

SEE AND CHECK VALUE OF L'
FOR OTHER GIRDER LENGTH
FROM GENERAL VIEW SHEET

[illegible]

W BASED ON GIRDER LENGTH 25.880m(AVE.)
EXTRA LENGTH FOR TENSIONING IS NOT INCLUDED
 $w=11.010\text{kg/m/Cable (10T15.2B)}$

$$\alpha = 2 \times (H_1 - H_2) / (2 \times L_1 - L_2) \quad \text{rad.}$$

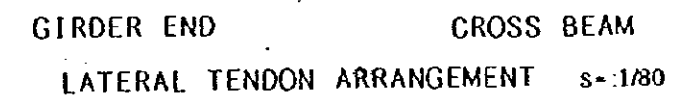
$$S1=1 \ 200/\cos\alpha$$

$$S2=L2 \times (1+8/3 \times n^2-32/5 \times n^4+128/7 \times n^6-512/9 \times n^8)$$

$$n=(H1-H2-\tan\alpha \times L1 \ 200)/(2 \times L2)$$



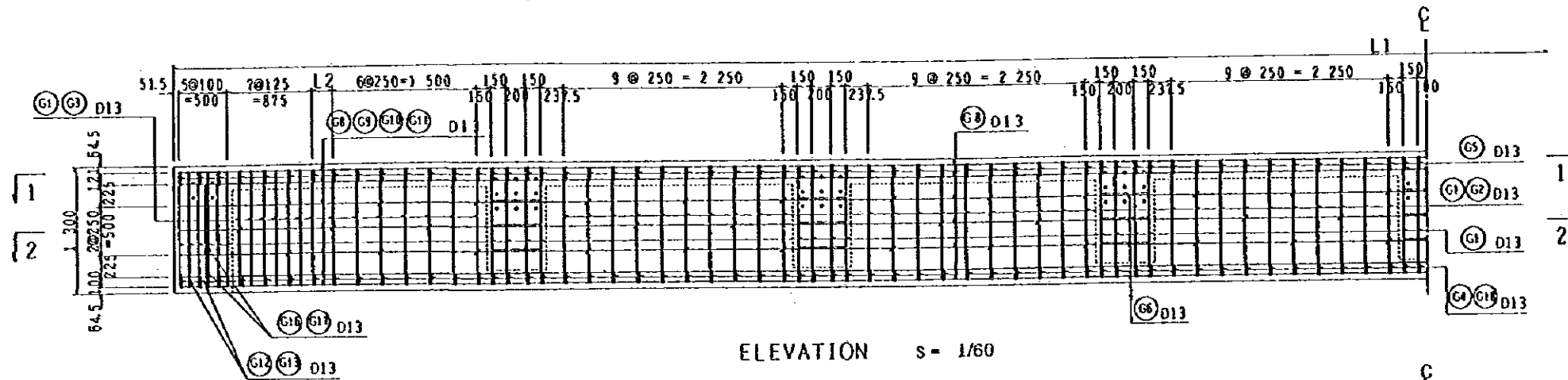
TENDON PROFILE S- 1/60



FOR CROSS BEAM

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

DATE	DWGNO.	B-9
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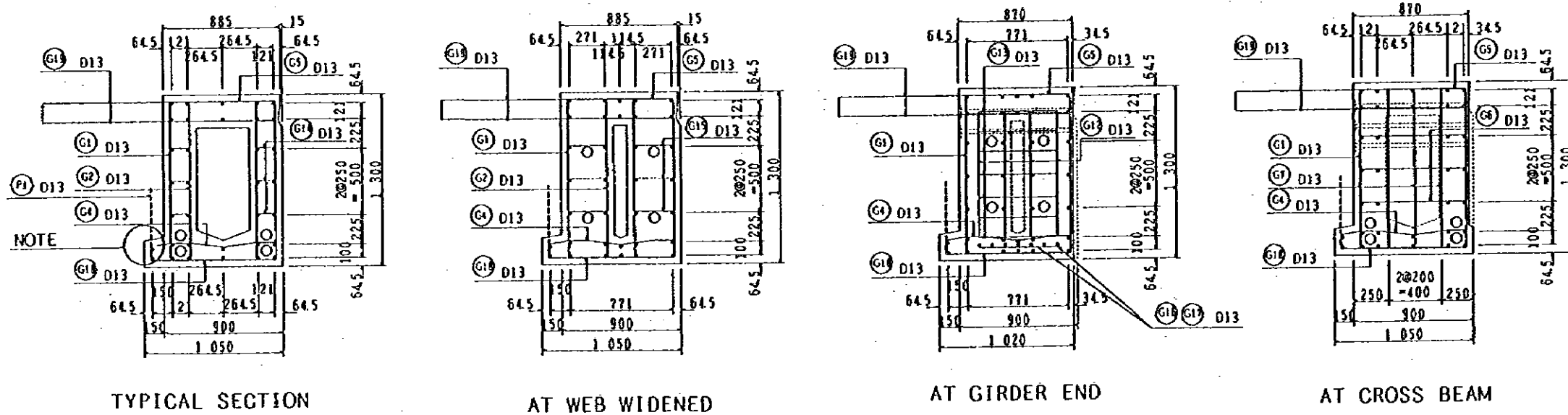
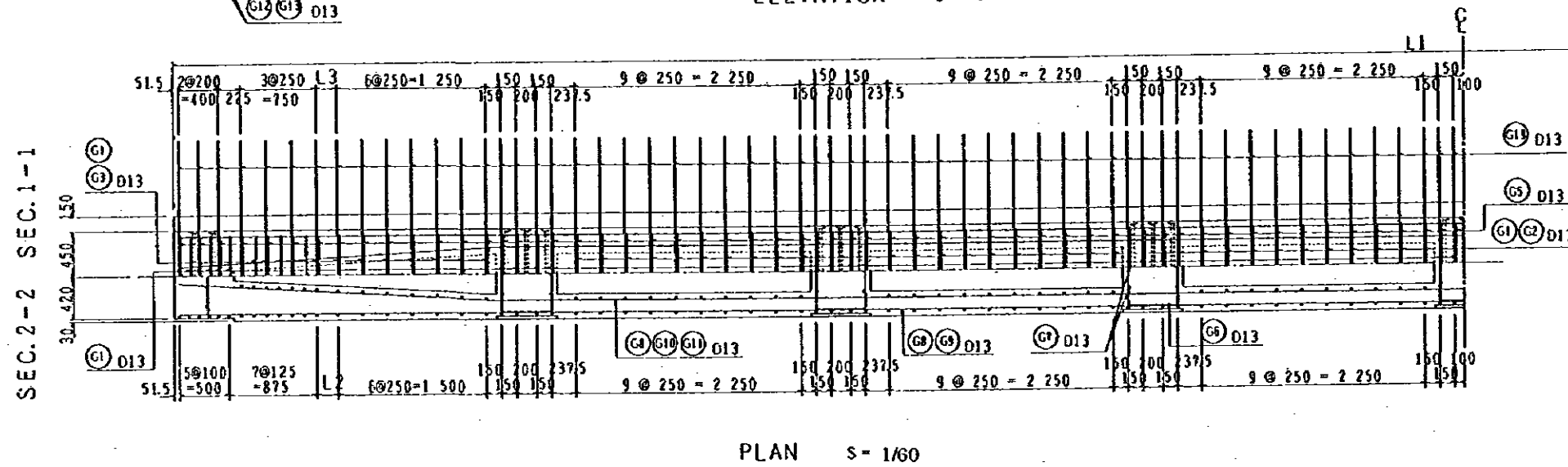


L1	25 853 ~ 25 906
L2	187.5 ~ 214
L3	187.5 ~ 214

SEE AND CHECK VALUE OF 'L'
FOR OTHER EXT. GIRDER LENGTH
FROM GENERAL VIEW SHEET

NOTE :

FOR ALTERNATIVE CONSTRUCTION
JOINT, INSERT INSIDE
THREADED JOINT TO HANDLE
PLANTED VERTICAL BAR



A-LINE RE-BAR ARRANGEMENT-1 (EXT.GIRDER)

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
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JICA STUDY TEAM
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FUKUYAMA CONSULTANTS INTERNATIONAL

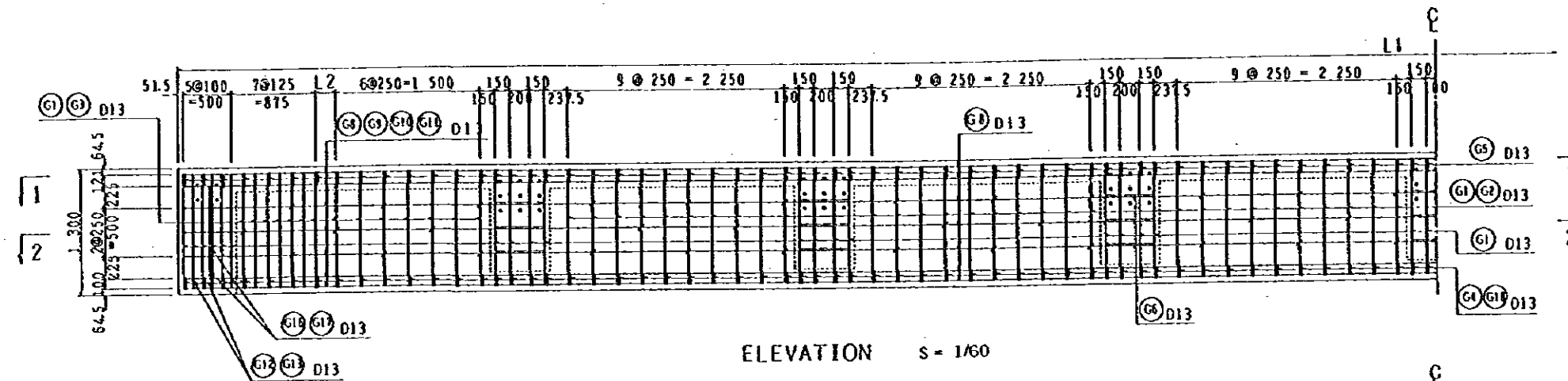
CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

TITLE	RE-BAR ARRANGEMENT(1/2) AT A-LINE
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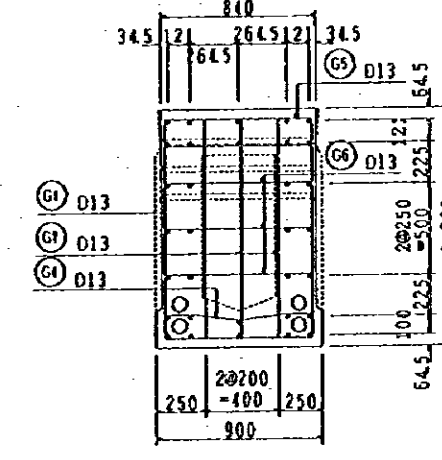
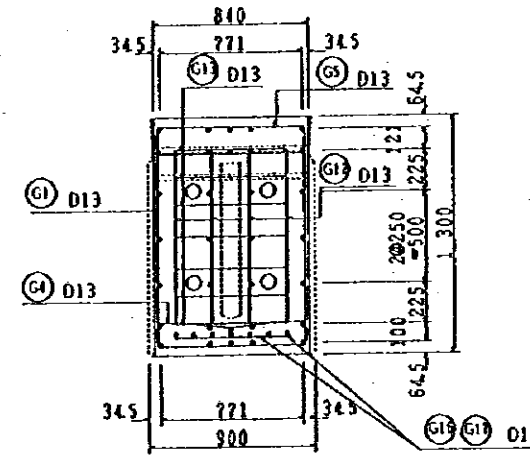
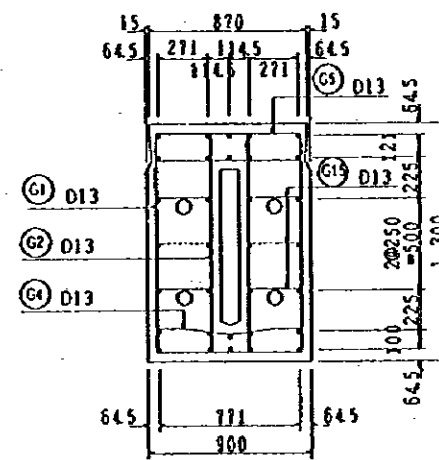
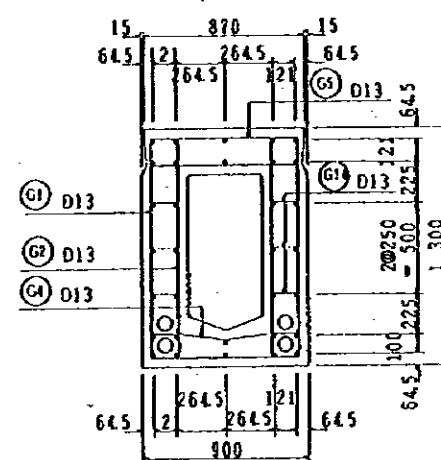
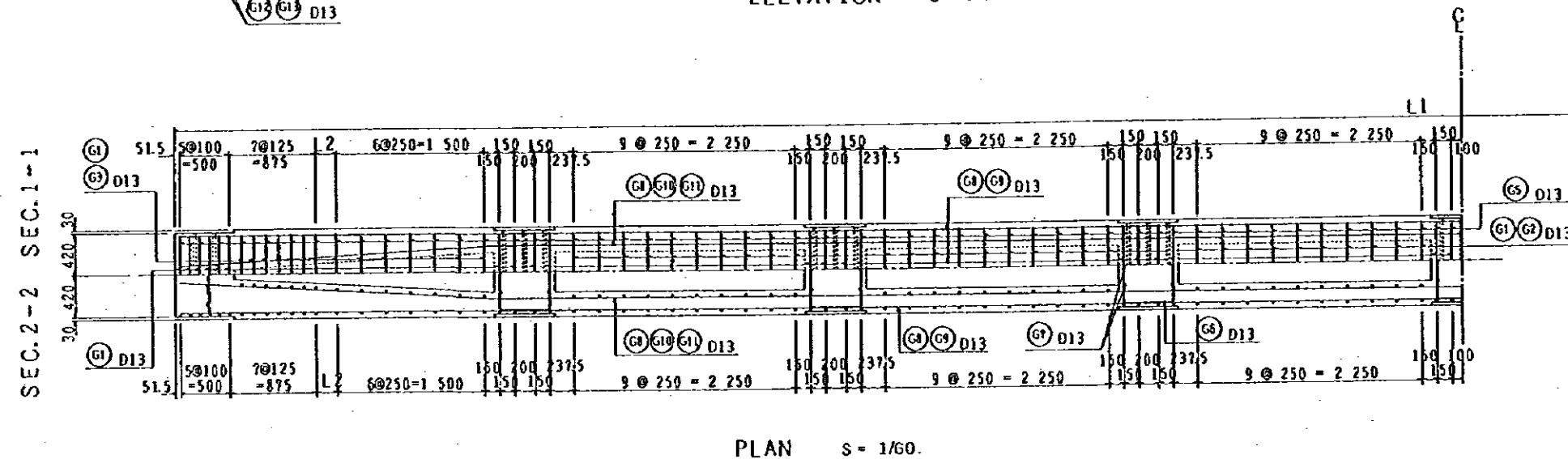
DATE	DWGNO.	B-10
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RA/10 SAHAM



L1	25 858 ~ 25 901
L2	190 ~ 211.5

SEE AND CHECK VALUE OF 'L'
FOR OTHER INT.GIRDER LENGTH
FROM GENERAL VIEW SHEET



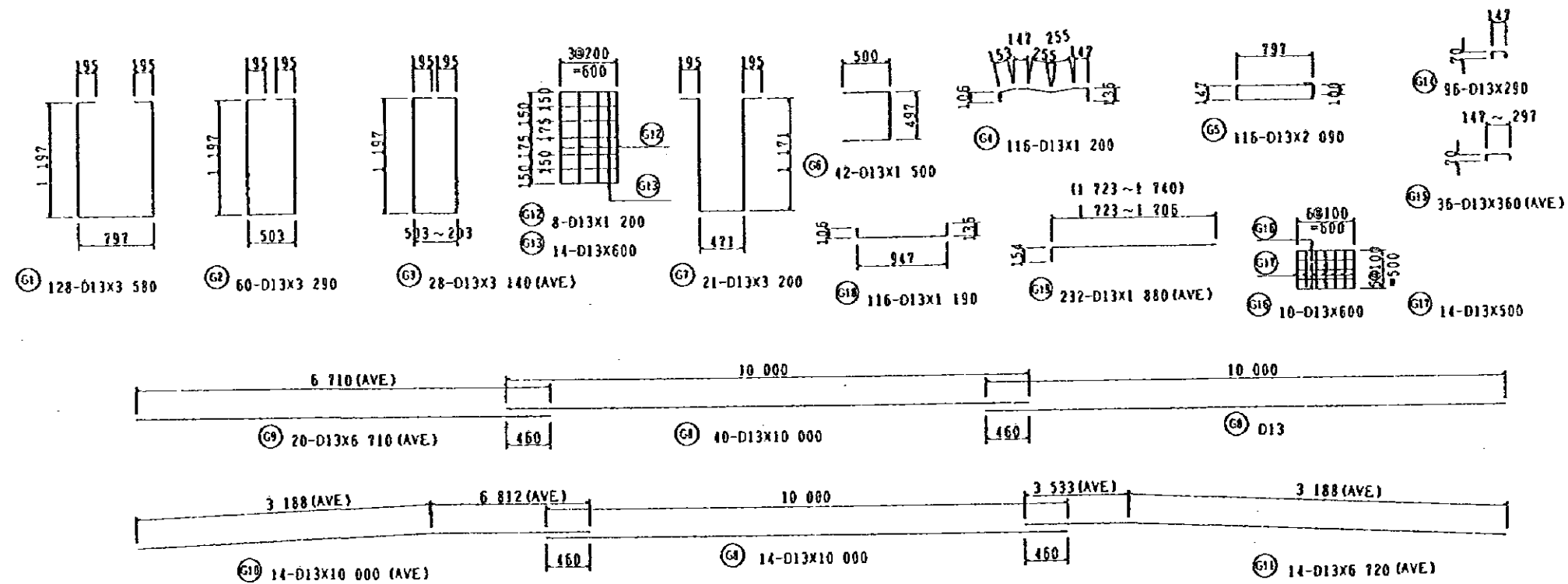
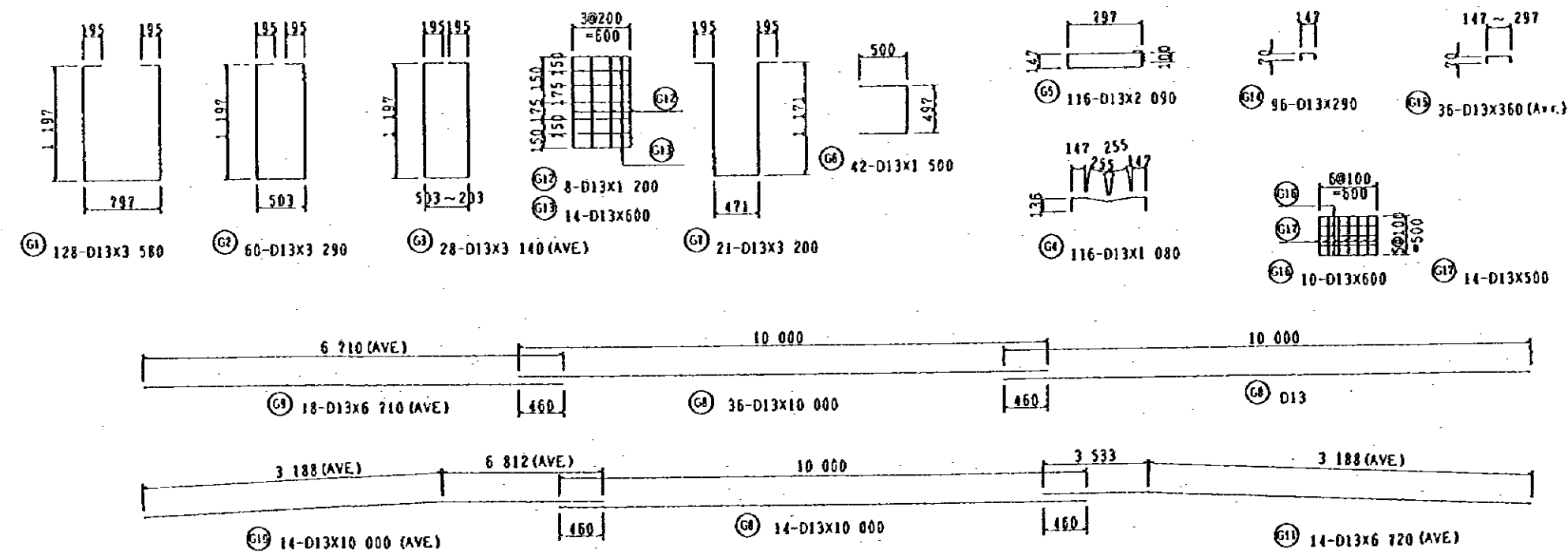
SECTION S = 1/40

A-LINE RE-BAR ARRANGEMENT-2 (INT.GIRDER)

NOTES:

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CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE: RE-BAR ARRANGEMENT(2/2) AT A-LINE
DATE: _____ DWGNO. B-11

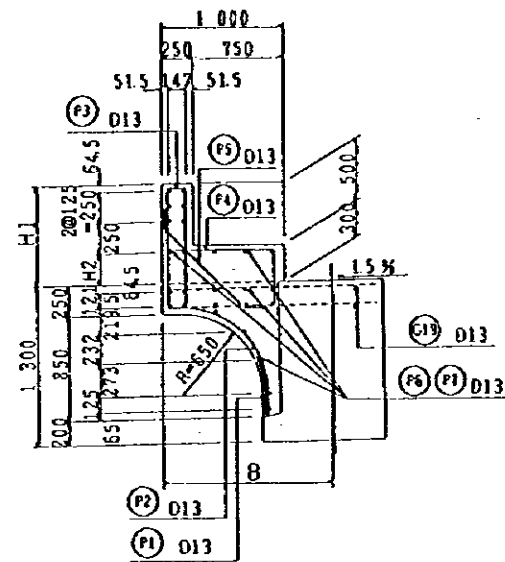

FOR EXT.GIRDER $s=1/60$

FOR INT.GIRDER $s=1/60$

BAR SCHEDULE OF MAIN GIRDER AT A-LINE

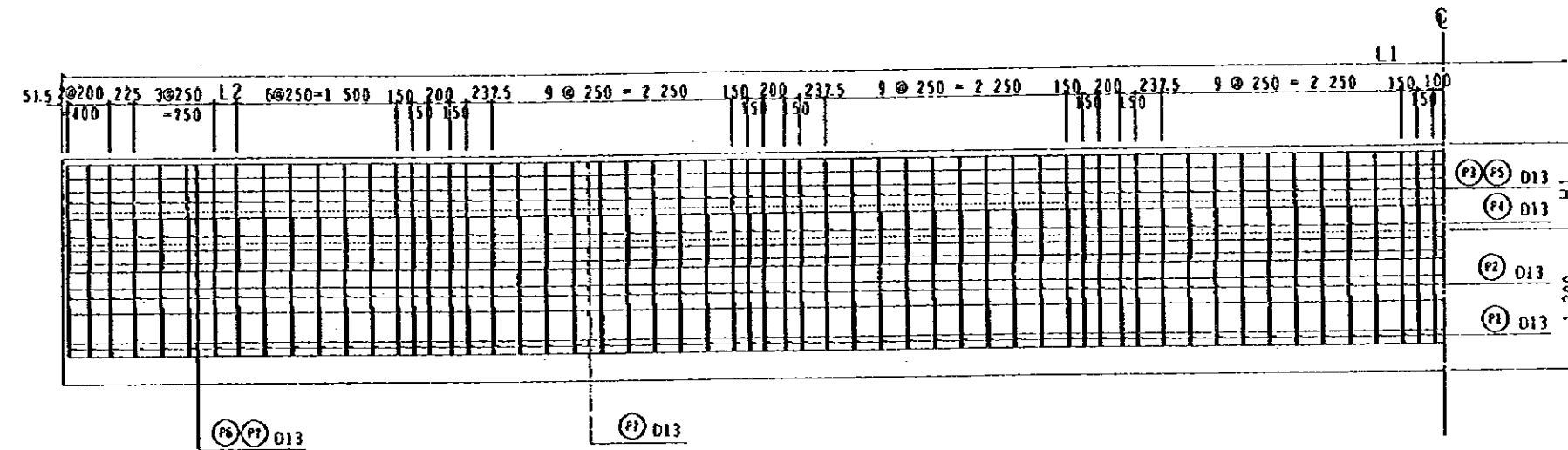
NOTES:

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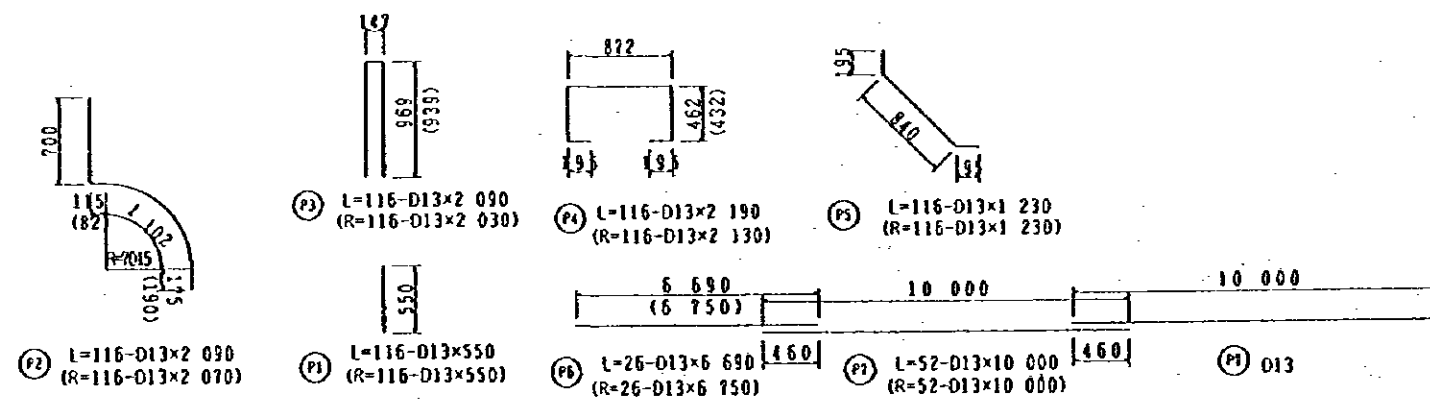
CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE: BAR SCHEDULE OF MAIN GIRDER AT A-LINE
DATE: _____ DWGNO. B-12



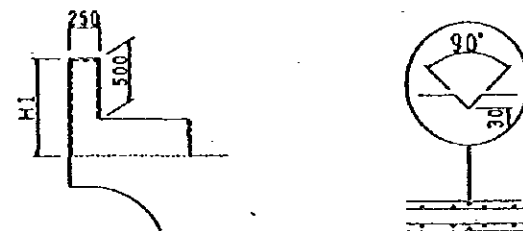
SECTION



ELEVATION



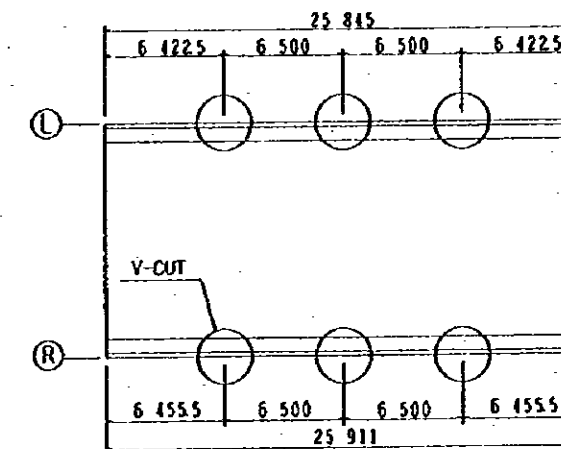
BAR SCHEDULE



DETAIL OF V-CUT

		(A1) ~ (A2)	REMARKS
(L)	L1	25 845	LEVEL
	L2	1835	LEVEL
	B	1 400 ~ 1 383	VARIABLE
	H1	815	
	H2	2505	
(R)	L1	25 911	LEVEL
	L2	2165	LEVEL
	B	1 400 ~ 1 417	VARIABLE
	H1	785	
	H2	2205	

DIMENSION LIST



RAILING AND CANTILEVER SLAB AT A-LINE

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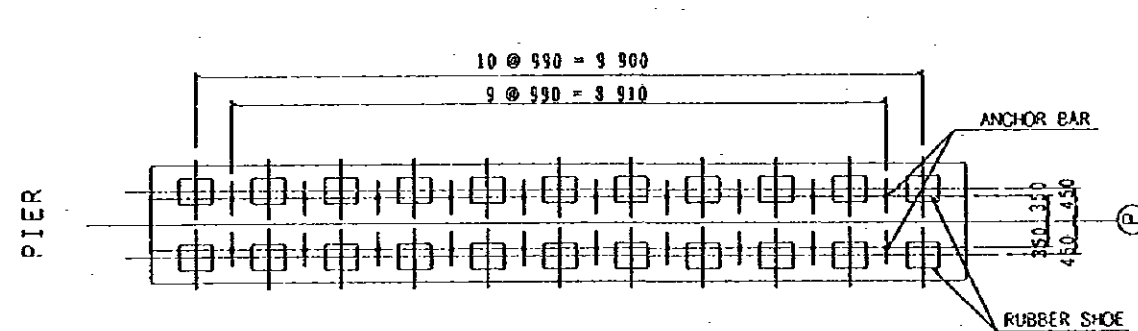
CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS	
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY	
TITLE RAILING AND CANTILEVER SLAB AT A-LINE	
DATE	DWGNO. B-13

			T	L1	L2	L3
A1 ~ F1	FIX		16	131	419	520
P10 ~ A2	MOV.		15	130	370	470
P1 ~ P2	FIX		25	140	410	520
P9 ~ P10	MOV.		16	131	369	470
P2 ~ P3	FIX		24	139	411	520
P8 ~ P9	MOV.		17	132	368	470
P3 ~ P4	FIX		23	138	412	520
P7 ~ P8	MOV.		18	133	367	470
P4 ~ P5	FIX		22	137	413	520
P6 ~ P7	MOV.		19	134	366	470
P5 ~ P6	FIX		20	135	415	520
	MOV.		20	135	365	470

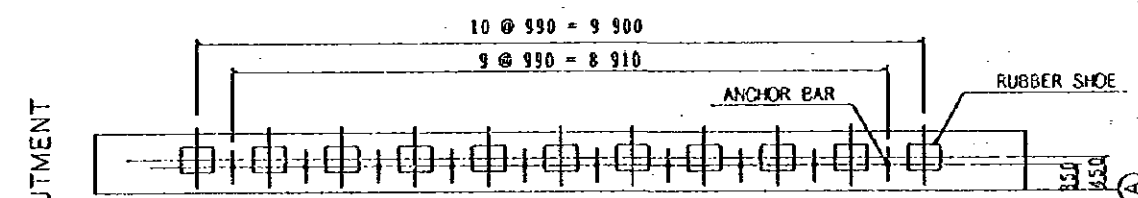
FOR PIER

DETAIL OF ANCHOR BAR S = 1/40

SECTION 5- 1/100



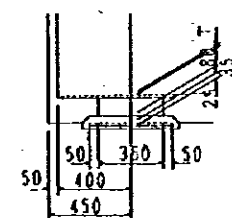
W. H. O.



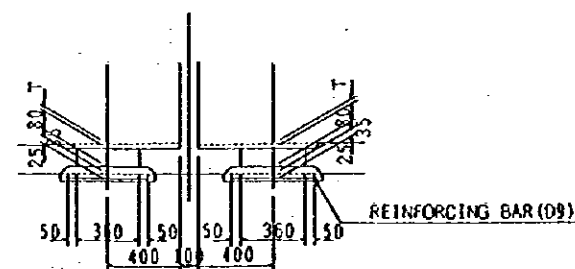
ABUTMENT

PLAN S₂ 1/100

DETAIL OF SHOE AND ANCHOR BAR

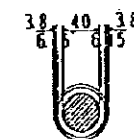


FOR ABUTMENT

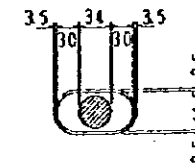


FOR PIER

DETAIL OF SHOE S-1/40

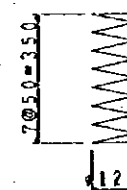


FOR FIX

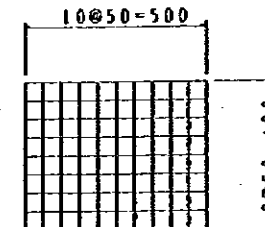


FOR MOV.

