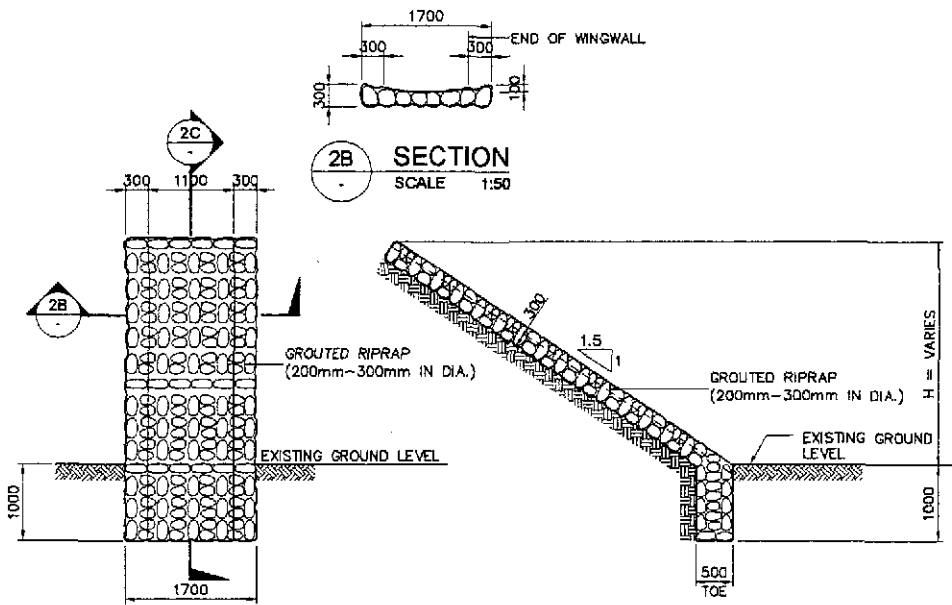


1B ELEVATION
SCALE 1:80

1 ABUTMENT SLOPE PROTECTION
SCALE AS SHOWN

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 SWEEP WITH A STIFF BROOM.
- 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/sq. 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.
- HAND-LAID ROCK SHALL BE MORE THAN 0.015cu.m. IN VOLUME AND SHALL CONSISTS OF HARD AND DURABLE STONES. ALL SHALL BE LAID FLAT AND SECURELY PLACED WITH LARGER STONES GENERALLY LOCATED IN THE LOWER PART OF THE STRUCTURE.
- NO CONCRETING UNDER WATER SHALL BE PERMITTED.
- PROVIDE 1.0m BERM WHEN HEIGHT (H) IS > 4.0m.



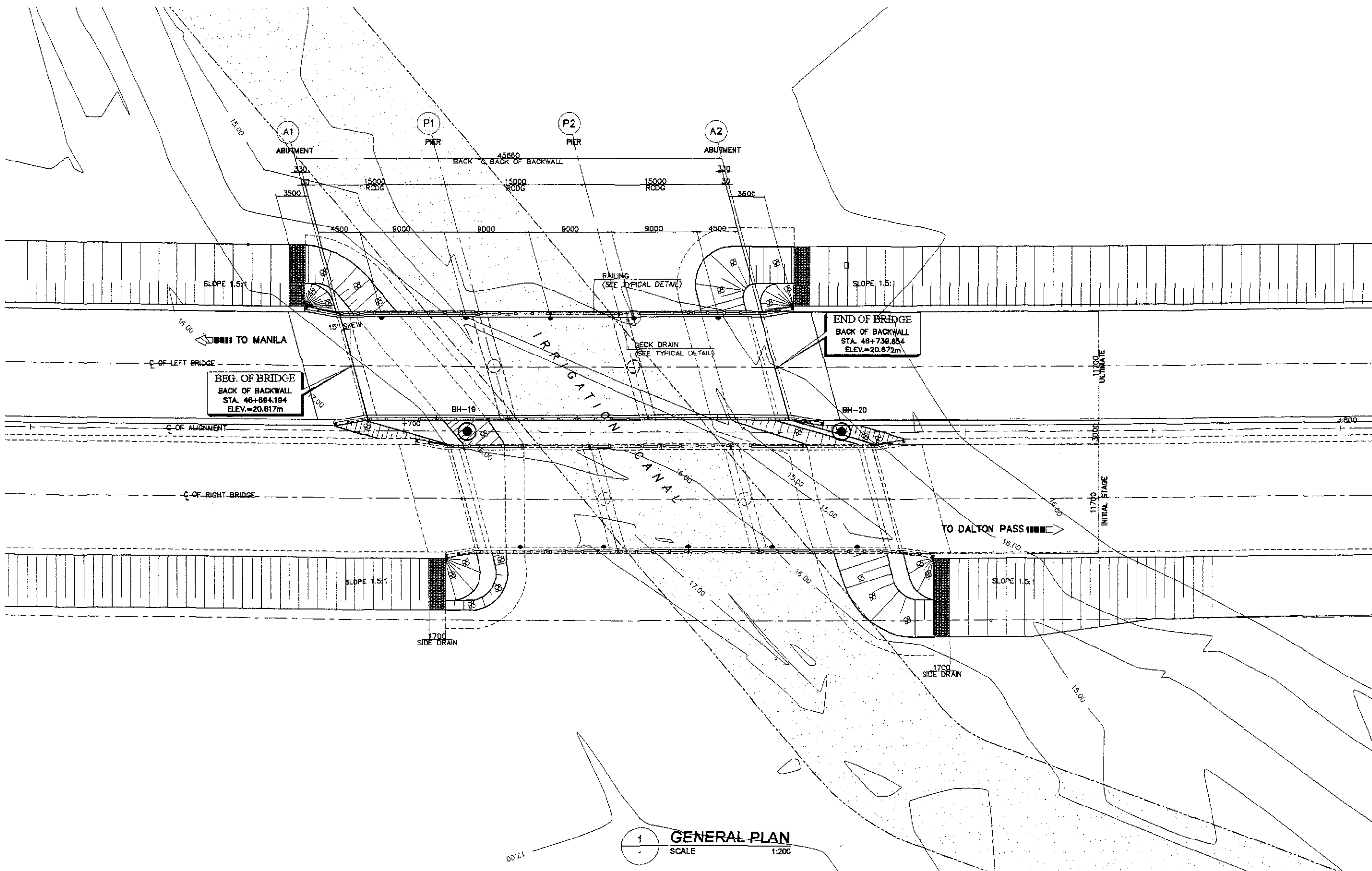
2A ELEVATION SCALE 1:50
2B SECTION SCALE 1:50
2C SECTION SCALE 1:50

2 TYPICAL SIDE DRAIN DETAIL
SCALE AS SHOWN

VELOCITY (m/sec)	ROCK SIZE (mm)	
	VERY TURBULENT FLOW	SMOOTH FLOW
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	PER ABUTMENT QUANTITY	
		ABUT. A1	ABUT. A2
SIDE DRAIN	200mm-300mm IN DIA.	4.77 cu. m.	4.77 cu. m.
GROUTED RIPRAP	250mm-300mm IN DIA.	56.02 cu. m.	57.15 cu. m.

	DESIGNED	DATE	SIGNATURE		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS			PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :	
	CHECKED	9/25/02	P. GONZALES		BUREAU OF DESIGN	THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)			AS SHOWN	BRIDGE NO. 6 ABUTMENT PROTECTION AND SIDE DRAIN DETAILS (ULTIMATE STAGE)		B6-09
	SUBMITTED	9/27/02	MANUEL M. BONDAN		OFFICE OF THE SECRETARY	PLARIDEL BYPASS - CONTRACT PACKAGE II			FULL SIZE A1			



1 **GENERAL PLAN**
 SCALE 1:200

A **PLARIDEL BYPASS BRIDGE NO. 7 (STA. 46+694.194)**
 SCALE AS SHOWN

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

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

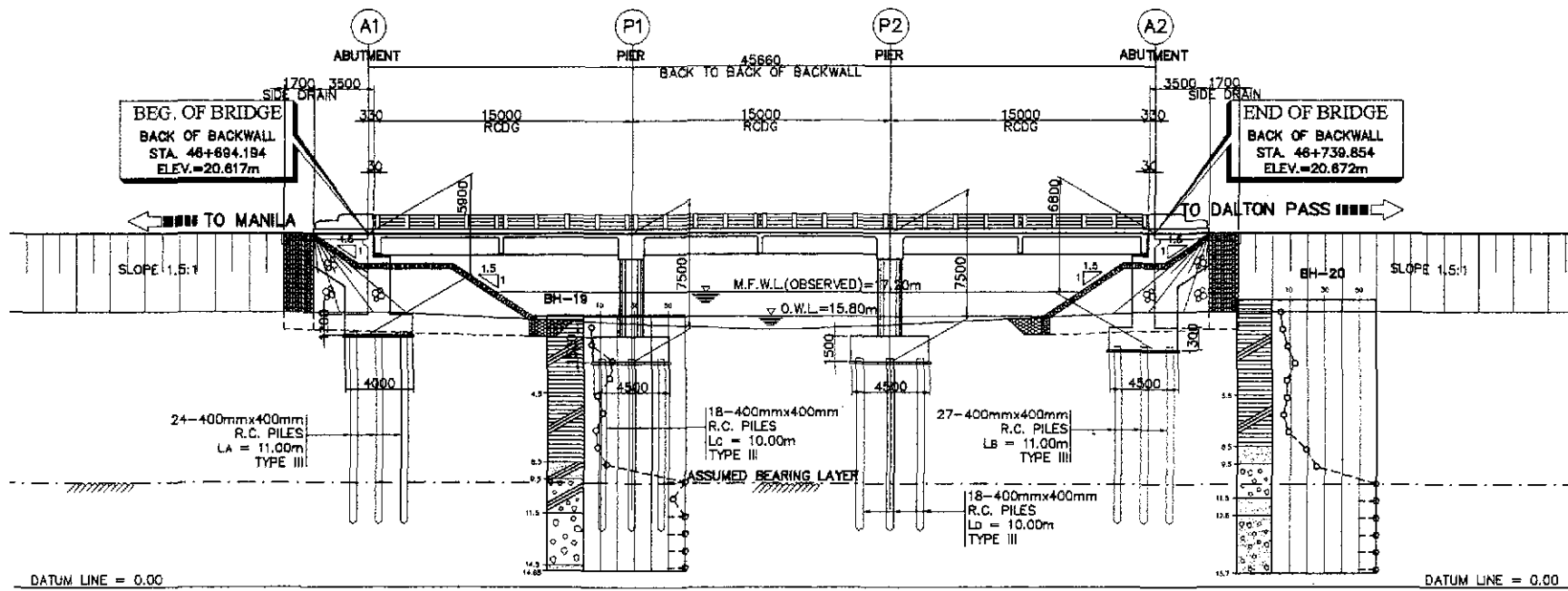
DESIGNED		CHECKED		SUBMITTED		SUBMITTED BY		REVIEWED BY		RECOMMENDED BY		APPROVED BY	
DATE	SIGNATURE	DATE	SIGNATURE	DATE	SIGNATURE	Submitted By:	Reviewed By:	Recommended By:	Recommended By:	Recommended By:	Approved By:	Approved By:	Approved By:
9/28/02	<i>[Signature]</i>	7/25/02	<i>[Signature]</i>	7/25/02	<i>[Signature]</i>	DANILO C. TRAJANO Project Director	ADRIANO M. DORCO Chief, Bridges Division	GILBERTO S. REYES Director W (OIC)	MANUEL M. BONDAN Undersecretary	MANUEL M. BONDAN Undersecretary	SIMEON A. DATUMANONG Secretary	SIMEON A. DATUMANONG Secretary	SIMEON A. DATUMANONG 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)
PLARIDEL BYPASS - CONTRACT PACKAGE II

SCALE :
 1:200
 FULL SIZE A1

SHEET CONTENTS :
BRIDGE NO. 7
GENERAL PLAN
 (ULTIMATE STAGE)

SHEET NO. :
B7-01



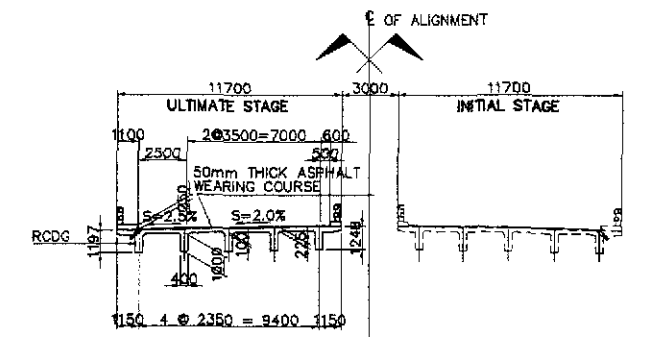
1 GENERAL ELEVATION
SCALE 1:200

HYDRAULIC DESIGN DATA	
VELOCITY @ 50 YEARS, V_{50}	1.157 m/sec
DISCHARGE @ 50 YEARS, Q_{50}	14.700 cu.m/sec
CATCHMENT AREA, CA	1.350 sq. km

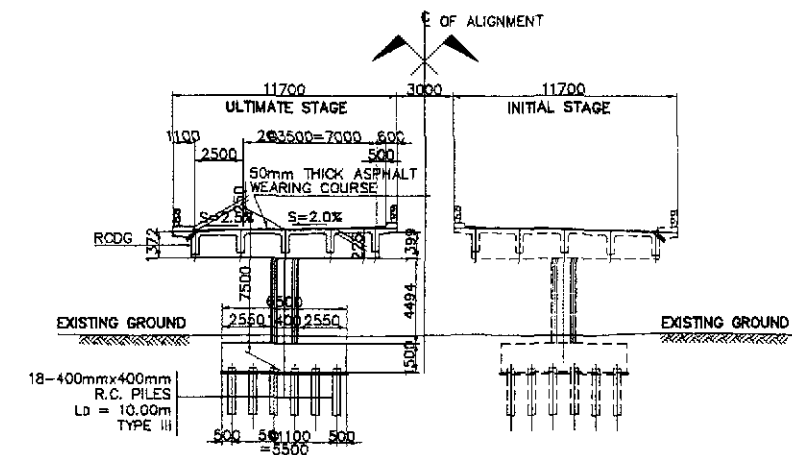
NOTE :
PRIOR TO CONSTRUCTION SOIL INVESTIGATION SHALL BE CONDUCTED FOR CONFIRMATION OF ASSUMED BEARING CAPACITY AND FOOTING ELEVATION.

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.

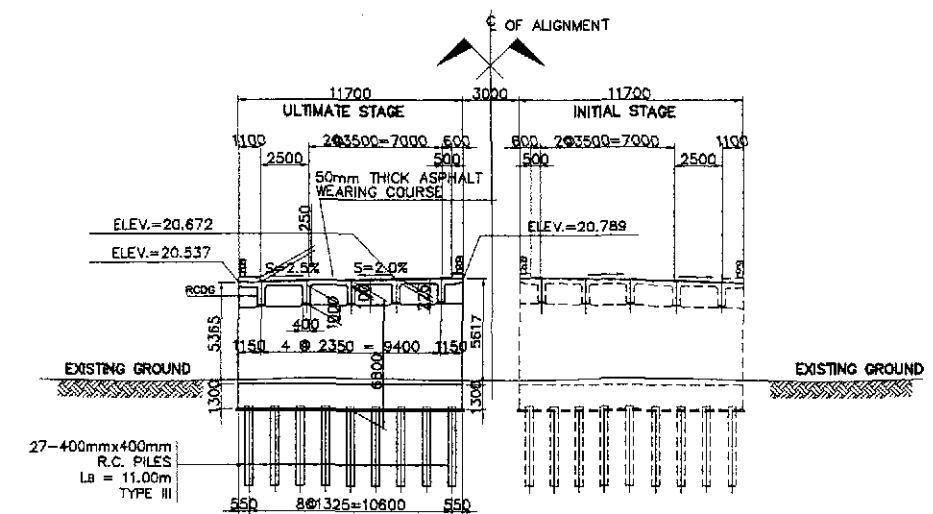
A PLARIDEL BYPASS BRIDGE NO.7 (STA. 46+694.194)
SCALE AS SHOWN



2 SECTION AT SUPERSTRUCTURE
SCALE 1:200



3 SECTION AT PIER P2
SCALE 1:200



4 SECTION AT ABUTMENT A2
SCALE 1:200

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

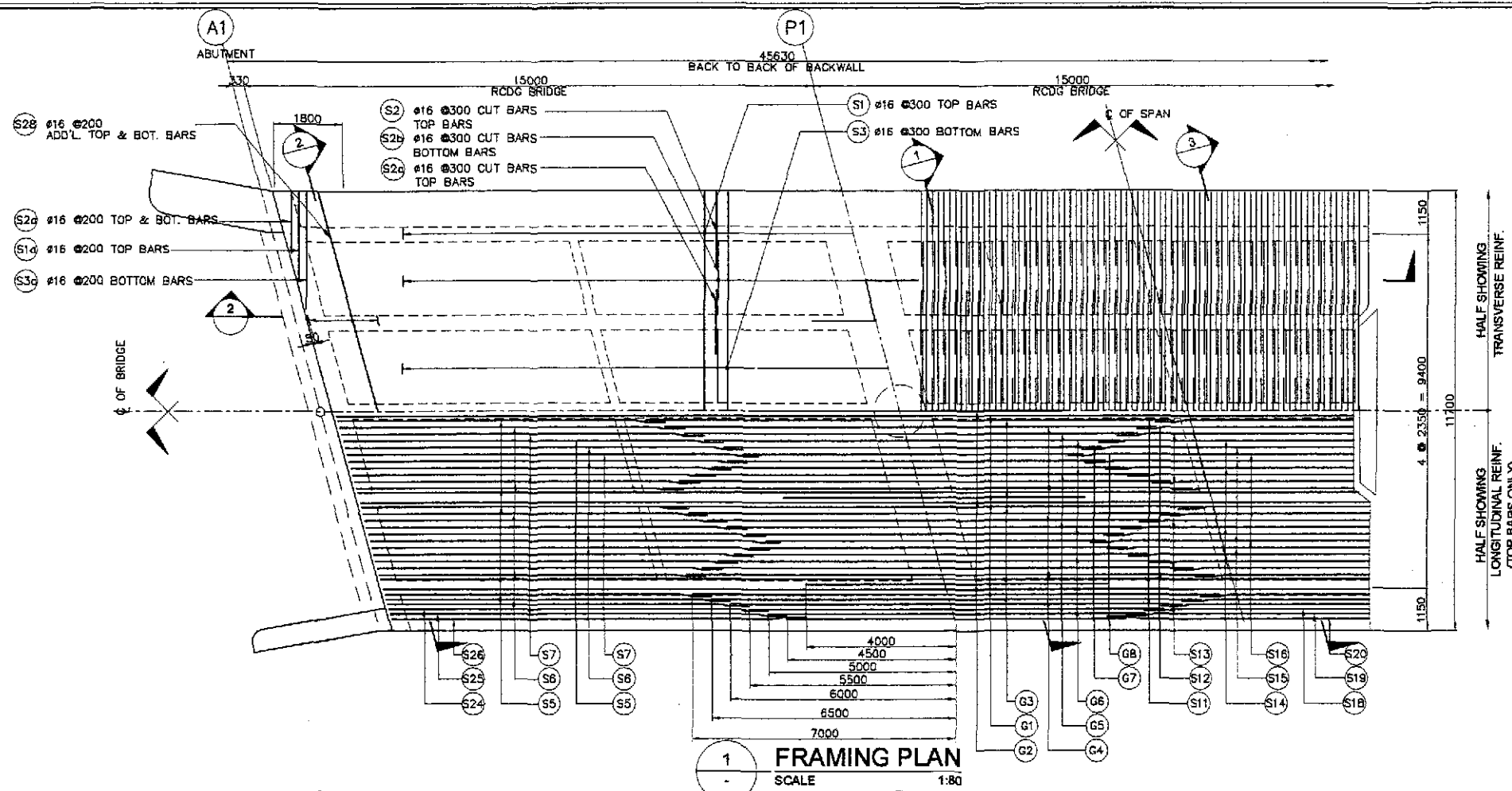
REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
BUREAU OF DESIGN
OFFICE OF THE SECRETARY