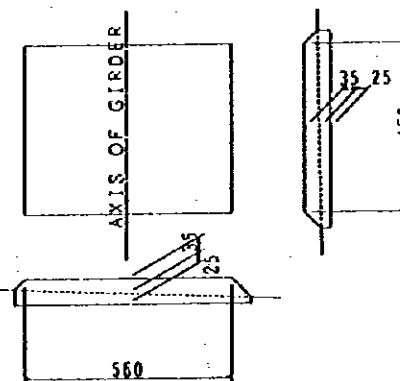
ANCHOR CAP $s = 1/10$



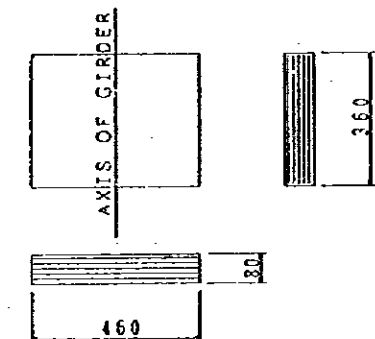
SPIRAL BAR (D9)
S- 1/40



REINFORCING BAR (D9)
S = 1/40



SHOE BASE $s = .1/20$

SYNTHETIC RUBBER SHOE S_n - 1/20

(PER SPAN)

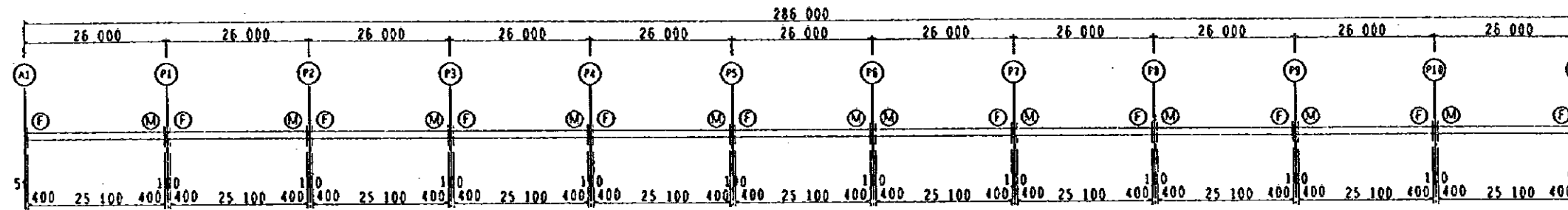
	DESCRIPTION	UNIT	QUANTITY	REMARKS
FIX	ANCHOR BAR (GALV.)	kg	839	w= 8.39 kg/pc.
	ANCHOR CAP (GALV.)	kg	186	w=1.86 kg/pc.
	FILLER	kg	59	w=0.588 kg/anc.
	SYNTHETIC RUBBER SHOE	Pcs	11	460x360x80
	REINFORCING BAR	kg	54.8	w=4.98 kg/Set
	SPIRAL BAR	kg	17.6	w=1.76 kg/pc.
	NON SHRINKAGE MORTAR	m ³	0.198	0.018m ³ /Shoe
MOV.	"	m ³	0.090	0.009m ³ /Hole (AVE
	ANCHOR BAR (GALV.)	kg	570	w=5.70 kg/pc.
	ANCHOR CAP (GALV.)	kg	237	w=2.37 kg/pc.
	FILLER	kg	145	w=1.45 kg/anc.
	SYNTHETIC RUBBER SHOE	Pcs	11	460x360x80
	REINFORCING BAR	kg	54.8	w=4.98kg/Set
	SPIRAL BAR	kg	17.6	w=1.76 kg/pc.
	NON SHRINKAGE MORTAR	m ³	0.198	0.018m ³ /Shoe
	"	m ³	0.080	0.008m ³ /Hole (AVE

MATERIAL LIST

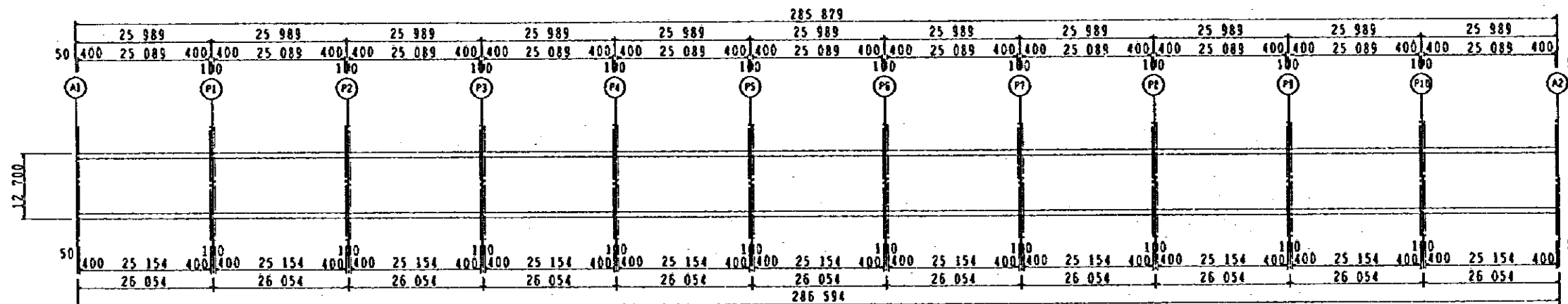
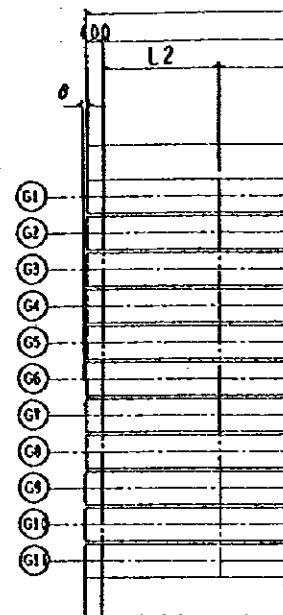
**JAPAN INTERNATIONAL COOPERATION AGENCY
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JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL**

CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS	
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY	
TITLE: DETAIL OF SHOE AND ANCHOR BAR AT A-LINE	
DATE	DWGNO. B-14

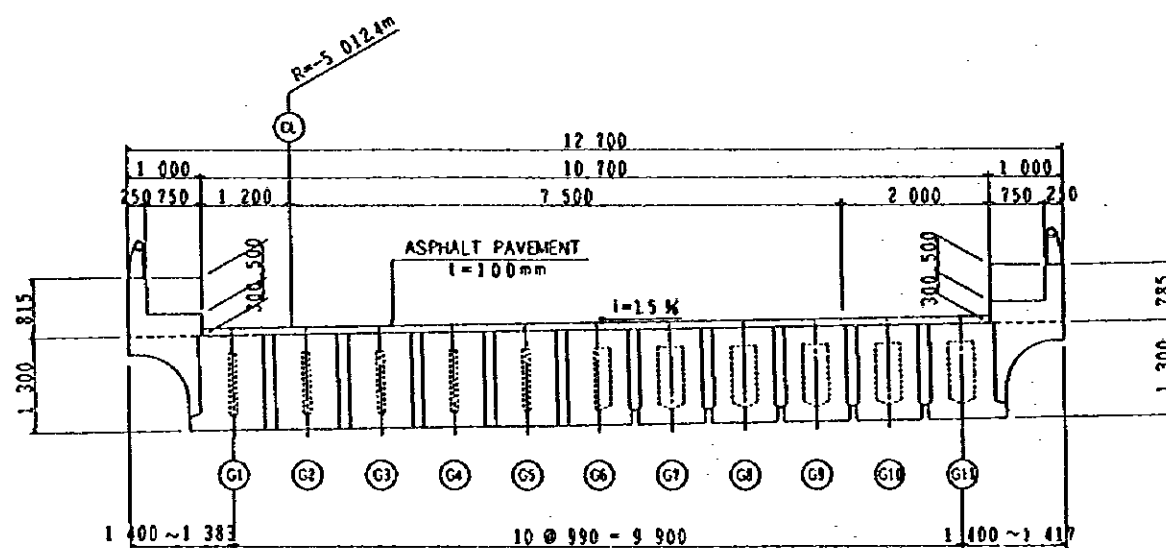
RA/10 SAHAM



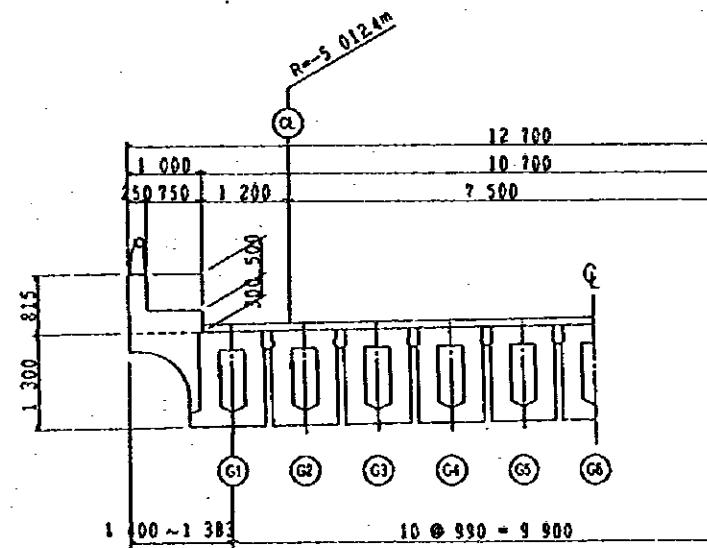
PROFILE OF BRIDGE s= 1/1000



PLAN s= 1/1000



GIRDER END MIDDLE SPAN



TYPICAL SEC.

SECTION s= 1/100

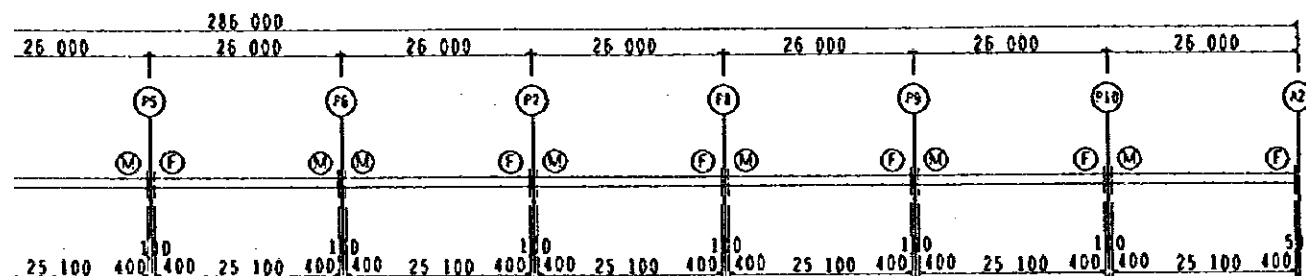
		G1	G2
(A1) ~ (P1)	L0	25 898	25 903
	L1	25 098	25 103
	L2	3 136.5	3 139.0
(P1) ~ (A2)	L0	25 897	25 902
	L1	25 097	25 102
	L2	3 136.0	3 138.5
(P1) ~ (P2)	L0	25 897	25 902
	L1	25 097	25 102
	L2	3 136.0	3 138.5
(P2) ~ (P3)	L0	25 896	25 901
	L1	25 096	25 101
	L2	3 135.5	3 138.0
(P3) ~ (P4)	L0	25 896	25 901
	L1	25 096	25 101
	L2	3 135.5	3 138.0
(P4) ~ (P5)	L0	25 896	25 901
	L1	25 096	25 101
	L2	3 135.5	3 138.0

GENERAL VIEW OF BRIDGE AT B-LINE

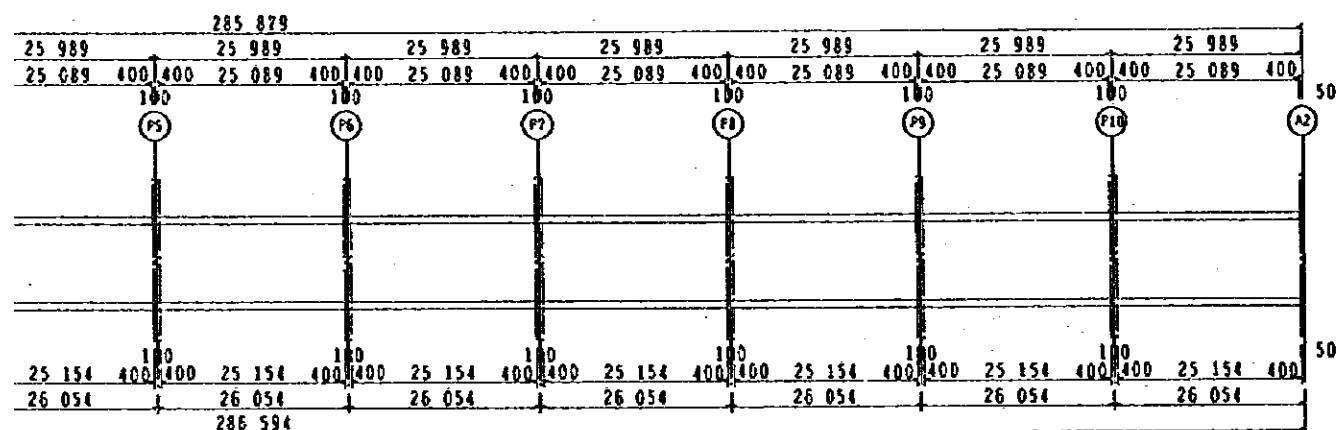
NOTES:

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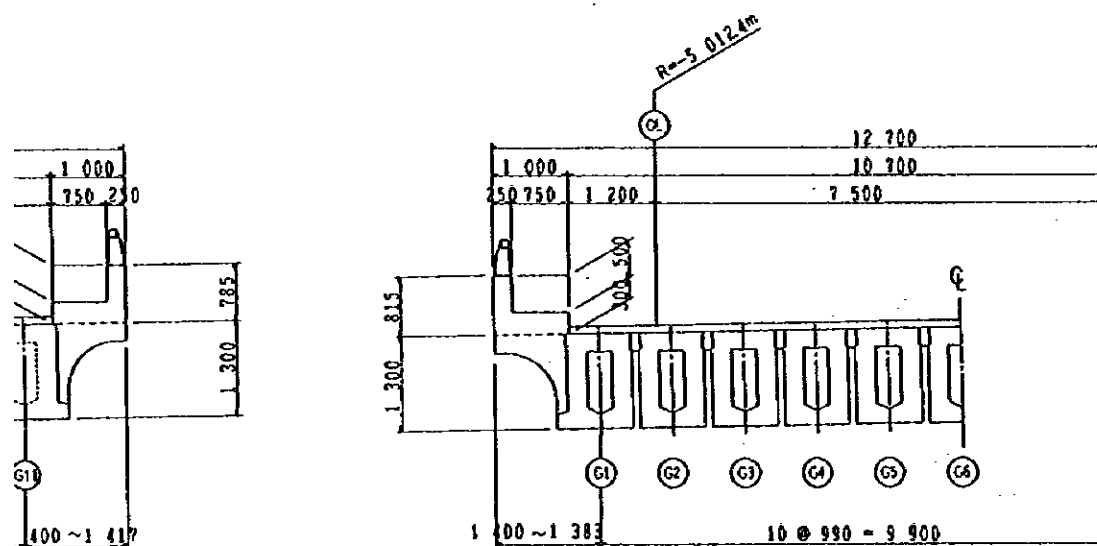
RA/10 SAHAM



PROFILE OF BRIDGE s= 1/1000



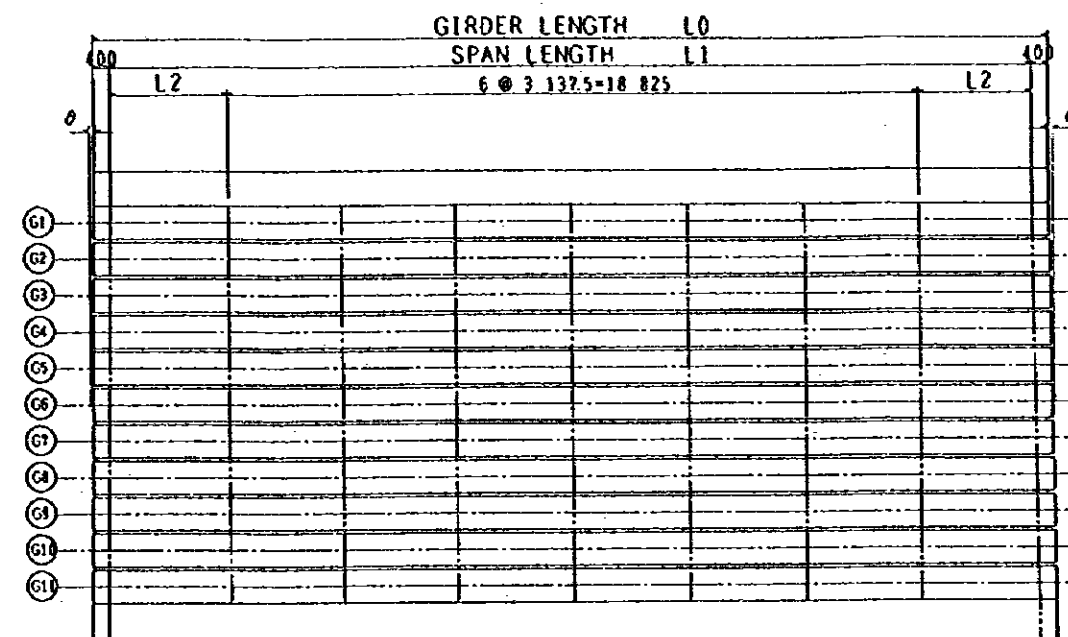
PLAN s= .1/1000



TYPICAL SEC.

SECTION s= 1/100

GENERAL VIEW OF BRIDGE AT B-LINE



R=5 012.4m(AT CL)

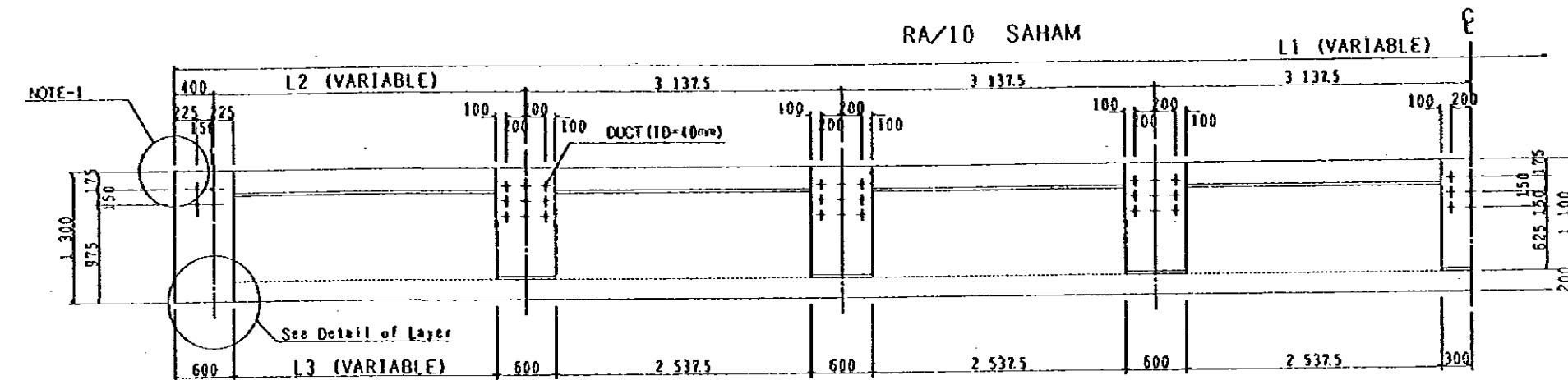
GIRDER LENGTH

		G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	REMARKS
(A1) ~ (P1)	L0	25 898	25 903	25 908	25 913	25 919	25 924	25 929	25 934	25 939	25 944	25 949	INCLINED LENGTH
	L1	25 098	25 103	25 108	25 113	25 119	25 124	25 129	25 134	25 139	25 144	25 149	"
	L2	3 136.5	3 138.0	3 141.5	3 144.0	3 147.0	3 149.5	3 152.0	3 122.5	3 120.0	3 117.5	3 115.0	"
0.14861													
(P1) ~ (P2)	L0	25 897	25 902	25 908	25 913	25 918	25 923	25 928	25 933	25 938	25 943	25 949	INCLINED LENGTH
	L1	25 097	25 102	25 108	25 113	25 118	25 123	25 128	25 133	25 138	25 143	25 149	"
	L2	3 136.0	3 138.5	3 141.5	3 144.0	3 146.5	3 149.0	3 151.5	3 154.0	3 156.5	3 159.0	3 162.0	"
0.14861													
(P2) ~ (P3)	L0	25 897	25 902	25 907	25 912	25 917	25 922	25 927	25 932	25 938	25 943	25 948	INCLINED LENGTH
	L1	25 097	25 102	25 107	25 112	25 117	25 122	25 127	25 132	25 138	25 143	25 148	"
	L2	3 136.0	3 138.5	3 141.0	3 143.5	3 146.0	3 148.5	3 151.0	3 153.5	3 156.5	3 159.0	3 161.5	"
0.14861													
(P3) ~ (P4)	L0	25 896	25 901	25 906	25 911	25 916	25 921	25 926	25 931	25 937	25 942	25 948	INCLINED LENGTH
	L1	25 096	25 101	25 106	25 111	25 116	25 121	25 126	25 131	25 137	25 142	25 148	"
	L2	3 135.5	3 138.0	3 140.5	3 143.5	3 146.0	3 148.5	3 151.0	3 153.5	3 156.0	3 158.5	3 161.5	"
0.14861													
(P4) ~ (P5)	L0	25 896	25 901	25 906	25 911	25 916	25 921	25 926	25 931	25 937	25 942	25 947	INCLINED LENGTH
	L1	25 096	25 101	25 106	25 111	25 116	25 121	25 126	25 131	25 137	25 142	25 147	"
	L2	3 135.5	3 138.0	3 140.5	3 143.0	3 145.5	3 148.0	3 151.0	3 153.5	3 156.0	3 158.5	3 161.0	"
0.14861													

DIMENSION LIST FOR B-LINE

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JICA STUDY TEAM
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FUKUYAMA CONSULTANTS INTERNATIONAL

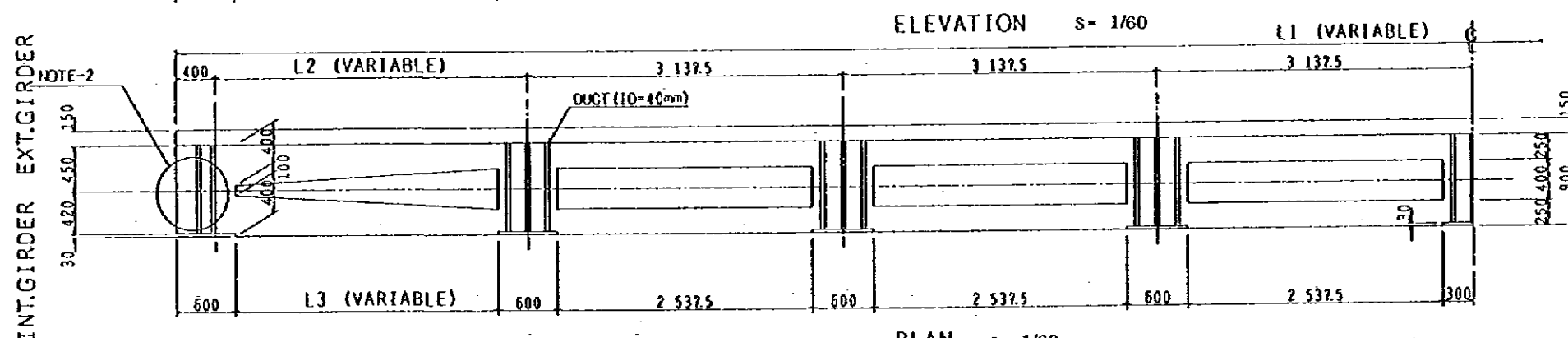
CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE: GENERAL VIEW OF BRIDGE AT B-LINE
DATE: _____ DWGNO. B-15



L1	25 896 ~ 25 949
L2	3 135.5 ~ 3 162
L3	2 635.5 ~ 2 662

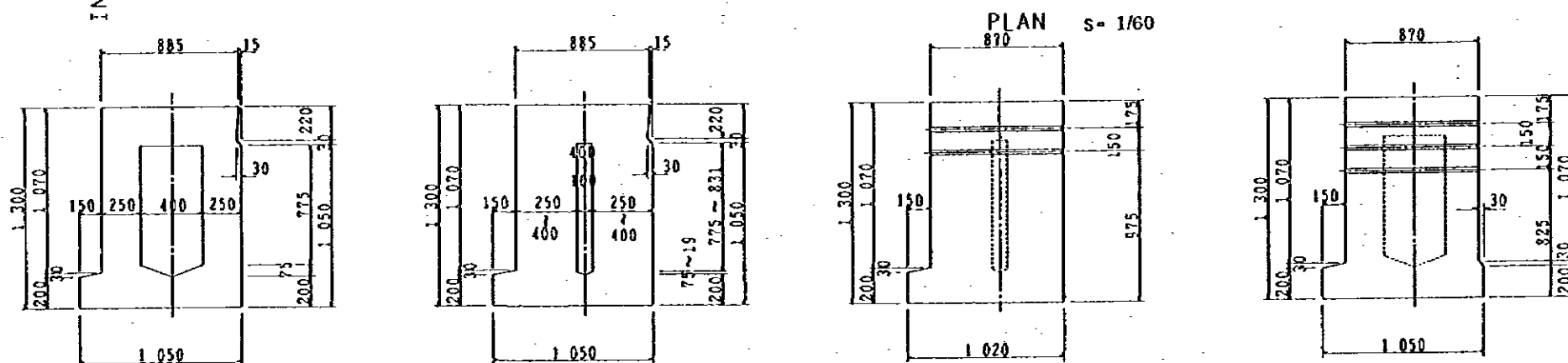
MAX., MIN. VALUE OF L

SEE AND CHECK VALUE OF L OF PER GIRDER
FROM GENERAL VIEW SHEET (DIMENSION LIST)



NOTE-1:
CONSIDERING THE EFFECT LONGITUDINAL
SLOPE(%) TO END GIRDER BOTH ENDS
SHOULD BE FIXED PARALLEL TO Y-AXIS

NOTE-2:
TRANSVERSE TENDONS FOR END DIAPHRAGMS
SHALL BE ALIGNED WITH SKEW ANGLE θ

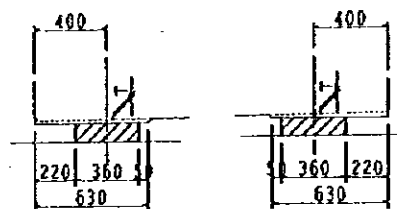


TYPICAL SECTION

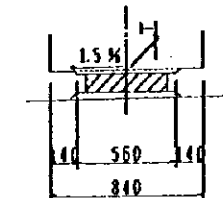
AT WEB WIDENED

AT GIRDER END

AT CROSS BEAM

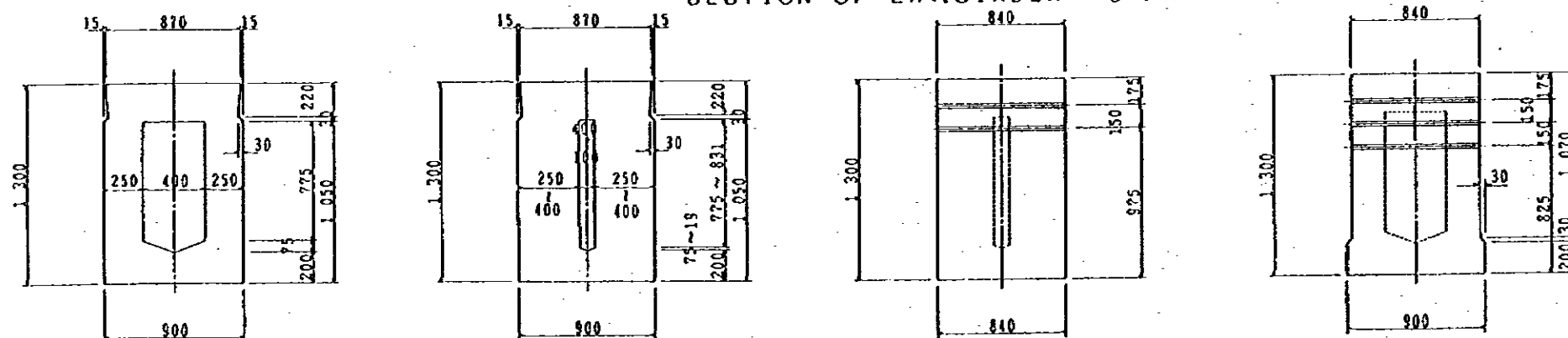


ELEVATION



SECTION
DETAIL OF LAYER S= 1/40

	T	REMARKS
A1 ~ P1	FIX	16
P10 ~ A2	MOV.	15
P1 ~ P2	FIX	25
P2 ~ P10	MOV.	16
P2 ~ P3	FIX	24
P3 ~ P2	MOV.	17
P3 ~ P4	FIX	23
P4 ~ P3	MOV.	18
P4 ~ P5	FIX	22
P5 ~ P4	MOV.	19
P5 ~ P6	FIX	20
P6 ~ P5	MOV.	20



TYPICAL SECTION

AT WEB WIDENED

AT GIRDER END

AT CROSS BEAM

SECTION OF INT.GIRDER S= 1/40

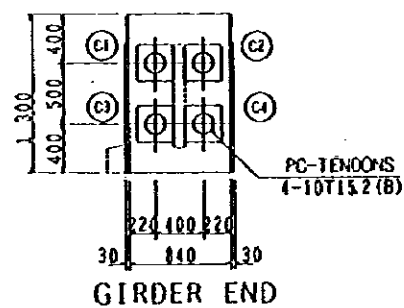
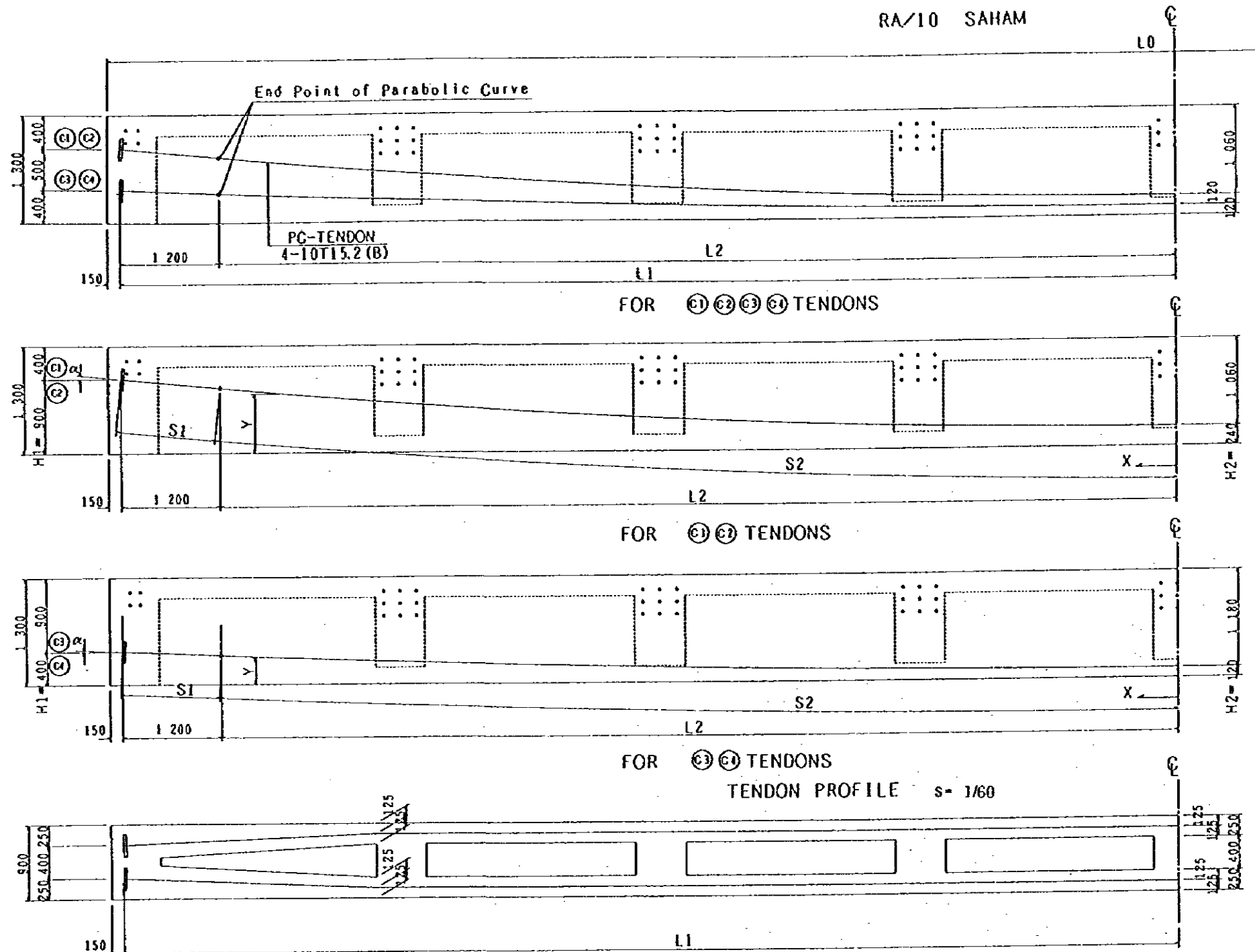
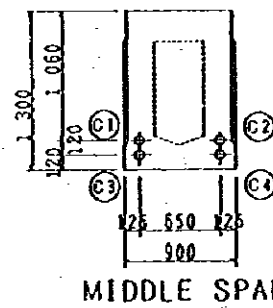
STRUCTURAL DETAIL OF MAIN GIRDER AT B-LINE

NOTES:

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FUKUYAMA CONSULTANTS INTERNATIONAL

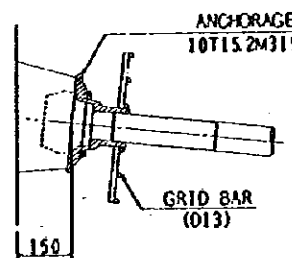
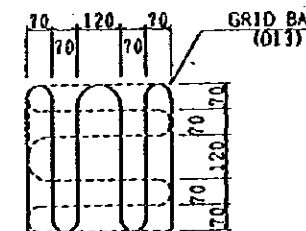
CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE: STRUCTURAL DETAIL OF MAIN GIRDER AT B-LINE
DATE: DWGNO. B-16

RA/10 SAHAM

FOR MAIN GIRDER

DETAIL OF TENDONS AT B-LINE


DETAIL OF ANCHORAGE $s = 1/20$


L0	25 896 ~ 25 919
L1	12 798 ~ 12 825
L2	11 598 ~ 11 625

SEE AND CHECK VALUE OF 'L'
FOR OTHER GIRDER LENGTH
FROM GENERAL VIEW SHEET

	L1	L2	α rad	S1	S2	2x(S1+S2)	W / Cable	W (kg)
(C1) (C2)	12 810	11 610	5.3583	1 205	11 628	25 656	2826	5652
(C3) (C4)	12 810	11 610	2.2902	1 201	11 613	25 628	2822	5644
TOTAL								1 1296

W BASED ON GIRDER LENGTH 25.920m(AVE.)
EXTRA LENGTH FOR TENSIONING IS NOT INCLUDED
 $w = 11.010 \text{ kg/m/Cable (10T15.2B)}$

NOTE :

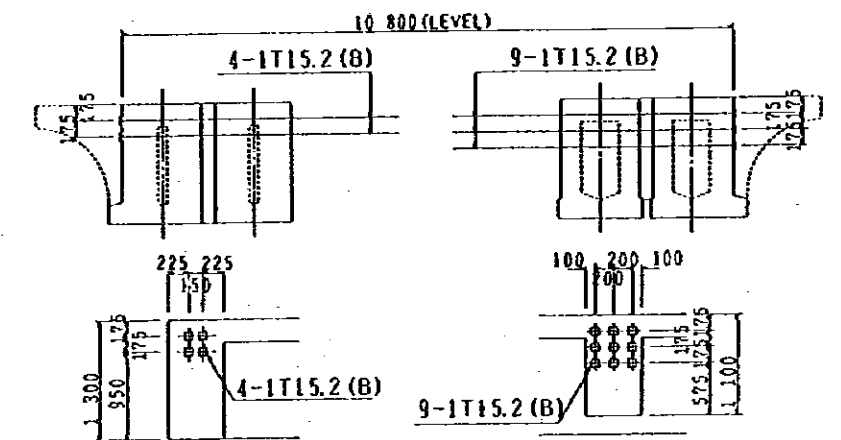
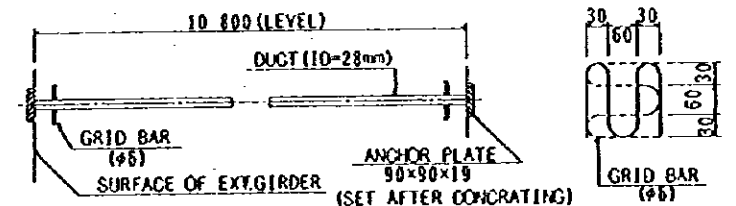
$$Y = (H1 - H2) / (L2 \times (L2 \times L1 - L2)) \times X^2 + H2$$

$$\alpha = 2 \times (H1 - H2) / (2 \times L1 - L2) \text{ rad.}$$

$$S1 = 1200 / \cos \alpha$$

$$S2 = L2 \times (1 + 8/3 \times \alpha^2 - 32/5 \times \alpha^4 + 128/7 \times \alpha^6 - 512/9 \times \alpha^8)$$

$$n = (H1 - H2 - \tan \alpha \times 1200) / (2 \times L2)$$

FOR CROSS BEAM

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

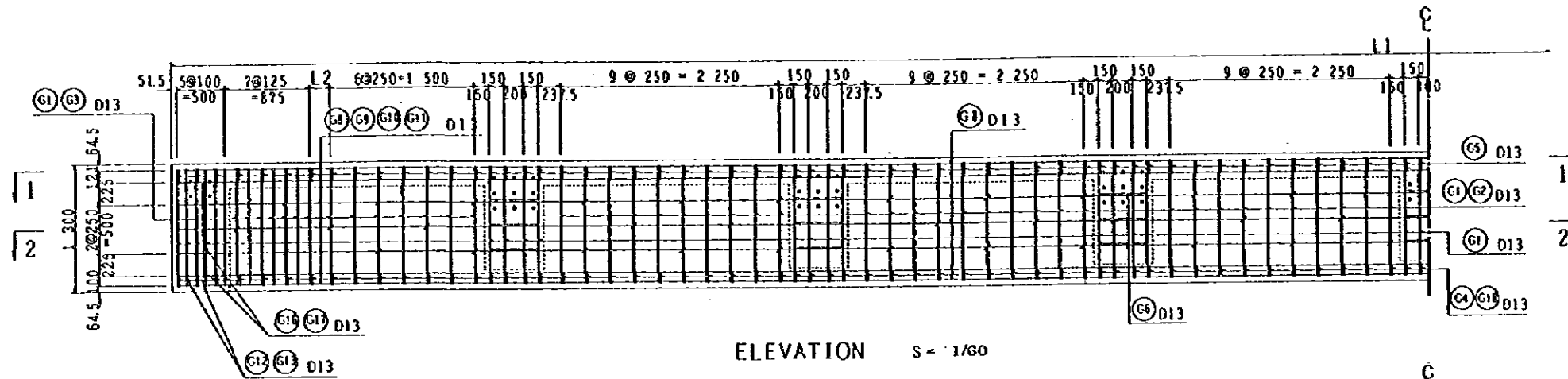
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
YUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

TITLE: DETAIL OF TENDONS AT B-LINE

DATE: DWGNO. B-17

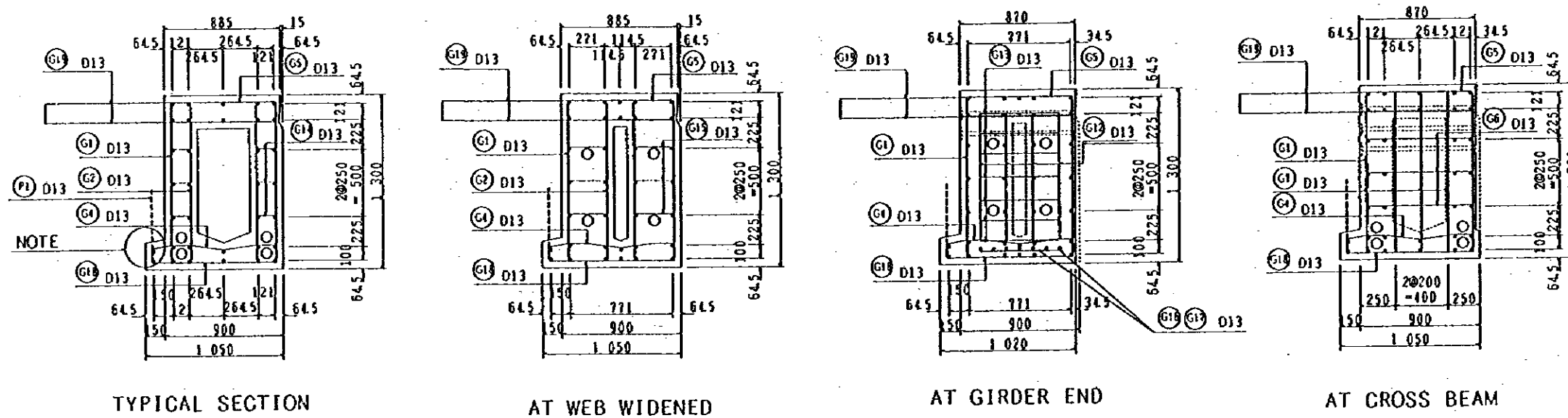
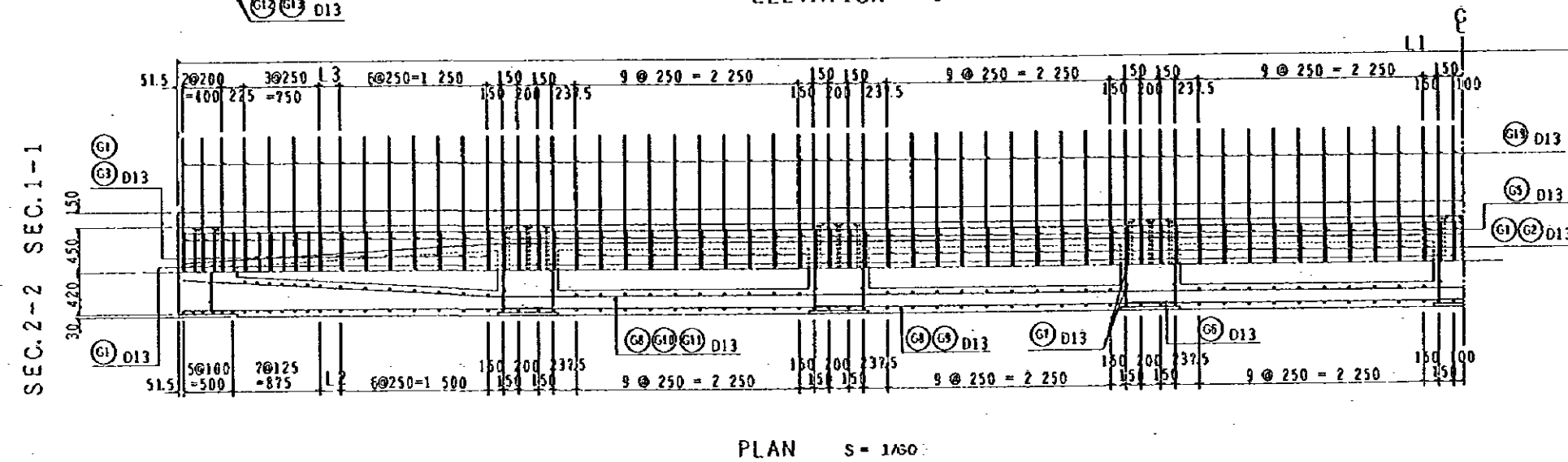


L1	25 896 ~ 25 949
L2	209 ~ 235.5
L3	209 ~ 235.5

SEE AND CHECK VALUE OF L'
FOR OTHER EXT.GIRDER LENGTH
FROM GENERAL VIEW SHEET

NOTE :

FOR ALTERNATIVE CONSTRUCTION
JOINT, INSERT INSIDE
THREADED JOINT TO HANDLE
PLANTED VERTICAL BAR



B-LINE RE-BAR ARRANGEMENT-1 (EXT.GIRDER)

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

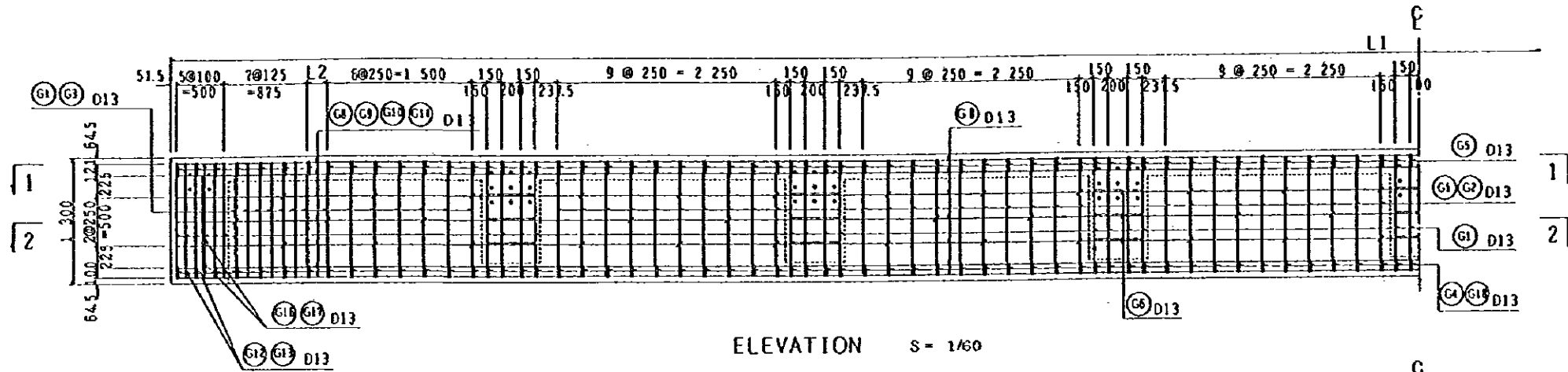
CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

TITLE	RE-BAR ARRANGEMENT(1/2) AT B-LINE
-------	-----------------------------------

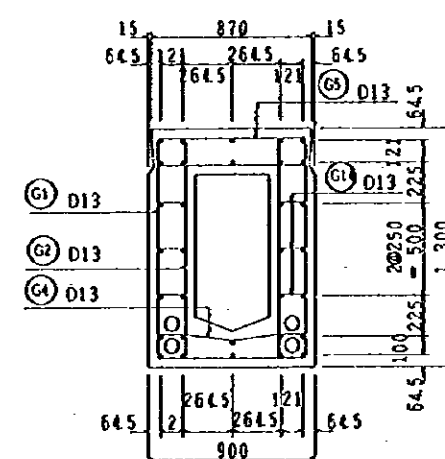
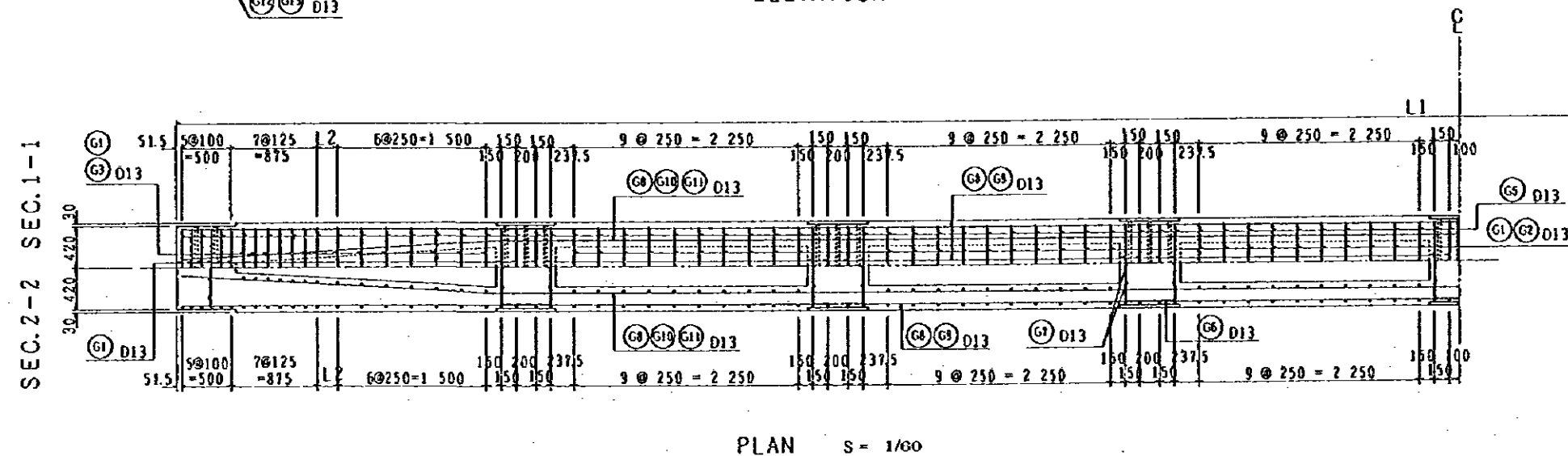
DATE	DWCNO.	B-18
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RA/10 SAHAM

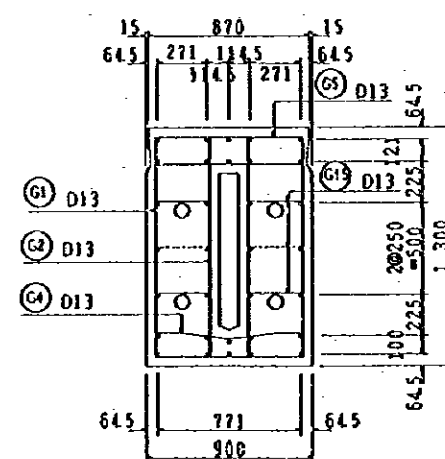


L1	25 901 ~ 25 944
L2	211.5 ~ 233

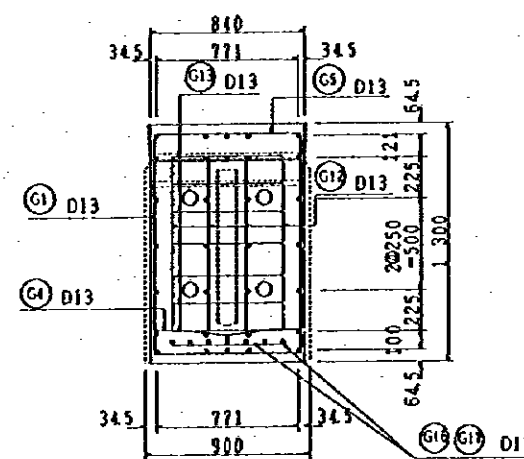
SEE AND CHECK VALUE OF 'L'
FOR OTHER INT.GIRDER LENGTH
FROM GENERAL VIEW SHEET



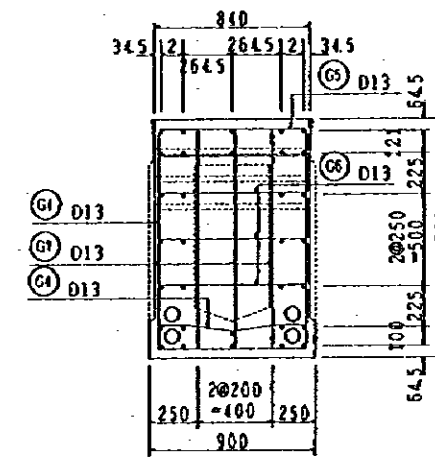
TYPICAL SECTION



AT WEB WIDENED



AT GIRDER END



AT CROSS BEAM

SECTION 5-1/40

B-LINE RE-BAR ARRANGEMENT-2 (INT.GIRDER)

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

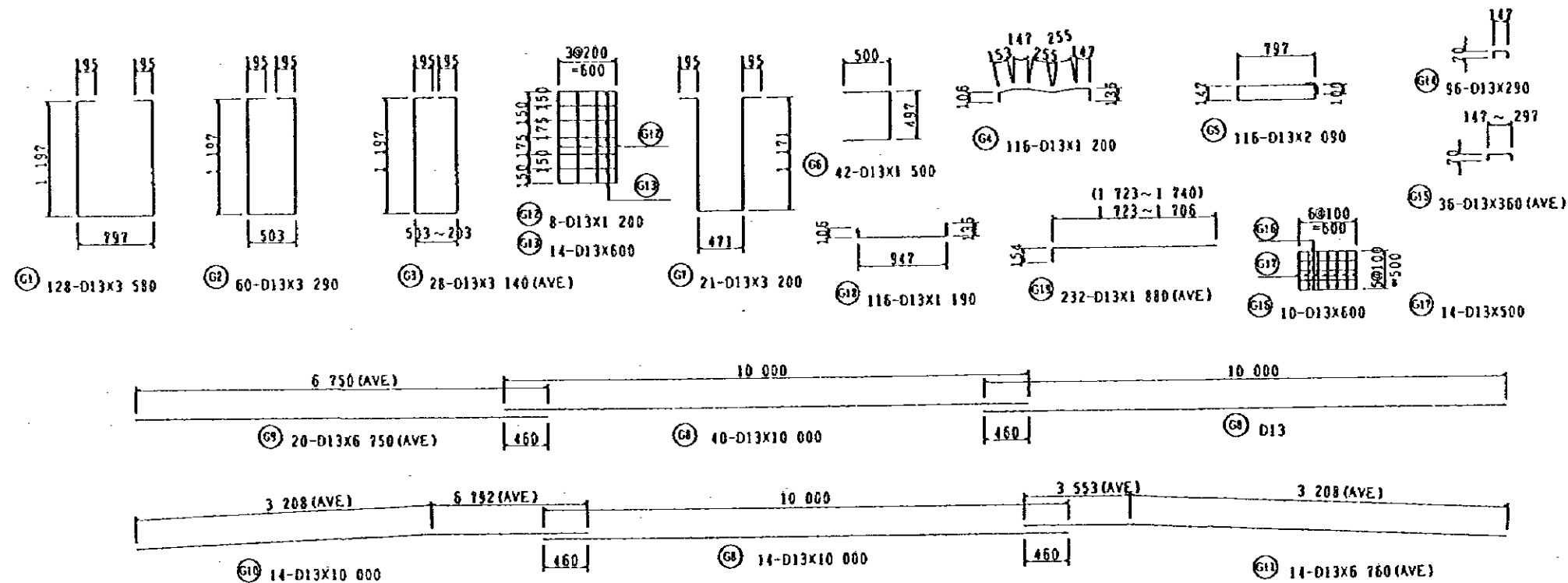
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

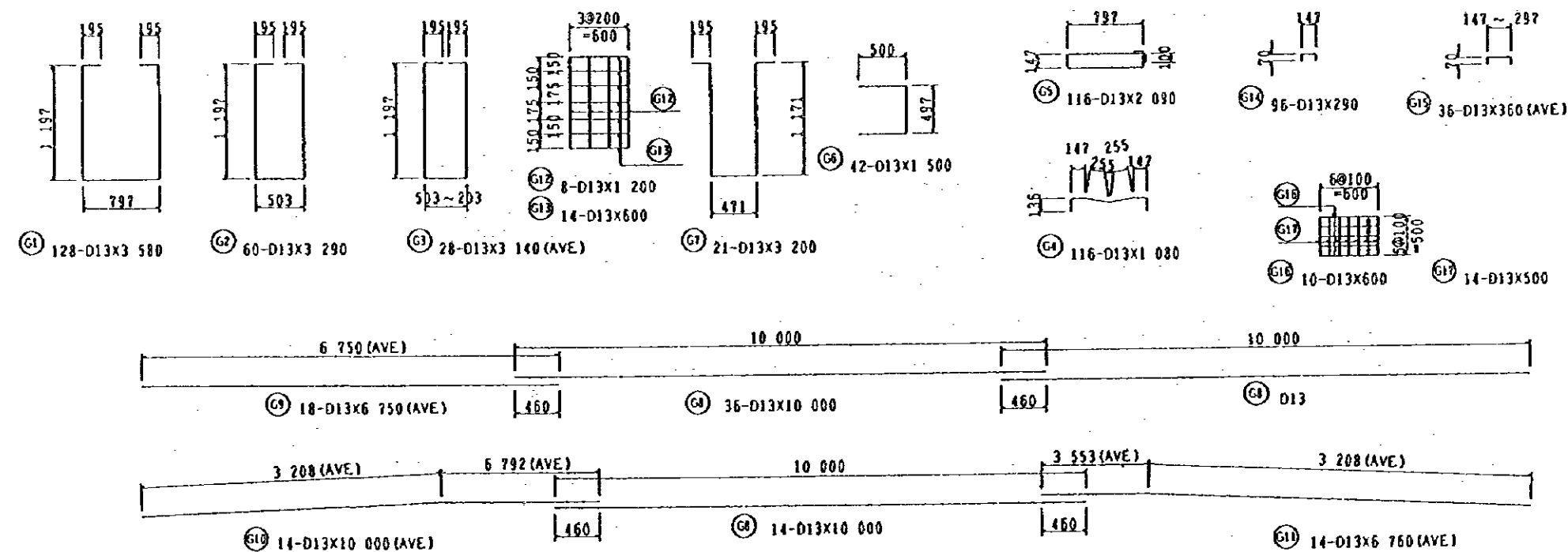
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

TITLE	RE-BAR ARRANGEMENT(2/2) AT B-LINE
-------	-----------------------------------

DATE	DWGNO.	B-19
------	--------	------



FOR EXT.GIRDER S=1/60



FOR INT.GIRDER S=1/60

BAR SCHEDULE OF MAIN GIRDER AT B-LINE

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

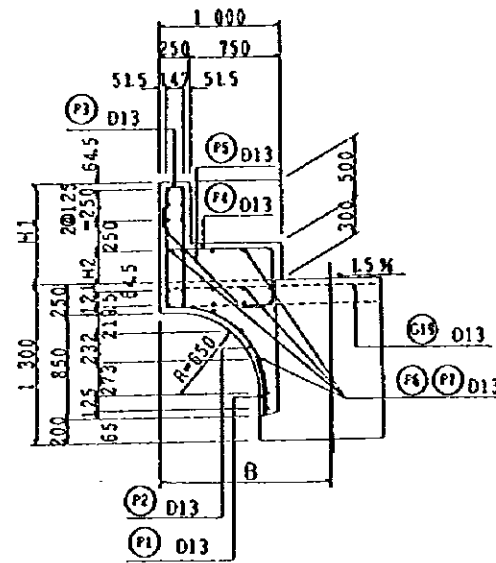
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

TITLE: BAR SCHEDULE OF MAIN GIRDER AT B-LINE

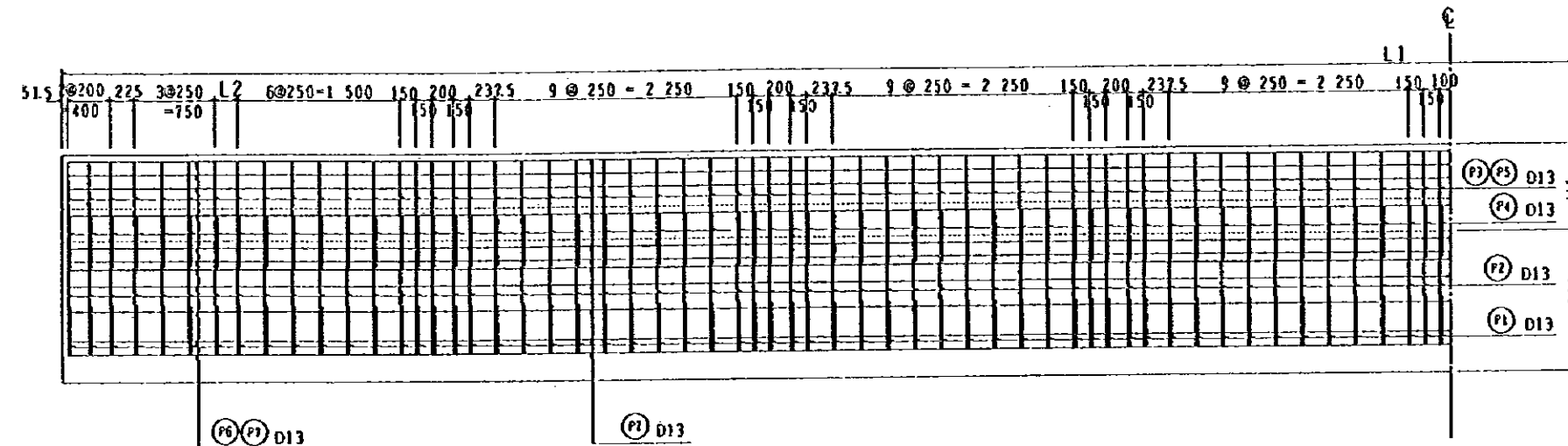
DATE

DWGNO.

B-20

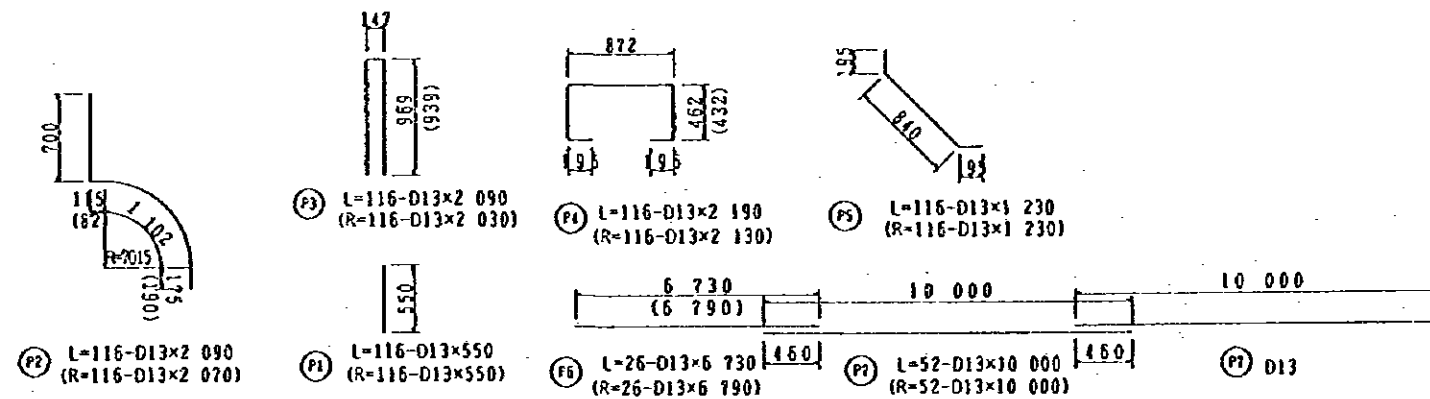


SECTION

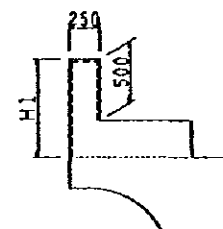


ELEVATION

RE-BAR ARRANGEMENT S=1/60



BAR SCHEDULE

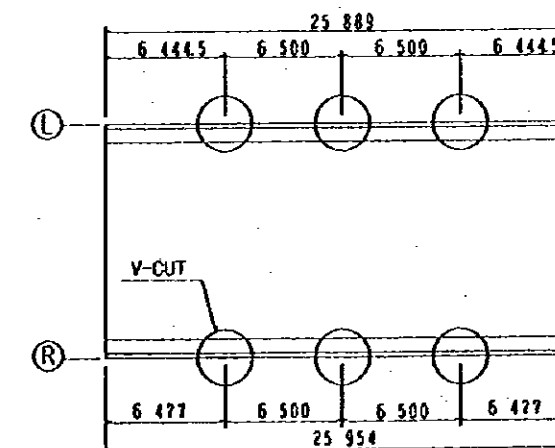


DETAIL OF V-CUT

RAILING AND CANTILEVER SLAB AT B-LINE

	(A1) ~ (A2)	REMARKS
L1	25 889	LEVEL
L2	2055	LEVEL
B	1 400 ~ 1 383	VARIABLE
H1	815	
H2	250.5	
L1	25 954	LEVEL
L2	2380	LEVEL
B	1 400 ~ 1 417	VARIABLE
H1	185	
H2	220.5	

DIMENSION LIST

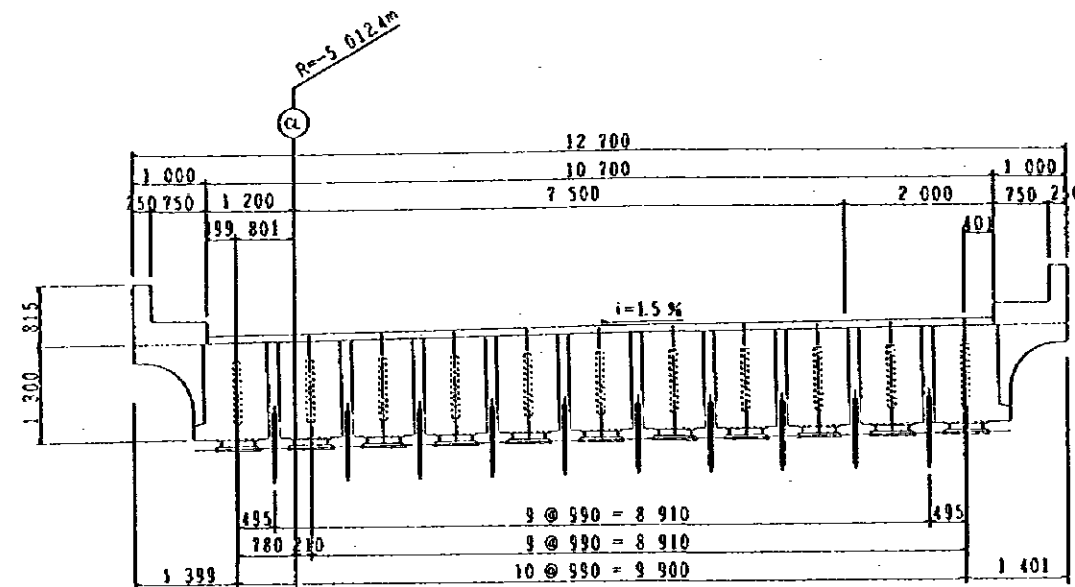


NOTES:

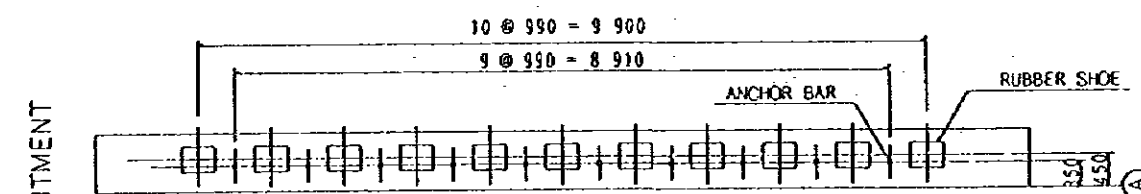
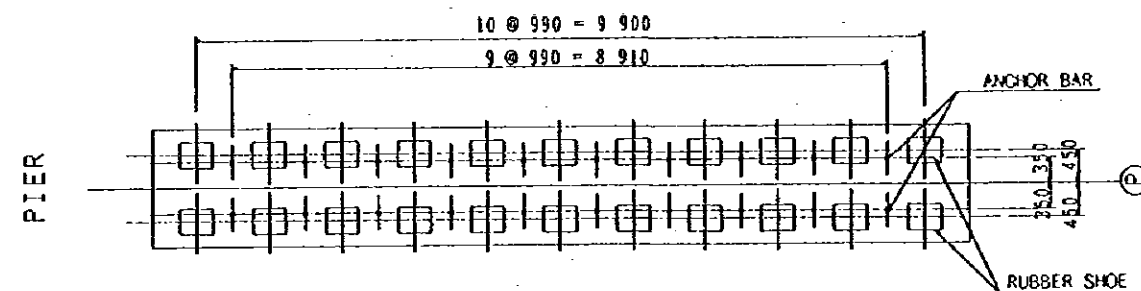
JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE: RAILING AND CANTILEVER SLAB AT B-LINE
DATE: _____ DWGNO. B-21

RA/10 SAHAM

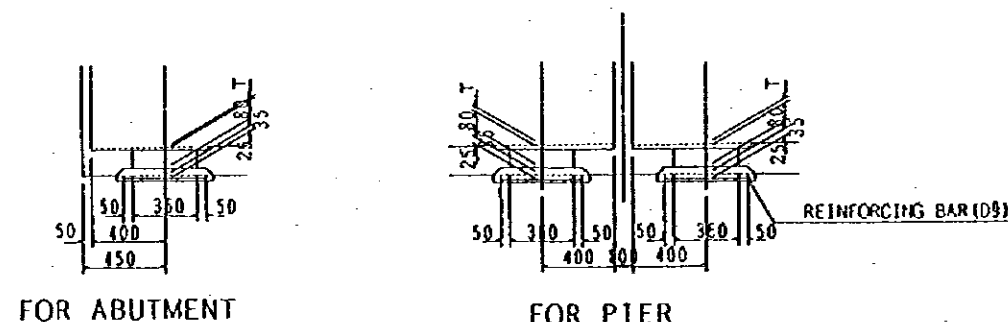


SECTION s= 1/100



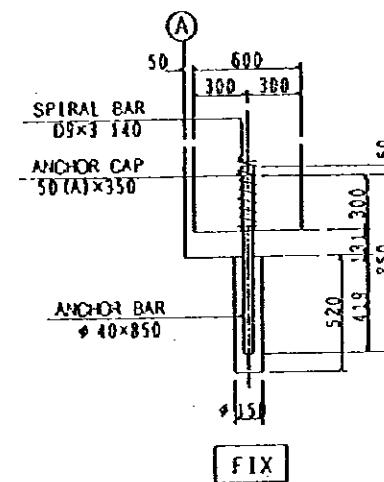
PLAN s= 1/100

DETAIL OF SHOE AND ANCHOR BAR

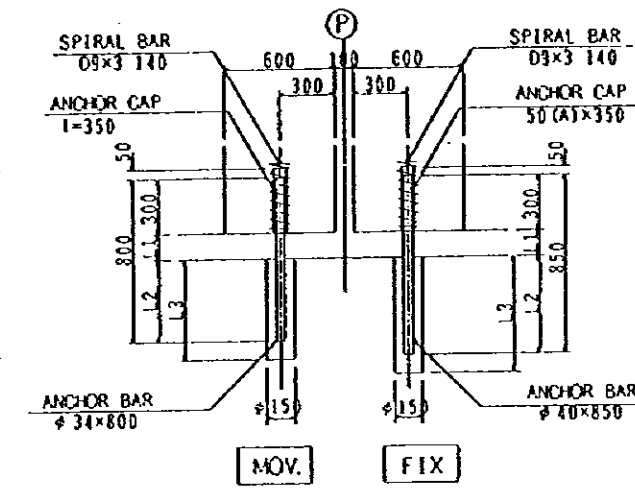


DETAIL OF SHOE s= 1/40

DETAIL OF SHOE AND ANCHOR BAR AT B-LINE

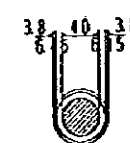


FOR ABUTMENT

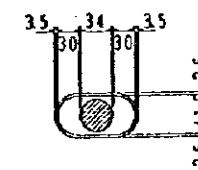


FOR PIER

DETAIL OF ANCHOR BAR s= 1/40

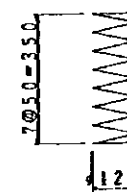


FOR FIX

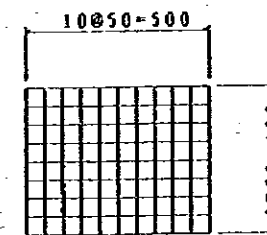


FOR MOV.

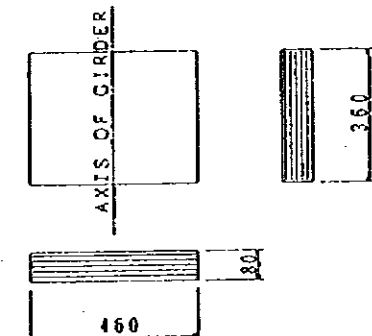
ANCHOR CAP s= 1/10



SPIRAL BAR (D9)
s= 1/40



REINFORCING BAR (D9)
s= 1/40



SYNTHETIC RUBBER SHOE s= 1/20

(PER SPAN)

	DESCRIPTION	UNIT	QUANTITY	REMARKS
FIX	ANCHOR BAR (GALV.)	kg	839	w= 8.39 kg/pc.
	ANCHOR CAP (GALV.)	kg	18.6	w=1.86 kg/pc.
	FILLER	kg	5.9	w=0.588 kg/anc.
	SYNTHETIC RUBBER SHOE	Pcs	11	460x360x80
	REINFORCING BAR	kg	54.8	w=4.98 kg/Set
	SPIRAL BAR	kg	17.6	w=1.76 kg/pc.
	NON SHRINKAGE MORTAR	m ³	0.198	0.018m ³ /Shoe
MOV.	ANCHOR BAR (GALV.)	kg	57.0	w=5.70 kg/pc.
	ANCHOR CAP (GALV.)	kg	23.7	w=2.37 kg/pc.
	FILLER	kg	14.5	w=1.45 kg/anc.
	SYNTHETIC RUBBER SHOE	Pcs	11	460x360x80
	REINFORCING BAR	kg	54.8	w=4.98kg/Set
	SPIRAL BAR	kg	17.6	w=1.76 kg/pc.
	NON SHRINKAGE MORTAR	m ³	0.198	0.018m ³ /Shoe

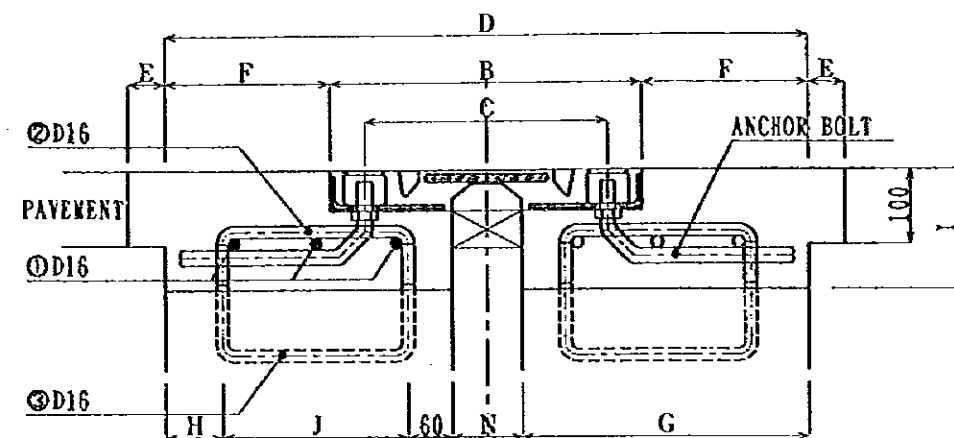
MATERIAL LIST

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE: DETAIL OF SHOE AND ANCHOR BAR AT B-LINE
DATE: DWGNO. B-22

S A H A M



MEASURE DATA

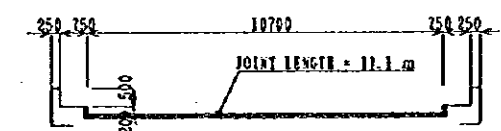
	A	B	C	D	E	F	G	H	I	J	STANDARD SPACE BETWEEN SEALS N	TRAVEL
PIER	54	433	340	879	50	223	390	80	160	250	100	80
ABUT	40	303	235	709	50	203	330	70	150	200	50	50

MATERIAL LIST (PER 10 m)

MATERIAL	CLASSIFICATION	UNIT	PIER	ABUT
TRANSFLEX JOINT	INCLUDING ANCHOR BOLT	m	10.0	10.0
SEALANT	FOR JOINT SEALS	kg	22.5	16.0
	FOR PLUG HOLE	kg	8.5	4.0
REINFORCING BAR	① D 16	kg	93.60	93.60
	② D 16	kg	60.84	53.04
RECESS CONCRETE	HIGH-EARLY STRENGTH CONCRETE	m ³	1.143	0.964
COLORING AGENT OF THE FACE	3 kg/m ²	kg	16.0	15.0
POLYURETHANE FORM		m	10.0	10.0
TRANSIENT FILLING MATERIAL	SAND	m ³	0.66	0.53
	ASPHALT CONCRETE	m ³	0.73	0.60

QUANTITY LIST

	PIER	ABUTMENT
AL KHABURAHN	20	4
TOTAL LENGTH	222.0	44.4



JOINT LENGTH PER 1 PLACE

TRANSFLEX JOINT

S-1/10

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

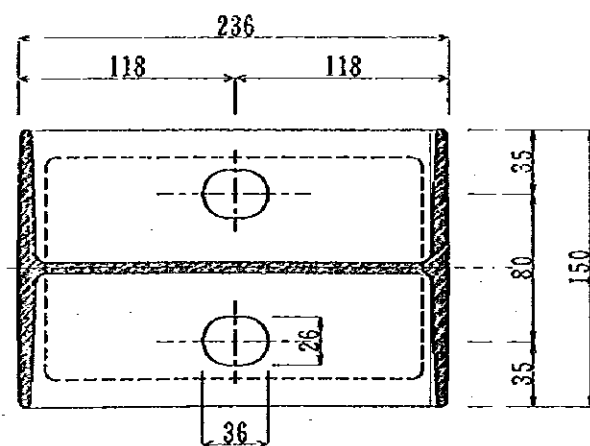
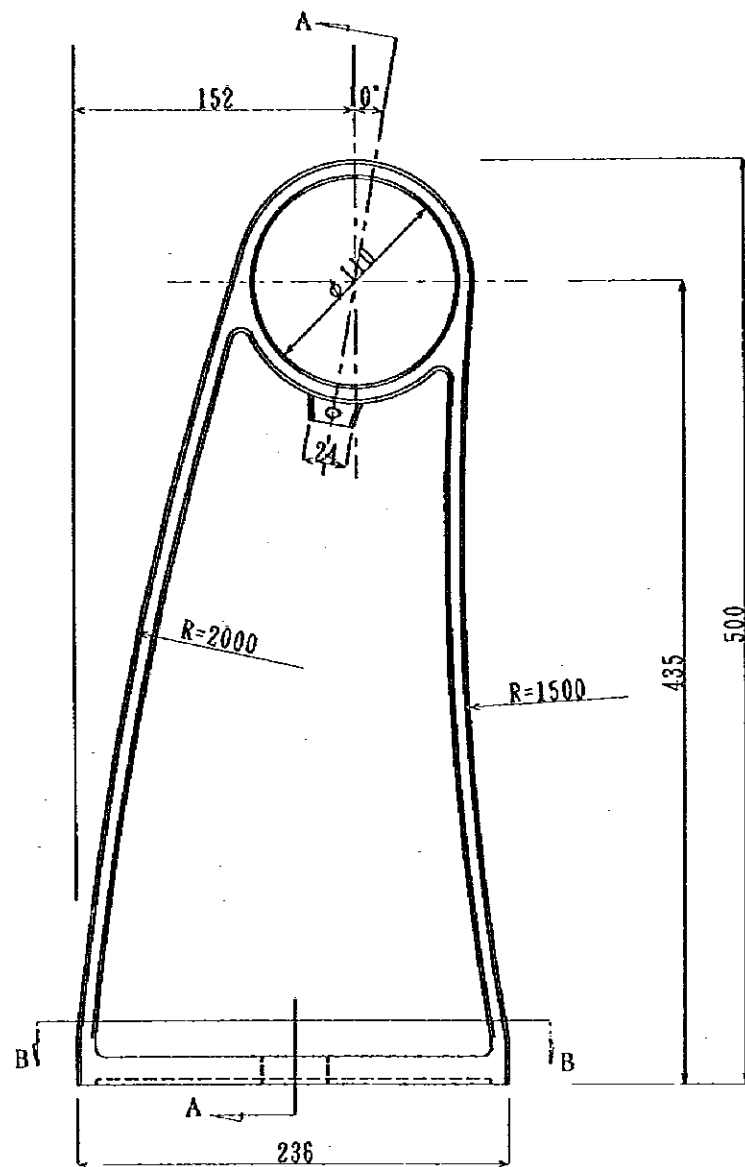
TITLE: EXPANSION JOINT

DATE

DWGNO.