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

SCALE :
1:200
FULL SIZE A1

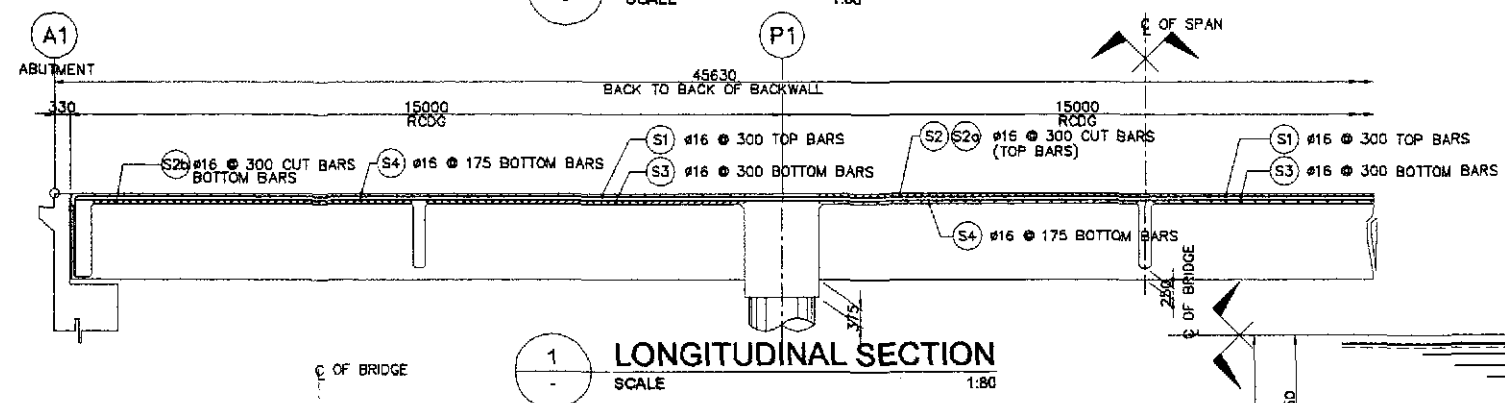
SHEET CONTENTS :
BRIDGE NO. 7
GENERAL ELEVATION
AND SECTIONS
(ULTIMATE STAGE)

SHEET NO. :
B7-02

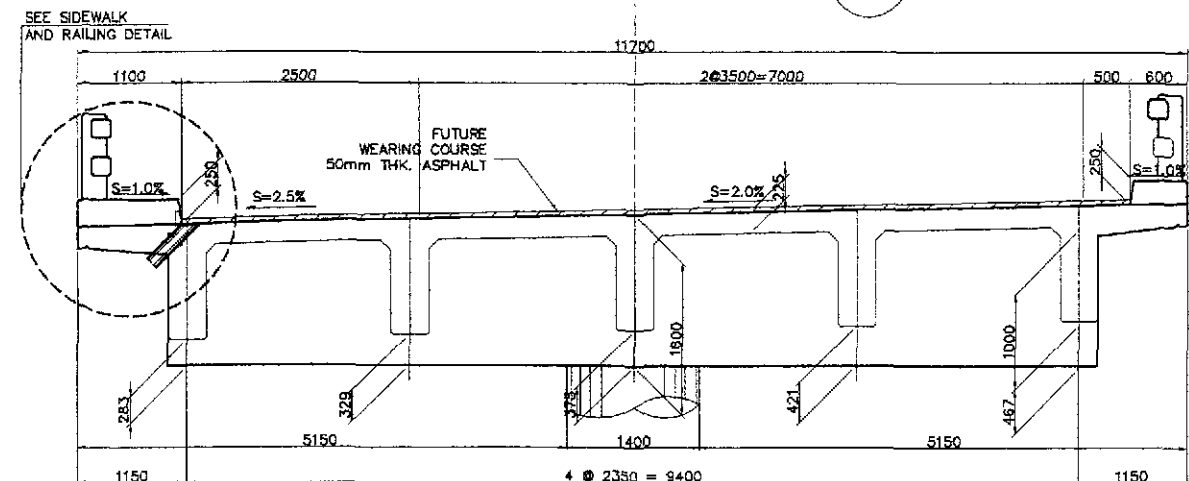


1 FRAMING PLAN
SCALE 1:80

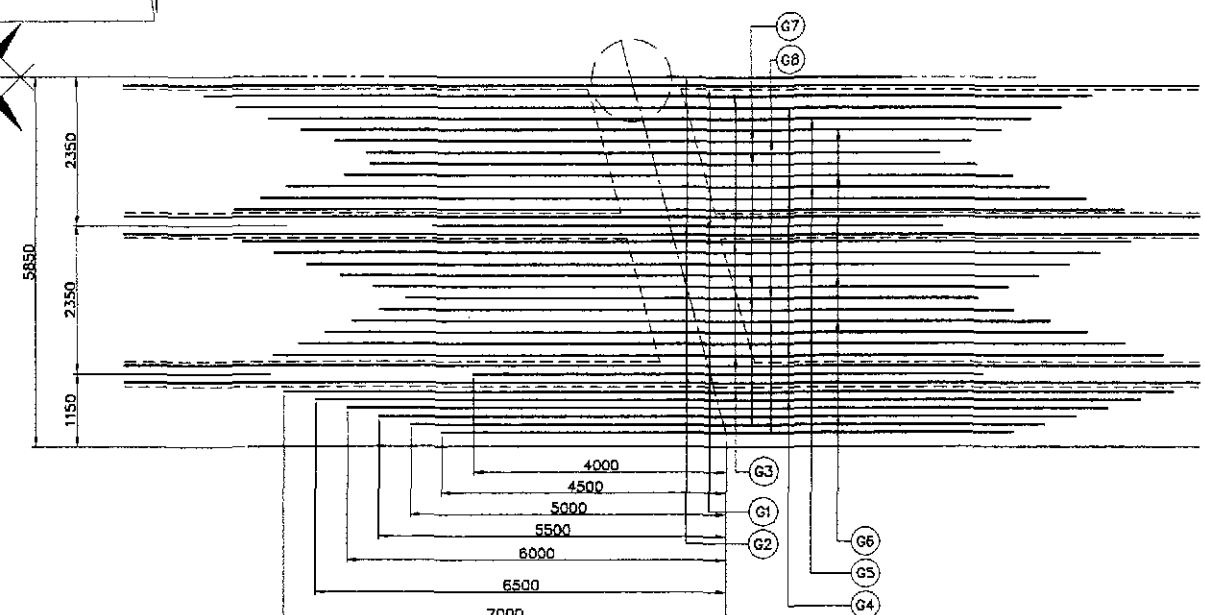
ESTIMATED QUANTITIES OF SUPERSTRUCTURE			
ITEM NO.	DESCRIPTION	UNIT	TOTAL
404(1)a	REINFORCING STEEL GRADE 40	kgs.	24080
	DECK SLAB		15701
	GIRDER		877
	DIAPHRAGM		1124
	SIDEWALK, RAILING & POST		4874
404(1)b	REINFORCING STEEL GRADE 60	kgs.	29120
	DECK SLAB		0
	GIRDER		22833
	DIAPHRAGM		1008
	SIDEWALK, RAILING & POST		885
405(1)	STRUCTURAL CONCRETE	cu. m.	286.76
	DECK SLAB		128.91
	GIRDER		83.60
	DIAPHRAGM		9.07
	SIDEWALK		29.70
APPROACH SLAB		35.48	



1 LONGITUDINAL SECTION
SCALE 1:80

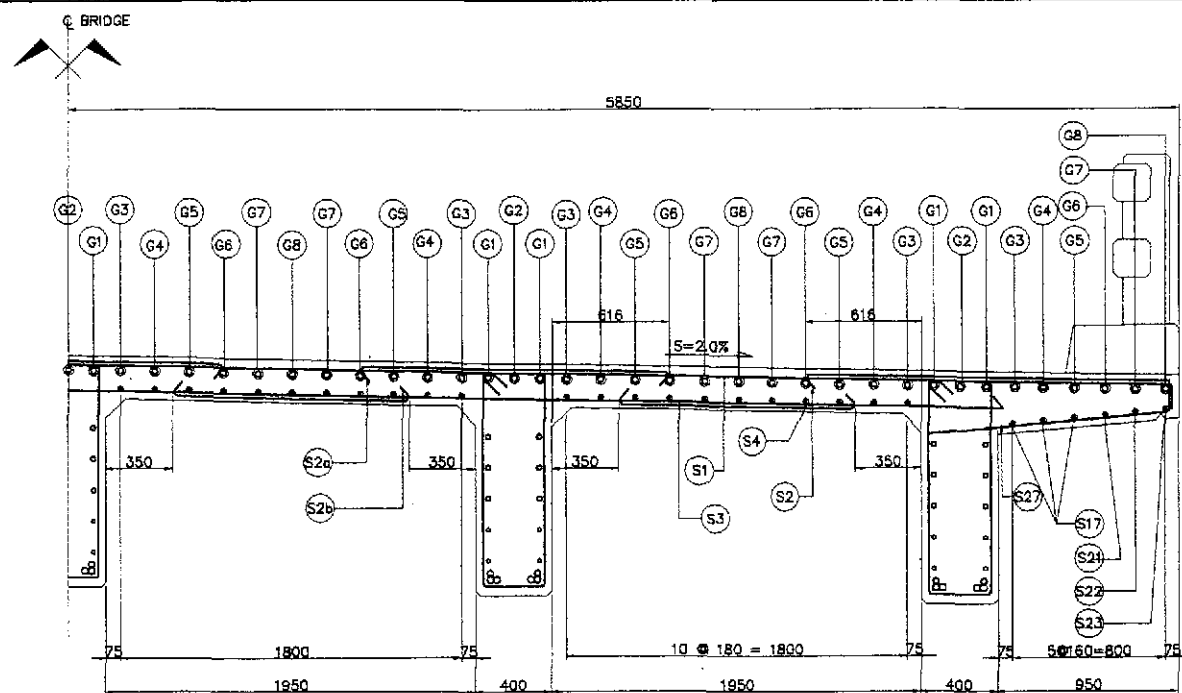


3 TYPICAL CROSS SECTION
SCALE 1:40

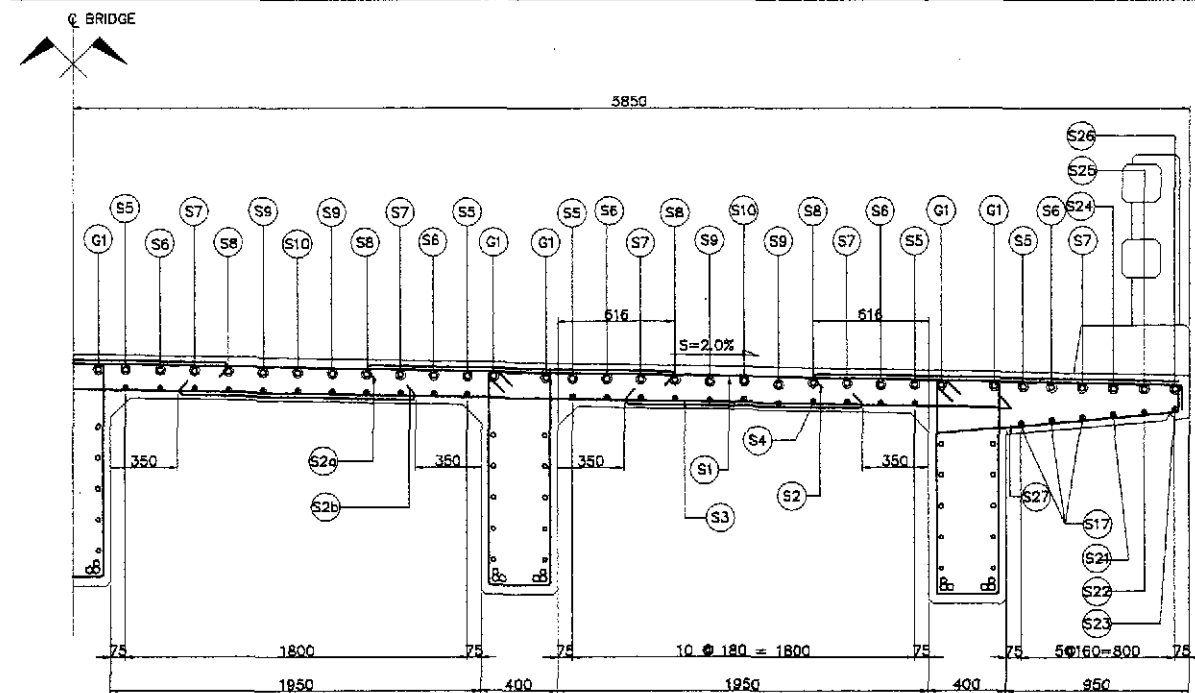


4 REINF. OVER PIER
SCALE 1:60

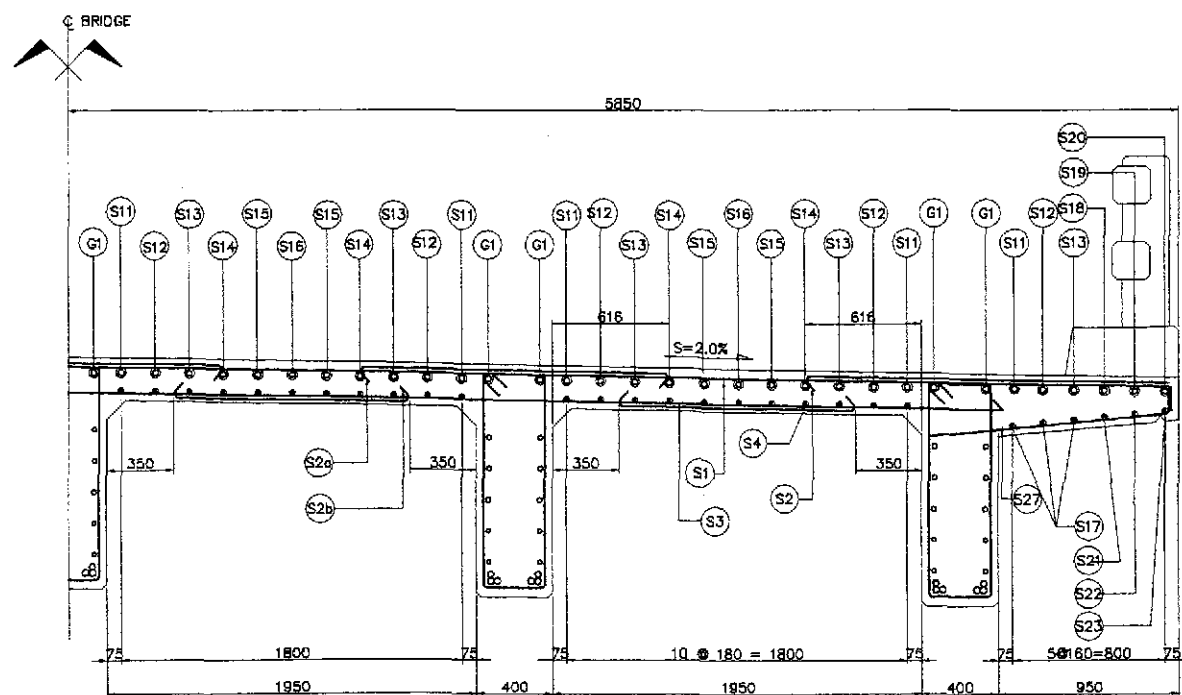
	DESIGNED	DATE	SIGNATURE		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS			PROJECT AND LOCATION : THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses) PLARIDEL BYPASS - CONTRACT PACKAGE II	SCALE : AS SHOWN FULL SIZE A1	SHEET CONTENTS : BRIDGE NO. 7 SLAB REINFORCEMENT DETAILS (LONGITUDINAL SECTION) (ULTIMATE STAGE)	SHEET NO. : B7-03
	CHECKED	7/25/02	<i>[Signature]</i>		BUREAU OF DESIGN						
	SUBMITTED	7/27/02	<i>[Signature]</i>		Submitted By: DANILLO C. TRAJANO Project Director	Reviewed By: ADRIANO M. DORDY Chief, Bridges Division	Recommended By: GILBERTO S. REYES Director IV (IC)				



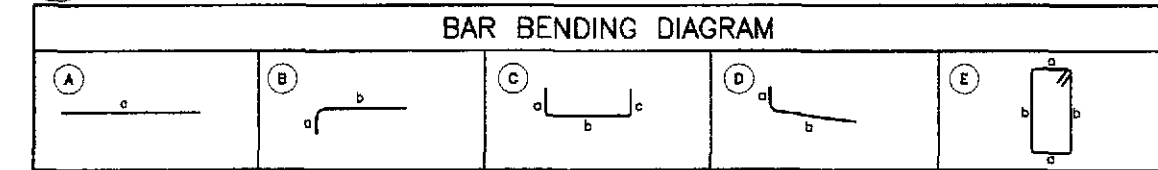
1 TRANSVERSE SECTION NEAR PIER SUPPORT
SCALE 1:20



3 TRANSVERSE SECTION NEAR ABUTMENT
SCALE 1:20



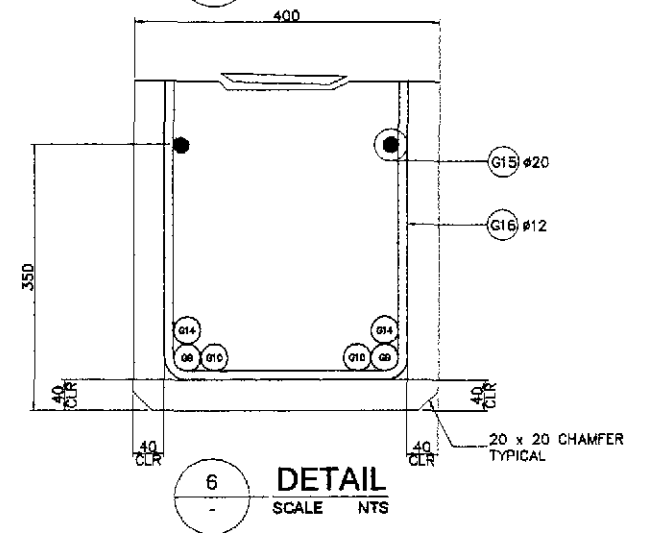
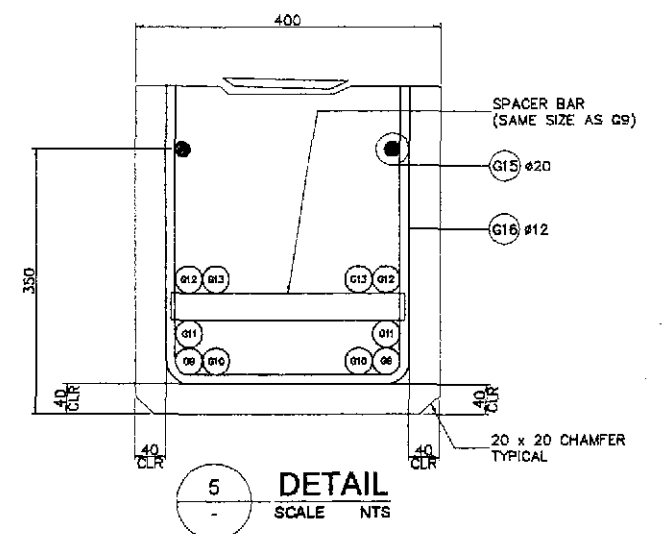
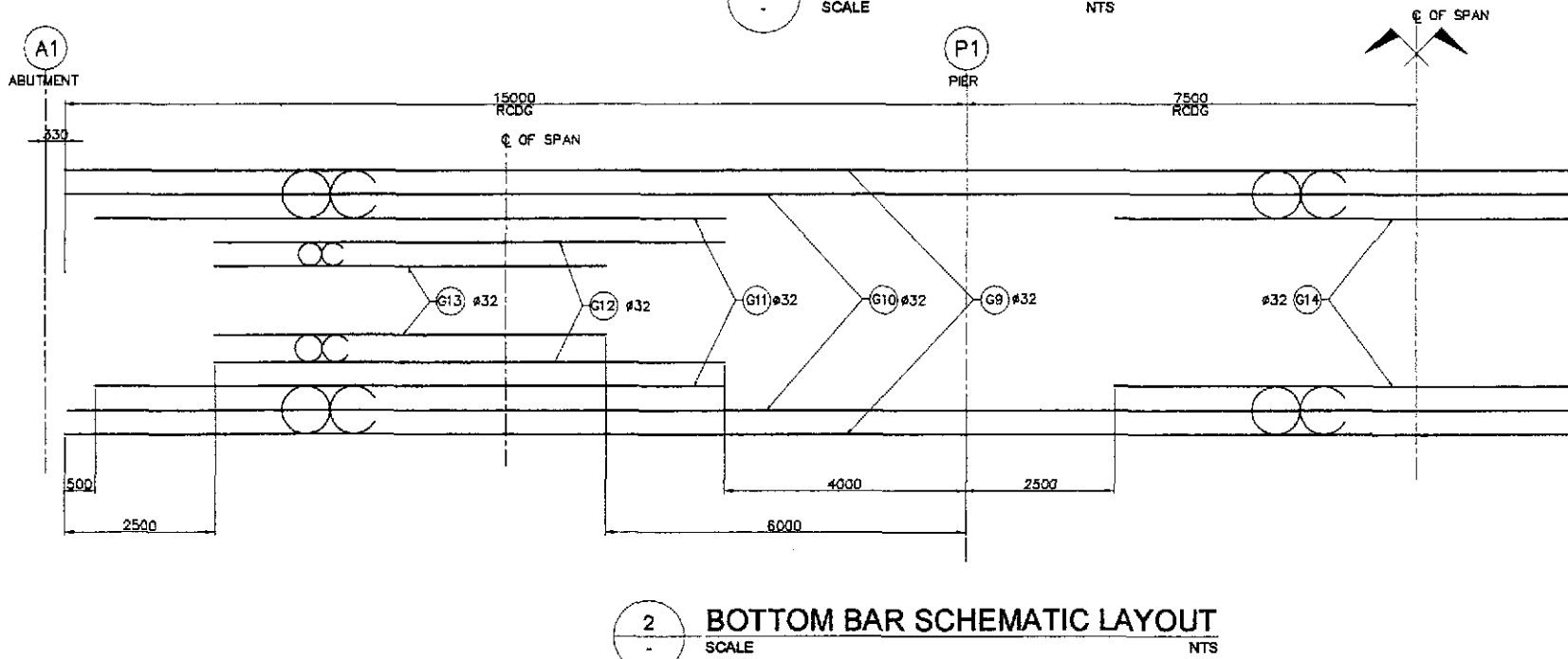
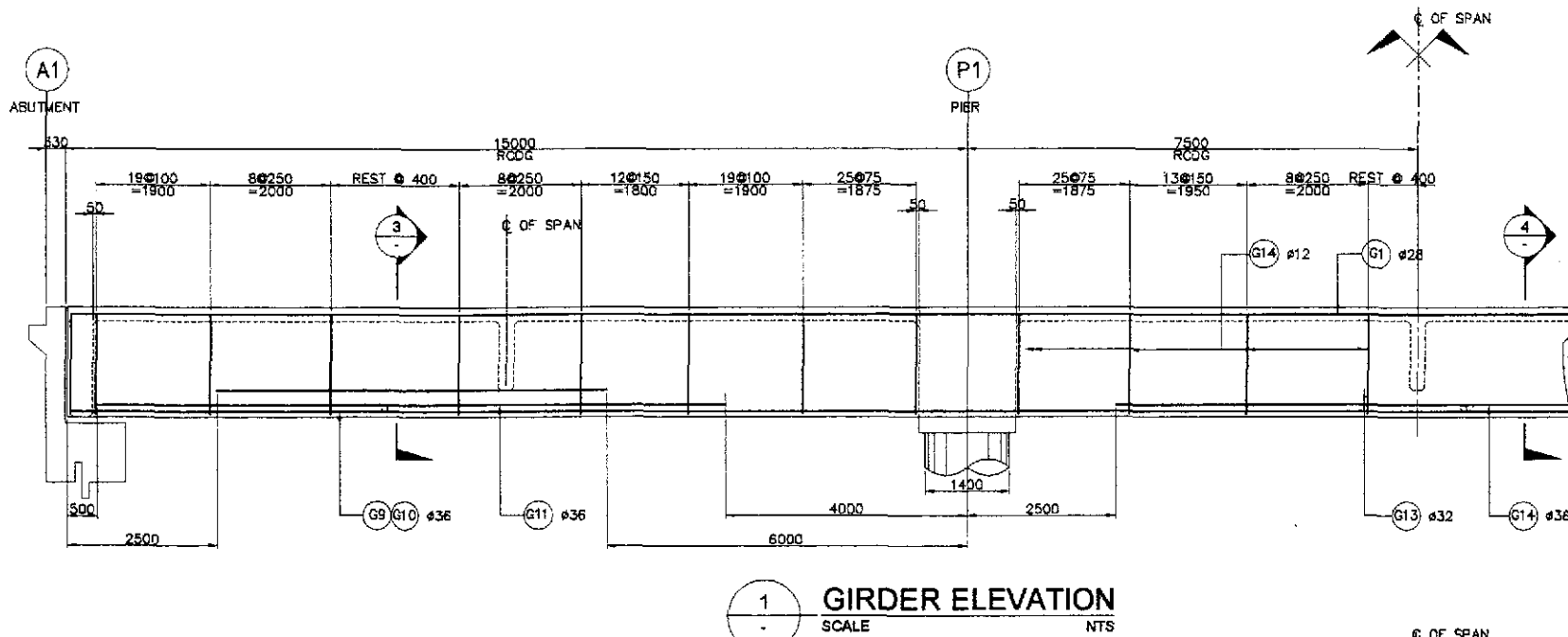
2 TRANSVERSE SECTION AT MIDSPAN OF SPAN 2
SCALE 1:20



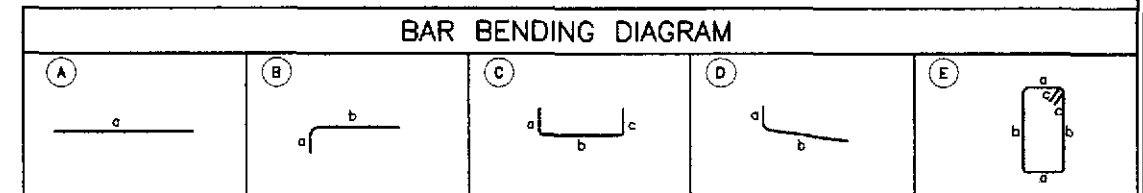
SCHEDULE OF REINFORCEMENT																
LOCATION	CONCRETE VOLUME (m ³)	BAR MARK	BAR SIZE	QTY.	SPACING	BAR SHAPE	DIMENSIONS (mm) OUT TO OUT				L _c (mm)	LENGTH EACH BAR (mm)	TOTAL LENGTH (m)	UNIT WT. (Kg/m)	WEIGHT IN (kg)	REBAR RATIO (kg/m ³)
							a	b	c	d						
DECK SLAB	128.91	S1	16	141	300	C	145	11600	145	-	-	11890	1676.49	1.579	2648	121.79
		S1a	16	22	300	C	145	6400	145	-	-	6690	147.18	1.579	233	
		S2	16	282	300	A	1950	-	-	-	-	1950	549.90	1.579	869	
		S2a	16	423	300	A	1650	-	-	-	-	1650	697.95	1.579	1003	
		S2b	16	564	300	A	1250	-	-	-	-	1250	705.00	1.579	1114	
		S3	16	141	300	A	9800	-	-	-	-	9800	1381.80	1.579	2182	
		S3a	16	22	300	A	5500	-	-	-	-	5500	121.00	1.579	192	
		S4	16	44	175	A	44920	-	-	-	-	44920	1976.48	1.579	3121	
		S5	16	20	AS SHOWN	A	8400	-	-	-	-	8400	168.00	1.579	266	
		S6	16	20	AS SHOWN	A	8900	-	-	-	-	8900	178.00	1.579	282	
		S7	16	20	AS SHOWN	A	9400	-	-	-	-	9400	188.00	1.579	297	
		S8	16	16	AS SHOWN	A	9900	-	-	-	-	9900	158.40	1.579	251	
		S9	16	16	AS SHOWN	A	10400	-	-	-	-	10400	166.40	1.579	263	
		S10	16	8	AS SHOWN	A	10900	-	-	-	-	10900	87.20	1.579	138	
		S11	16	10	AS SHOWN	A	1450	-	-	-	-	1450	14.50	1.579	23	
		S12	16	10	AS SHOWN	A	2450	-	-	-	-	2450	24.50	1.579	39	
		S13	16	10	AS SHOWN	A	3450	-	-	-	-	3450	34.50	1.579	55	
		S14	16	8	AS SHOWN	A	4450	-	-	-	-	4450	35.60	1.579	57	
		S15	16	8	AS SHOWN	A	5450	-	-	-	-	5450	43.60	1.579	69	
		S16	16	4	AS SHOWN	A	6450	-	-	-	-	6450	25.80	1.579	41	
		S17	16	6	AS SHOWN	A	44920	-	-	-	-	44920	269.52	1.579	426	
		S18	16	2	AS SHOWN	A	4450	-	-	-	5500	4450	8.90	1.579	15	
		S19	16	2	AS SHOWN	A	5450	-	-	-	5000	5450	10.90	1.579	18	
		S20	16	2	AS SHOWN	A	6450	-	-	-	4500	6450	12.90	1.579	21	
		S21	16	2	AS SHOWN	A	44920	-	-	-	-	44920	89.84	1.579	142	
		S22	16	2	AS SHOWN	A	44920	-	-	-	-	44920	89.84	1.579	142	
		S23	16	2	AS SHOWN	A	44920	-	-	-	-	44920	89.84	1.579	142	
		S24	16	4	AS SHOWN	A	9900	-	-	-	-	9900	39.60	1.579	63	
		S25	16	4	AS SHOWN	A	10400	-	-	-	-	10400	41.60	1.579	66	
S26	16	4	AS SHOWN	A	10900	-	-	-	-	10900	43.60	1.579	69			
S27	12	302	300	B	145	1260	-	-	-	1405	424.31	0.888	377			
S28	16	28	300	A	12000	-	-	-	-	12000	336.00	1.579	531			
S29	16	44	300	A	6400	-	-	-	-	6400	281.60	1.579	445			
TOTAL	128.91											GRADE 40 TOTAL = 15,701 kgs				

A 3-SPAN RCDG SUPERSTRUCTURE DETAILS
SCALE AS SHOWN

	DESIGNED	DATE	SIGNATURE		PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED	9/25/07	E. N. SALLAN		THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)	AS SHOWN	BRIDGE NO. 7 SLAB REINFORCEMENT DETAILS (TRANSVERSE SECTION) (ULTIMATE STAGE)	B7-04
	SUBMITTED	9/27/07	TEAM LEADER		PLARIDEL BYPASS - CONTRACT PACKAGE II	FULL SIZE A1		

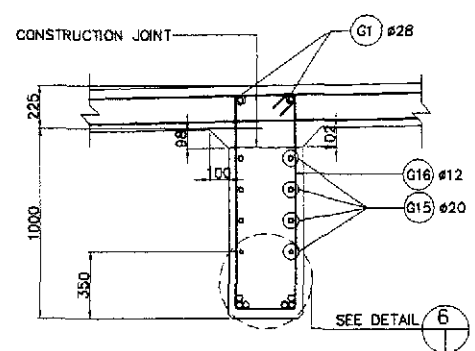
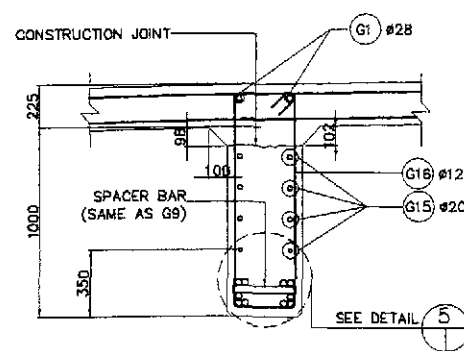


NOTE: CONCRETE CHAMFER AT BOTTOM OF GIRDER IS 20mm.

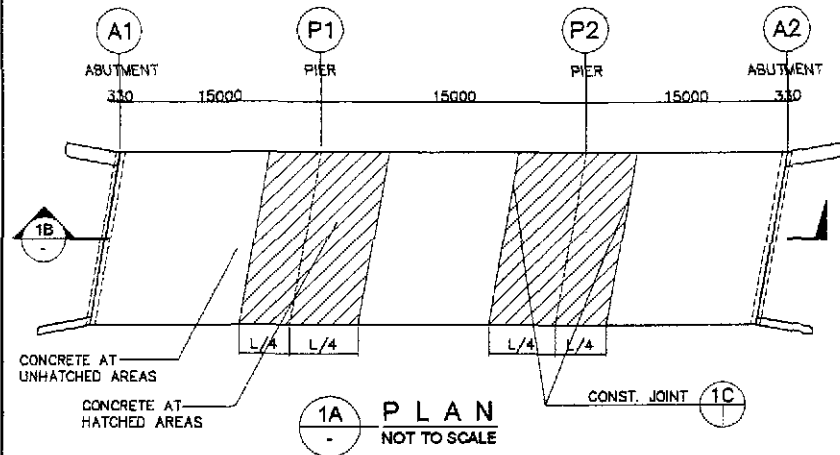


SCHEDULE OF REINFORCEMENT FOR FIVE GIRDER

LOCATION	CONC. VOL. (m ³)	BAR MARK	BAR SIZE	QTY.	SPACING	BAR SHAPE	DIMENSIONS (mm) OUT TO OUT				L _o (mm)	LENGTH EACH BAR (mm)	TOTAL LENGTH (m)	UNIT WT. (kg/m)	TOTAL WEIGHT (kg)	REBAR RATIO (kg/m ³)	
							a	b	c	d							
GIRDER (W/ FILLET)	83.60	G1	28	10	AS SHOWN	(C)	1300	44920	1300	-	-	47520	475.20	4.833	2297	284.19	
		G2	28	10	AS SHOWN	(A)	8000	-	-	-	4000	8000	80.00	4.833	387		
		G3	28	20	AS SHOWN	(A)	14000	-	-	-	7000	14000	280.00	4.833	1354		
		G4	28	20	AS SHOWN	(A)	13000	-	-	-	6500	13000	260.00	4.833	1257		
		G5	28	20	AS SHOWN	(A)	12000	-	-	-	6000	12000	240.00	4.833	1160		
		G6	28	20	AS SHOWN	(A)	11000	-	-	-	5500	11000	220.00	4.833	1084		
		G7	28	20	AS SHOWN	(A)	10000	-	-	-	5000	10000	200.00	4.833	967		
		G8	28	12	AS SHOWN	(A)	9000	-	-	-	4500	9000	108.00	4.833	522		
		G9	32	10	AS SHOWN	(C)	1300	44920	1300	-	-	-	47520	475.20	6.313		3000
		G10	32	10	AS SHOWN	(C)	1300	44920	1300	-	-	-	47520	475.20	6.313		3000
		G11	32	20	AS SHOWN	(A)	10500	-	-	-	-	10500	210.00	6.313	1326		
		G12	32	20	AS SHOWN	(A)	8500	-	-	-	-	8500	170.00	6.313	1074		
		G13	32	10	AS SHOWN	(A)	6500	-	-	-	-	6500	65.00	6.313	411		
		G14	32	10	AS SHOWN	(A)	10000	-	-	-	2500	10000	100.00	6.313	632		
		G15	20	40	AS SHOWN	(A)	44920	-	-	-	-	44920	1796.80	2.466	4431		
		G16	12	310	AS SHOWN	(E)	320	1120	150	-	-	-	3180	985.80	0.888		876
TOTAL	83.60													GRADE 40 TOTAL = 877 kgs.	GRADE 80 TOTAL = 22,883 kgs.		

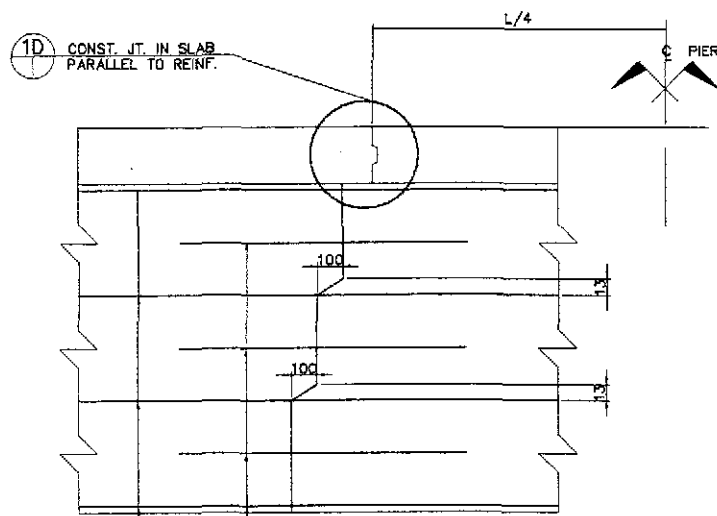
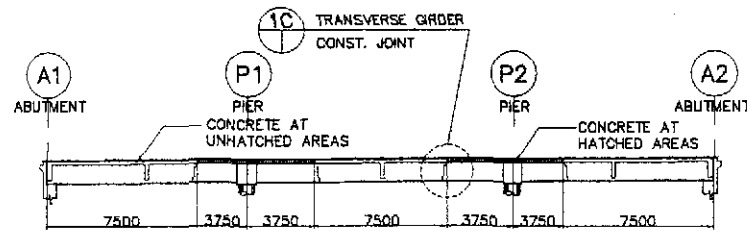


	DATE: 9/21/02 DESIGNED: E. N. SALLAN CHECKED: 7/25/02 SUBMITTED: 9/29/02	SIGNATURE: [Signature] PUBL. - PMO: [Signature] Submitted By: DANILO C. TRAYANO, Project Director Reviewed By: ADRIANO M. DORGY, Chief, Bridges Division Recommended By: GILBERTO S. REYES, Director IV (GC) Recommended By: MANUEL M. BONCAYAN, Undersecretary Approved By: SIMEON A. DATUMANONG, Secretary	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) PLARIDEL BYPASS - CONTRACT PACKAGE II	SCALE : AS SHOWN FULL SIZE A1	SHEET CONTENTS : BRIDGE NO. 7 GIRDER ELEVATION, REBAR BOTTOM LAYOUT AND SECTIONS (ULTIMATE STAGE)	SHEET NO. : B7-05
	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL YACHIO ENGINEERING CO., LTD.						
	PLARIDEL BYPASS - CONTRACT PACKAGE II						



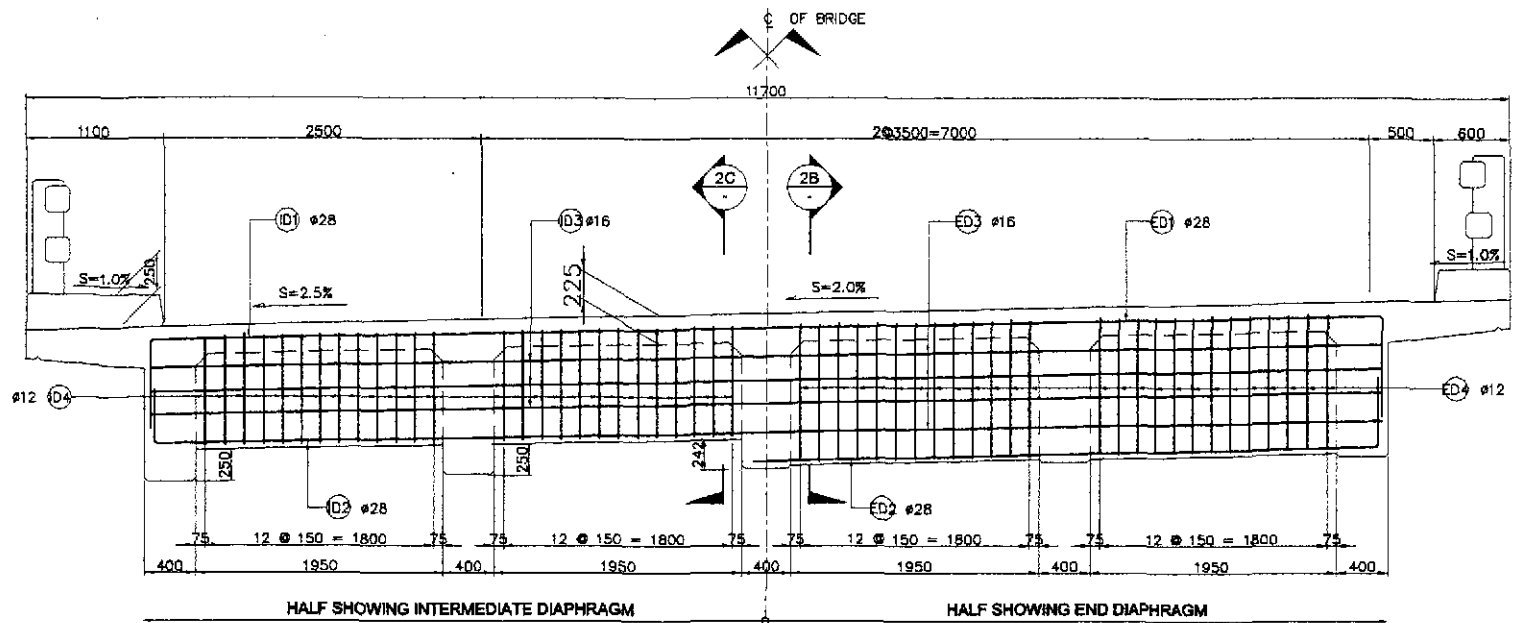
NOTE :

1. CONCRETE AT UNHATCHED AREAS SHALL BE PLACED AT LEAST ONE DAY AHEAD OF CONCRETE AT HATCHED AREAS.
2. REINFORCEMENT SHALL BE CONTINUOUS AT CONSTRUCTION JOINTS.