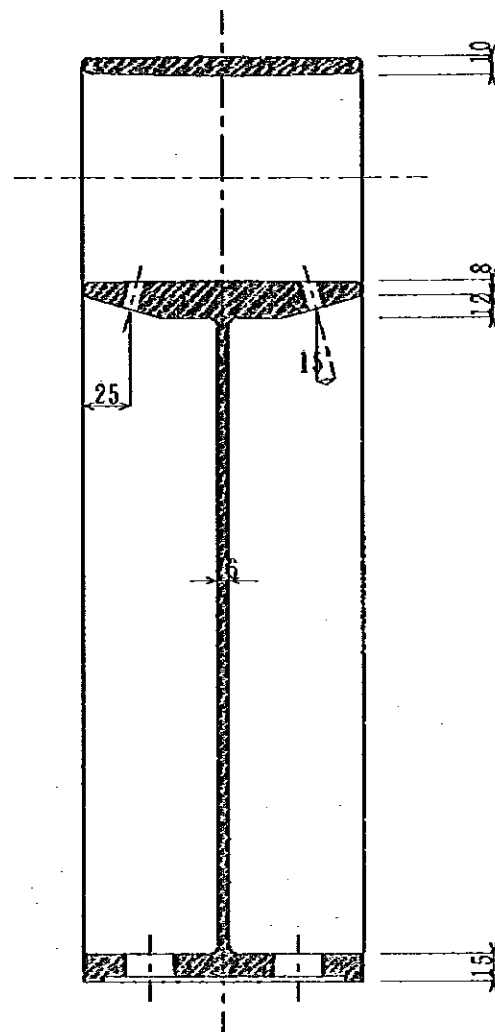
B-23

S A H A N

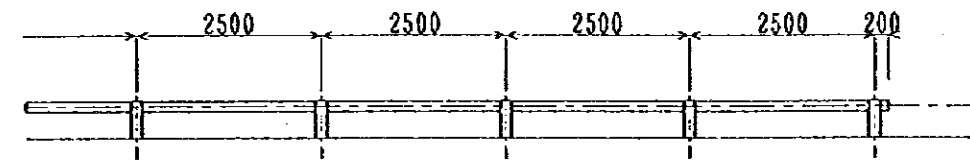


B-B SECTION

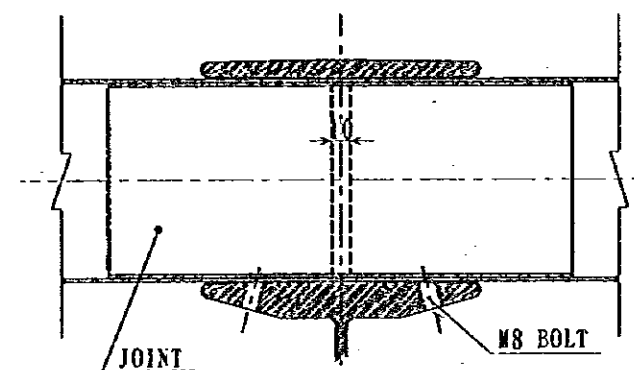
POST SCALE



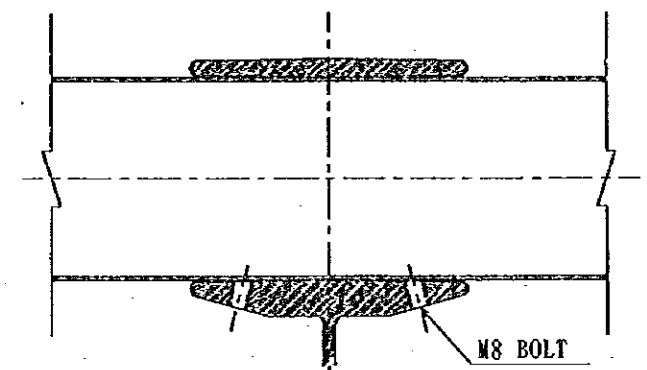
A-A SECTION



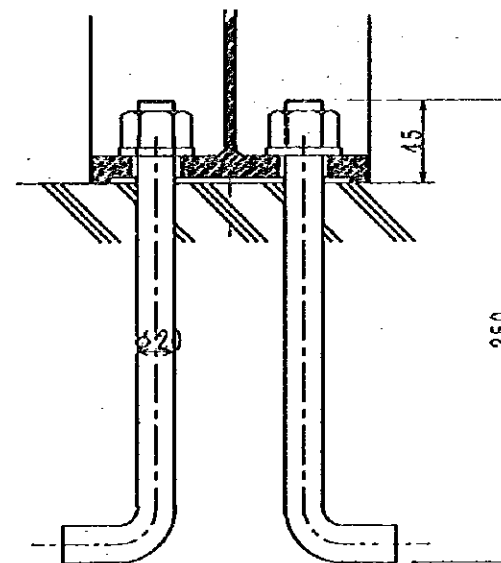
POST ARRANGEMENT



RAIL JOINT SECTION



RAIL PENETRATING SECTION



ANCHOR BOLT



HANDRAIL LOCATION

HANDRAIL S=1:4
ALUMINIUM PRODUCTS

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

TITLE HANDRAIL

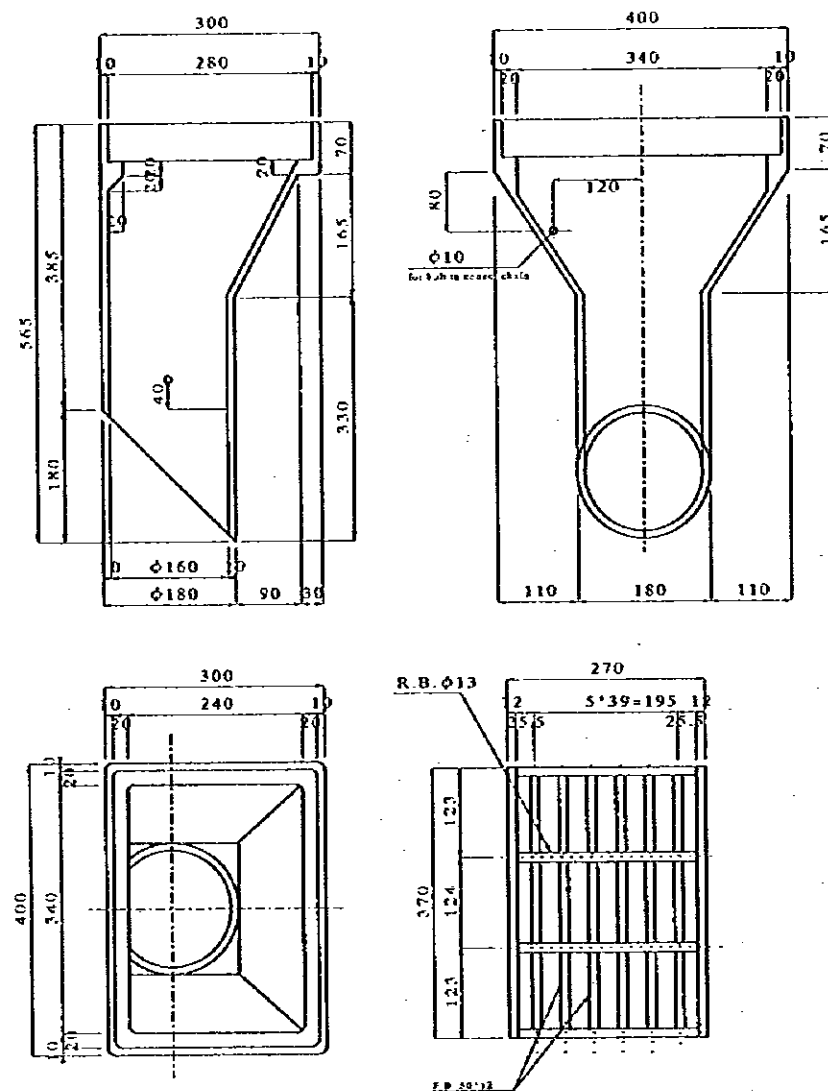
DATE

DWGNO.

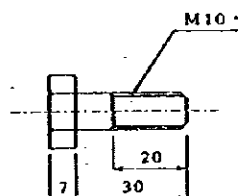
B-24

BRIDGE DRAINAGE DETAILS (SAHAM FLYOVER)

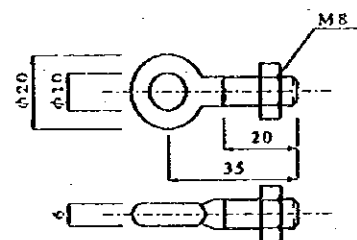
CATCH BASIN (S=1:5)



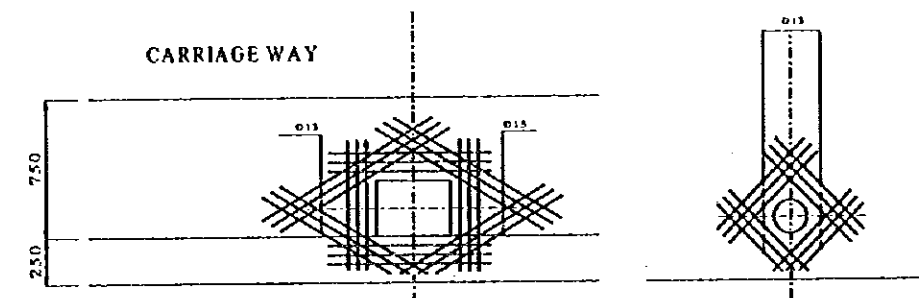
BISS (S=1:1)



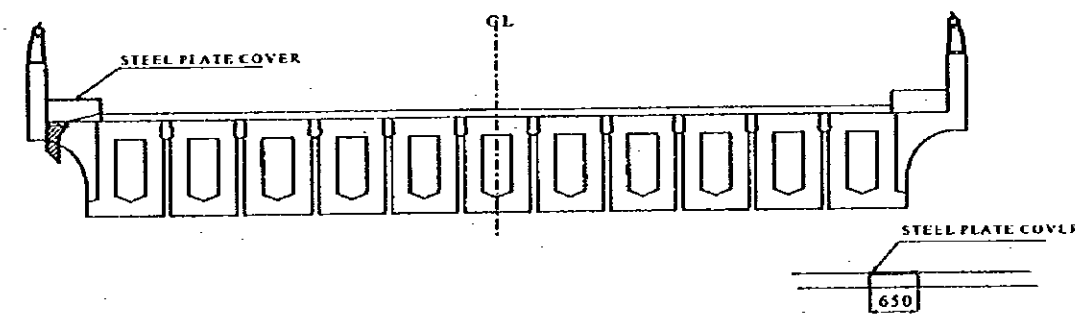
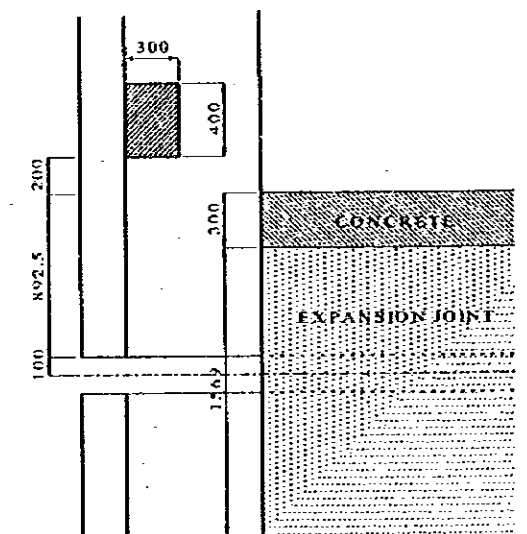
BOLT TO CONNECT CHAIN (S=1:1)



REINFORCING (S=1:20)

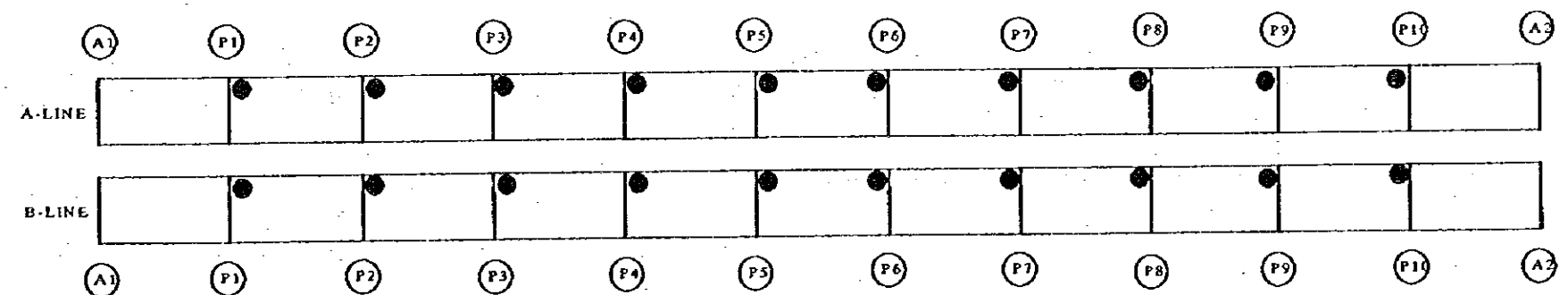


INSTALLING LOCATION DETAIL



CROSS SECTIONAL LOCATION

INSTALLING LOCATIONS

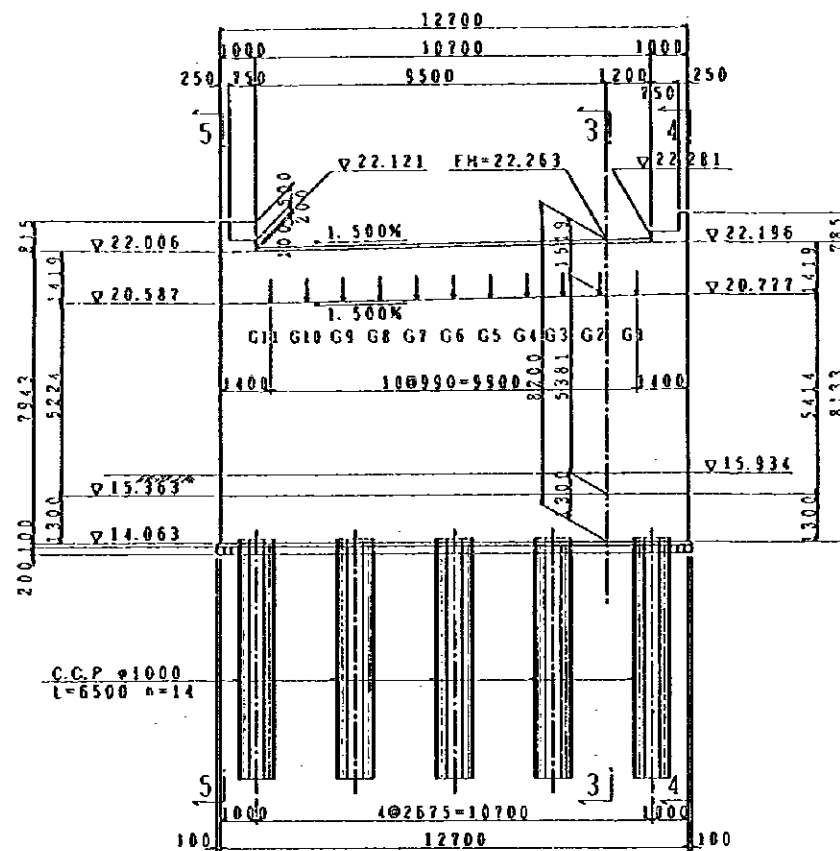


NOTES:

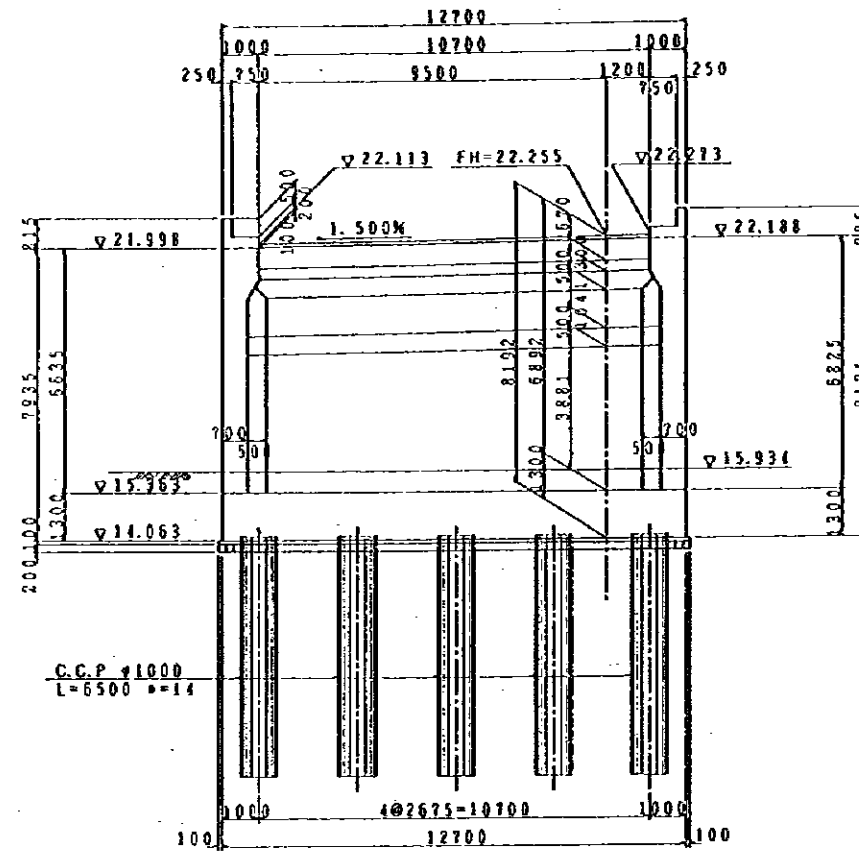
JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE: BRIDGE DRAINAGE DETAILS (SAHAM)
DATE: DWG. NO. B-25

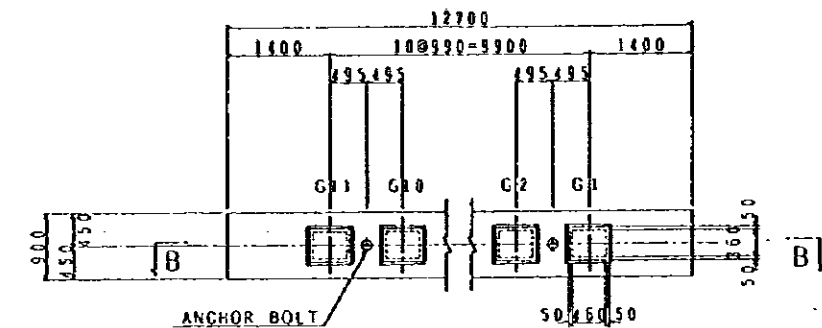
RA/10 SAHAM



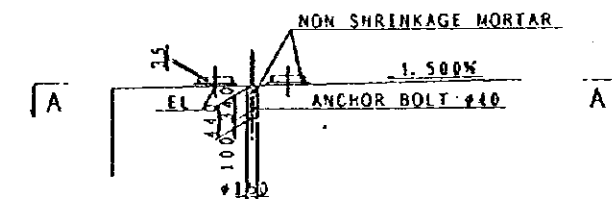
SECTION 1-1 S=1/200



SECTION 2-2 S=1/200



SECTION A-A S=1/100



SECTION B-B S=1/100

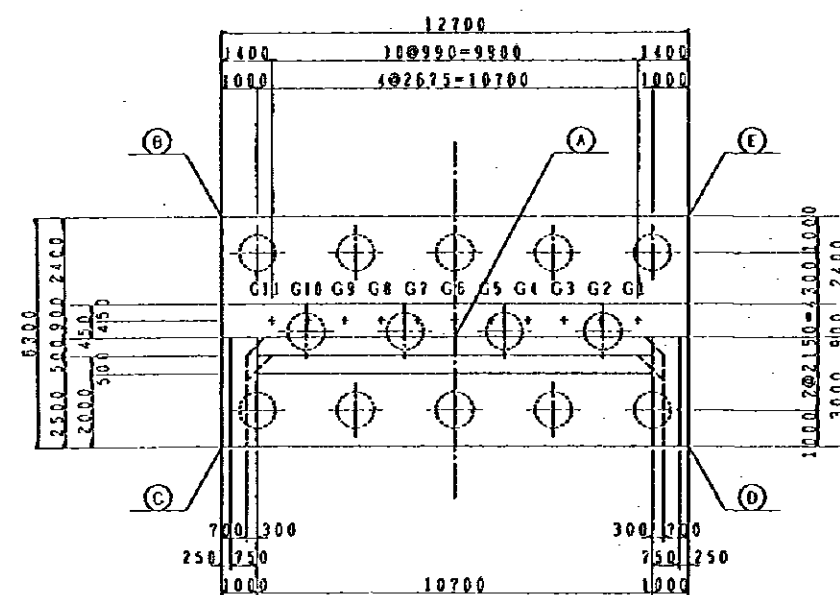
DETAIL OF SHOE BED

SHOE ELEVATION(EL) TABLE

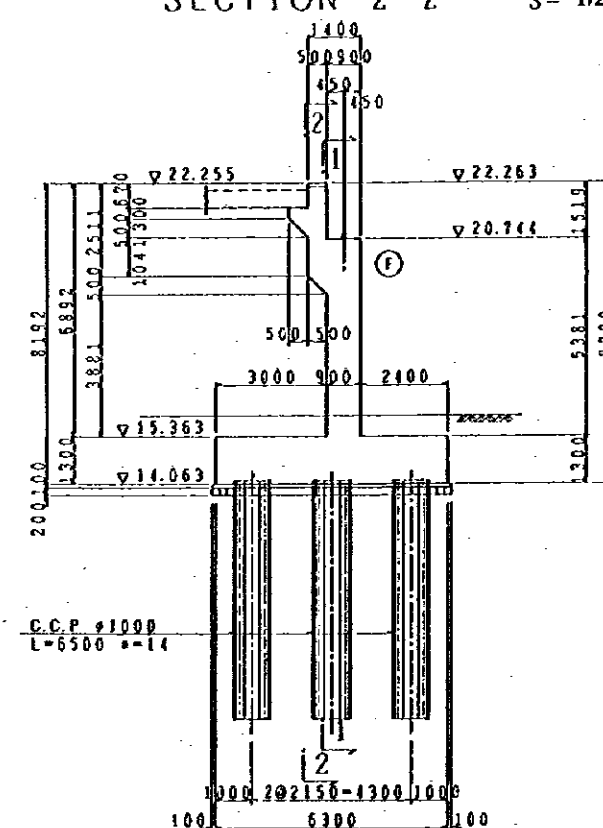
G 1	G11
20.756	20.608

CO-ORDINATES LIST

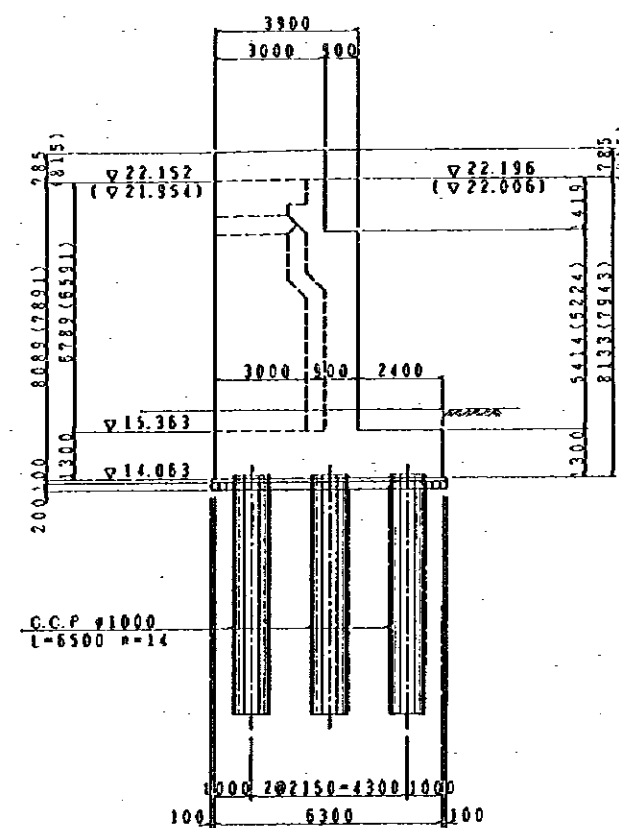
A	X	267011.8612
	Y	487235.1928
B	X	267011.9812
	Y	487392.0842
C	X	267011.7212
	Y	487287.8342
D	X	267011.3554
	Y	487288.3790
E	X	267010.6154
	Y	487282.5288



P L A N S=1/200



SECTION 3-3 S=1/200

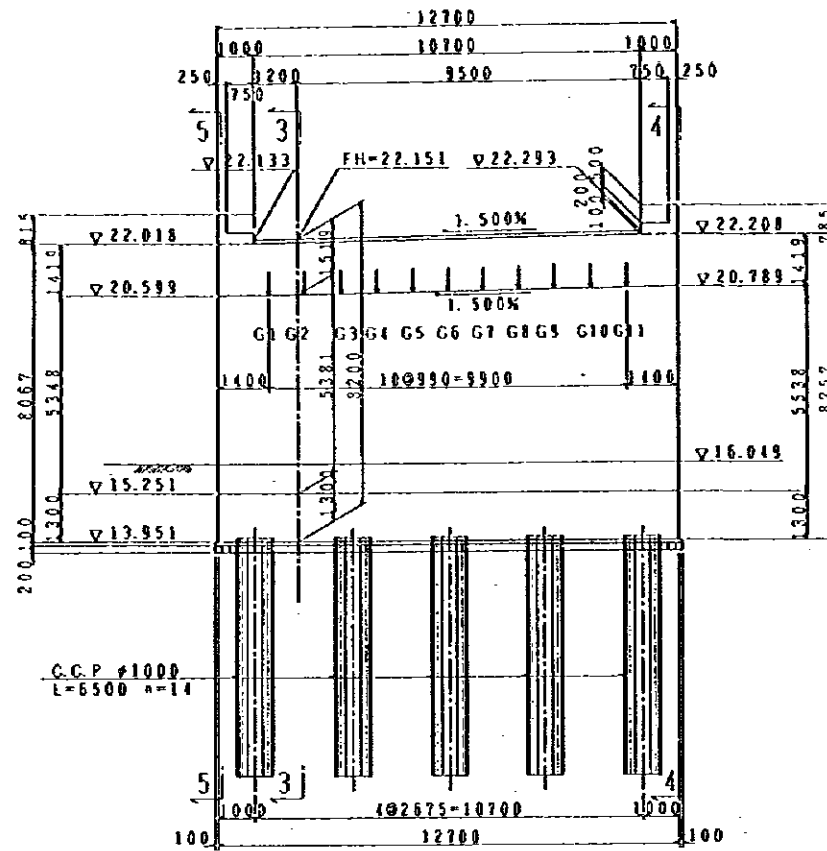


SECTION 4-4 (5-5) S=1/200

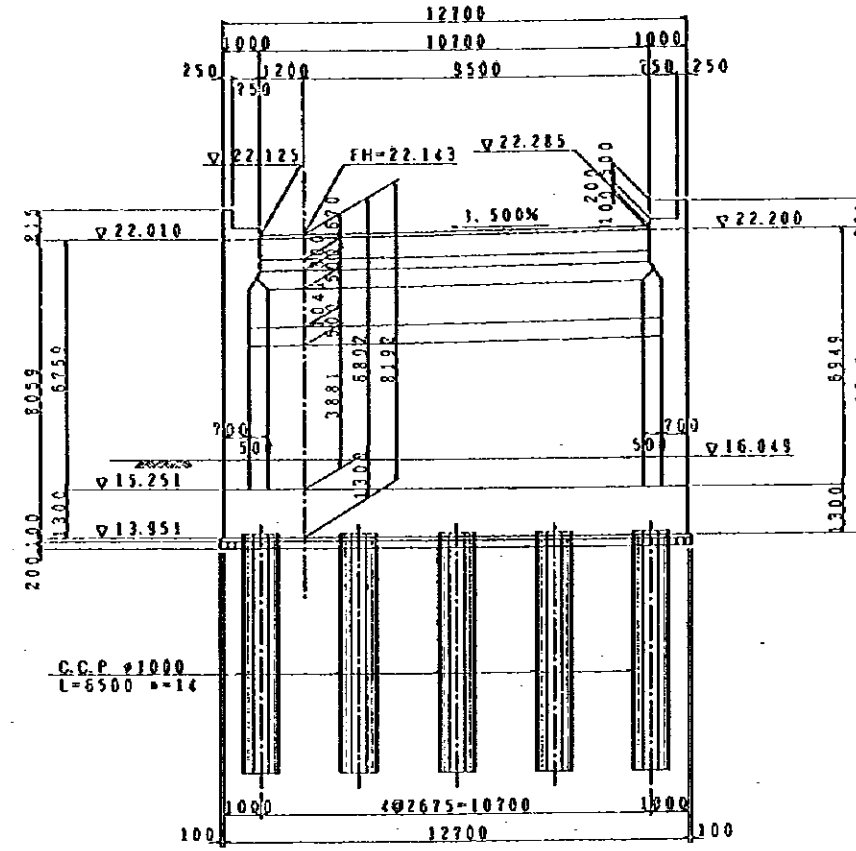
STRUCTURAL DETAIL OF A1 ABUTMENT AT A-LINE

NOTES:	JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)		CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS	
	JICA STUDY TEAM		PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY	
	PACIFIC CONSULTANTS INTERNATIONAL		TITLE: STRUCTURAL DETAIL OF A1 ABUTMENT AT A-LINE	
	FUKUYAMA CONSULTANTS INTERNATIONAL		DATE: _____ DWGNO. B-26	