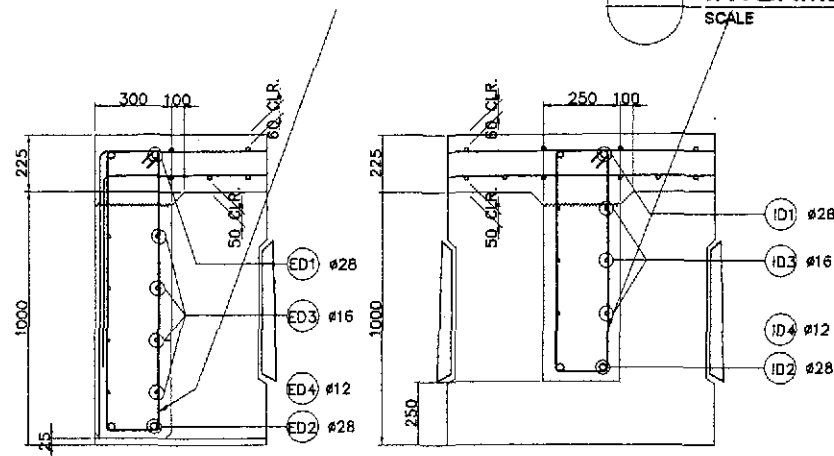
1C TRANSVERSE GIRDER CONST. JOINT SCALE 1:30

A CONC. POURING SEQUENCE SCALE AS SHOWN



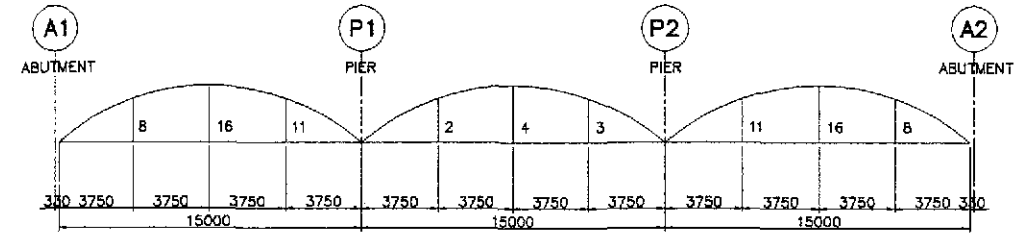
2A ELEVATION SCALE 1:30

2 INTERMEDIATE AND END DIAPHRAGM DETAIL SCALE AS SHOWN

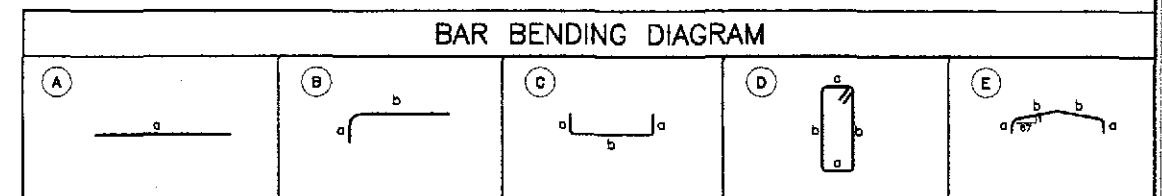


2B SECTION SCALE 1:15

2C SECTION SCALE 1:15



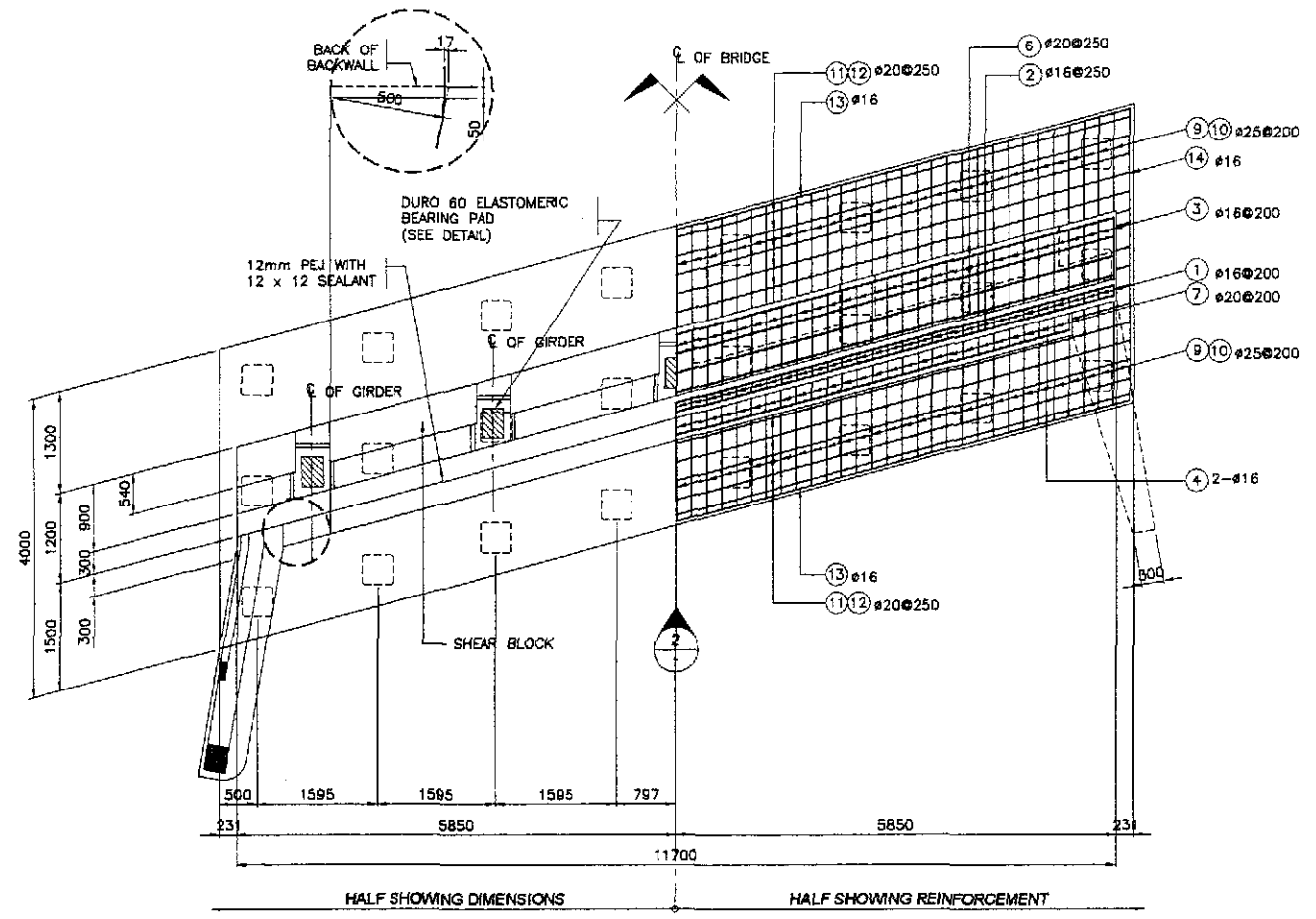
3 CAMBER DIAGRAM NOT TO SCALE



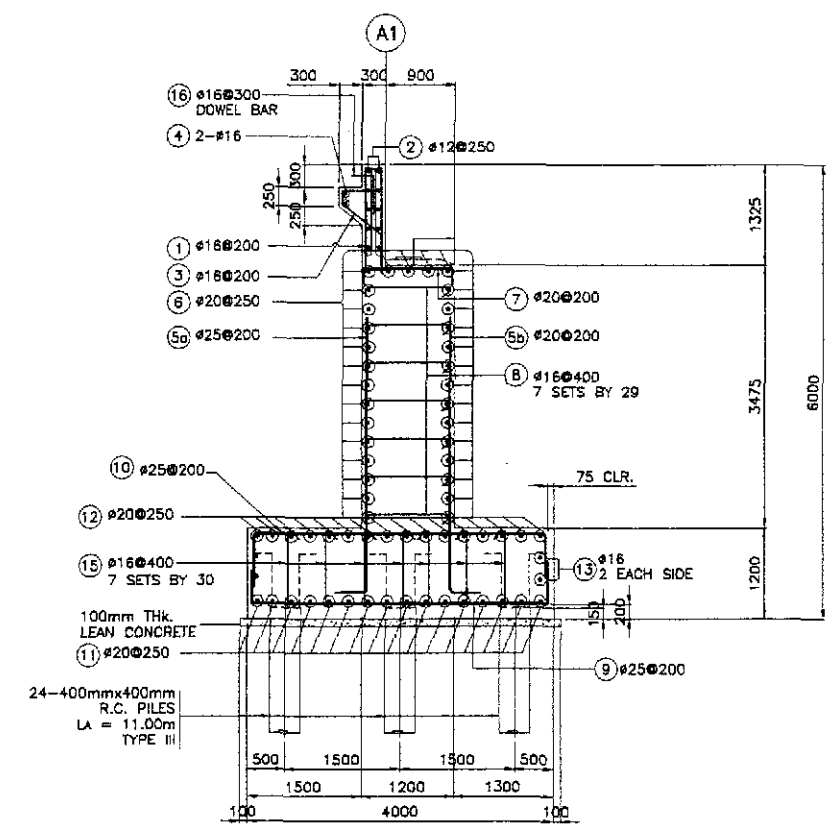
SCHEDULE OF REINFORCEMENT																
LOCATION	CONC. VOL (m ³)	BAR MARK	BAR SIZE	QTY.	SPACING	BAR SHAPE	DIMENSIONS (mm) OUT TO OUT				L _d (mm)	LENGTH EACH BAR (mm)	TOTAL LENGTH (m)	UNIT WT. (kg/m)	TOTAL WEIGHT (kg)	REBAR RATIO (kg/m ³)
							a	b	c	d						
END DIAPHRAGM	4.68	ED1	28	4	AS SHOWN	C	350	9700	-	-	-	10400	41.60	4.833	202	197.01
		ED2	28	4	AS SHOWN	C	350	9700	-	-	-	10400	41.60	4.833	202	
		ED3	16	16	AS SHOWN	A	9700	-	-	-	-	9700	155.20	1.579	246	
		ED4	12	104	150	D	220	1100	150	-	-	2940	305.76	0.888	272	
INTERMEDIATE DIAPHRAGM	4.39	ID1	28	6	AS SHOWN	C	350	9700	-	-	-	10400	62.40	4.833	302	275.63
		ID2	28	6	AS SHOWN	C	350	9700	-	-	-	10400	62.40	4.833	302	
		ID3	16	18	AS SHOWN	A	9700	-	-	-	-	9700	174.60	1.579	276	
		ID4	12	156	AS SHOWN	D	170	870	150	-	-	2380	371.28	0.888	330	
TOTAL	9.07															

GRADE 40 TOTAL = 1,124 kgs.
GRADE 60 TOTAL = 1,008 kgs.

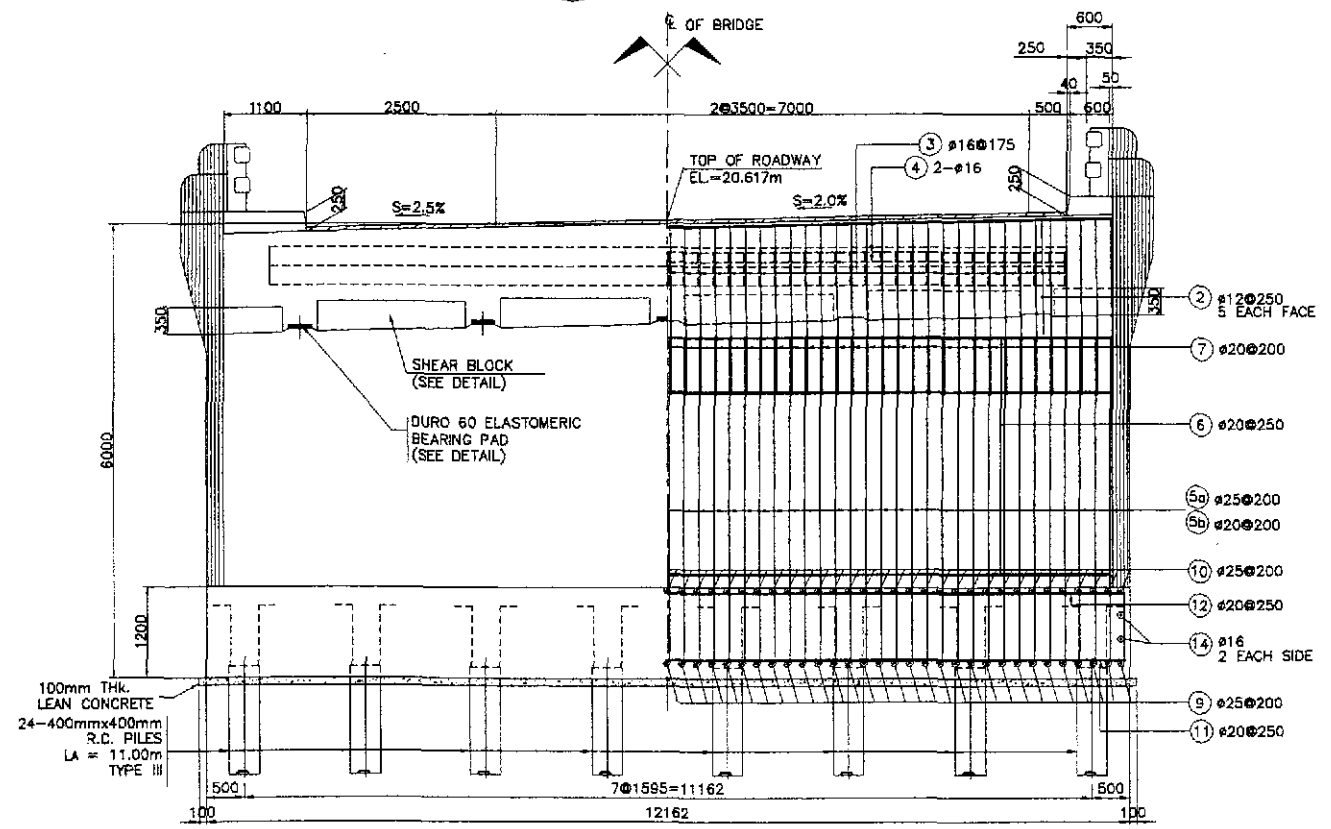
		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS BUREAU OF DESIGN				PROJECT AND LOCATION : THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)		SCALE : AS SHOWN FULL SIZE A1	SHEET CONTENTS : BRIDGE NO. 7 CONCRETE POURING SEQUENCE, DIAPHRAGM DETAIL & CAMBER DIAGRAM (ULTIMATE STAGE)	SHEET NO. : B7-06
DESIGNED	DATE	SIGNATURE	FUHL - PMG	REVIEWED BY	RECOMMENDED BY	APPROVED BY	OFFICE OF THE SECRETARY (See cover sheet for Signature/Approvals)			
CHECKED	DATE	SIGNATURE	DANILO C. TRAJANO Project Director	ADRIANO M. DOROY Chief, Bridges Division	GILBERTO S. REYES Director IV (DIC)	MANUEL M. BONOAN Undersecretary	SIMEON A. DATUMANONG Secretary			
SUBMITTED	DATE	SIGNATURE								



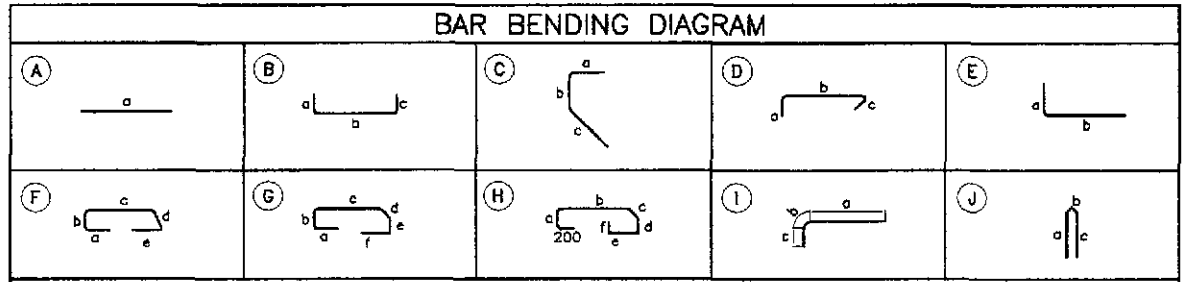
1 PLAN
SCALE 1:50



3 SECTION
SCALE 1:50

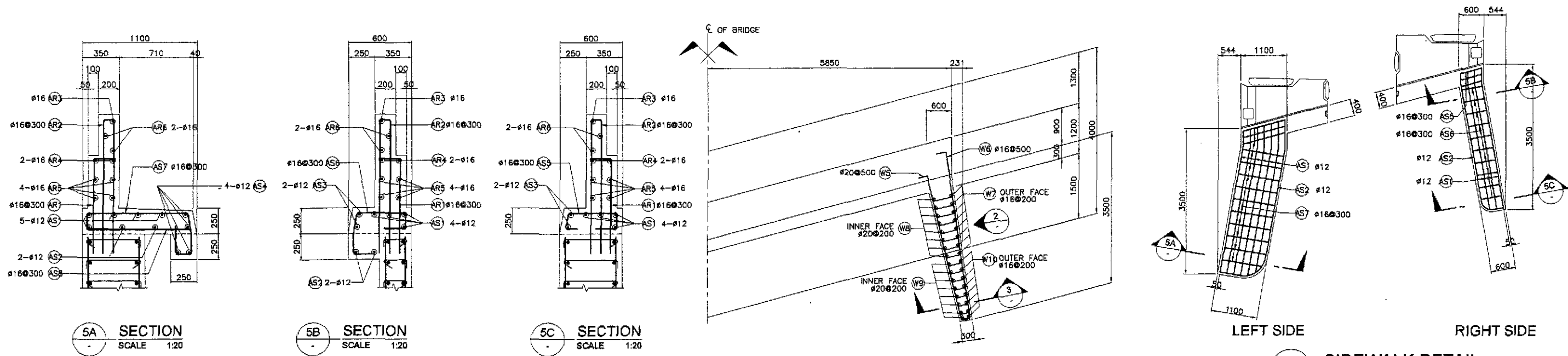


2 ELEVATION
SCALE 1:50



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	5.78	1	16	59	200	B	1400	200	1400	-	-	-	3000	177.00	1.579	280	80.90
		2	12	10	250	A	12000	-	-	-	-	-	12000	120.00	0.888	107	
		3	18	51	200	C	450	150	700	-	-	-	1300	66.30	1.579	105	
		4	16	2	AS SHOWN	A	10250	-	-	-	-	-	10250	20.50	1.579	33	
MAINWALL	48.79	5a	25	59	200	E	500	4400	-	-	-	4900	289.10	3.854	1115	71.06	
		5b	20	59	200	A	500	4400	-	-	-	4900	289.10	2.466	713		
		6	20	31	250	A	12000	-	-	-	-	-	12000	372.00	2.466		918
		7	20	59	200	B	250	1100	250	-	-	-	1600	94.40	2.466		233
FOOTING	58.38	8	16	203	400	D	250	1100	170	-	-	-	1520	308.56	1.579	488	68.57
		9	25	61	200	B	575	3850	575	-	-	-	5000	305.00	3.854	1176	
		10	25	61	200	B	575	3850	575	-	-	-	5000	305.00	3.854	1176	
		11	20	16	250	B	575	12475	575	-	-	-	13625	218.00	2.466	538	
		12	20	16	250	B	575	12475	575	-	-	-	13625	218.00	2.466	538	
		13	16	4	AS SHOWN	A	12475	-	-	-	-	-	12475	49.90	1.579	77	
DOWEL		14	16	4	AS SHOWN	A	3850	-	-	-	-	-	3850	15.40	1.579	25	
		15	18	210	400	D	250	1000	170	-	-	-	1420	298.20	1.579	471	
TOTAL	112.95																GRADE 40 TOTAL = 1,650 kgs. GRADE 60 TOTAL = 6,407 kgs.