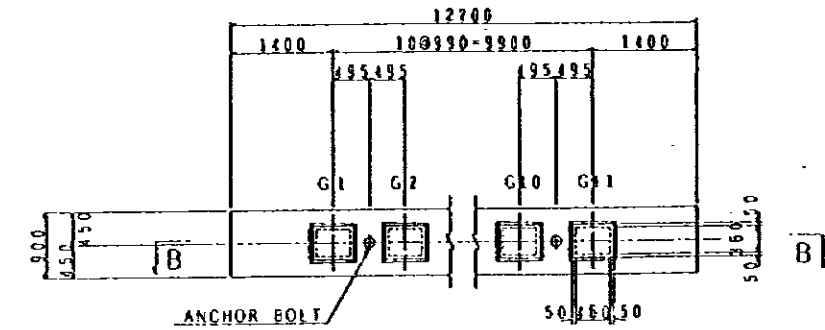
RA/10 SAHAM



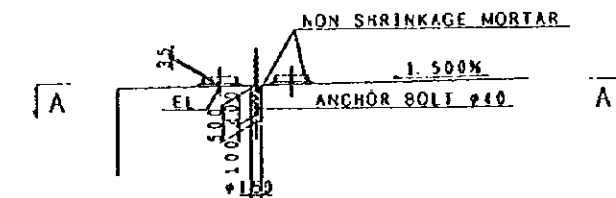
SECTION 1-1 S=1/200



SECTION 2-2 S=1/200



SECTION A-A S=1/100



SECTION B-B S=1/100

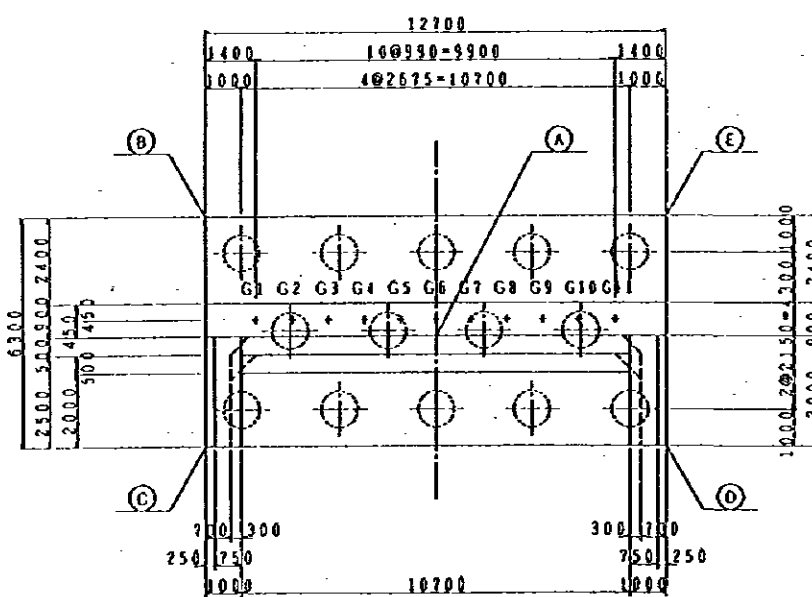
DETAIL OF SHOE BED

SHOE ELEVATION (EL) TABLE

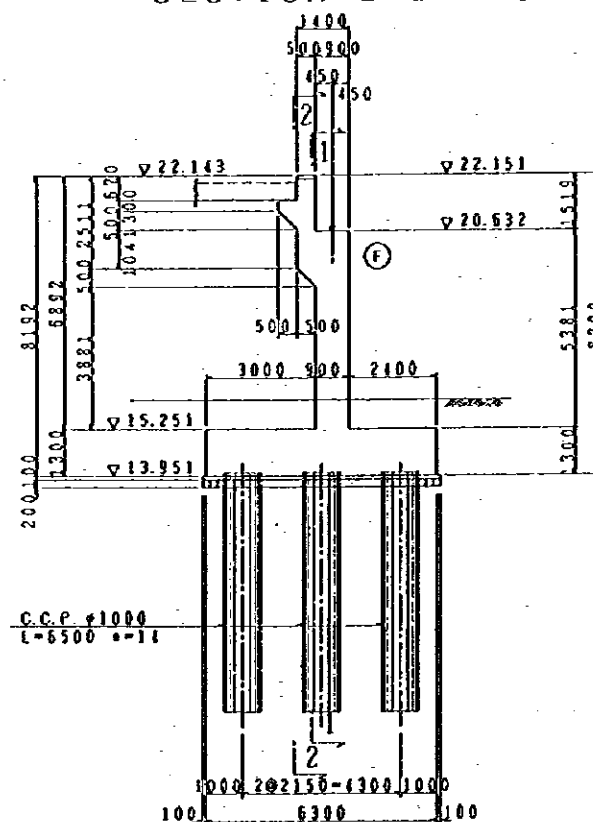
G 1	G11
20.620	20.768

CO-ORDINATES LIST

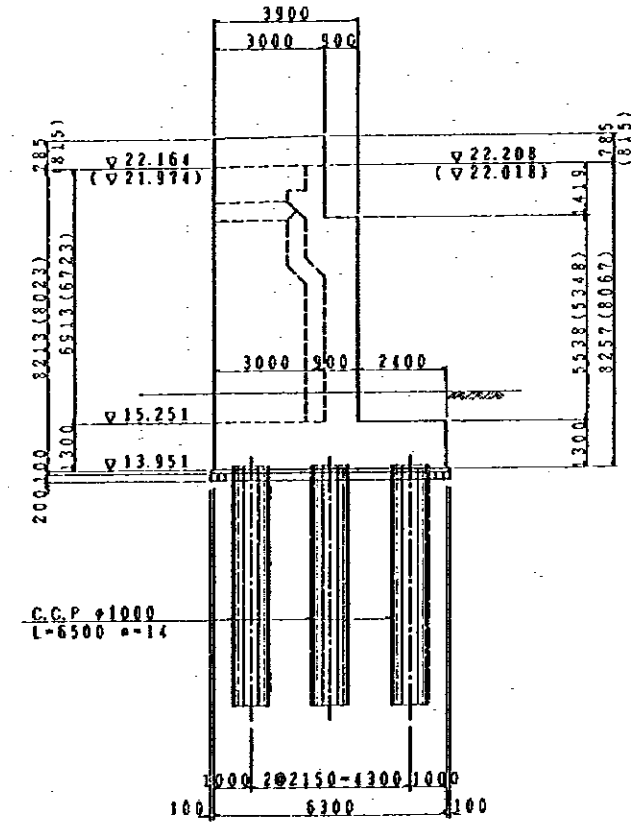
A	X	Y
A	2670090.3938	487278.7816
B	2670258.0813	487286.7328
C	2670102.0310	487282.5825
D	2670090.4645	487273.0278
E	2670088.7248	487277.1781



PLAN S=1/200



SECTION 3-3 S=1/200



SECTION 4-4 (5-5) S=1/200

STRUCTURAL DETAIL OF A1 ABUTMENT AT B-LINE

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

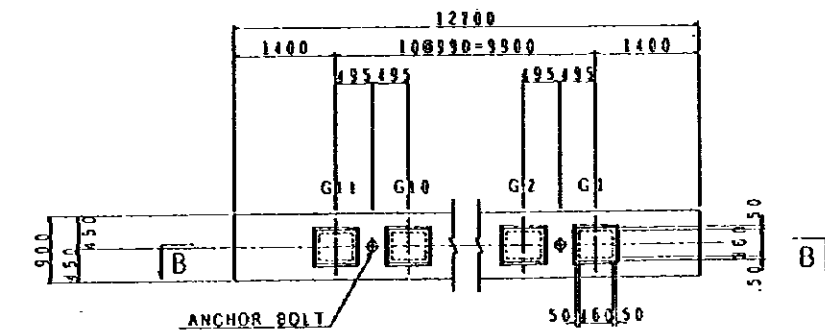
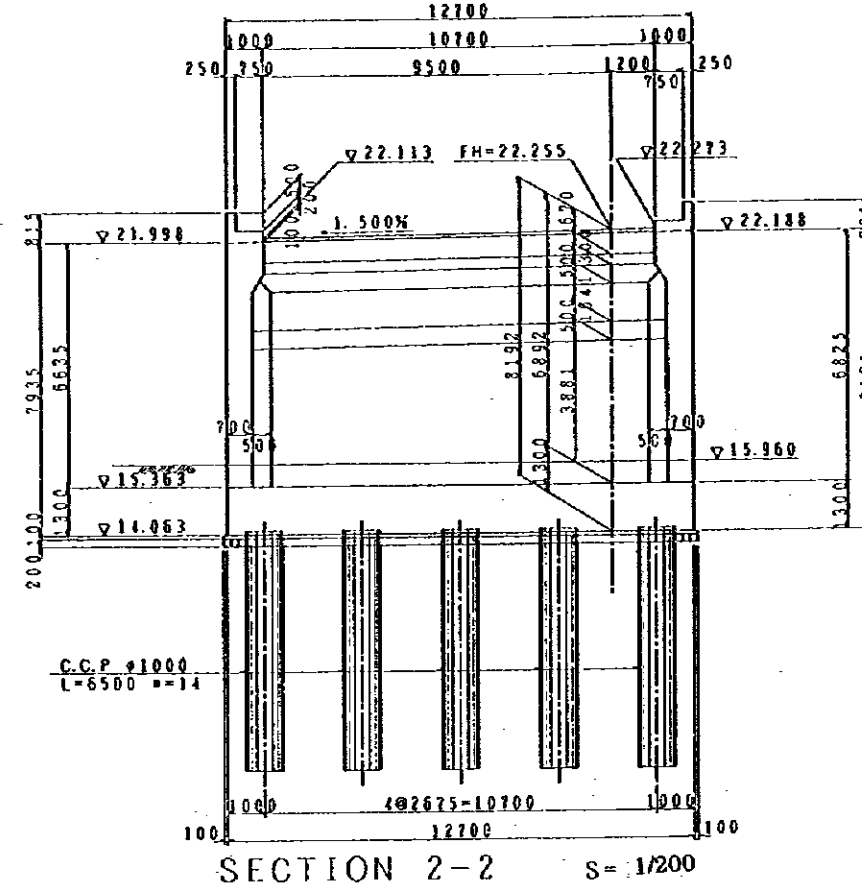
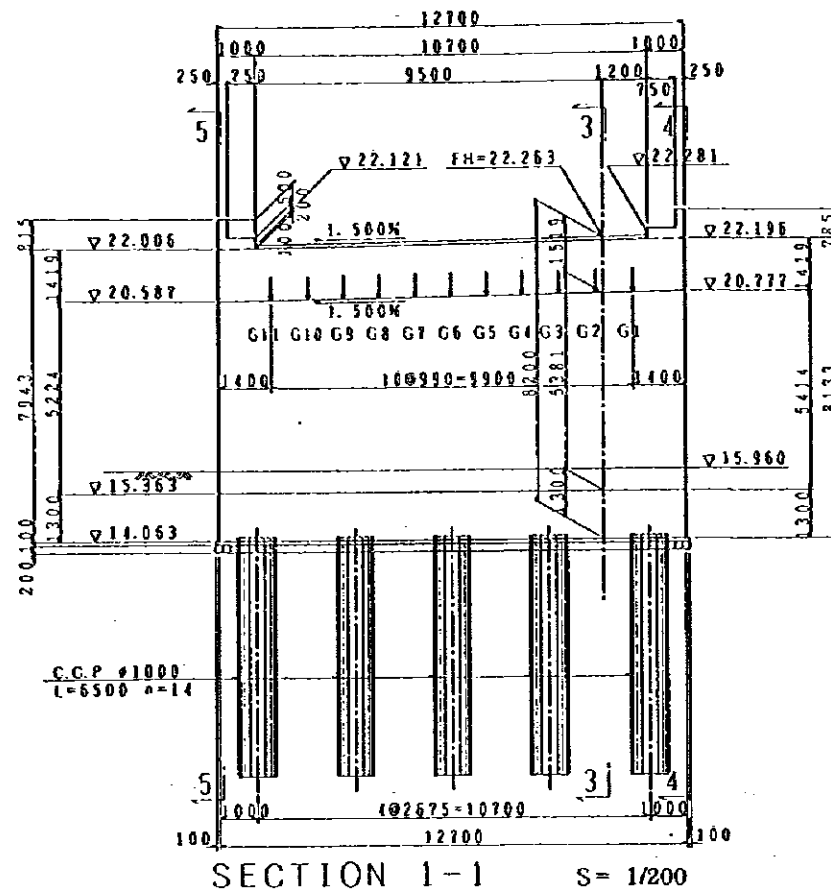
TITLE: STRUCTURAL DETAIL OF A1 ABUTMENT AT B-LINE

DATE

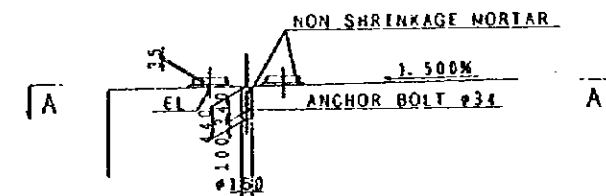
DWGNO.

B-27

RA/10 SAHAM



SECTION A-A S=1/100



SECTION B-B S=1/100

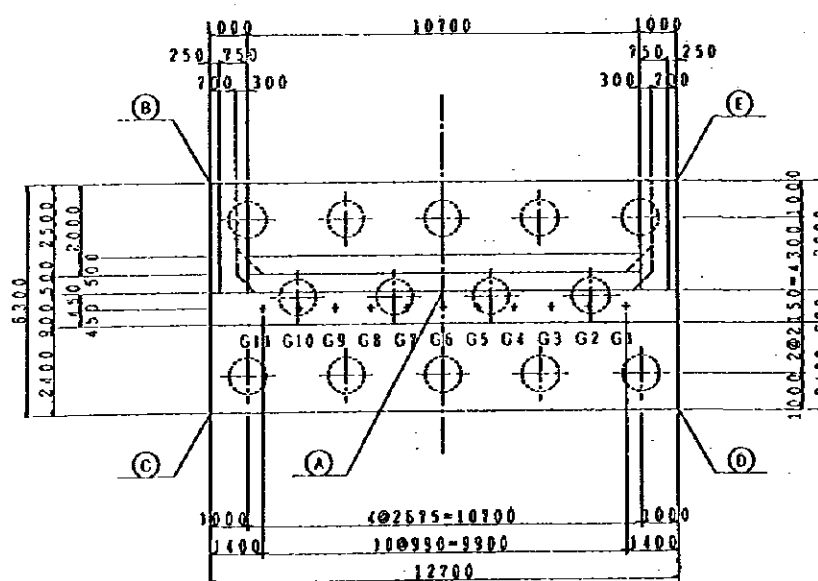
DETAIL OF SHOE BED

SHOE ELEVATION (EL) TABLE

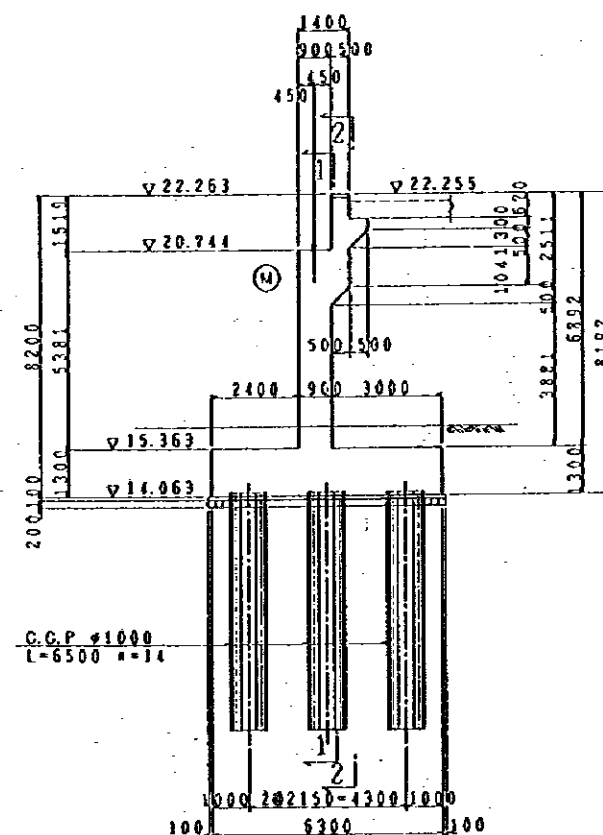
G 1	G 11
20.156	20.608

CO-ORDINATES LIST

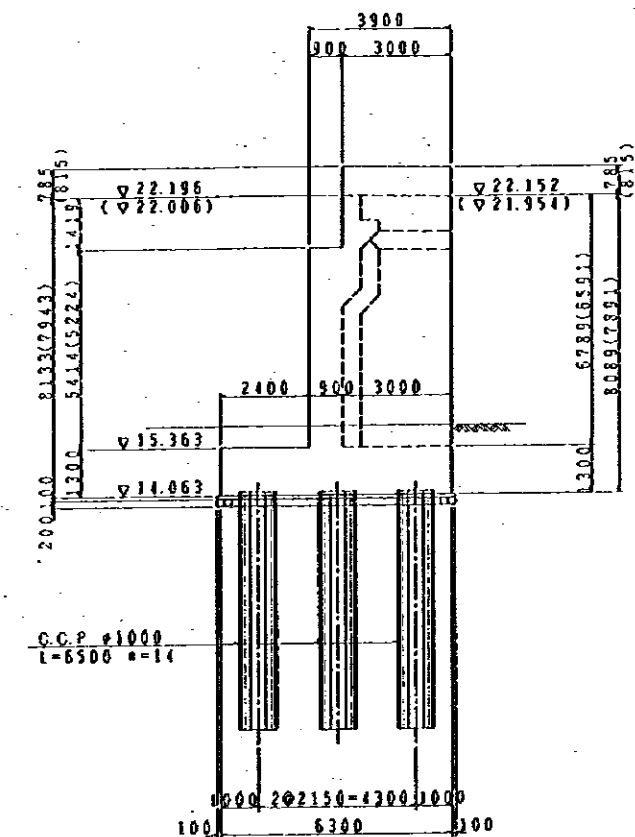
A	X	Y
A	2669500	7776
B	487489	4198
C	2669503	0264
D	487498	0495
E	2669507	5814
F	487491	8353
G	2669508	8830
H	487482	5739
I	2669509	1880
J	487488	9881



PLAN S=1/200



SECTION 3-3 S=1/200



SECTION 4-4 (5-5) S=1/200

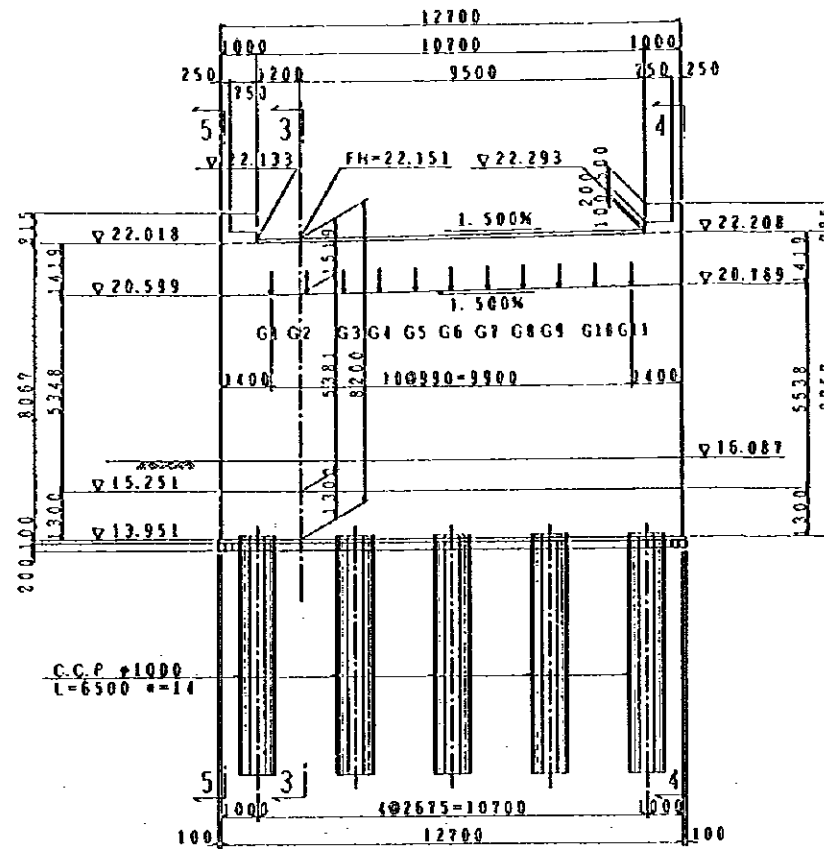
STRUCTURAL DETAIL OF A2 ABUTMENT AT A-LINE

NOTES:

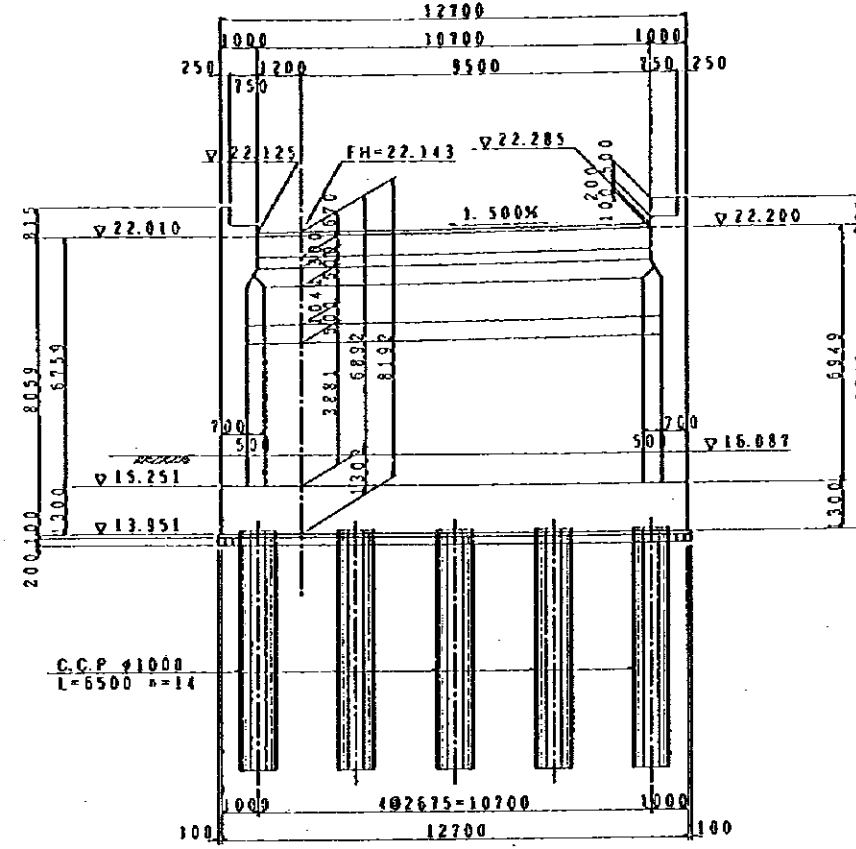
JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE: STRUCTURAL DETAIL OF A2 ABUTMENT AT A-LINE
DATE: DWGNO. B-28

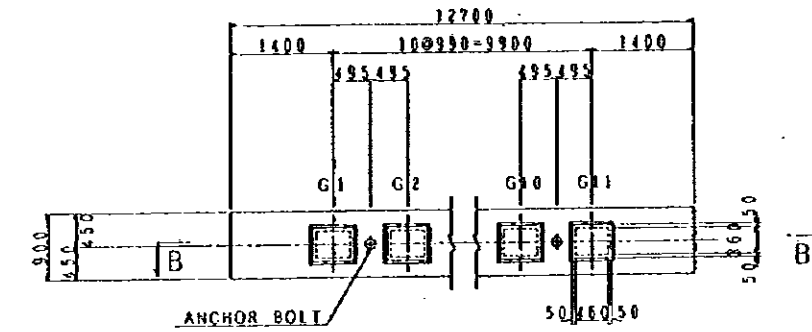
RA/10 SAHAM



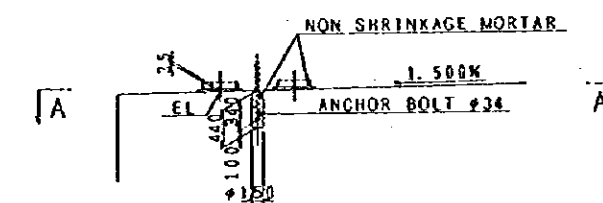
SECTION 1-1 S= 1/200



SECTION 2-2 S= 1/200



SECTION A-A S= 1/100



SECTION B-B S= 1/100

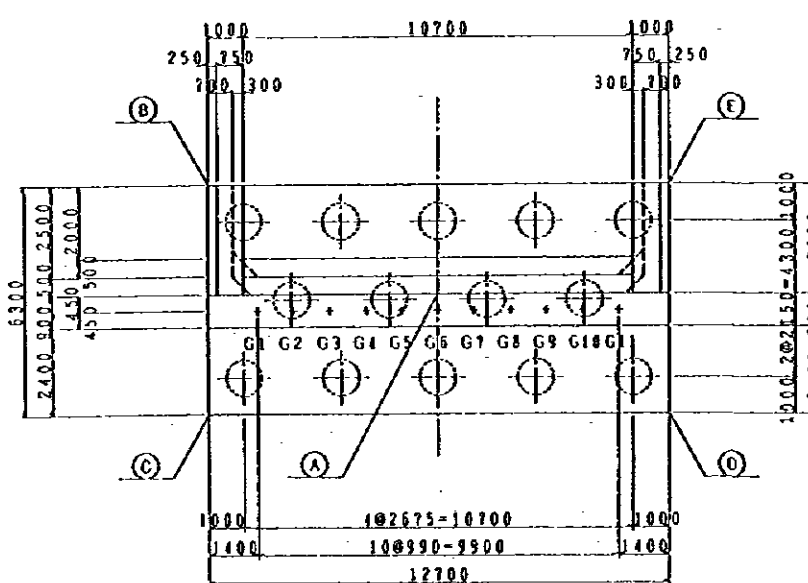
DETAIL OF SHOE BED

SHOE ELEVATION(EL) TABLE

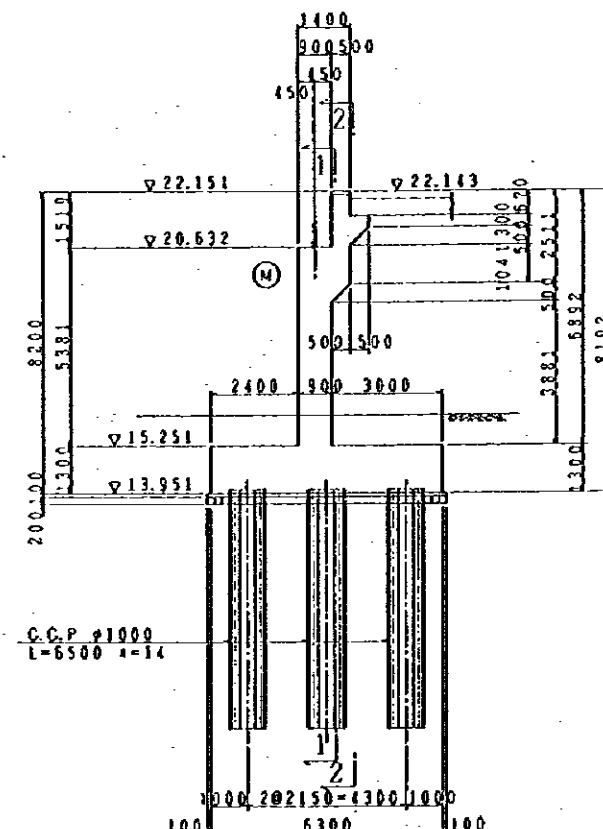
G 1	G11
20.620	20.768

CO-ORDINATES LIST

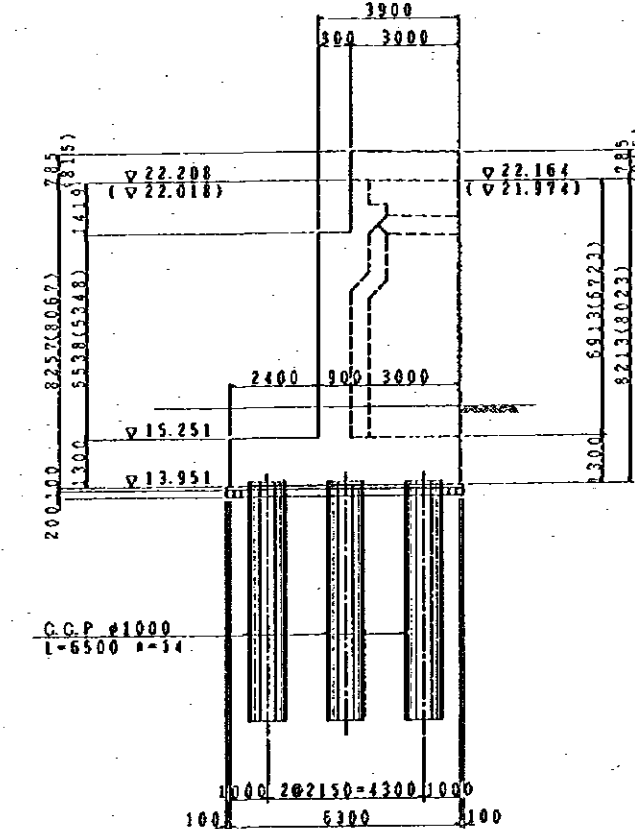
A	X	2669886.5389
	Y	487474.3874
B	X	2669886.8471
	Y	487481.6202
C	X	2669893.3424
	Y	487478.6064
D	X	2669884.4447
	Y	487467.5444
E	X	2669879.8483
	Y	487471.9582



P L A N S= 1/200



SECTION 3-3 S= 1/200



SECTION 4-4 (5-5) S= 1/200

STRUCTURAL DETAIL OF A2 ABUTMENT AT B-LINE

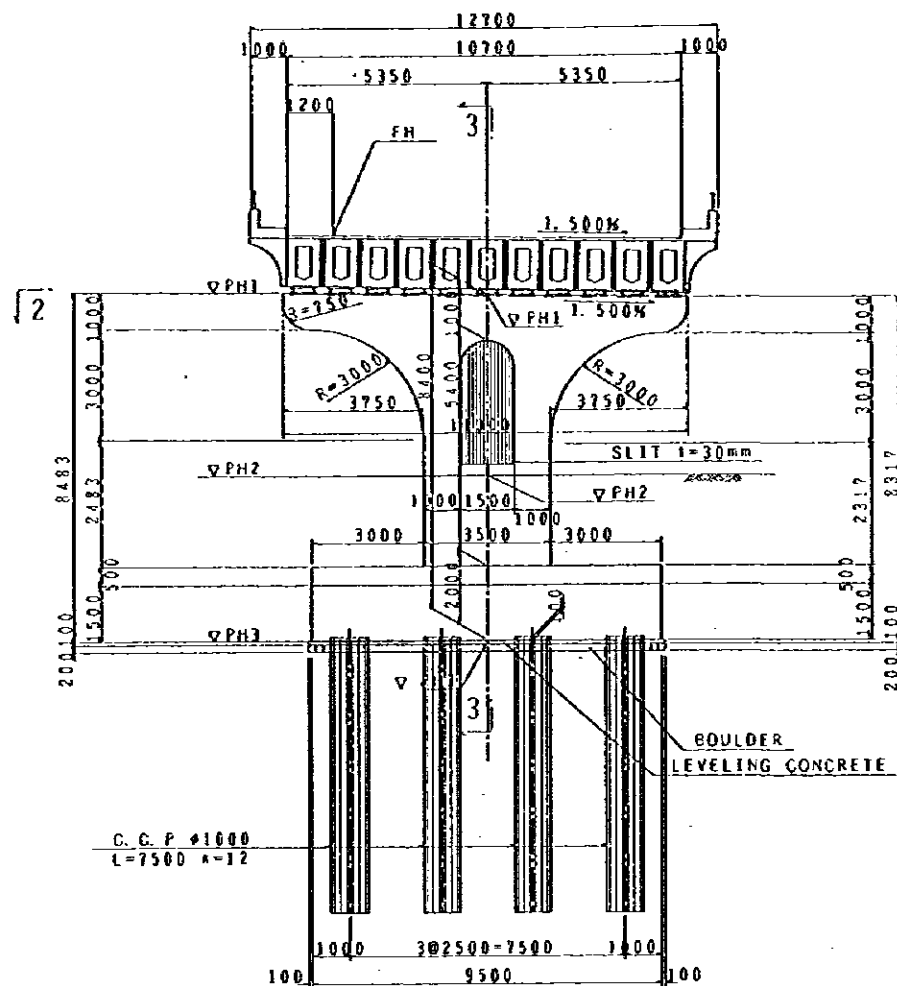
NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

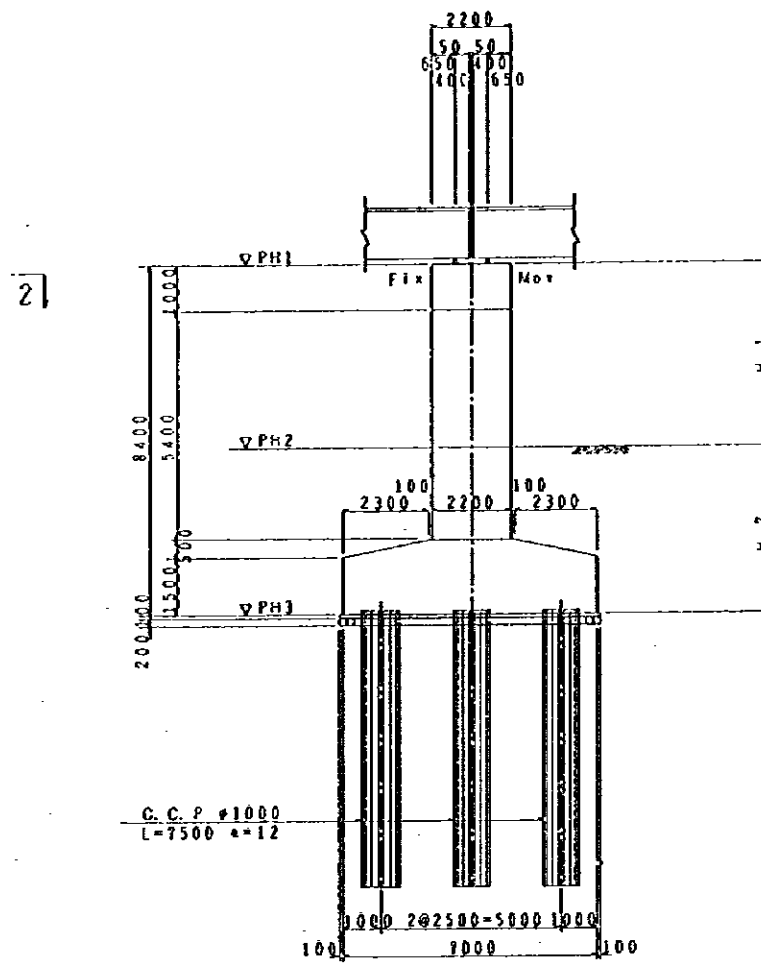
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE: STRUCTURAL DETAIL OF A2 ABUTMENT AT B-LINE
DATE: DWGNO. B-29

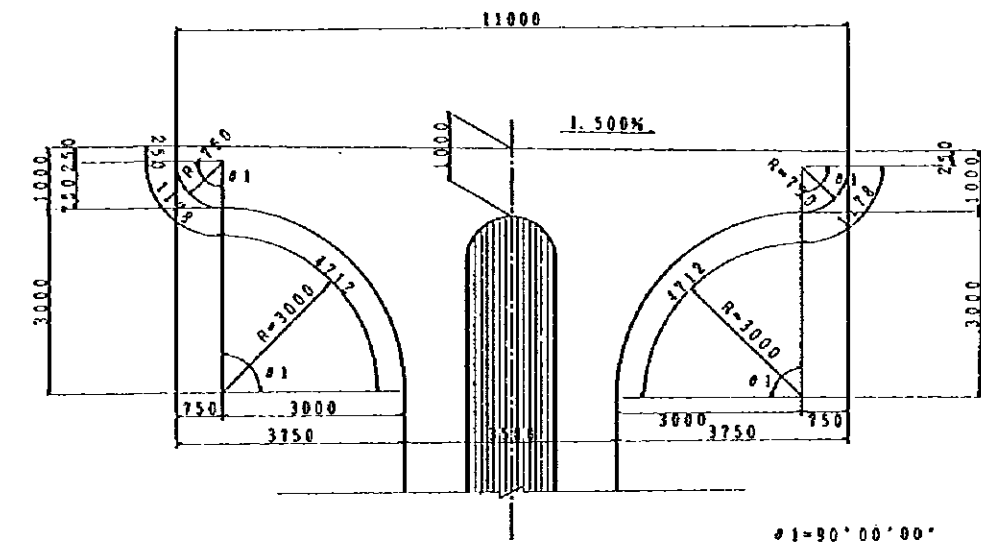
RA/10 SAHAM



SECTION 1-1 S=1/200



SECTION 3-3 S=1/200



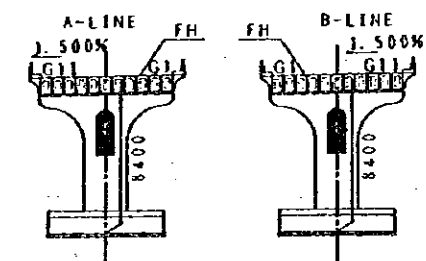
BEAM DETAIL S=1/20

DIMENSION TABLE

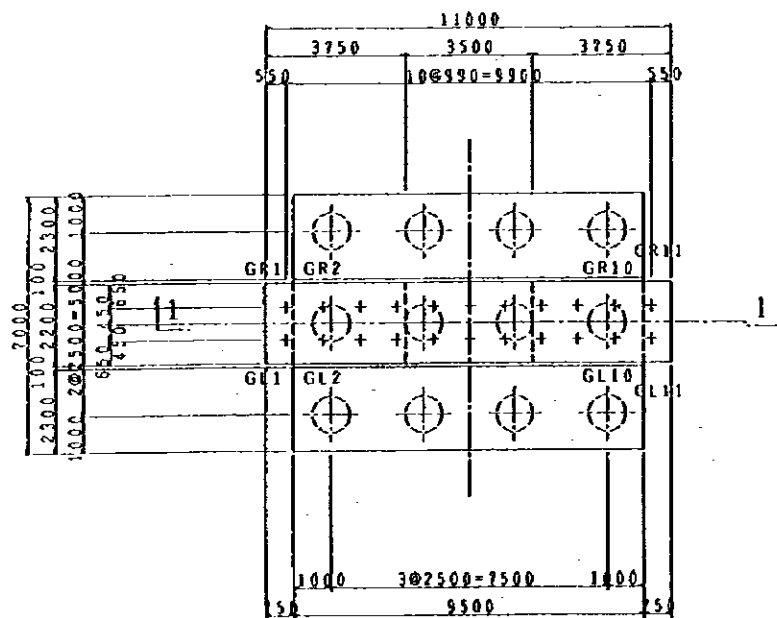
		PH1	PH2	PH3	H 1	H 2
A L I N E	P 1	21.003	15.973	12.603	5030	3370
	P 2	21.274	16.013	12.874	5261	3136
	P 3	21.477	16.052	13.077	5425	2975
	P 4	21.612	15.840	13.212	5772	2628
	P 5	21.679	15.840	13.279	5839	2561
	P 6	21.679	15.840	13.279	5839	2561
	P 7	21.612	15.840	13.212	5772	2628
	P 8	21.477	16.054	13.077	5423	2977
	P 9	21.274	16.023	12.874	5251	3149
	P10	21.003	15.991	12.603	5012	3388
B L I N E	P 1	21.016	16.052	12.616	4964	3436
	P 2	21.286	16.056	12.886	5230	3170
	P 3	21.489	16.059	13.089	5430	2970
	P 4	21.624	15.840	13.224	5784	2616
	P 5	21.692	15.840	13.292	5852	2548
	P 6	21.692	15.840	13.292	5852	2548
	P 7	21.624	15.840	13.224	5784	2616
	P 8	21.489	16.062	13.089	5427	2973
	P 9	21.286	16.070	12.866	5216	3184
	P10	21.016	16.078	12.616	4938	3462

SHOE ELEVATION(EL) TABLE

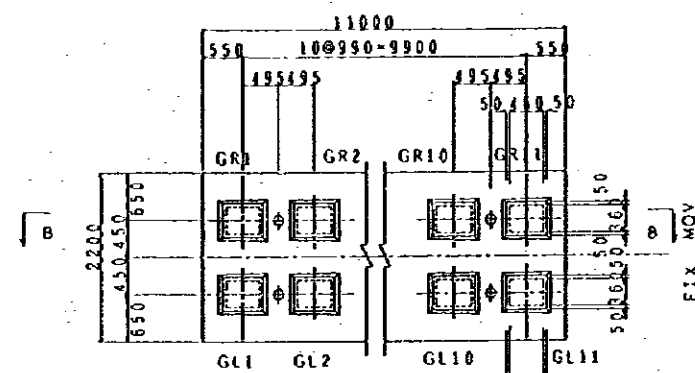
		G1L (G1R)	G1L(G1R)
A L I N E	P 1.10	21.077	20.929
	P 2. 9	21.348	21.200
	P 3. 8	21.551	21.403
	P 4. 7	21.686	21.538
	P 5. 6	21.753	21.605
B L I N E	P 1.10	21.090	20.942
	P 2. 9	21.360	21.212
	P 3. 8	21.563	21.415
	P 4. 7	21.698	21.550
	P 5. 6	21.765	21.618



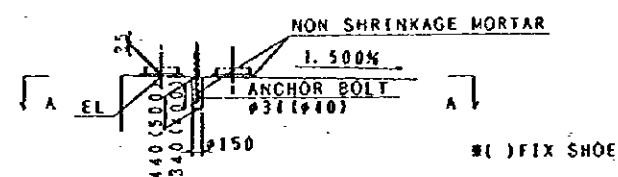
KEY PLAN



SECTION 2-2 S=1/200



SECTION A-A S=1/100



SECTION B-B S=1/100

DETAIL OF SHOE BED

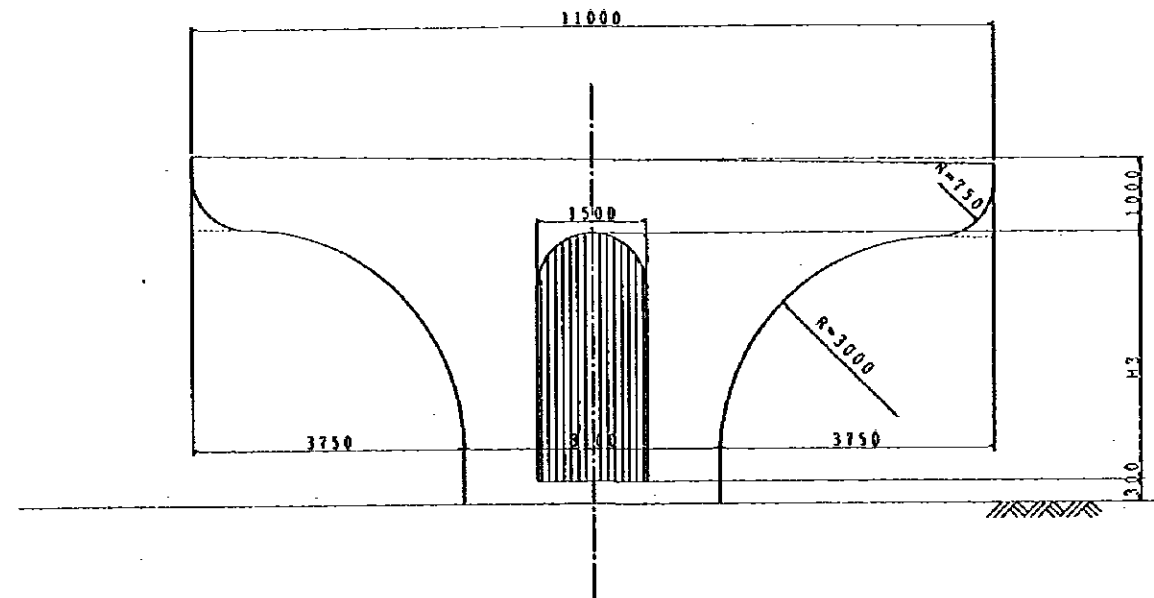
STRUCTURAL DETAIL OF T-WALL PIER FOR P1~P10 AT A·B-LINE (1/2)

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE: STRUCTURAL DETAIL OF T-WALL PIER(P1-P10) AT A,B-LINE(1/2)
DATE: _____
DWGNO. B-30

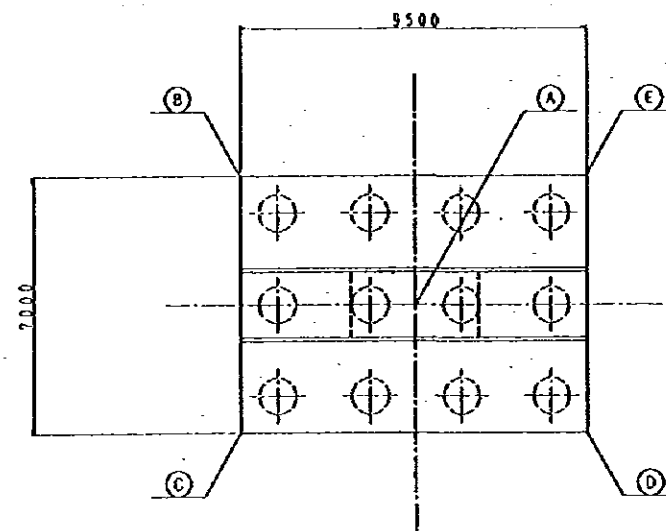
RA/10 SAHAM



DIMENSION (H₃) TABLE

	A-LINE	B-LINE
P 1	3130	3664
P 2	3961	3930
P 3	4125	4130
P 4	4472	4484
P 5	4539	4552
P 6	4539	4552
P 7	4472	4484
P 8	4123	4127
P 9	3951	3916
P10	3112	3638

SLIT OF PLAN S= 1/100



FRAMING PLAN S= 1/200

CO-ORDINATES LIST

	A	B	C	D	E
P1	2670090.7800	2670091.3062	2670096.5188	2670090.2538	2670085.0112
P2	2670092.2862	2670091.8728	2670097.1436	2670090.8111	2670085.5632
P3	2670092.9584	2670091.9251	2670097.1436	2670090.8111	2670085.5632
P4	2670092.9584	2670091.9251	2670097.1436	2670090.8111	2670085.5632
P5	2670092.9584	2670091.9251	2670097.1436	2670090.8111	2670085.5632
P6	2670092.9584	2670091.9251	2670097.1436	2670090.8111	2670085.5632
P7	2670092.9584	2670091.9251	2670097.1436	2670090.8111	2670085.5632
P8	2670092.9584	2670091.9251	2670097.1436	2670090.8111	2670085.5632
P9	2670092.9584	2670091.9251	2670097.1436	2670090.8111	2670085.5632
P10	2670092.9584	2670091.9251	2670097.1436	2670090.8111	2670085.5632

	A	B	C	D	E
P1	2670076.8543	2670077.3843	2670082.6272	2670076.3318	2670071.0894
P2	2670076.8543	2670077.3843	2670082.6272	2670076.3318	2670071.0894
P3	2670076.8543	2670077.3843	2670082.6272	2670076.3318	2670071.0894
P4	2670076.8543	2670077.3843	2670082.6272	2670076.3318	2670071.0894
P5	2670076.8543	2670077.3843	2670082.6272	2670076.3318	2670071.0894
P6	2670076.8543	2670077.3843	2670082.6272	2670076.3318	2670071.0894
P7	2670076.8543	2670077.3843	2670082.6272	2670076.3318	2670071.0894
P8	2670076.8543	2670077.3843	2670082.6272	2670076.3318	2670071.0894
P9	2670076.8543	2670077.3843	2670082.6272	2670076.3318	2670071.0894
P10	2670076.8543	2670077.3843	2670082.6272	2670076.3318	2670071.0894

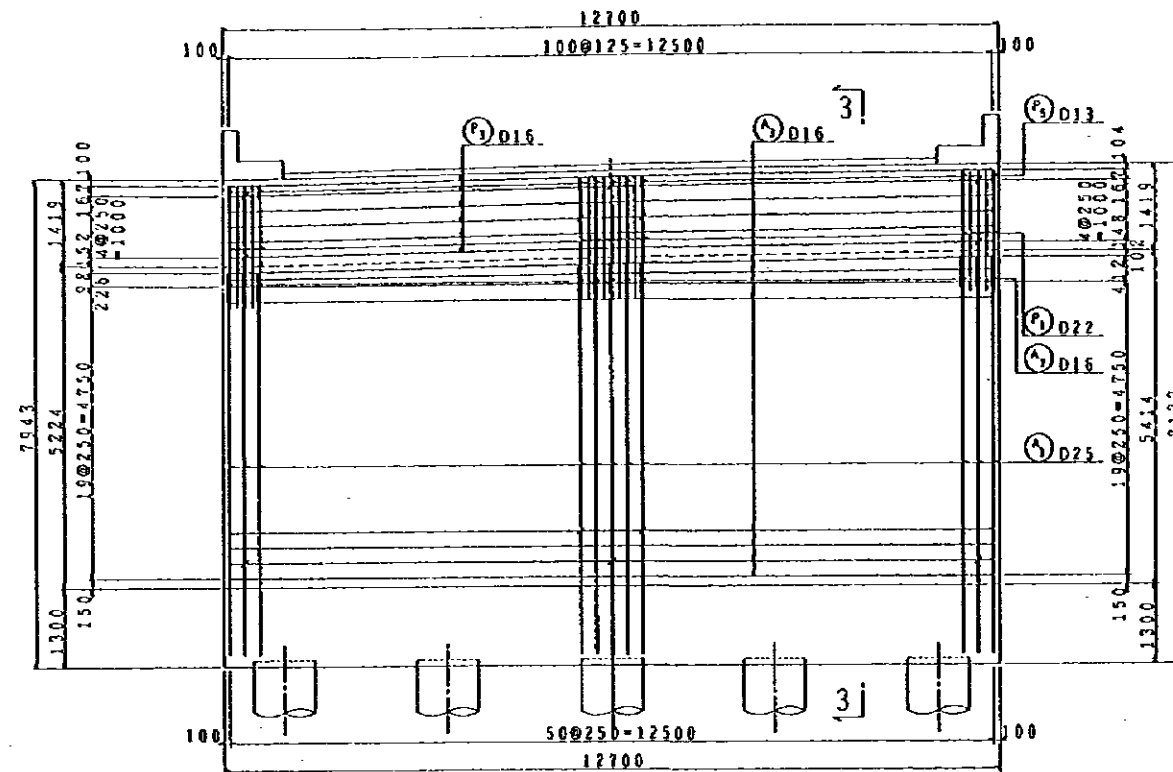
STRUCTURAL DETAIL OF T-WALL PIER FOR P1~P10 AT A B-LINE (2/2)

NOTES:

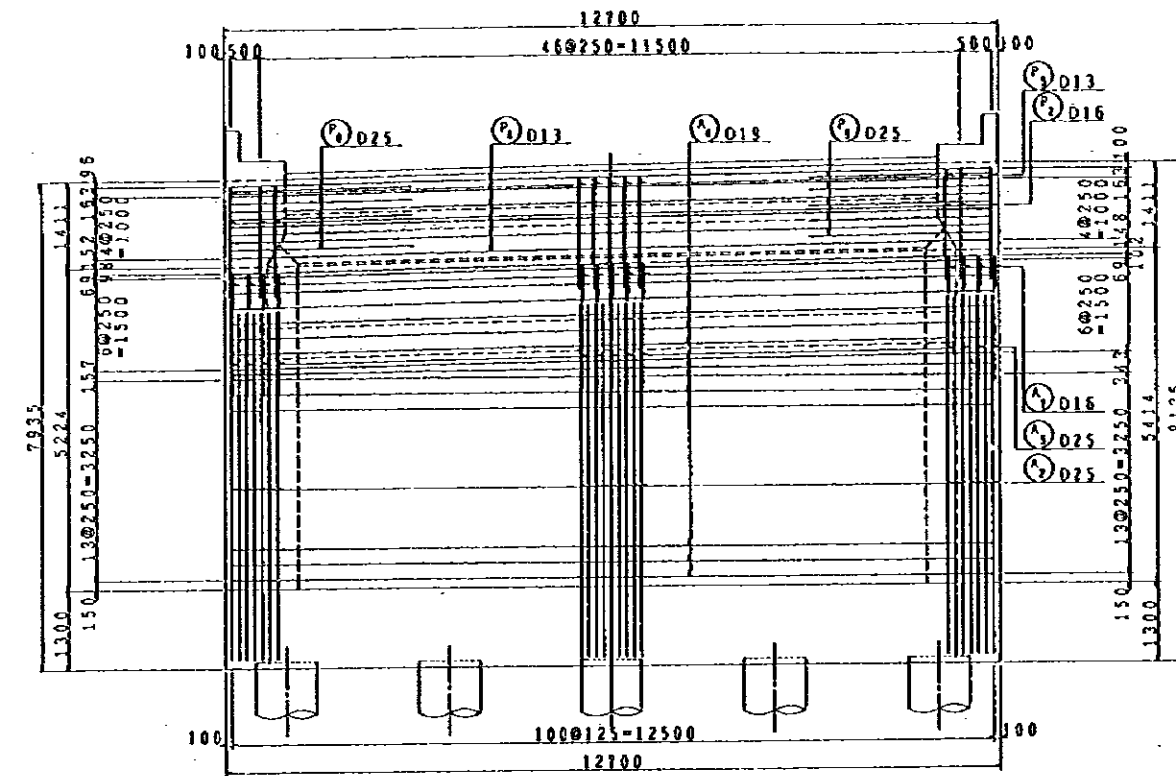
JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE: STRUCTURAL DETAIL OF T-WALL PIER(P1~P10) AT A,B-LINE (2/2)
DATE: _____ DWGNO. B-31

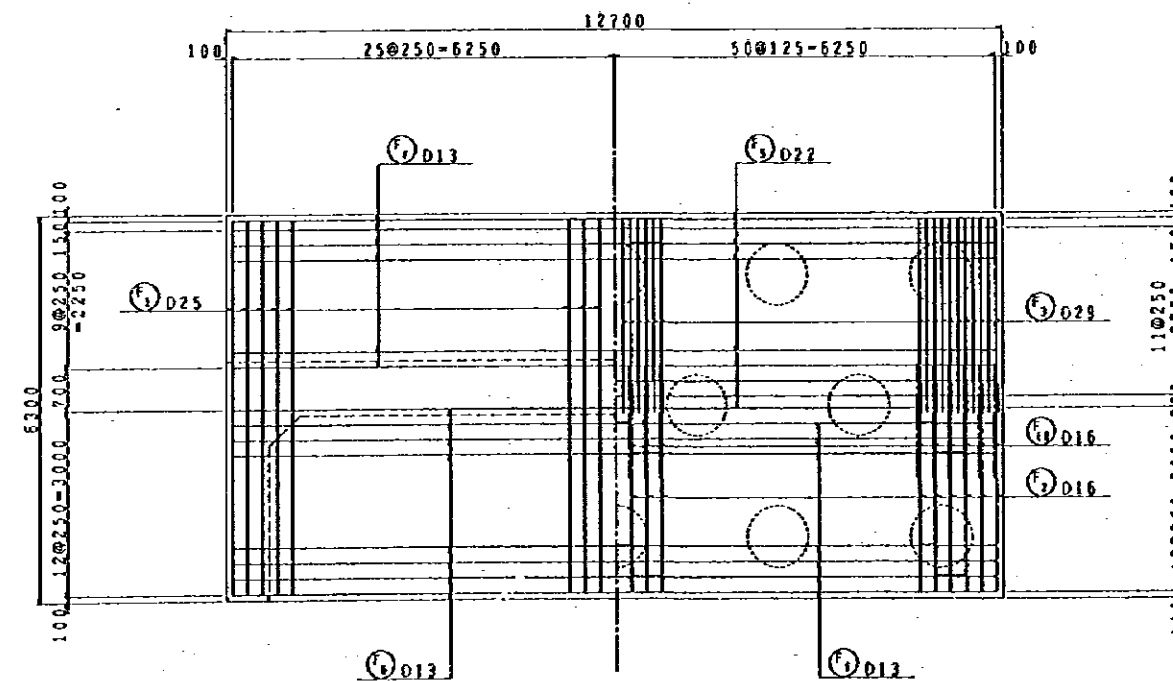
RA/10 SAHAM



SECTION 1-1 S= 1/120

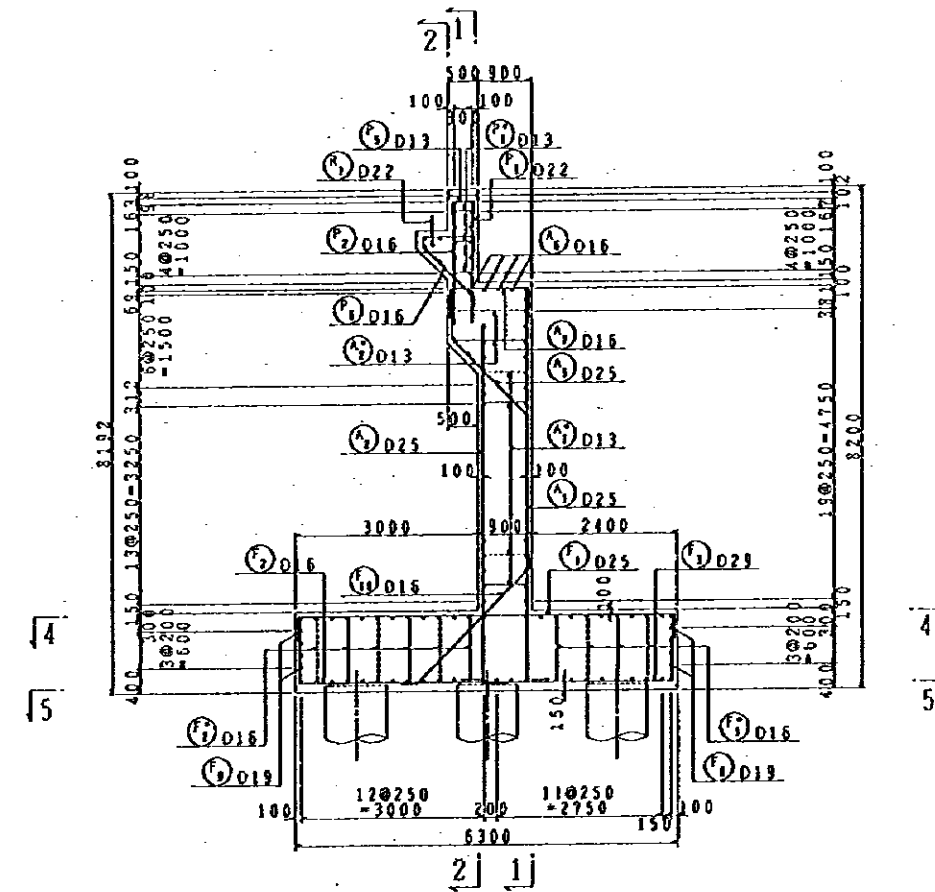


SECTION 2-2 S= 1/120



SECTION 4-4 S= 1/120

SECTION 5-5 S= 1/120



SECTION 3-3 S= 1/120

RE-BAR ARRANGEMENT OF A1 ABUTMENT AT A-LINE (1/3)

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

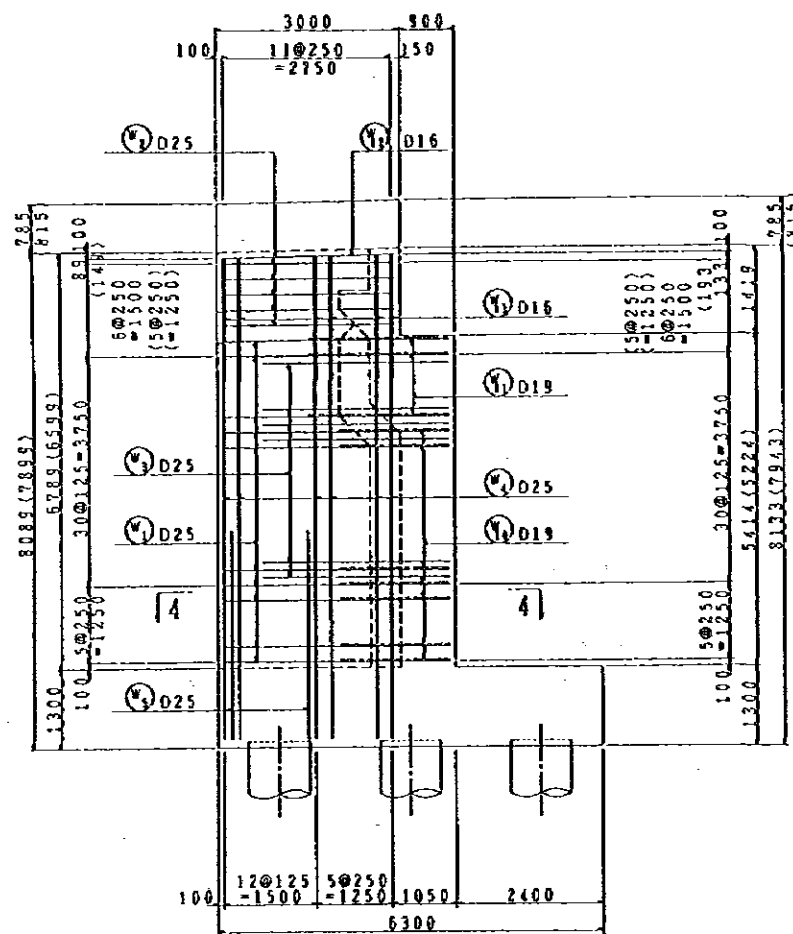
TITLE: RE-BAR ARRANGEMENT OF A1 ABUTMENT AT A-LINE (1/3)

DATE

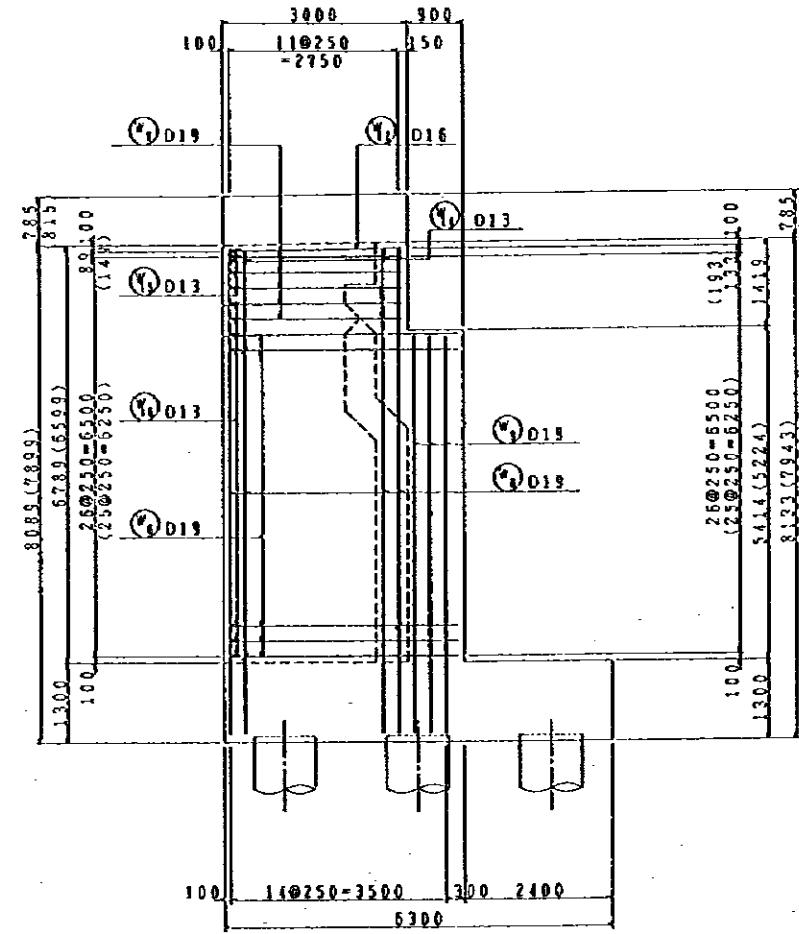
DWGNO.

B-32

RA/10 SAHAM

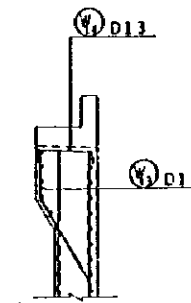


SECTION 1-1 S=1/120

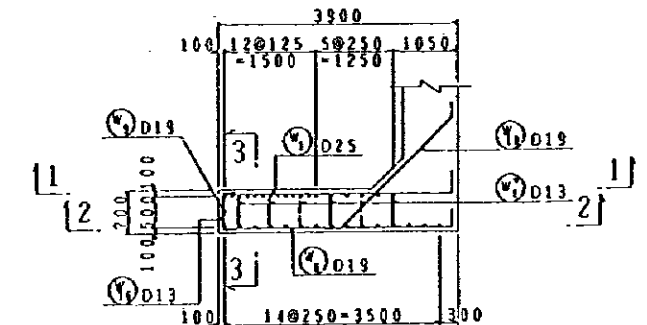


SECTION 2-2 S=1/120

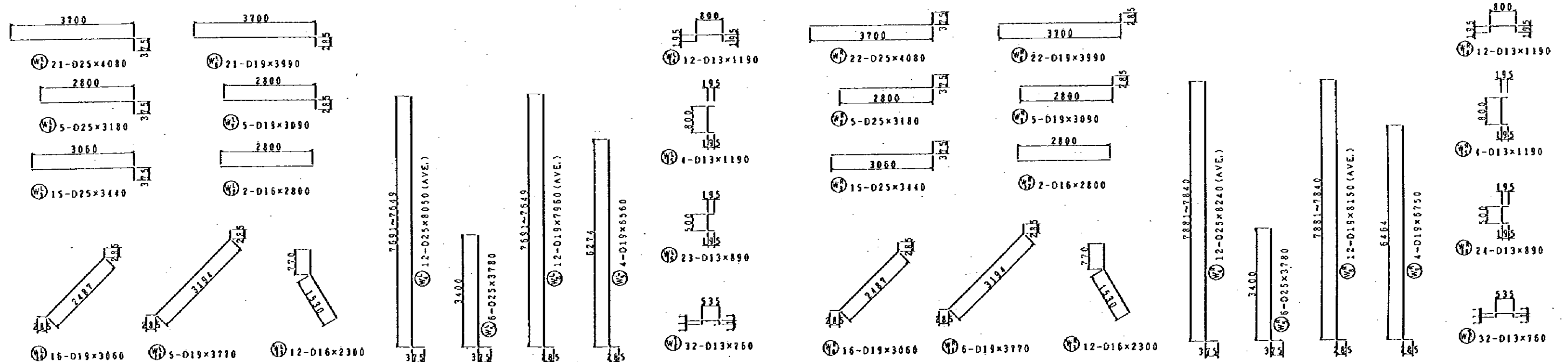
NOTE: () LEFT WING



SECTION 3-3 S=1/120



SECTION 4-4 S=1/120



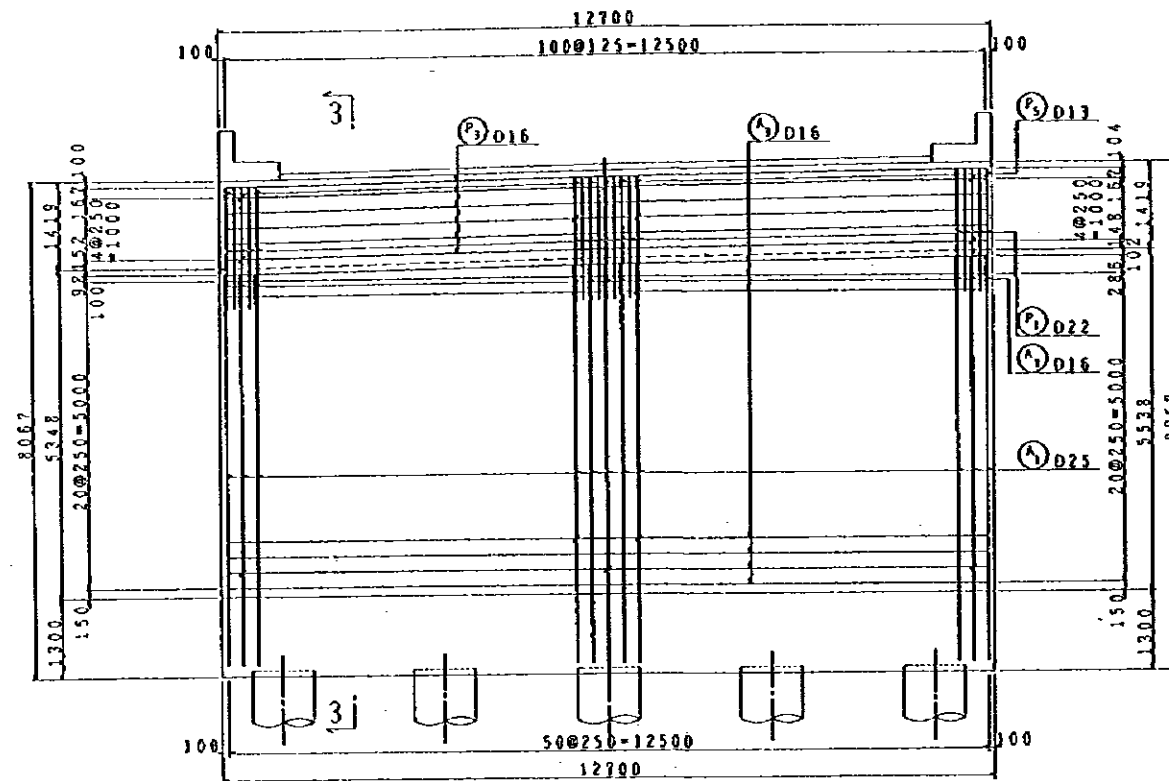
RE-BAR ARRANGEMENT OF A1 ABUTMENT AT A-LINE (2/3)

NOTES:

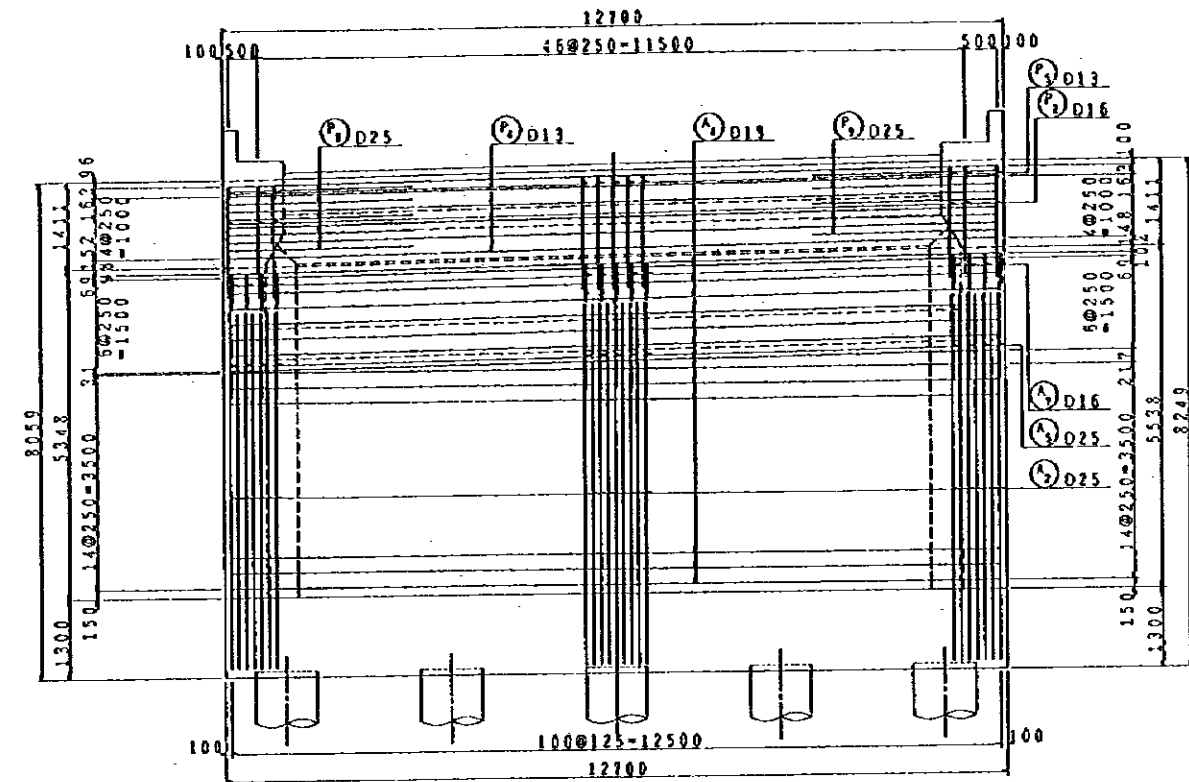
JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE: RE-BAR ARRANGEMENT OF A1 ABUTMENT AT A-LINE (2/3)
DATE: DWGNO. B-33