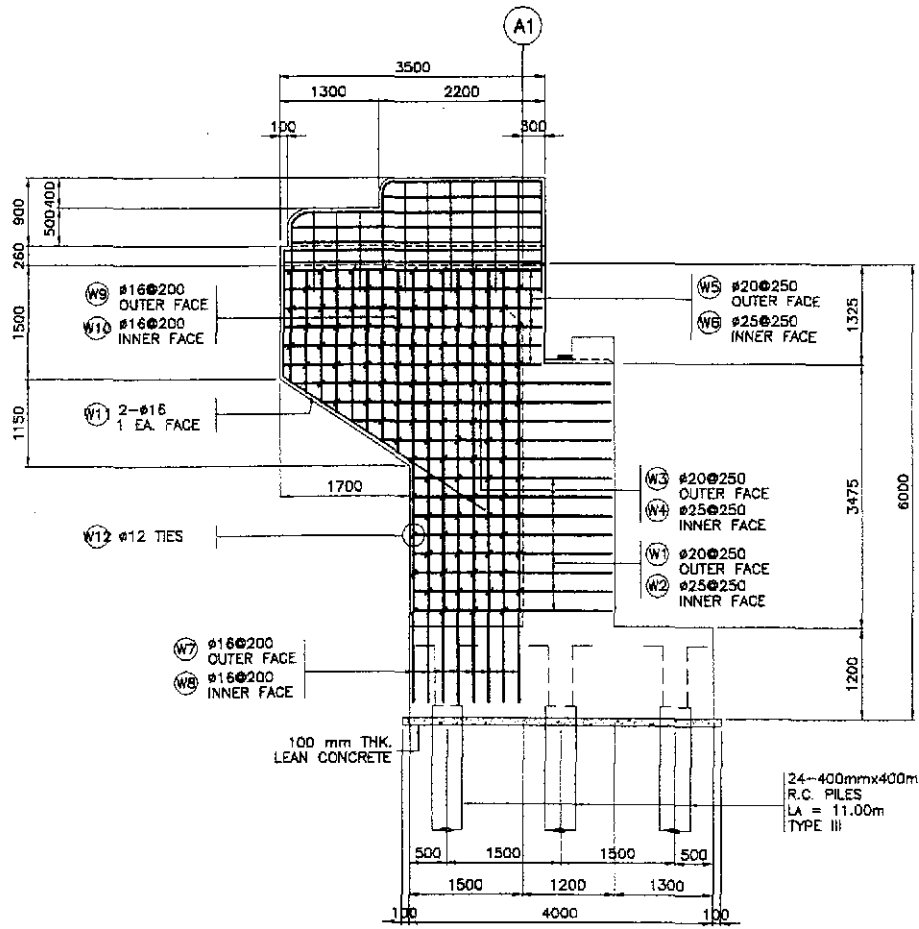
	DESIGNED	DATE	SIGNATURE		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS					PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED				BUREAU OF DESIGN					THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)	AS SHOWN	BRIDGE NO. 7 ABUTMENT - A1 MAINWALL REINFORCEMENT DETAILS (ULTIMATE STAGE)	B7-07
	SUBMITTED				OFFICE OF THE SECRETARY					FULL SIZE A1			
				FUHL - PMO Submitted By: DANILO C. TRAJANO, Project Director Reviewed By: ADRIANO M. DOROS, Chief, Bridges Division Recommended By: GILBERTO S. REYES, Director IV (CIC) Recommended By: MANUEL M. BONDAN, Undersecretary Approved By: SIMEON A. DATUMANONG, Secretary					PLARIDEL BYPASS - CONTRACT PACKAGE II				



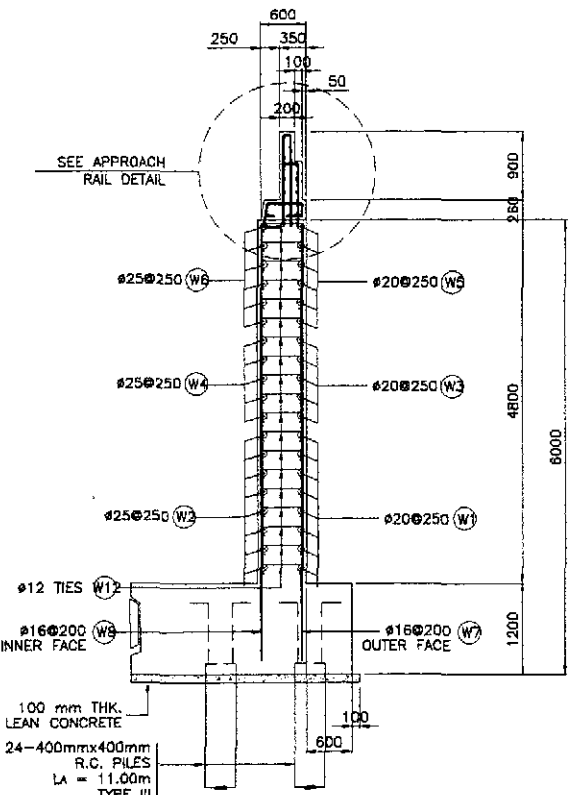
5 APPROACH RAIL DETAILS
SCALE 1:20

1 PLAN
SCALE 1:50

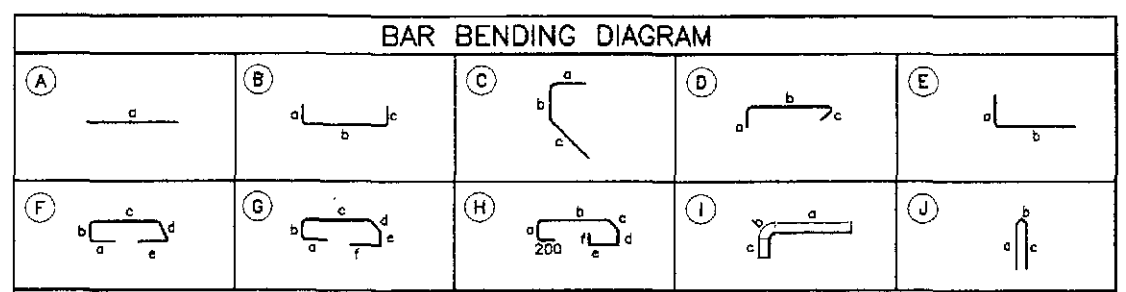
4 SIDEWALK DETAIL
SCALE 1:50



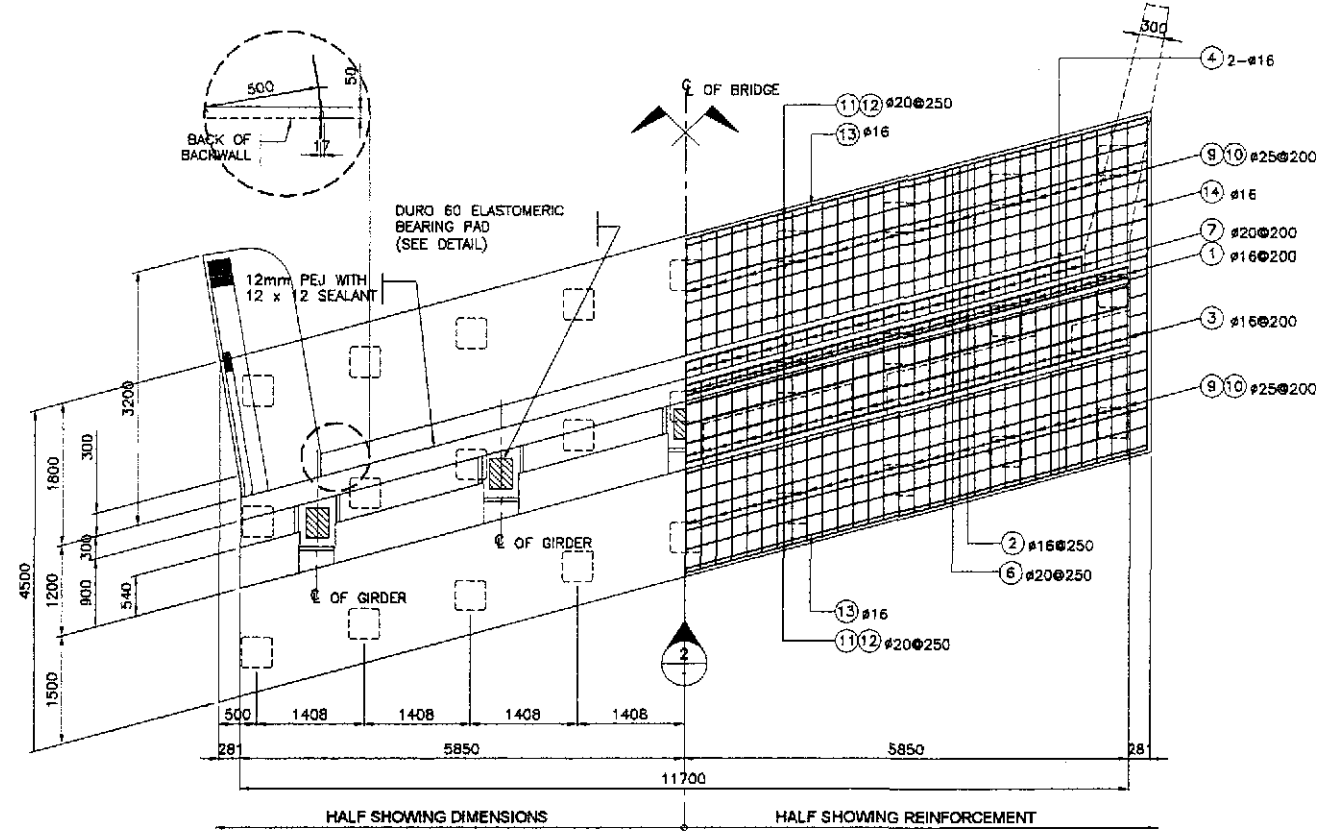
2 WINGWALL ELEVATION
SCALE 1:50



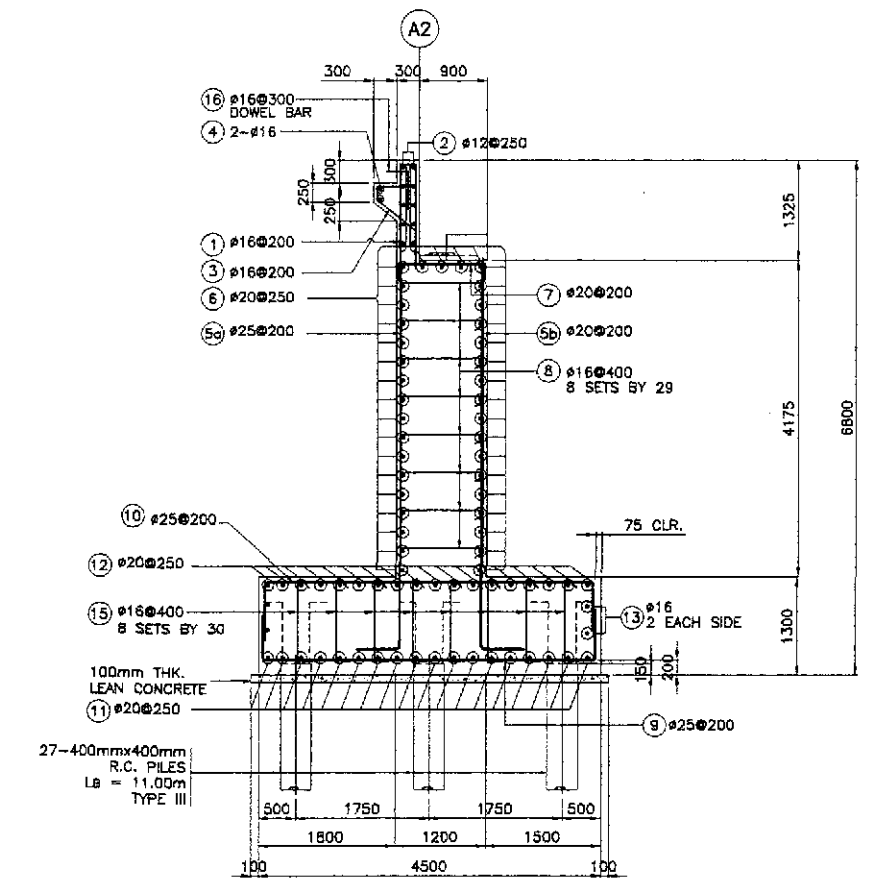
3 SECTION
SCALE 1:50



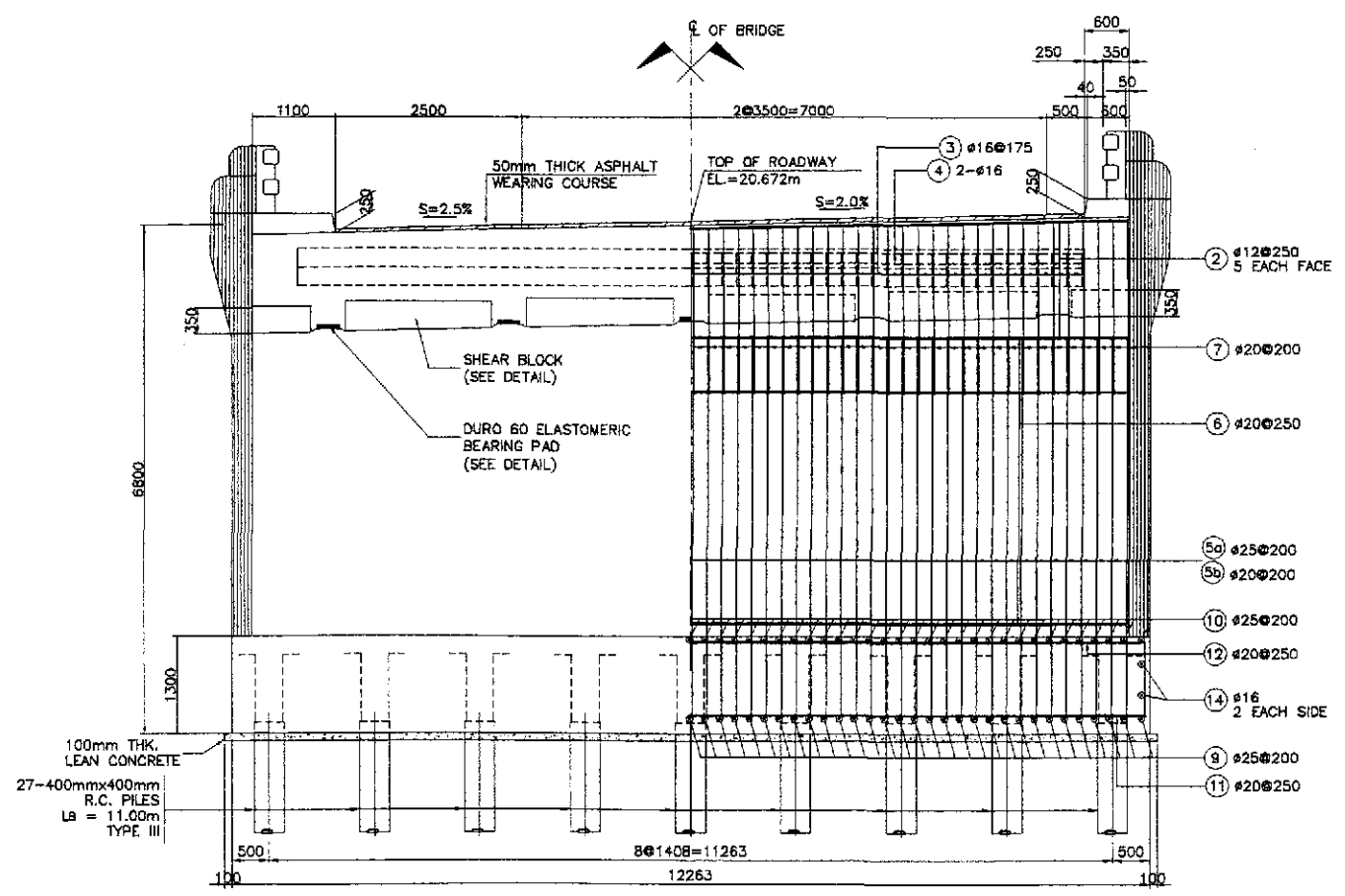
SCHEDULE OF REINFORCEMENT PER ABUTMENT																
LOCATION	CONCRETE VOLUME (m ³)	BAR MARK	BAR SIZE	QTY.	SPACING	BAR SHAPE	DIMENSIONS (mm)					LENGTH EA. BAR (mm)	TOTAL LENGTH (m)	UNIT WT. (kg/m)	WEIGHT (kg)	REBAR RATIO (kg/m ³)
							a	b	c	d	e					
WINGWALL	10.19	W1	20	16	250	(B)	400	2600	150	-	-	-	3150	50.40	2.466	125
		W2	25	16	250	(B)	400	2600	150	-	-	-	3150	50.40	3.854	195
		W3	20	10	250	(B)	400	3400	150	-	-	-	3950	39.50	2.466	98
		W4	25	10	250	(B)	400	3400	150	-	-	-	3950	39.50	3.854	153
		W5	20	12	250	(B)	400	3400	150	-	-	-	3950	47.40	2.466	117
		W6	25	12	250	(B)	400	3400	150	-	-	-	3950	47.40	3.854	183
		W7	16	16	200	(E)	250	5850	-	-	-	-	6100	97.60	1.579	155
		W8	16	16	200	(E)	250	5850	-	-	-	-	6100	97.60	1.579	155
		W9	16	16	200	(E)	250	1950	-	-	-	-	2200	35.20	1.579	56
		W10	16	16	200	(E)	250	1950	-	-	-	-	2200	35.20	1.579	56
		W11	16	4	AS SHOWN	(C)	250	1500	3200	-	-	-	4950	18.80	1.579	32
		W12	12	218	AS SHOWN	(D)	170	450	100	-	-	-	720	156.96	0.888	140
												GRADE 60 TOTAL = 871 kgs				
												GRADE 40 TOTAL = 584 kgs				
APPROACH RAILING AND SIDEWALK	3.44	AS1	12	9	AS SHOWN	(A)	3400	-	-	-	-	3400	30.60	0.888	28	
		AS2	12	2	AS SHOWN	(A)	3400	-	-	-	-	3400	6.80	0.888	7	
		AS3	12	2	AS SHOWN	(A)	3400	-	-	-	-	3400	6.80	0.888	7	
		AS4	12	6	AS SHOWN	(A)	3400	-	-	-	-	3400	20.40	0.888	19	
		AS5	16	3	300	(F)	200	170	480	200	200	-	1250	3.75	1.579	6
		AS6	16	12	300	(G)	200	170	480	200	170	200	1420	17.04	1.579	27
		AS7	16	15	300	(H)	200	170	980	200	170	200	2120	31.80	1.579	51
		AS8	16	15	300	(E)	200	1020	-	-	-	-	1220	18.30	1.579	29
		AR1	16	6	300	(E)	200	900	-	-	-	-	1100	6.60	1.579	11
		AR2	16	12	300	(J)	1300	120	1300	-	-	-	2720	32.64	1.579	52
		AR3	16	2	AS SHOWN	(I)	2100	236	1300	-	-	-	3636	7.27	1.579	12
		AR4	16	4	AS SHOWN	(I)	3300	236	900	-	-	-	4436	17.74	1.579	29
AR5	16	8	AS SHOWN	(A)	3300	-	-	-	-	-	3300	26.40	1.579	42		
AR6	16	4	AS SHOWN	(A)	2100	-	-	-	-	-	2100	8.40	1.579	14		
												GRADE 40 TOTAL = 334 kgs				
TOTAL	13.63													GRADE 60 TOTAL = 871 kgs		
												GRADE 40 TOTAL = 928 kgs				



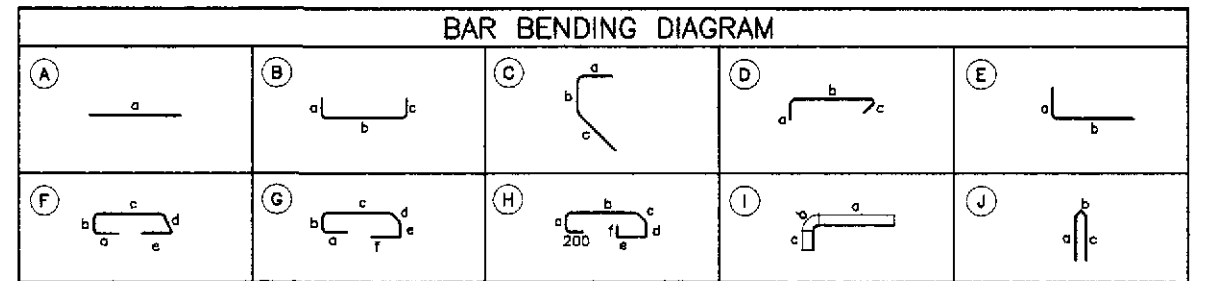
1 PLAN
SCALE 1:50



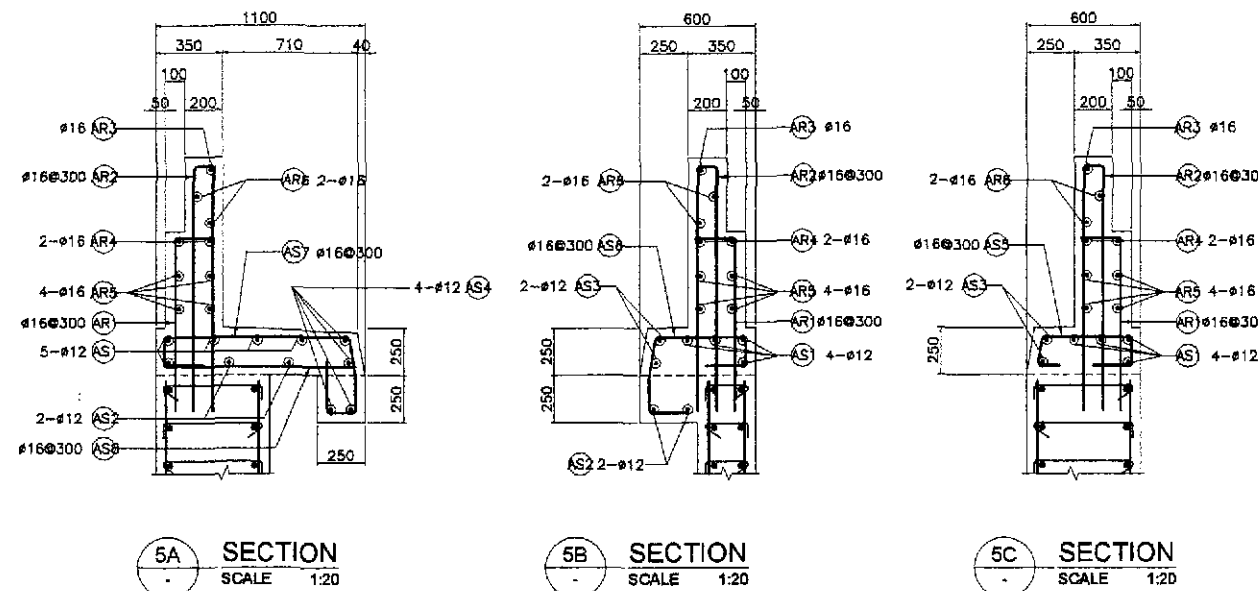
3 SECTION
SCALE 1:50



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	5.78	1	16	59	200	B	1400	200	1400	-	-	-	3000	177.00	1.579	280	90.90
		2	12	10	250	A	12000	-	-	-	-	-	12000	120.00	0.888	107	
		3	16	51	200	C	450	150	700	-	-	-	1300	66.30	1.579	105	
		4	16	2	AS SHOWN	A	10250	-	-	-	-	-	10250	20.50	1.579	33	
MAINWALL	58.62	5a	25	59	200	E	500	5220	-	-	-	-	5720	337.48	3.854	1301	68.56
		5b	20	59	200	E	500	5220	-	-	-	-	5720	337.48	2.466	833	
		6	20	37	250	A	12000	-	-	-	-	-	12000	444.00	2.466	1095	
		7	20	59	200	B	250	1100	250	-	-	-	1600	94.40	2.466	233	
FOOTING	71.73	8	16	232	400	D	250	1100	170	-	-	-	1520	352.64	1.579	557	62.37
		9	25	61	200	B	575	4350	575	-	-	-	5500	335.50	3.854	1294	
		10	25	61	200	B	575	4350	575	-	-	-	5500	335.50	3.854	1294	
		11	20	18	250	B	575	12580	575	-	-	-	13730	247.14	2.466	610	
		12	20	18	250	B	575	12580	575	-	-	-	13730	247.14	2.466	610	
		13	16	4	AS SHOWN	A	12580	-	-	-	-	-	12580	50.32	1.579	80	
DOWEL		14	16	4	AS SHOWN	A	4350	-	-	-	-	-	4350	17.40	1.579	28	
		15	16	240	400	D	260	1050	170	-	-	-	1470	352.80	1.579	558	
TOTAL	136.13																GRADE 40 TOTAL = 1,810 kgs. GRADE 60 TOTAL = 7,270 kgs.

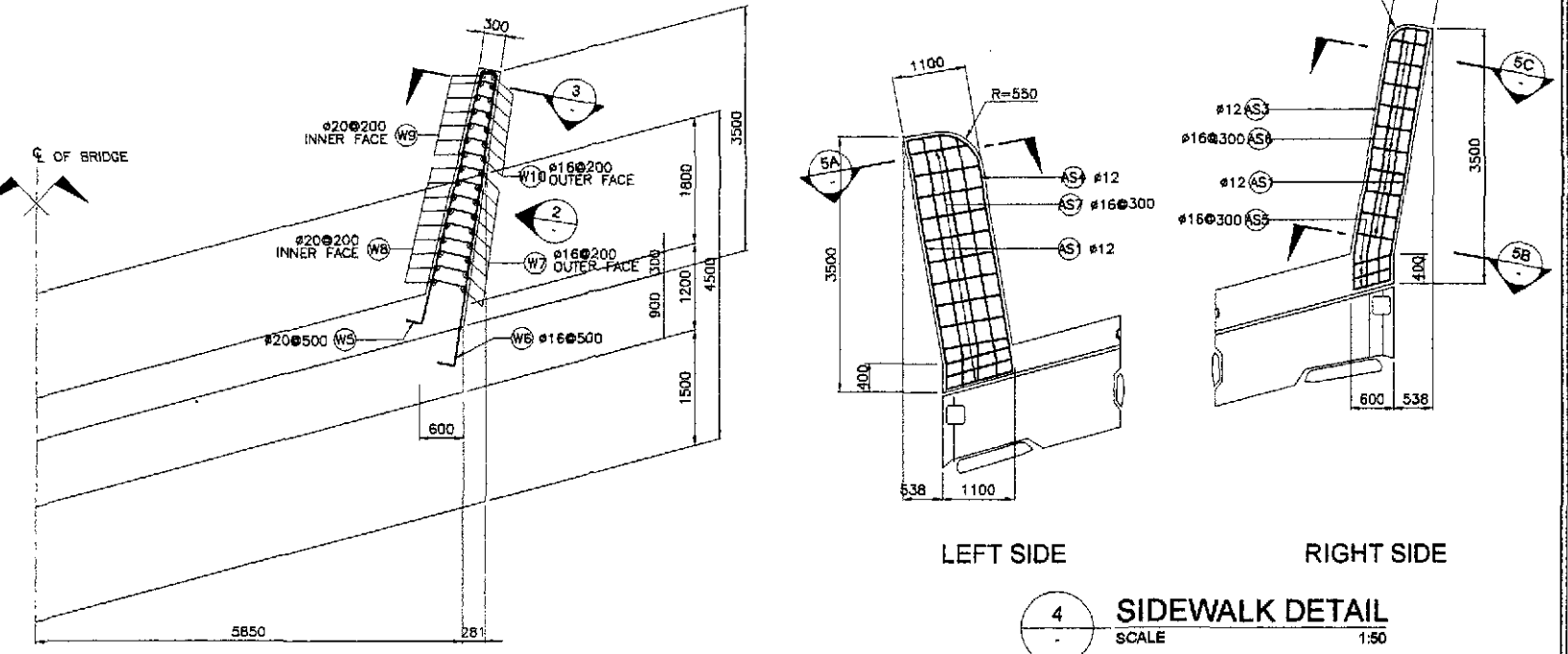


5A SECTION
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5B SECTION
SCALE 1:20

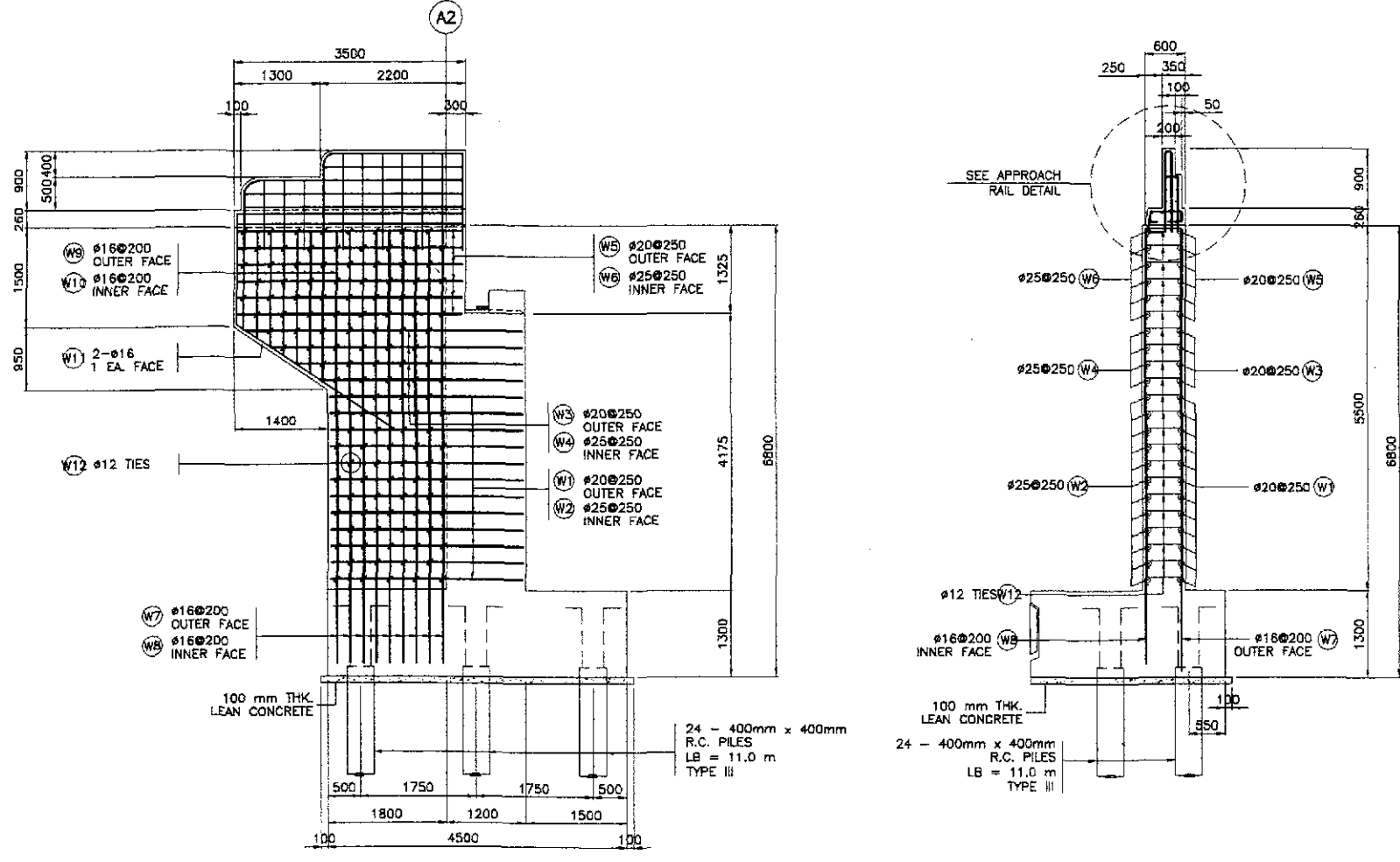
5C SECTION
SCALE 1:20

5 APPROACH RAIL DETAILS
SCALE 1:20



1 PLAN
SCALE 1:50

4 SIDEWALK DETAIL
SCALE 1:50



2 WINGWALL ELEVATION
SCALE 1:50

3 SECTION
SCALE 1:50

BAR BENDING DIAGRAM																	
A	B	C	D	E	F	G	H	I	J								
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
WINGWALL	12.03	W1	20	24	250	B	400	2900	150	-	-	-	3450	82.80	2.466	205	142.54
		W2	25	24	250	B	400	2900	150	-	-	-	3450	82.80	3.854	320	
		W3	20	8	250	B	400	3600	150	-	-	-	4150	33.20	2.466	82	
		W4	25	8	250	B	400	3600	150	-	-	-	4150	33.20	3.854	128	
		W5	20	12	250	B	400	3400	150	-	-	-	3950	47.40	2.466	117	
		W6	25	12	250	B	400	3400	150	-	-	-	3950	47.40	3.854	183	
		W7	16	18	200	E	250	6600	-	-	-	-	6850	123.50	1.579	195	
		W8	16	18	200	E	250	6600	-	-	-	-	6850	123.50	1.579	195	
		W9	16	14	200	E	250	1900	-	-	-	-	2150	30.10	1.579	48	
		W10	16	14	200	E	250	1900	-	-	-	-	2150	30.10	1.579	48	
		W11	16	4	AS SHOWN	C	250	1500	2800	-	-	-	4550	18.20	1.579	29	
		W12	12	258	AS SHOWN	D	170	450	100	-	-	-	720	185.76	0.888	165	
												GRADE 60 TOTAL = 1,035 kgs					
												GRADE 40 TOTAL = 680 kgs					
APPROACH RAILING AND SIDEWALK	3.44	AS	12	9	AS SHOWN	A	3400	-	-	-	-	3400	30.60	0.888	28	101.13	
		AS2	12	2	AS SHOWN	A	3400	-	-	-	-	3400	6.80	0.888	7		
		AS3	12	2	AS SHOWN	A	3400	-	-	-	-	3400	6.80	0.888	7		
		AS4	16	6	AS SHOWN	A	3400	-	-	-	-	3400	24.60	1.579	33		
		AS5	16	3	300	F	200	170	480	200	200	1250	3.75	1.579	6		
		AS6	16	12	300	G	200	170	480	200	170	200	1420	17.04	1.579		27
		AS7	16	15	300	H	200	170	980	200	170	200	2120	31.80	1.579		51
		AS8	16	15	300	E	200	1020	-	-	-	-	1220	18.30	1.579		29
		AR1	16	6	300	E	200	900	-	-	-	-	1100	6.60	1.579		11
		AR2	16	12	300	J	1300	120	1300	-	-	-	2720	32.64	1.579		52
AR3	16	2	AS SHOWN	I	2100	236	1300	-	-	-	3636	7.27	1.579	12			
AR4	16	4	AS SHOWN	I	3300	236	900	-	-	-	4436	17.74	1.579	29			
AR5	16	8	AS SHOWN	A	3300	-	-	-	-	-	3300	26.40	1.579	42			
ARB	16	4	AS SHOWN	A	2100	-	-	-	-	-	2100	8.40	1.579	14			
												GRADE 40 TOTAL = 348 kgs					
TOTAL	15.47											GRADE 60 TOTAL = 1,035 kgs					
												GRADE 40 TOTAL = 1,028 kgs					

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

DESIGNED: 9/2/02 P. GONZALES
CHECKED: 9/25/02 M. TRAJANO
SUBMITTED: 9/27/02 M. TRAJANO

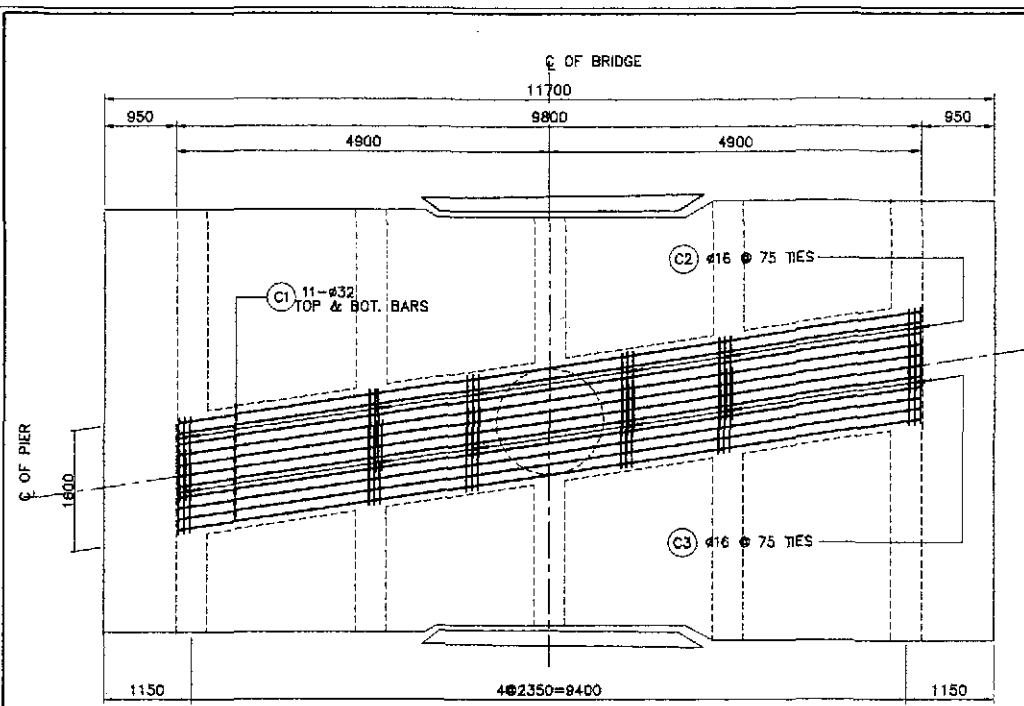
REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
BUREAU OF DESIGN
OFFICE OF THE SECRETARY
MANUEL M. BONAAN
SIMEON A. DATUMANONG

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

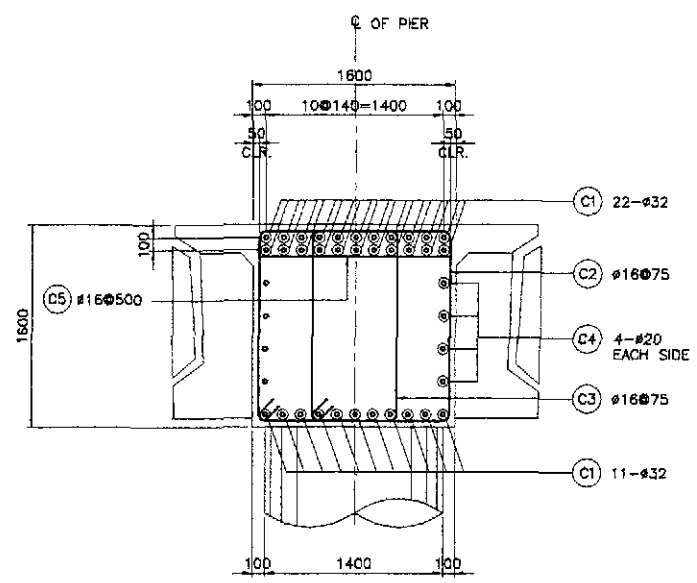
SCALE:
AS SHOWN
FULL SIZE A1

SHEET CONTENTS:
BRIDGE NO. 7
ABUTMENT - A2
WINGWALL REINFORCEMENT DETAILS
(ULTIMATE STAGE)

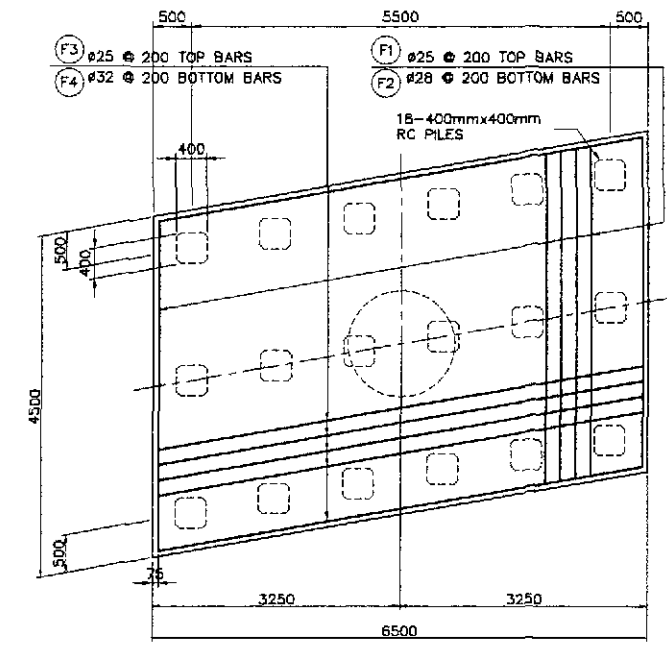
SHEET NO.:
B7-10



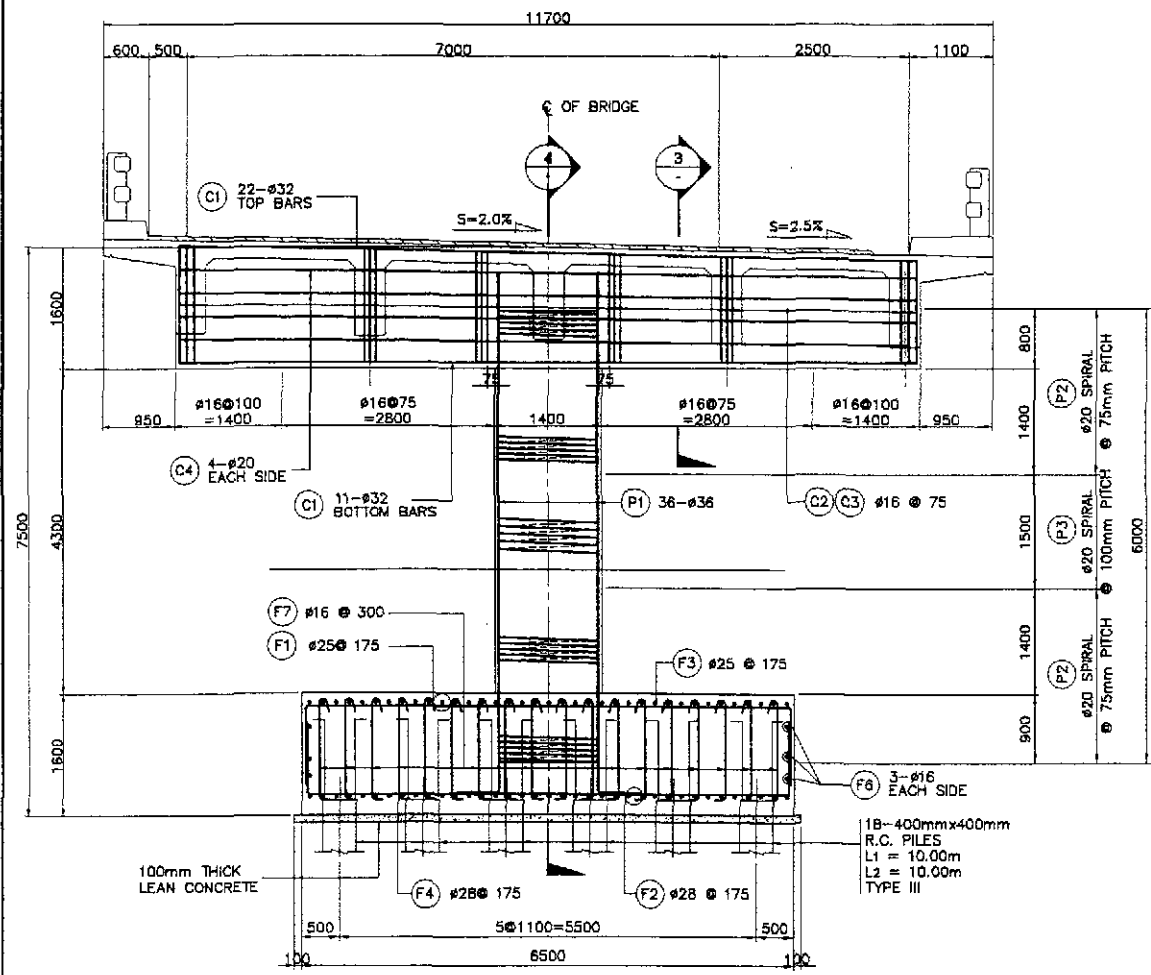
1 COPING PLAN
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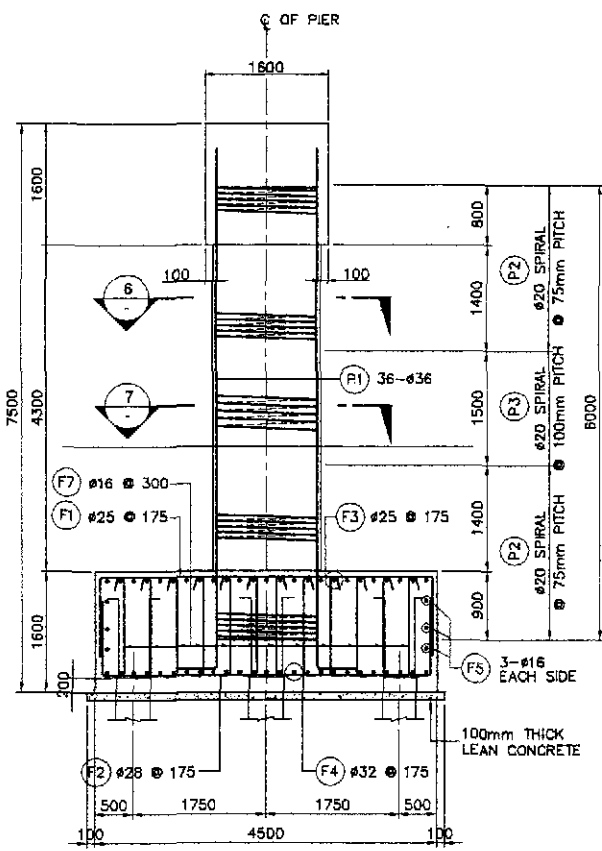
3 SECTION @ COPING
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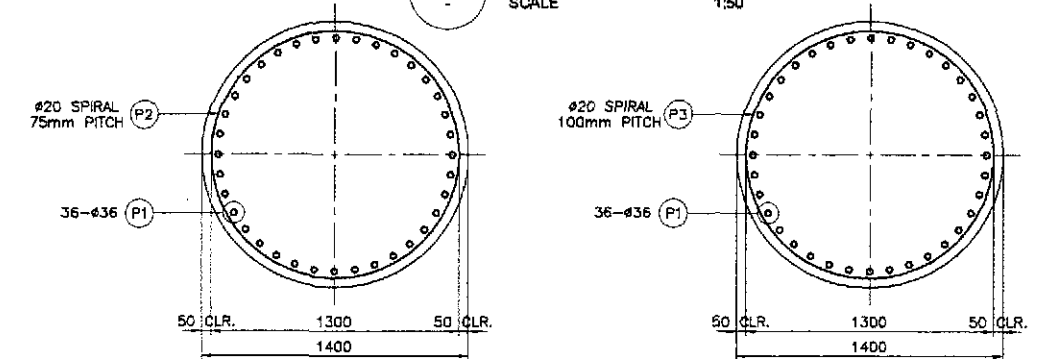
5 FOOTING PLAN
SCALE 1:50



2 ELEVATION
SCALE 1:50

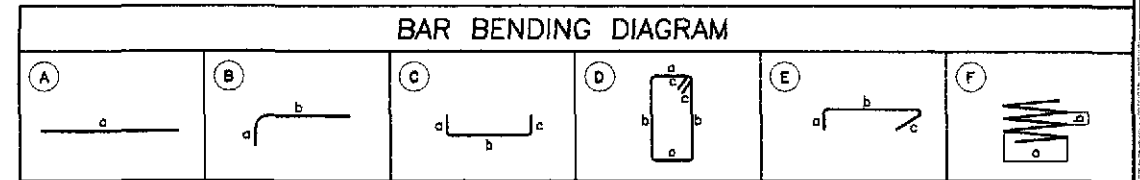


4 SECTION
SCALE 1:50



6 SECTION
SCALE 1:20

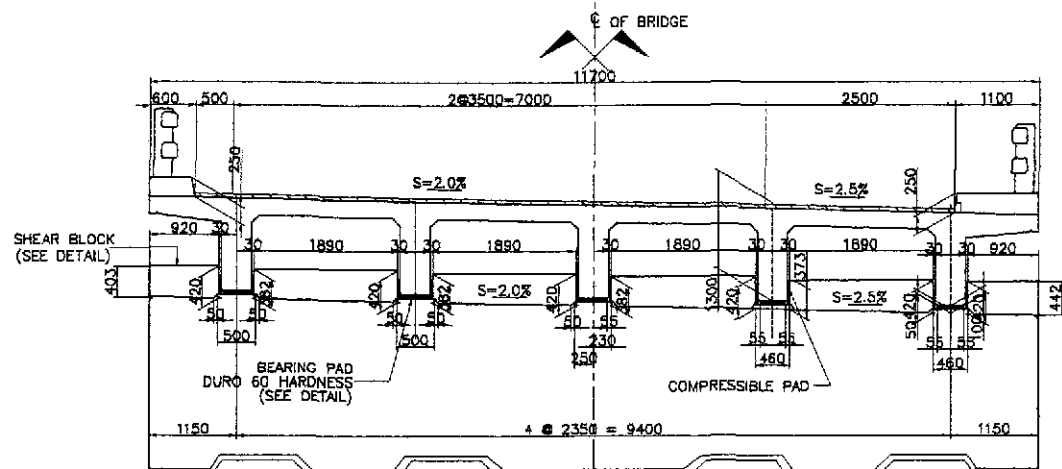
7 SECTION
SCALE 1:20



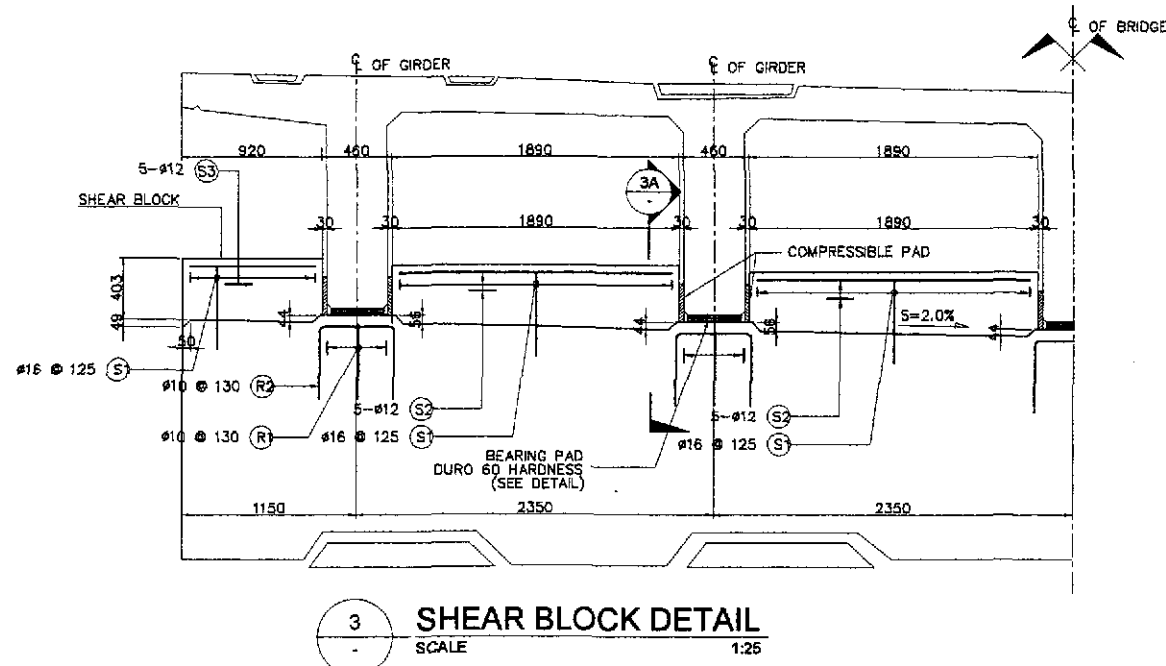
SCHEDULE OF REINFORCEMENT FOR ONE PIER															
LOCATION	CONCRETE VOLUME (m ³)	BAR MARK	BAR SIZE	QTY.	SPACING	BAR SHAPE	DIMENSIONS (mm) OUT TO OUT				LENGTH EACH BAR (mm)	TOTAL LENGTH (m)	UNIT WT (kg/m)	TOTAL WEIGHT (kg)	REBAR RATIO (kg/m ³)
							a	b	c	d					
COPING	25.09	C1	32	33	AS SHOWN	(C)	1000	10045	1000		12045	397.49	6.313	2510	179.17
		C2	16	104	75	(D)	1500	1500	150		6300	655.20	1.579	1035	
		C3	16	104	75	(D)	635	1500	150		4570	475.28	1.579	751	
		C4	20	8	AS SHOWN	(A)	10045				10045	80.36	2.466	199	
		C5	16	18	500	(A)	1500				1500	27.00	1.579	43	
COLUMN	6.62	P1	36	36	AS SHOWN	(B)	500	6950			7450	288.20	7.991	2144	439.77
		P2	20	60	75	(F)	1300	75			4084	245.04	2.466	605	
		P3	20	16	100	(F)	1300	100			4084	85.35	2.466	182	
FOOTING	46.80	F1	25	37	175	(C)	925	4350	925		6200	229.40	3.954	885	126.20
		F2	28	37	175	(C)	925	4350	925		6200	229.40	4.833	1108	
		F3	25	26	175	(C)	925	6575	925		8425	219.05	3.954	845	
		F4	32	26	175	(C)	925	6575	925		8425	219.05	6.313	1383	
		F5	16	6	AS SHOWN	(A)	6575				6575	39.45	1.579	63	
		F6	16	6	AS SHOWN	(A)	4350				4350	26.10	1.579	42	
		F7	16	294	300	(E)	200	1350	150		3400	999.60	1.579	1576	
TOTAL	78.51														

GRADE 40 TOTAL = 3,513 kgs.
GRADE 60 TOTAL = 9,842 kgs.

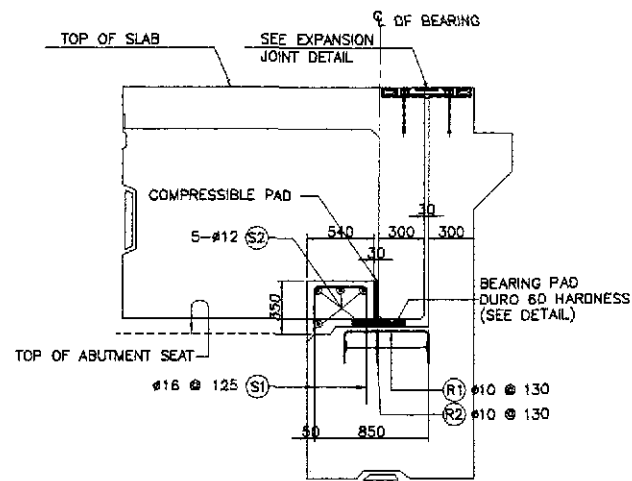
	DESIGNED	DATE	SIGNATURE		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS				PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :							
	CHECKED	9/27/08	P. GONZALES		BUREAU OF DESIGN	THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)				AS SHOWN	BRIDGE NO. 7 PIER P1 & PIER P2 BAR ARRANGEMENT DETAILS (ULTIMATE STAGE)	B7-11							
	SUBMITTED	9/27/08	MANUEL M. BONDAN		OFFICE OF THE SECRETARY	PLARIDEL BYPASS - CONTRACT PACKAGE II				FULL SIZE A1									
Submitted By: DANILLO C. TRAJANO, Project Director				Reviewed By: ADRIANO M. DORCOY, Chief, Bridges Division				Recommended By: GILBERTO S. REYES, Director IV (CIC)				Recommended By: MANUEL M. BONDAN, Undersecretary				Approved By: SIMEON A. DATUMANONG, Secretary			



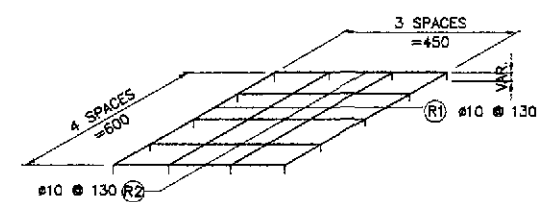
1 SECTION AT ABUTMENT SEAT
SCALE 1:50



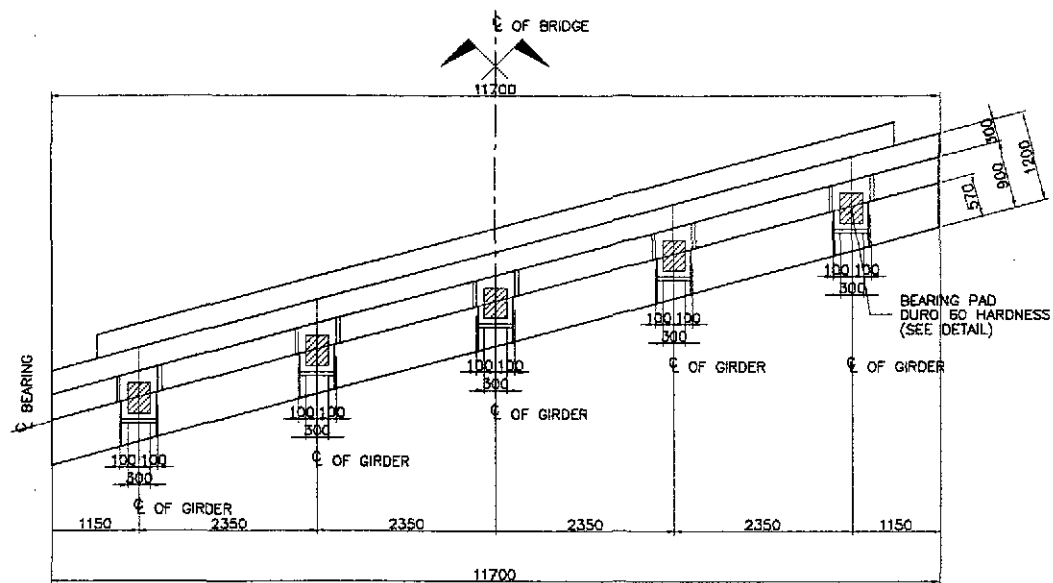
3 SHEAR BLOCK DETAIL
SCALE 1:25



3A SECTION
SCALE 1:25



4 RISER REINFORCEMENT
NOT TO SCALE

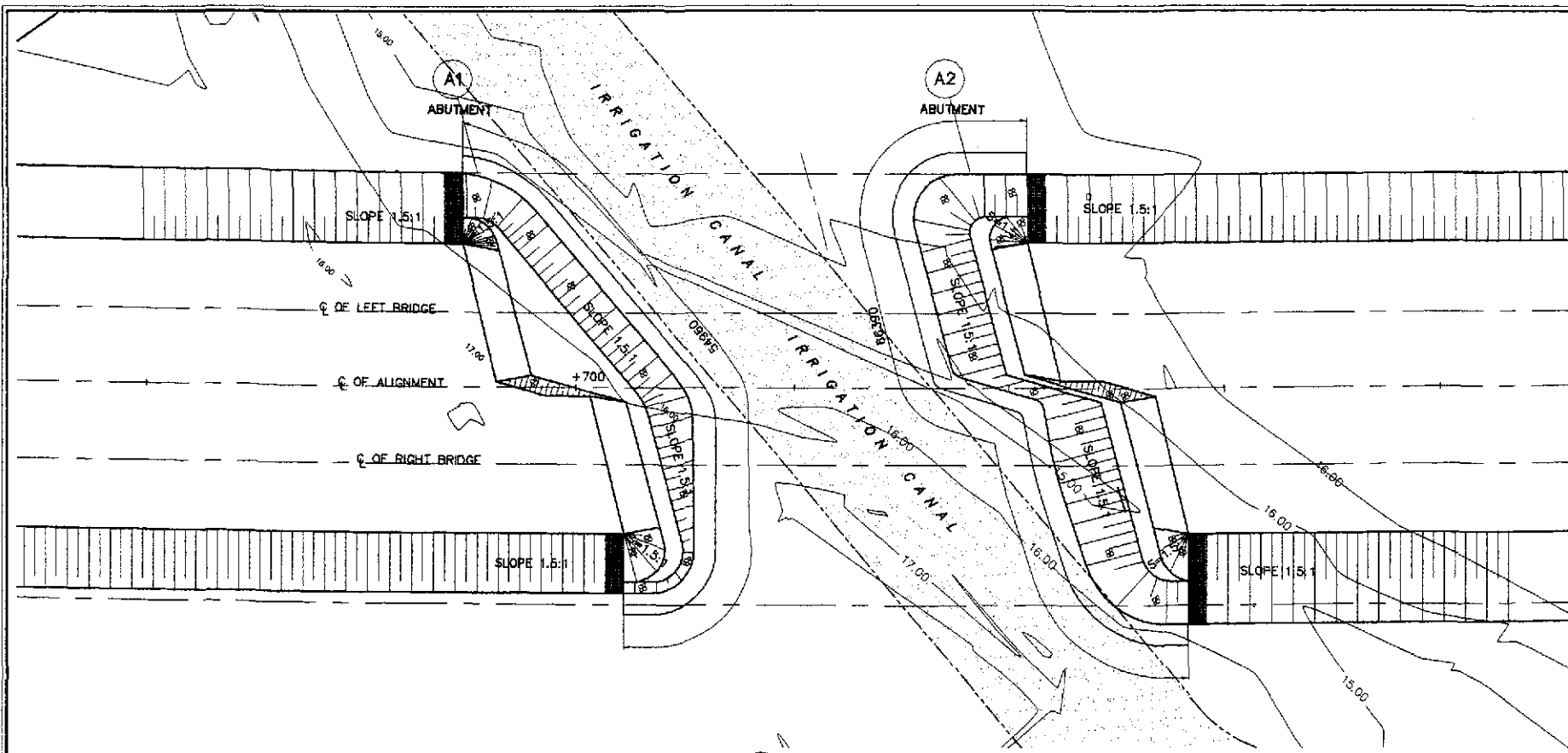


2 PLAN AT ABUTMENT SEAT
SCALE 1:50

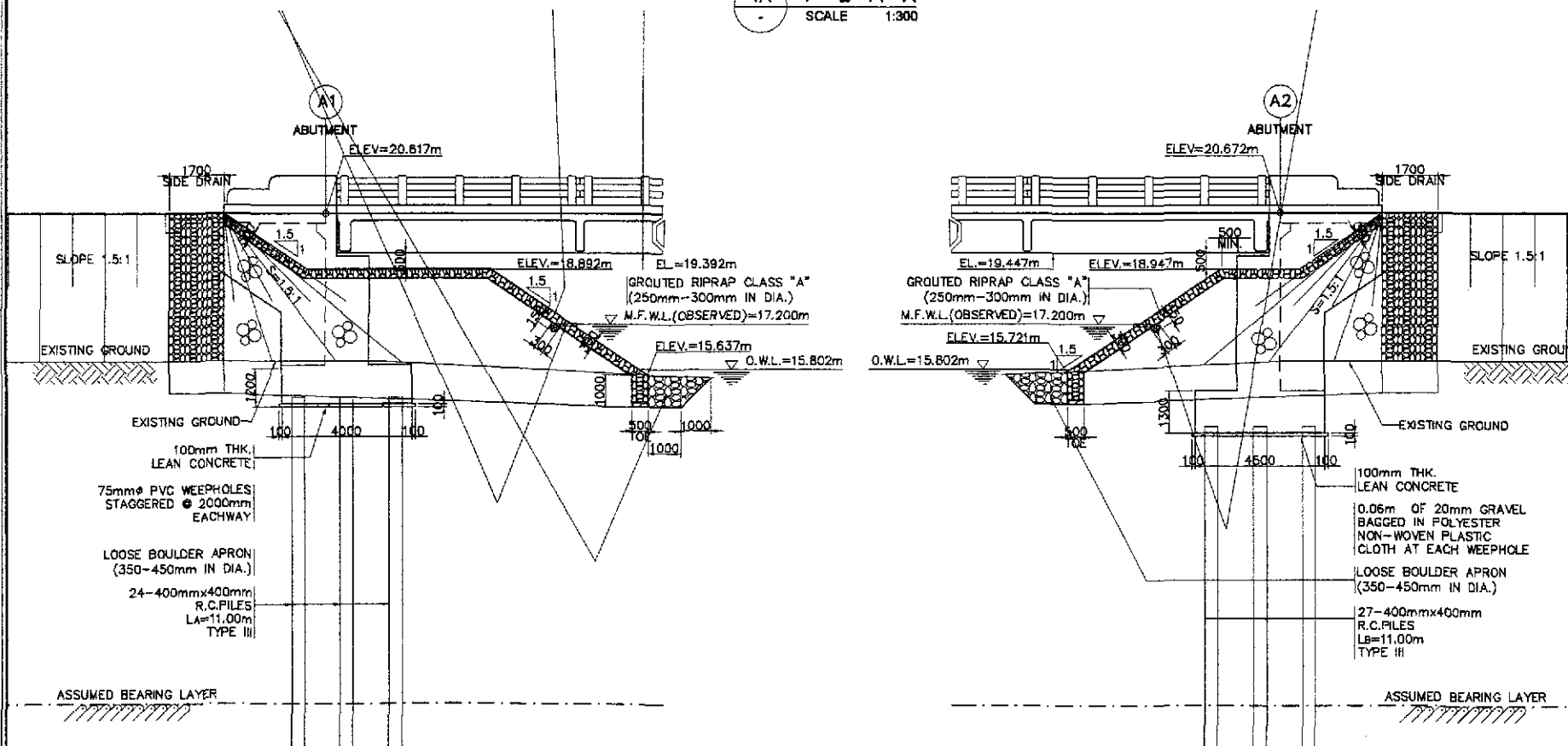
BAR BENDING DIAGRAM																
SCHEDULE OF REINFORCEMENT																
LOCATION	CONCRETE VOLUME (m ³)	BAR MARK	BAR SIZE	QTY.	SPACING	BAR SHAPE	DIMENSION(mm) OUT TO OUT					LENGTH EA. BAR (mm)	TOTAL LENGTH (m)	UNIT WEIGHT (kg/m)	WEIGHT (kg)	REBAR RATIO (kg/m ³)
							a	b	c	d	e					
SHEAR KEY & RISER	1.97	S1	16	76	125	(B)	560	460	560			1580	120.08	1.579	190	140.17
		S2	12	20	AS SHOWN	(A)	1875					1875	37.50	0.888	34	
		S3	12	10	AS SHOWN	(A)	870					870	8.70	0.888	8	
		R1	10	20	130	(B)	500	625	500			1625	32.50	0.616	21	
		R2	10	25	130	(B)	500	465	500			1465	36.63	0.616	23	
TOTAL	1.97															GRADE 40 TOTAL = 276 Kgs

THE REINFORCEMENT SHOWN ON THIS TABLE IS FOR REFERENCE ONLY. THE CONTRACTOR SHOULD CHECKED AND VERIFY ALL DIMENSIONS, SIZES AND QUANTITIES OF REINFORCEMENT.

	DESIGNED	DATE	SIGNATURE		REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS				PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :
	CHECKED				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	BRIDGE NO. 7 SHEAR KEY AND RISER DETAILS AT ABUTMENT (INITIAL STAGE)	B7-13
	SUBMITTED				OFFICE OF THE SECRETARY				FULL SIZE A1			
			Submitted By:	Reviewed By:	Recommended By:	Recommended By:	Approved By:	PLARIDEL BYPASS - CONTRACT PACKAGE II				



1A PLAN SCALE 1:300

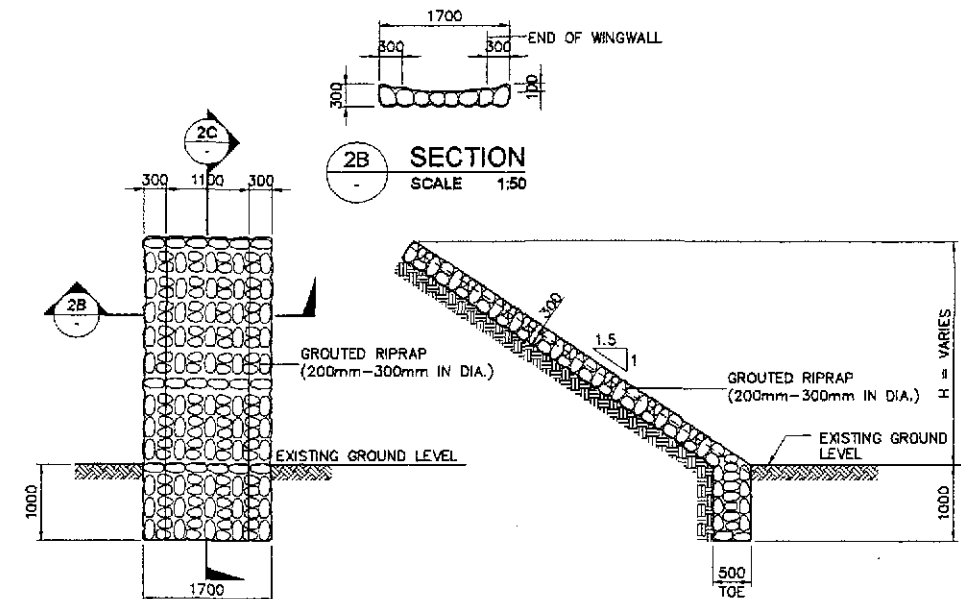


1B ELEVATION SCALE 1:100

1 ABUTMENT SLOPE PROTECTION SCALE AS SHOWN

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.
- FOR THE LOOSE BOULDER APRON, BOULDERS 350-450mm ϕ SHALL BE HAND-LAID, CLOSE TOGETHER AND SHALL BE FIRMLY BEDDED. ALL VOIDS BETWEEN BOULDERS SHALL BE FILLED WITH TIGHTLY DRIVEN SPALLS.
- 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/sq. m. (MIN.)
 - CBR PUNCTURE STRENGTH - 40DN (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.
- HAND-LAID ROCK SHALL BE MORE THAN 0.015cu.m. IN VOLUME AND SHALL CONSISTS OF HARD AND DURABLE STONES. ALL SHALL BE LAID FLAT AND SECURELY PLACED WITH LARGER STONES GENERALLY LOCATED IN THE LOWER PART OF THE STRUCTURE.
- NO CONCRETING UNDER WATER SHALL BE PERMITTED.
- PROVIDE 1.0m BERM WHEN HEIGHT (H) IS > 4.0m.



2A ELEVATION SCALE 1:50

2B SECTION SCALE 1:50

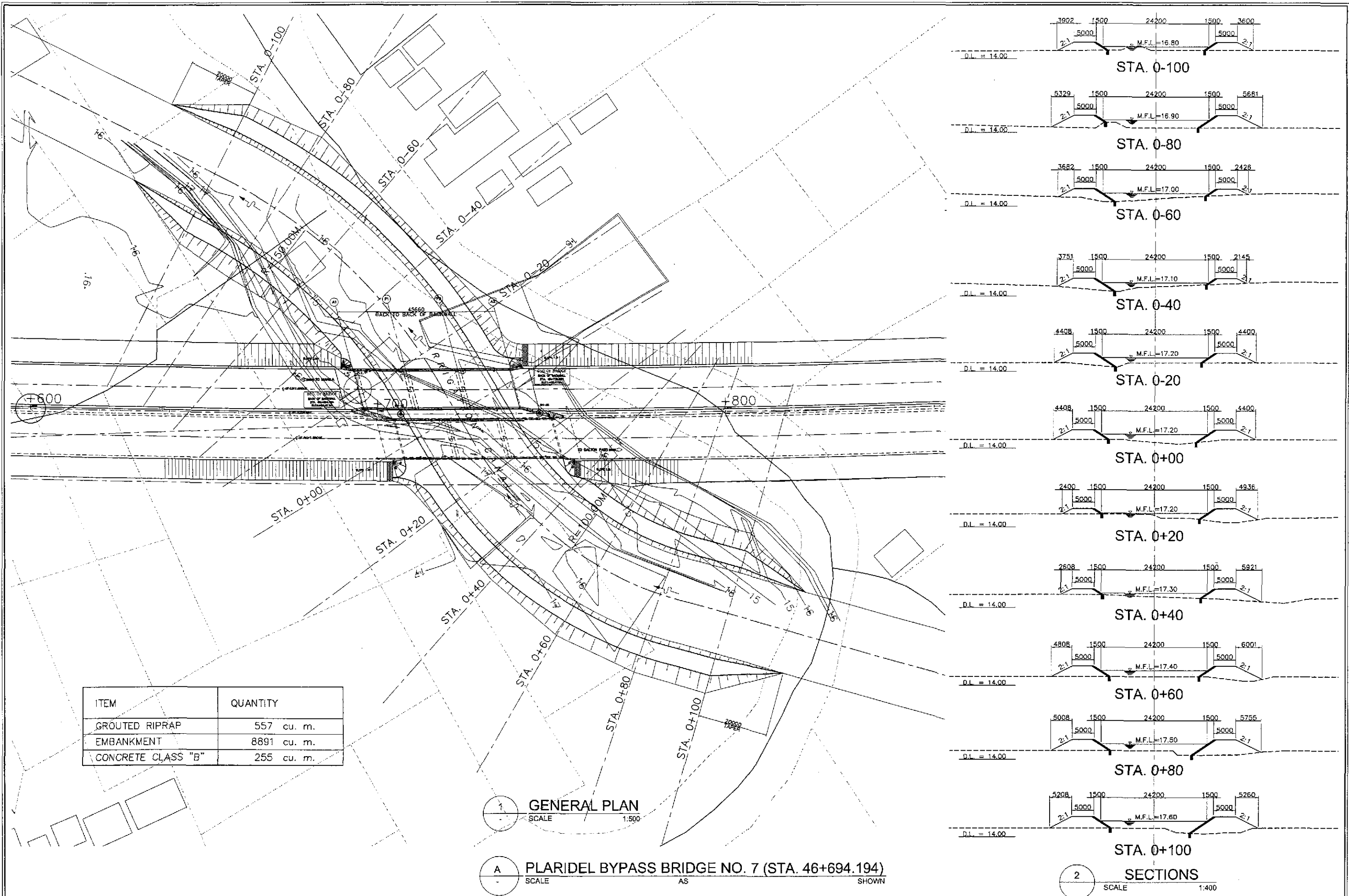
2C SECTION SCALE 1:50

2 TYPICAL SIDE DRAIN DETAIL SCALE AS SHOWN

VELOCITY (m/sec)	ROCK SIZE (mm)	
	VERY TURBULENT FLOW	SMOOTH FLOW
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	PER ABUTMENT QUANTITY	
		ABUT. A1	ABUT. A2
BOULDER APRON	350mm-450mm IN DIA.	41.02 cu. m.	41.25 cu. m.
SIDE DRAIN	200mm-300mm IN DIA.	4.71 cu. m.	4.71 cu. m.
GROUTED RIPRAP	250mm-300mm IN DIA.	89.66 cu. m.	70.69 cu. m.

	DESIGNED	DATE	SIGNATURE		PROJECT AND LOCATION :	SCALE :	SHEET CONTENTS :	SHEET NO. :	
	CHECKED	7/21/02	E. N. SALLAN		THE DETAILED DESIGN STUDY ON UPGRADING INTER-URBAN HIGHWAY SYSTEM ALONG THE PAN-PHILIPPINE HIGHWAY (Plaridel, Cabanatuan and San Jose Bypasses)	AS SHOWN	BRIDGE NO. 7	ABUTMENT PROTECTION AND SIDE DRAIN DETAILS (ULTIMATE STAGE)	B7-14
	SUBMITTED	7/29/02	[Signature]		BUREAU OF DESIGN DANILLO C. TRAJANO (Project Director) PERFECTO L. ZAPLAN JR. (Chief, Hydraulics Division (DC)) GILBERTO S. REYES (Director IV (DC)) MANUEL M. BONDAN (Undersecretary) SIMEON A. DATUMANONG (Secretary)	PLARIDEL BYPASS - CONTRACT PACKAGE II	FULL SIZE A1		



ITEM	QUANTITY
GRouted RIPRAP	557 cu. m.
EMBANKMENT	8891 cu. m.
CONCRETE CLASS "B"	255 cu. m.

1 GENERAL PLAN
SCALE 1:500

A PLARIDEL BYPASS BRIDGE NO. 7 (STA. 46+694.194)
SCALE AS SHOWN

2 SECTIONS
SCALE 1:400

	DESIGNED: <i>[Signature]</i> CHECKED: <i>[Signature]</i> SUBMITTED: <i>[Signature]</i>	DATE: 11/21/02 SIGNATURE: P. GONZALES P.J.H. - PMO	REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS BUREAU OF DESIGN	OFFICE OF THE SECRETARY Recommended By: DANILLO C. TRAJANO (Project Director) ADRIANO M. DOROY (Chief, Bridges Division) GILBERTO S. REYES (Director IV (GIC)) MANUEL M. BONGAN (Undersecretary) SIMON A. DATUMANONG (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) PLARIDEL BYPASS - CONTRACT PACKAGE II	SCALE : 1:400 FULL SIZE A1	SHEET CONTENTS : BRIDGE NO. 7 RIVER REALIGNMENT DETAILS (INITIAL STAGE)	SHEET NO. : B7-15
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