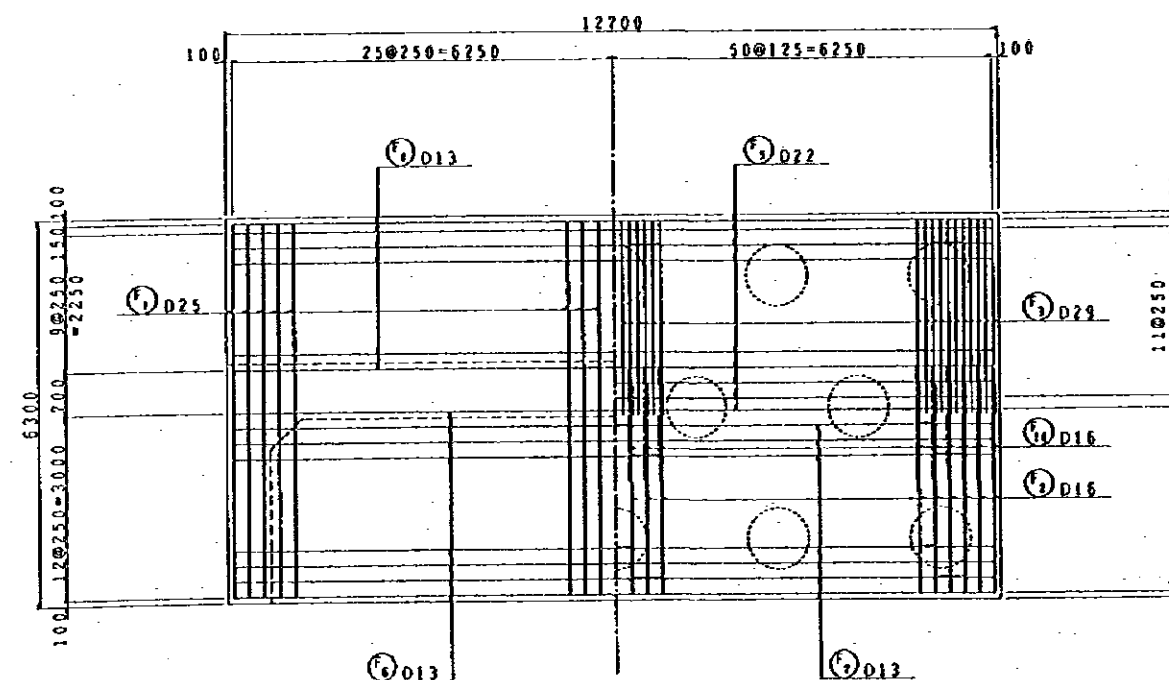
RA/10 SAHAM



SECTION 1-1 S=1/120

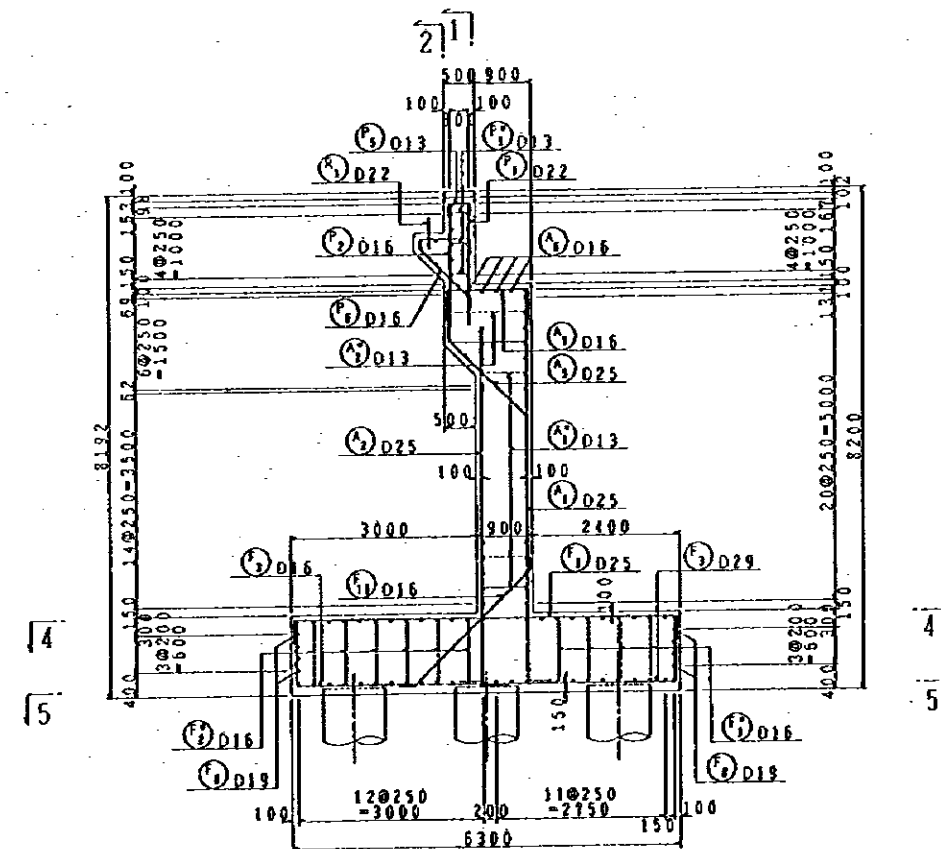


SECTION 2-2 S=1/120



SECTION 4-4 S=1/120

SECTION 5-5 S=1/120



SECTION 3-3 S=1/120

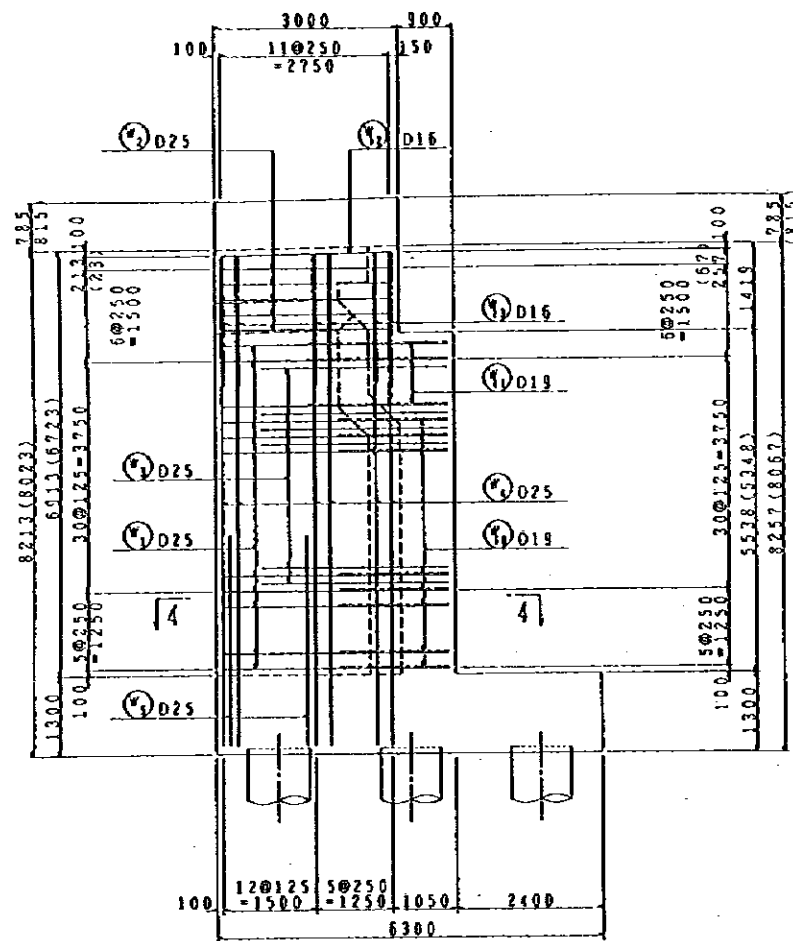
RE-BAR ARRANGEMENT OF A1 ABUTMENT AT B-LINE (1/3)

NOTES:

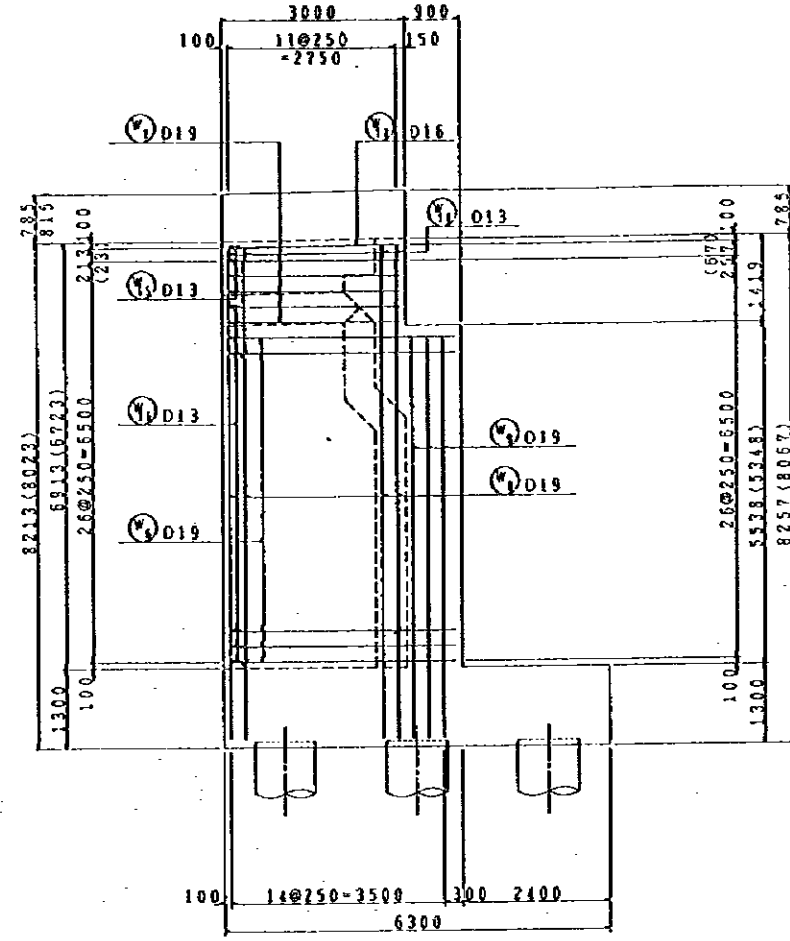
JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE: RE-BAR ARRANGEMENT OF A1 ABUTMENT AT B-LINE (1/3)
DATE: _____ DWGNO. B-35

RA/10 SAHAM

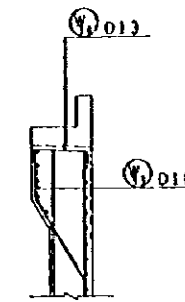


SECTION 1-1 S= 1/120

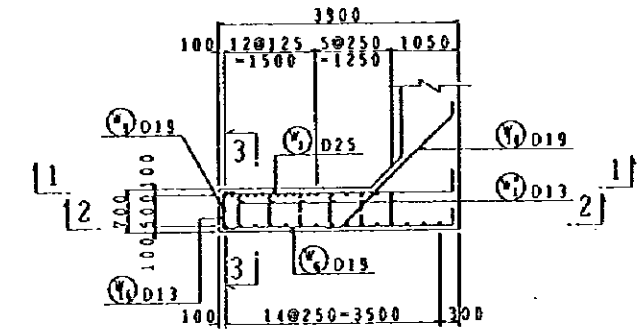


SECTION 2-2 S= 1/120

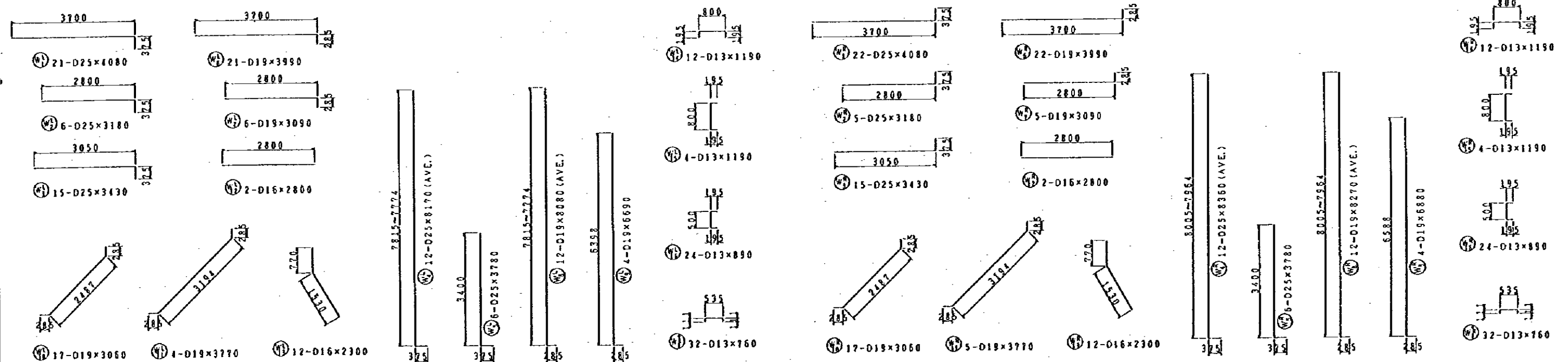
NOTE: () LEFT WING



SECTION 3-3 S= 1/120



SECTION 4-4 S= 1/120



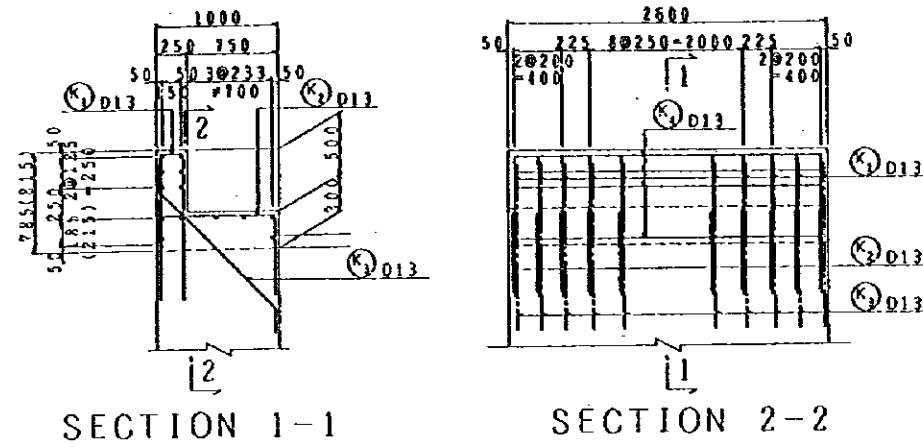
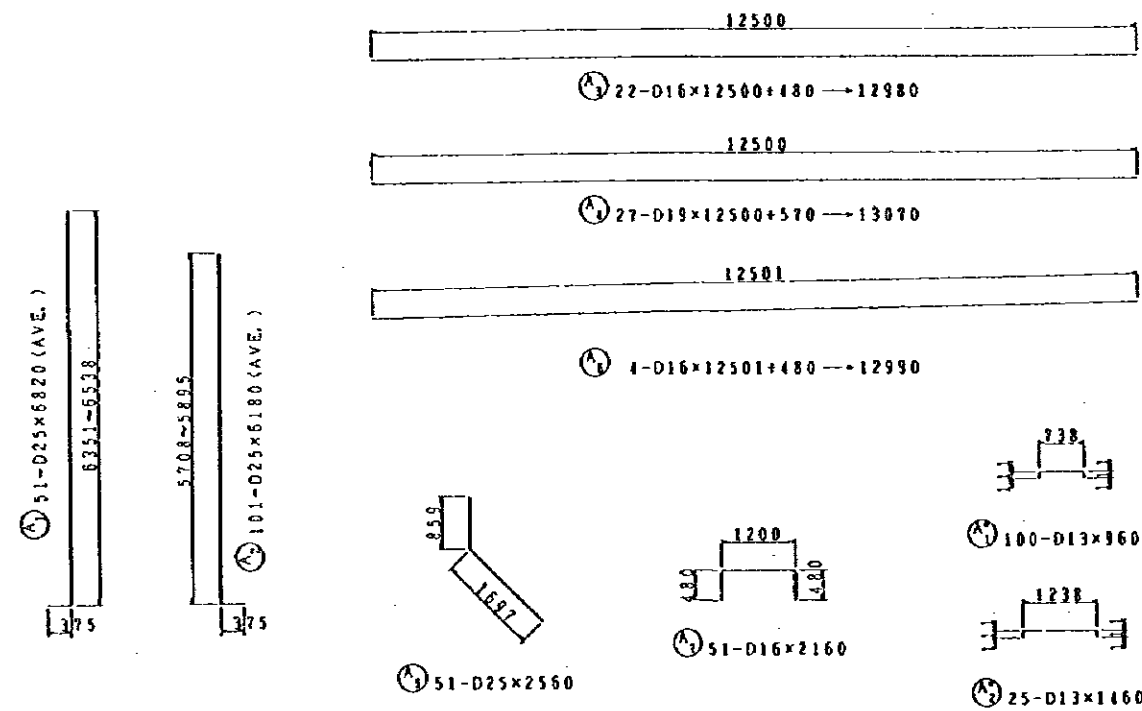
RE-BAR ARRANGEMENT OF A1 ABUTMENT AT B-LINE (2/3)

NOTES:

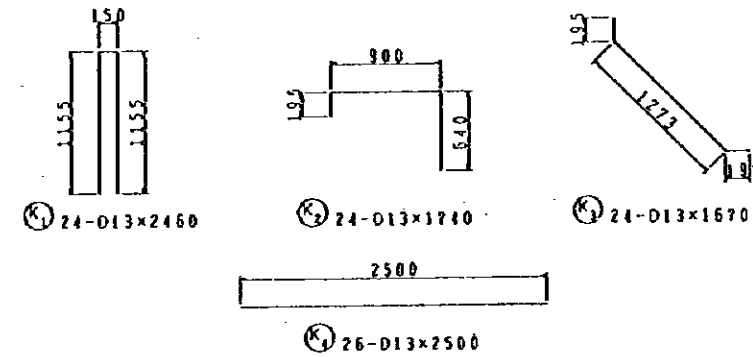
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PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE: RE-BAR ARRANGEMENT OF A1 ABUTMENT AT B-LINE (2/3)
DATE: _____ DWGNO. B-36

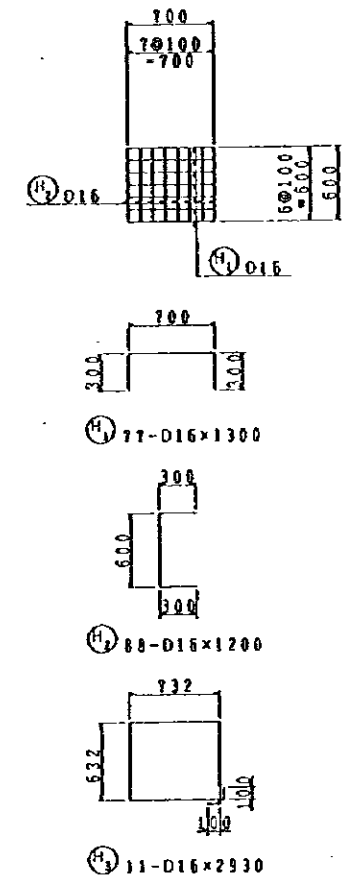
RA/10 SAHAM



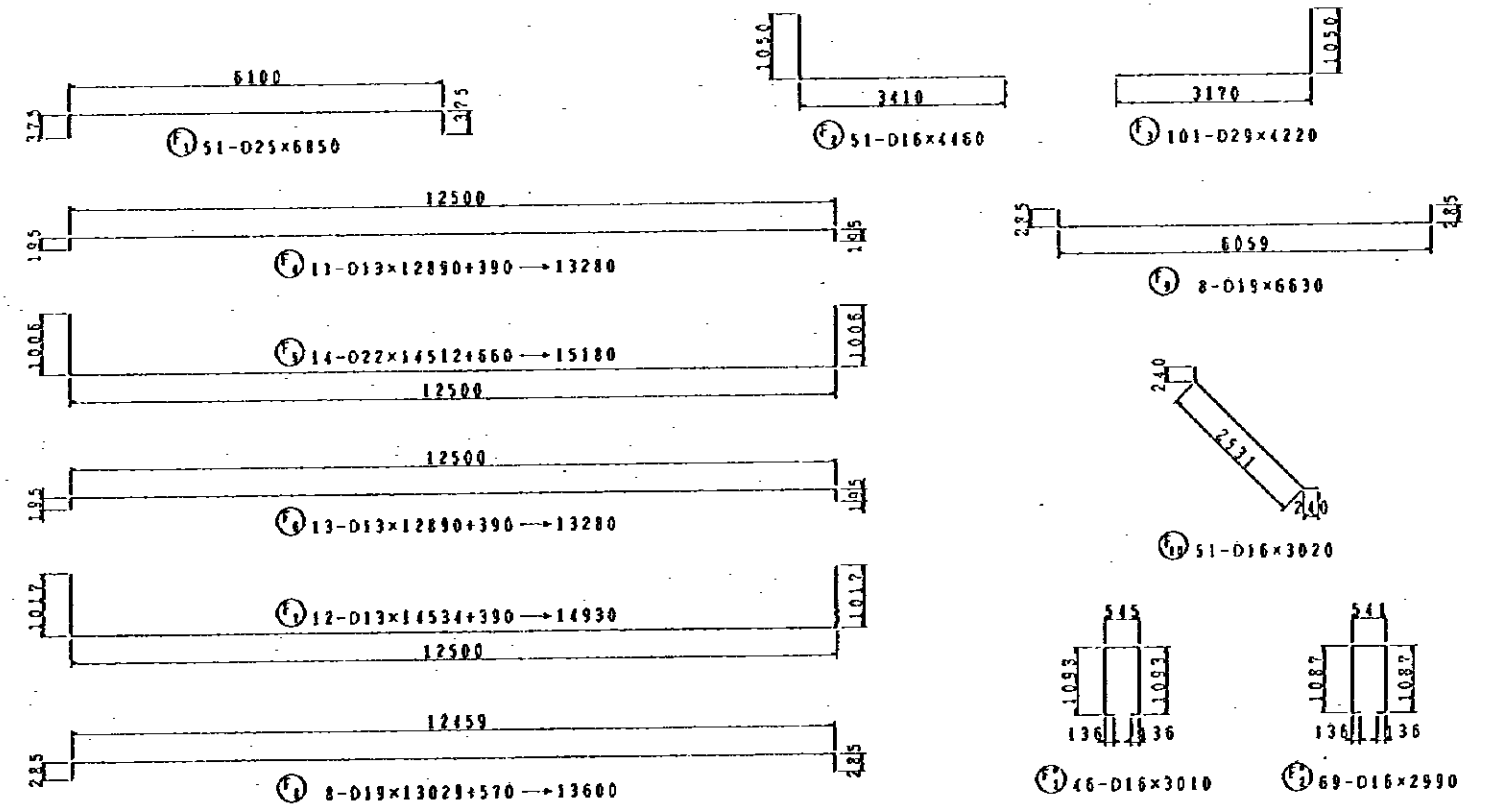
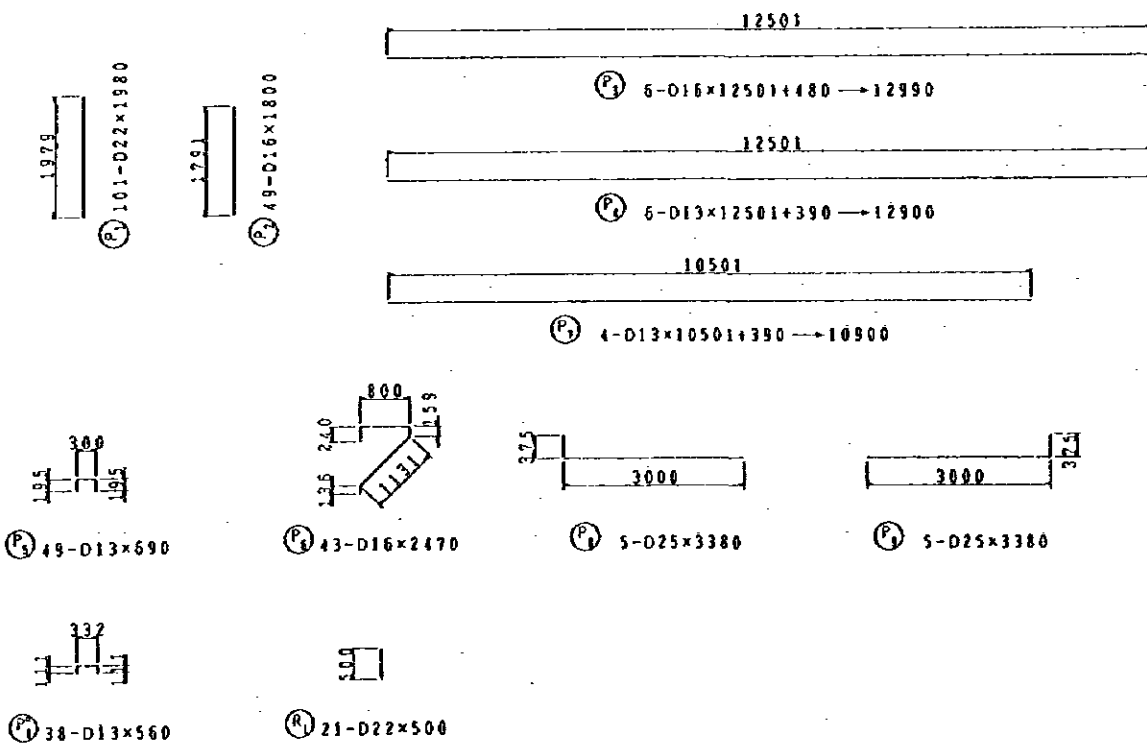
NOTE: () RIGHT RAILING



DETAIL OF RAILING S= 1/60



DETAIL OF SHOE BED S= 1/60



RE-BAR ARRANGEMENT OF A1 ABUTMENT AT B-LINE (3/3)

NOTES:

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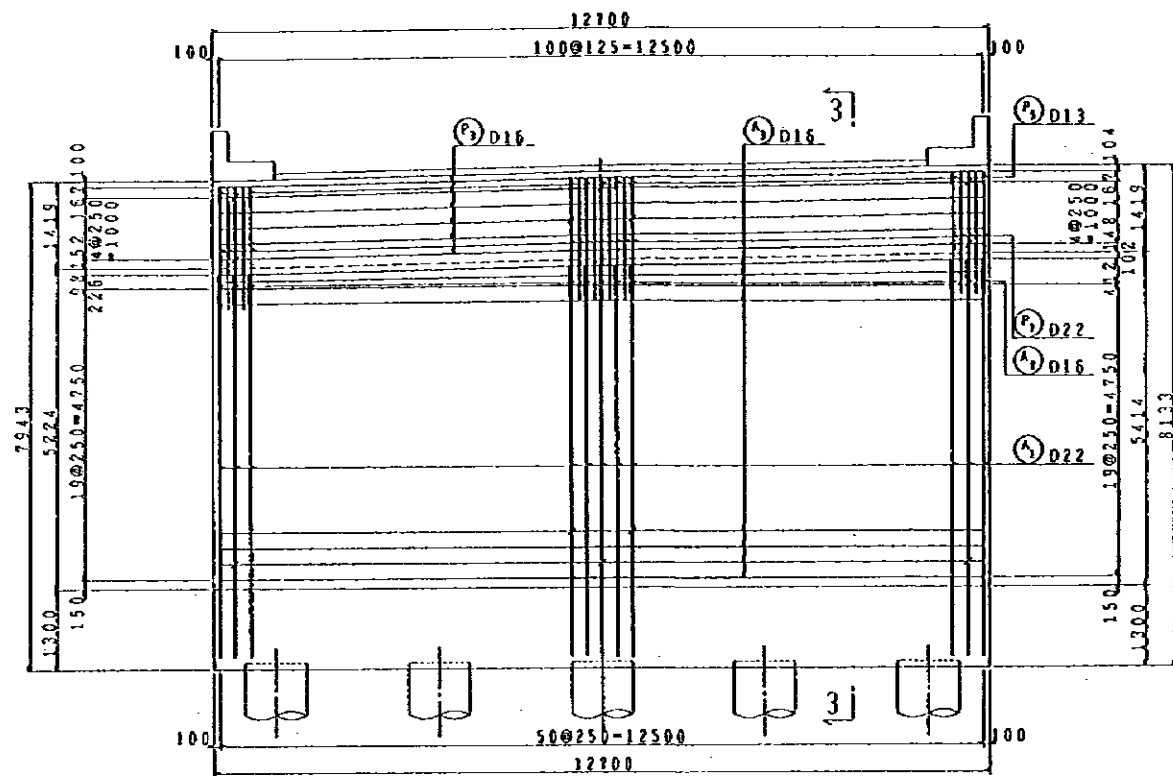
CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

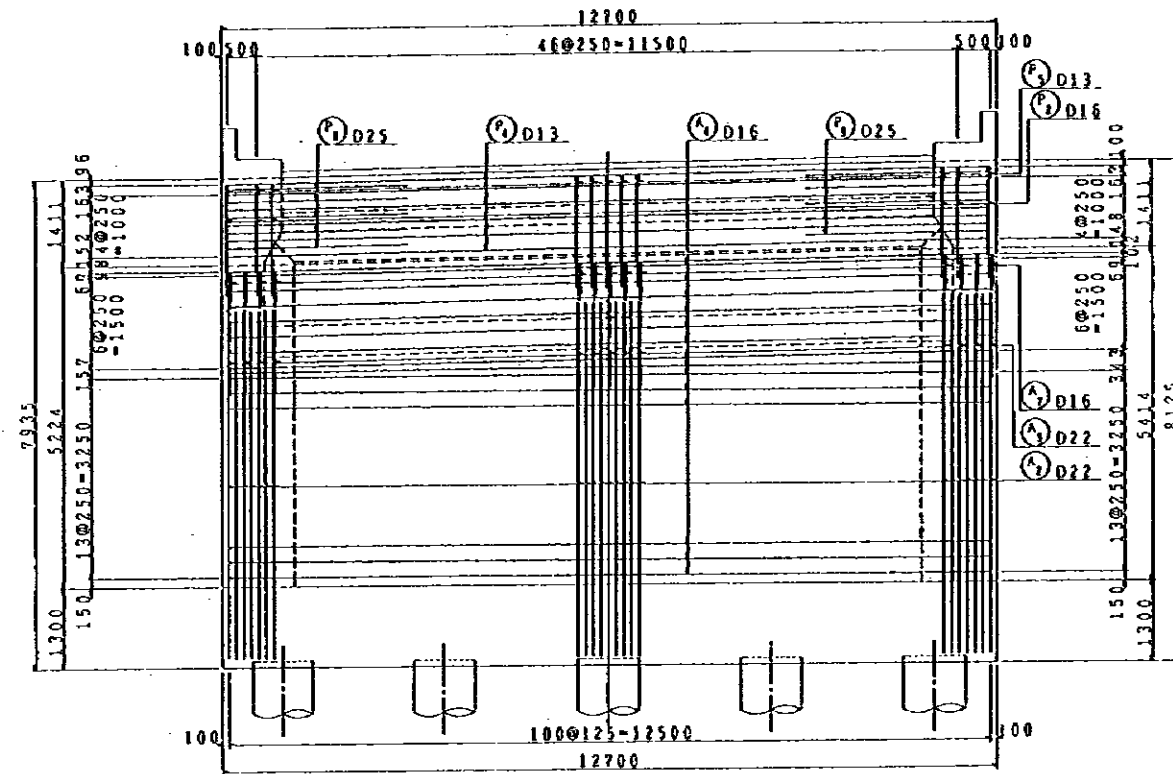
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DATE	DWGNO.	B-37
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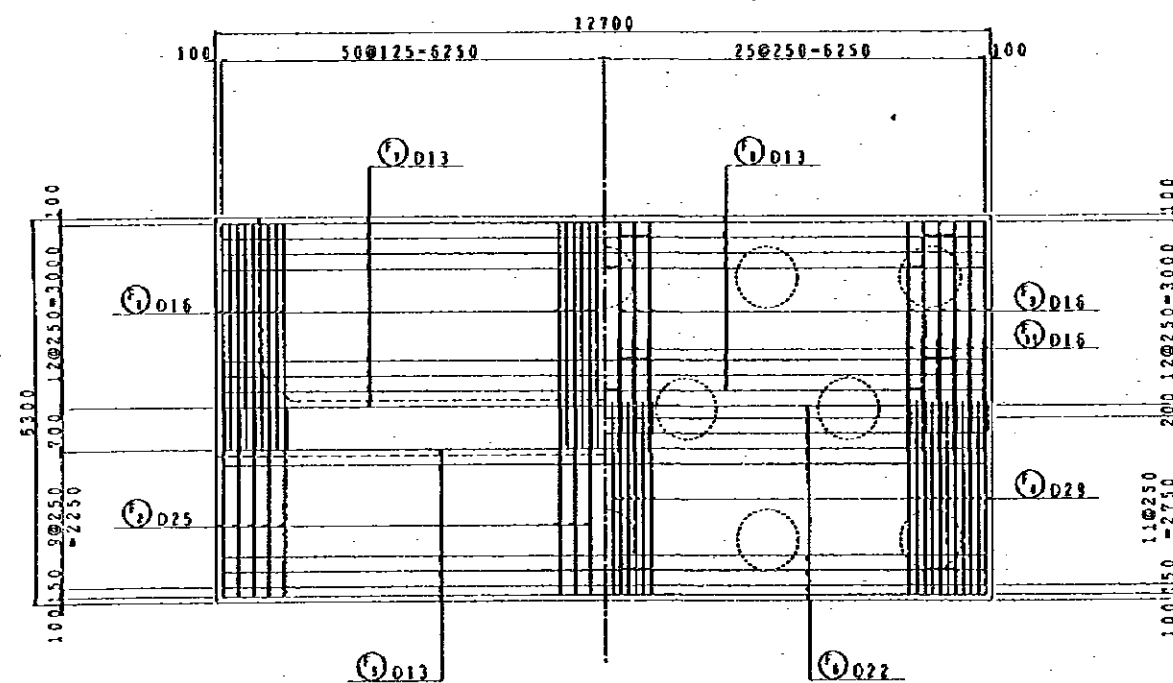
RA/10 SAHAM



SECTION 1-1 S= 1/120

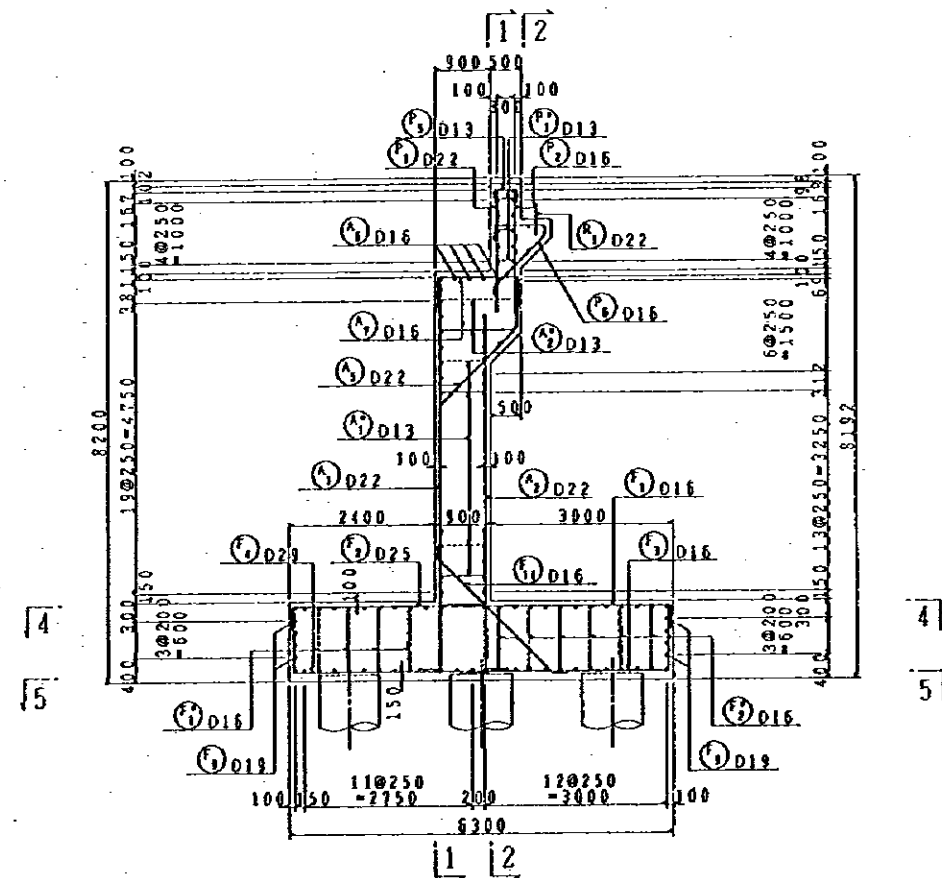


SECTION 2-2 S= 1/120



SECTION 4-4 S=1/120

SECTION 5-5 S= 1/120



SECTION 3-3 S = 1/120

RE-BAR ARRANGEMENT OF A2 ABUTMENT AT A-LINE (1/2)

NOTES:

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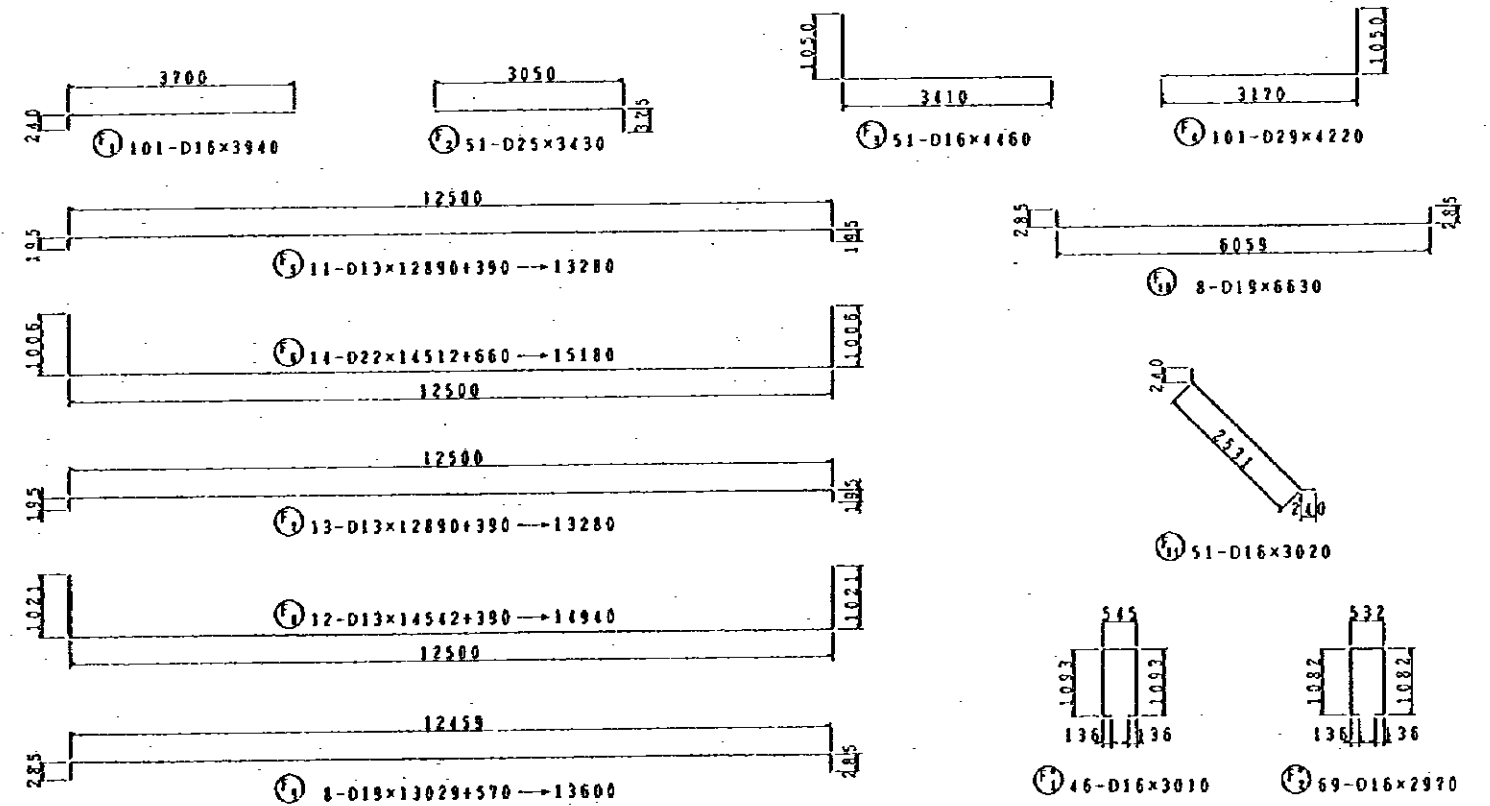
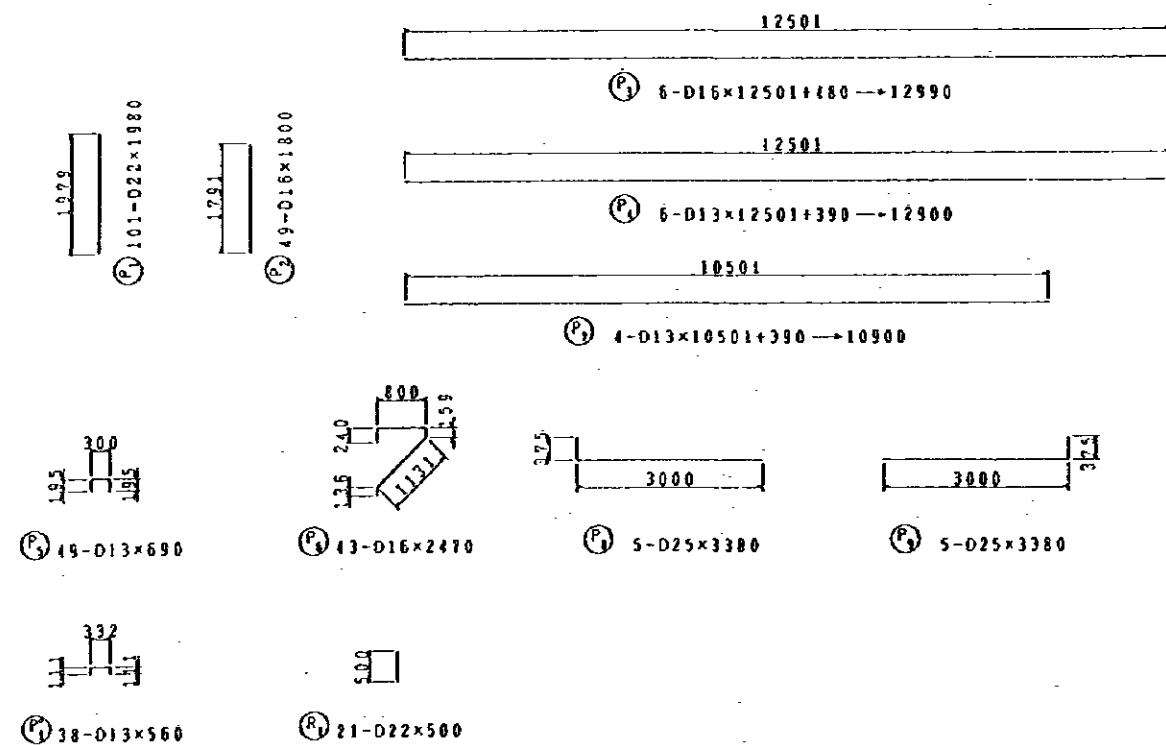
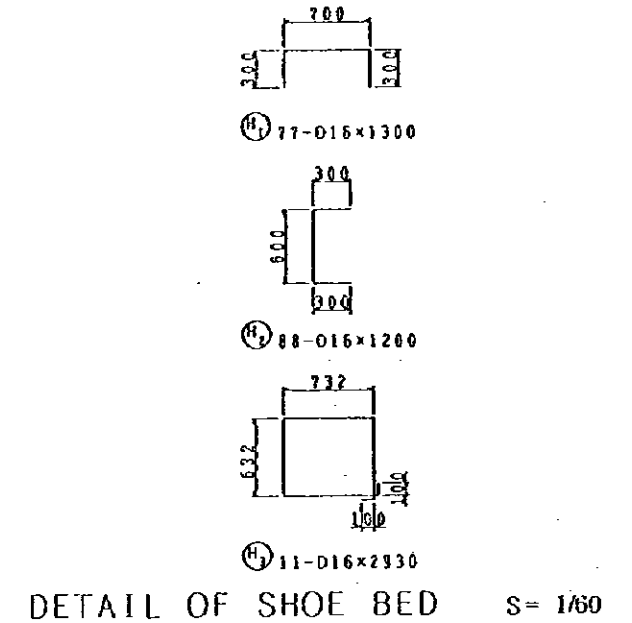
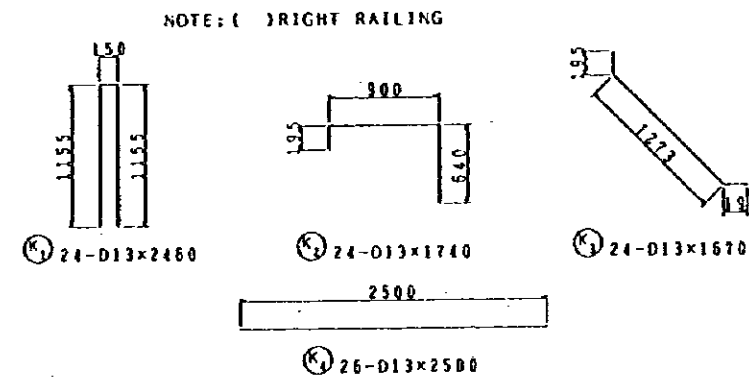
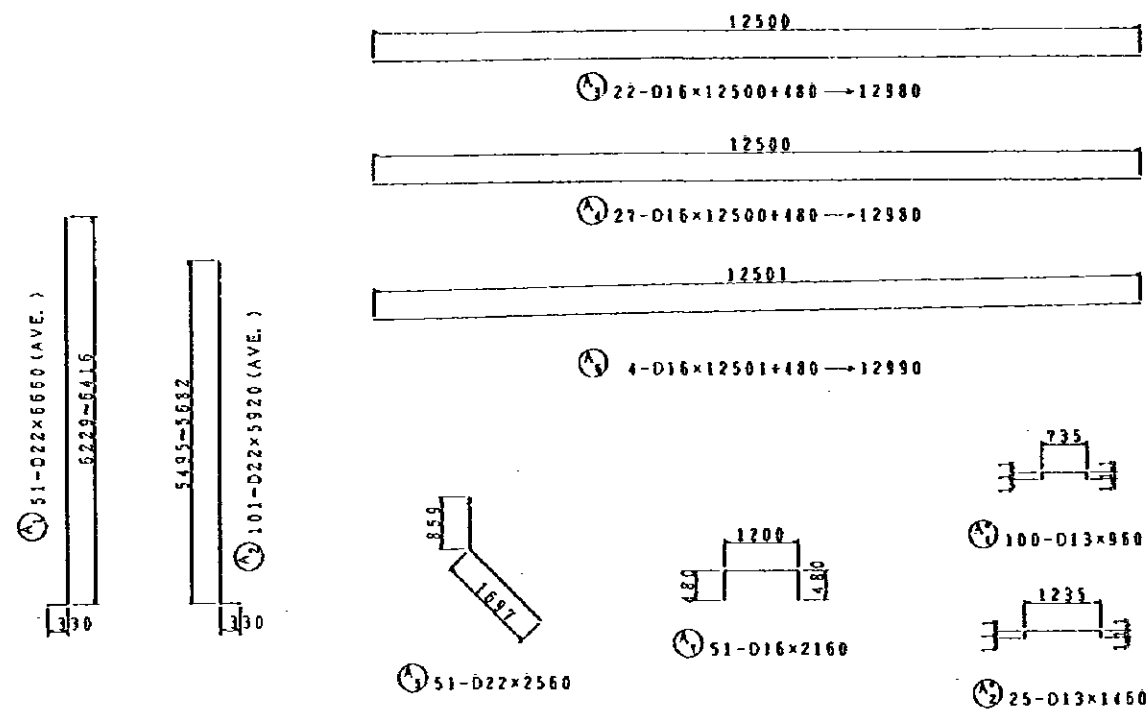
**JICA STUDY TEAM
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FUKUYAMA CONSULTANTS INTERNATIONAL**

CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

TITLE	RE-BAR ARRANGEMENT OF A2 ABUTMENT AT A-LINE (1/2)
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DATE	DWGNO.	B-38
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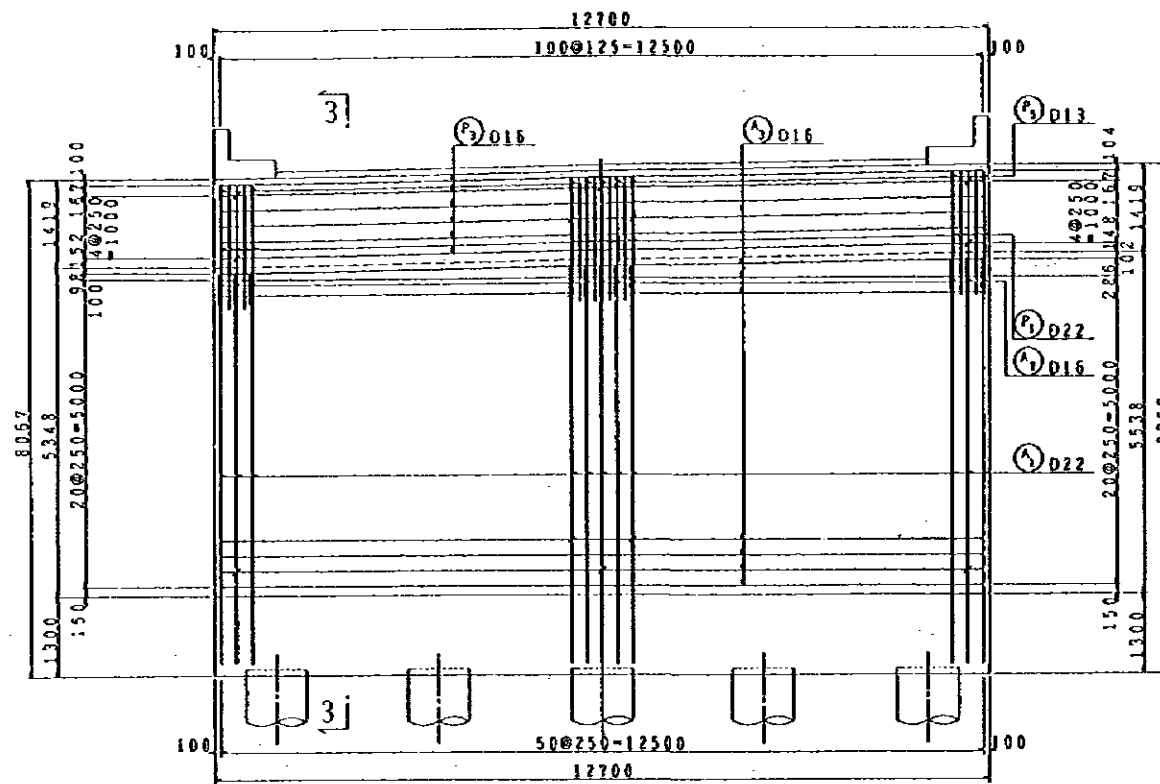
NOTE: RE-BAR ARRANGEMENT OF WING IS AS SAME AS IN A1 ABUTMENT

NOTES:

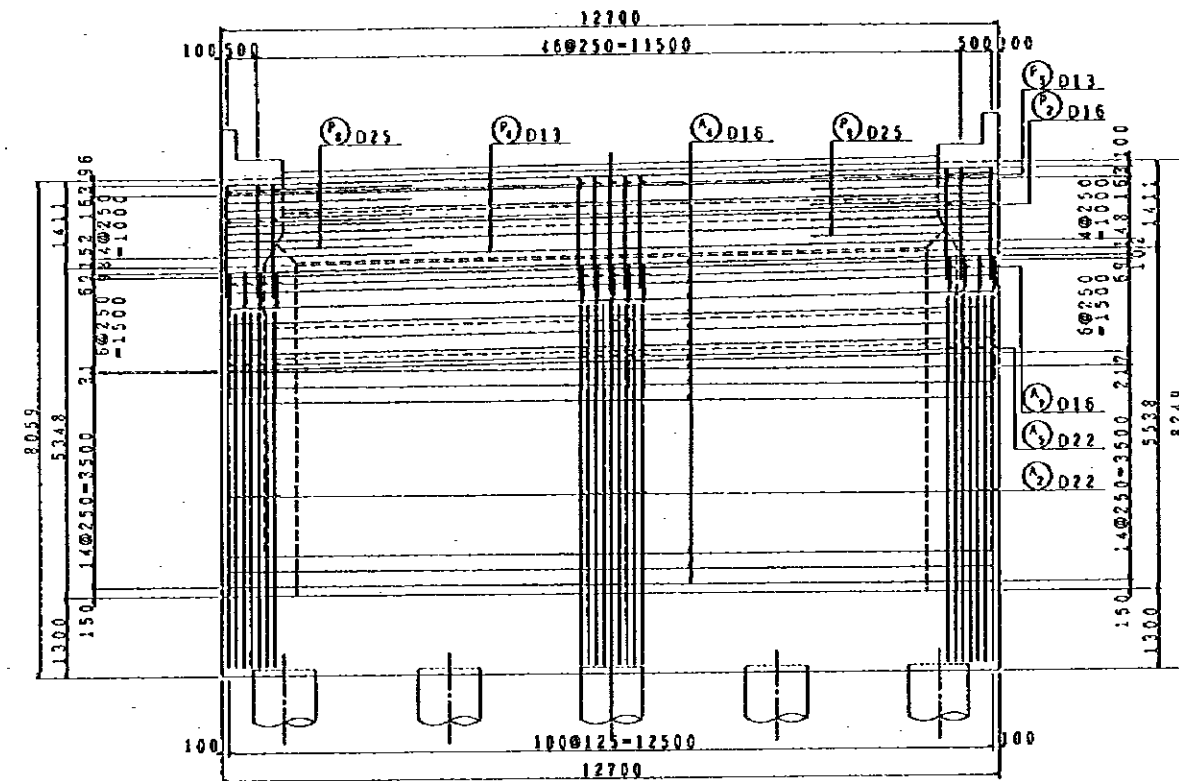
**JAPAN INTERNATIONAL COOPERATION AGENCY
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PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL**

CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS		
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY		
TITLE RE-BAR ARRANGEMENT OF A2 ABUTMENT AT A-LINE (1/2)		
DATE	DWGNO.	B-39

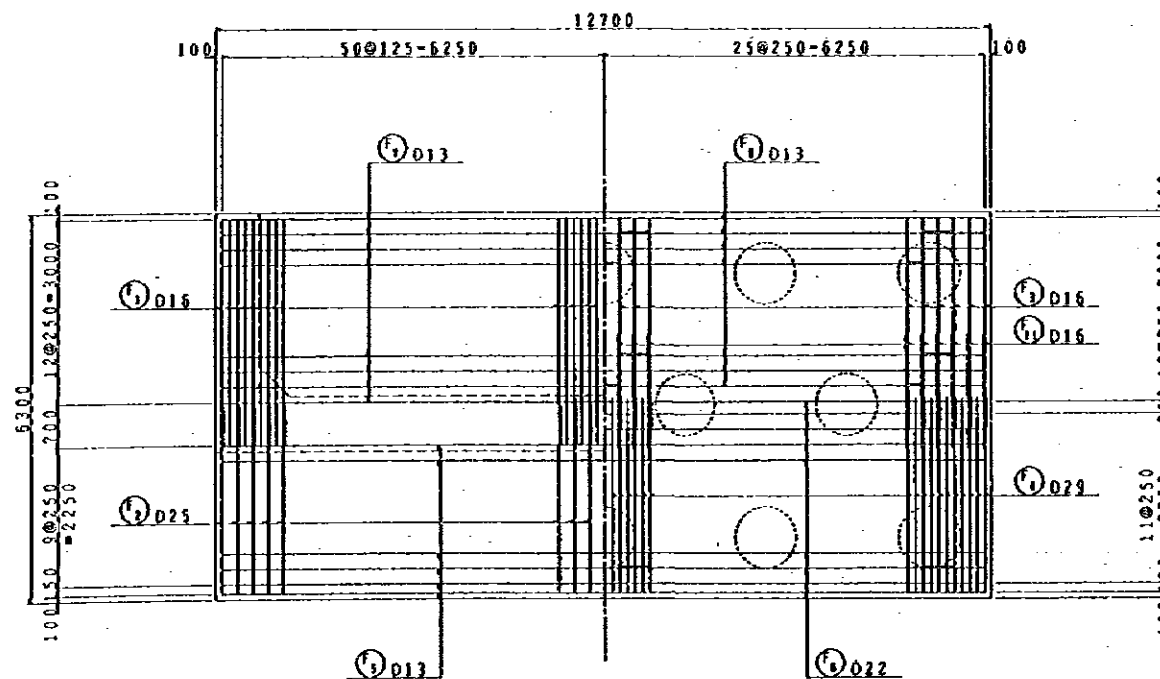
RA/10 SAHAM



SECTION 1-1 S= 1/120

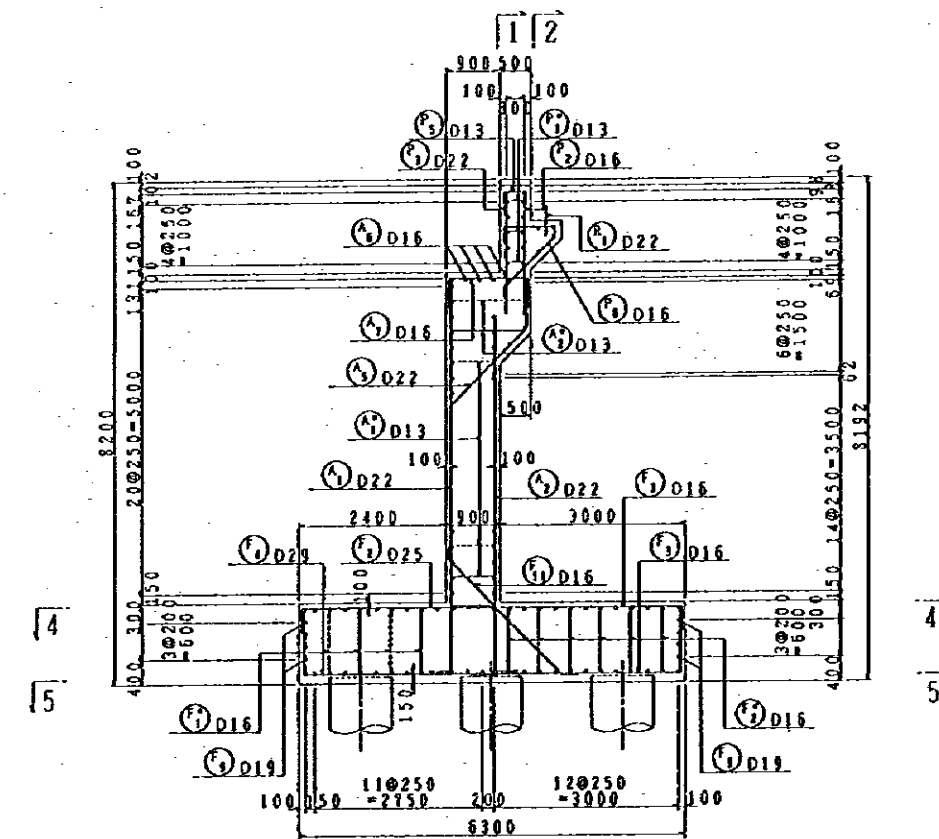


SECTION 2-2 S= 1/120



SECTION 4-4 S= 1/120

SECTION 5-5 S= 1/120



SECTION 3-3 S= 1/120

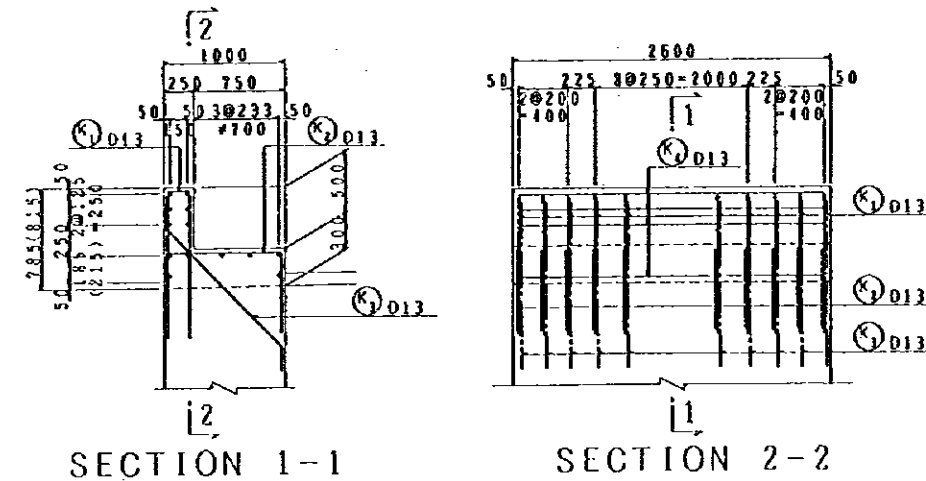
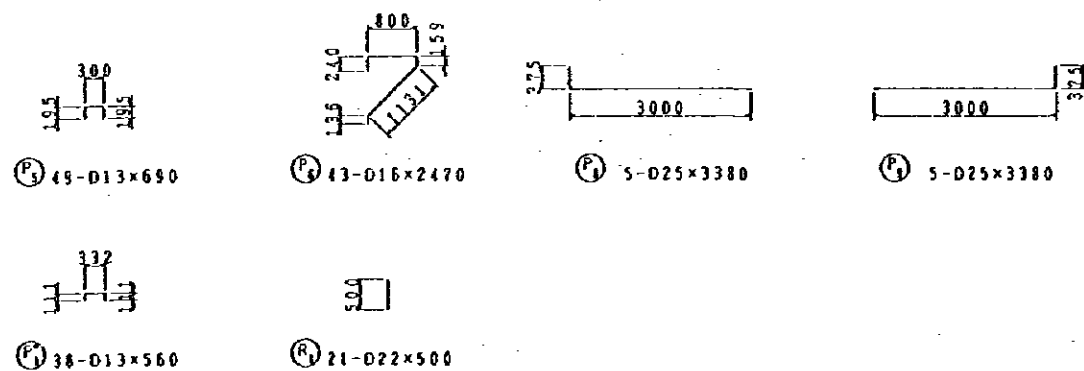
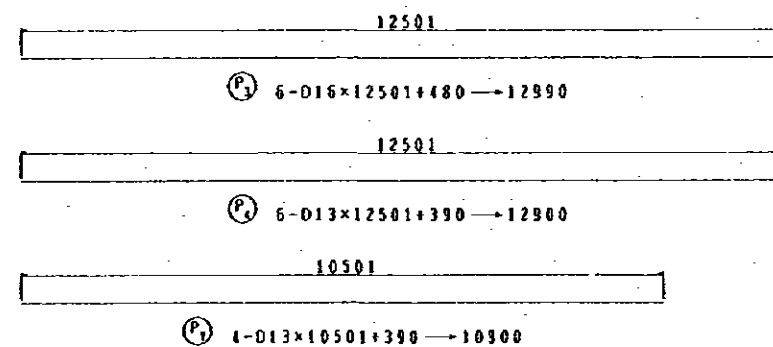
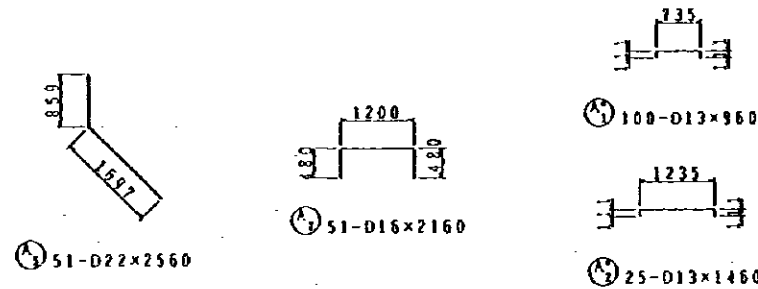
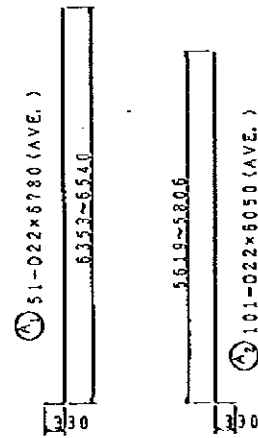
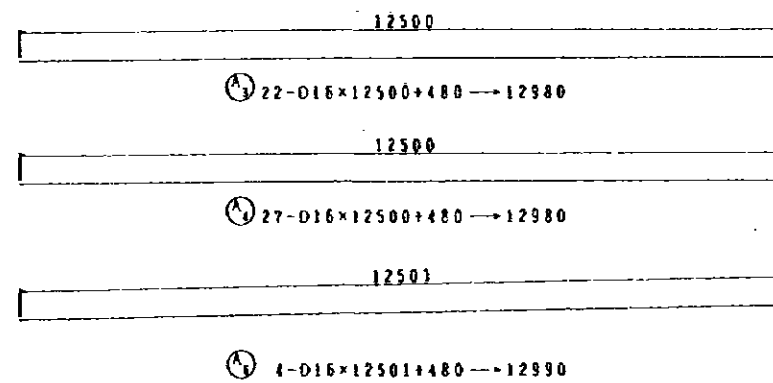
RE-BAR ARRANGEMENT OF A2 ABUTMENT AT B-LINE (1/2)

NOTES:

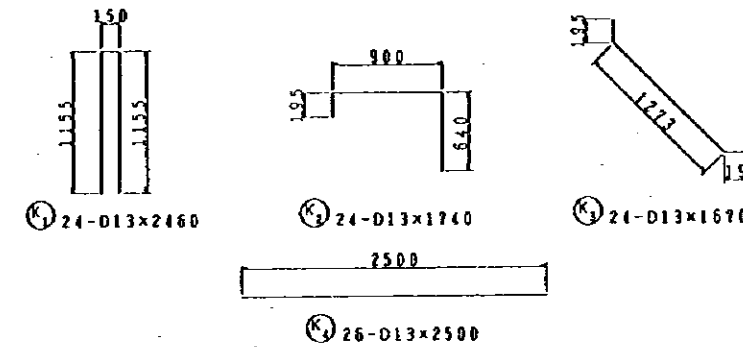
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YUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE: RE-BAR ARRANGEMENT OF A2 ABUTMENT AT B-LINE (1/2)
DATE: _____ DWGNO. B-40

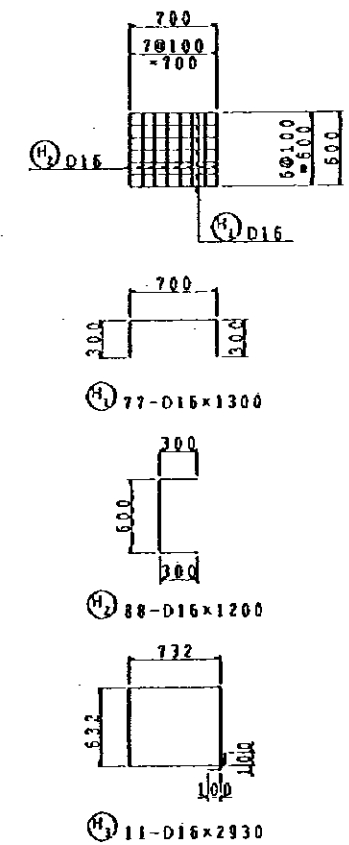
RA/10 SAHAM



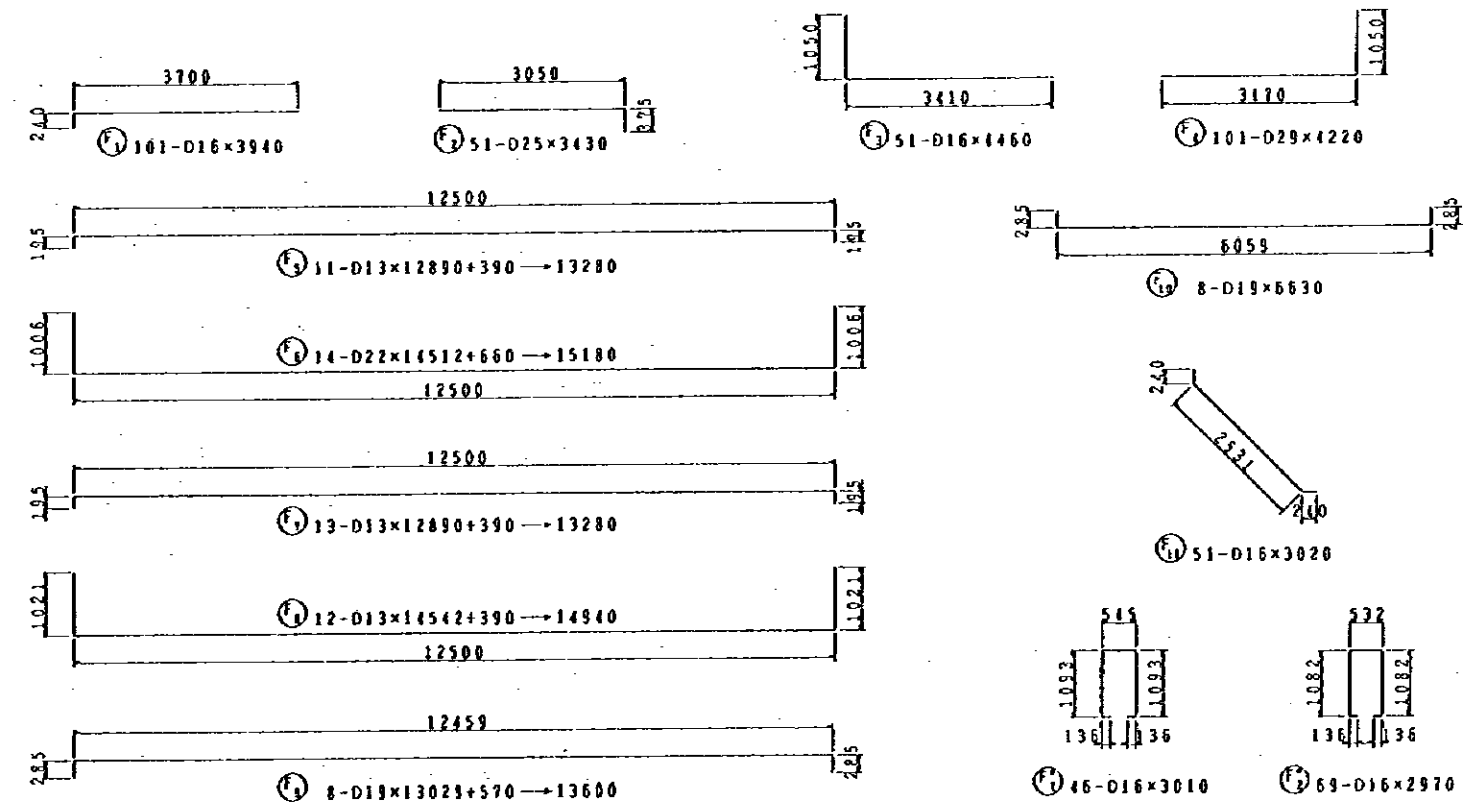
NOTE: () RIGHT RAILING



DETAIL OF RAILING S= 1/60



DETAIL OF SHOE BED S= 1/60

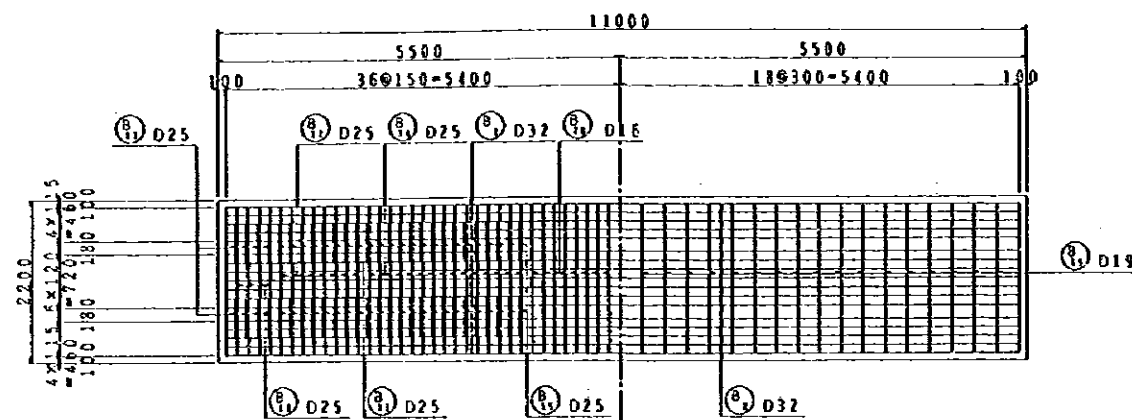


NOTE: RE-BAR ARRANGEMENT OF WING IS AS SAME AS IN A1 ABUTMENT

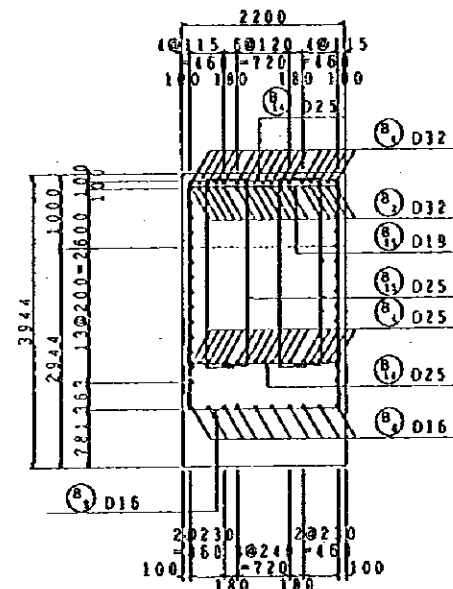
RE-BAR ARRANGEMENT OF A2 ABUTMENT AT B-LINE (2/2)

NOTES:	JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
	JICA STUDY TEAM	PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
	PACIFIC CONSULTANTS INTERNATIONAL FUKUYAMA CONSULTANTS INTERNATIONAL	TITLE: RE-BARARRANGEMENT OF A2 ABUTMENT AT B-LINE (2/2)
		DATE: _____ DWGNO. B-41

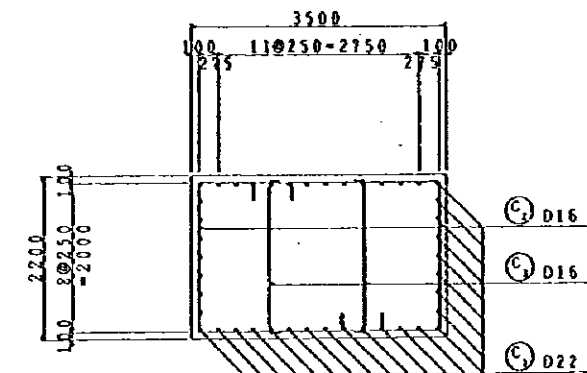
RA/10 SAHAM



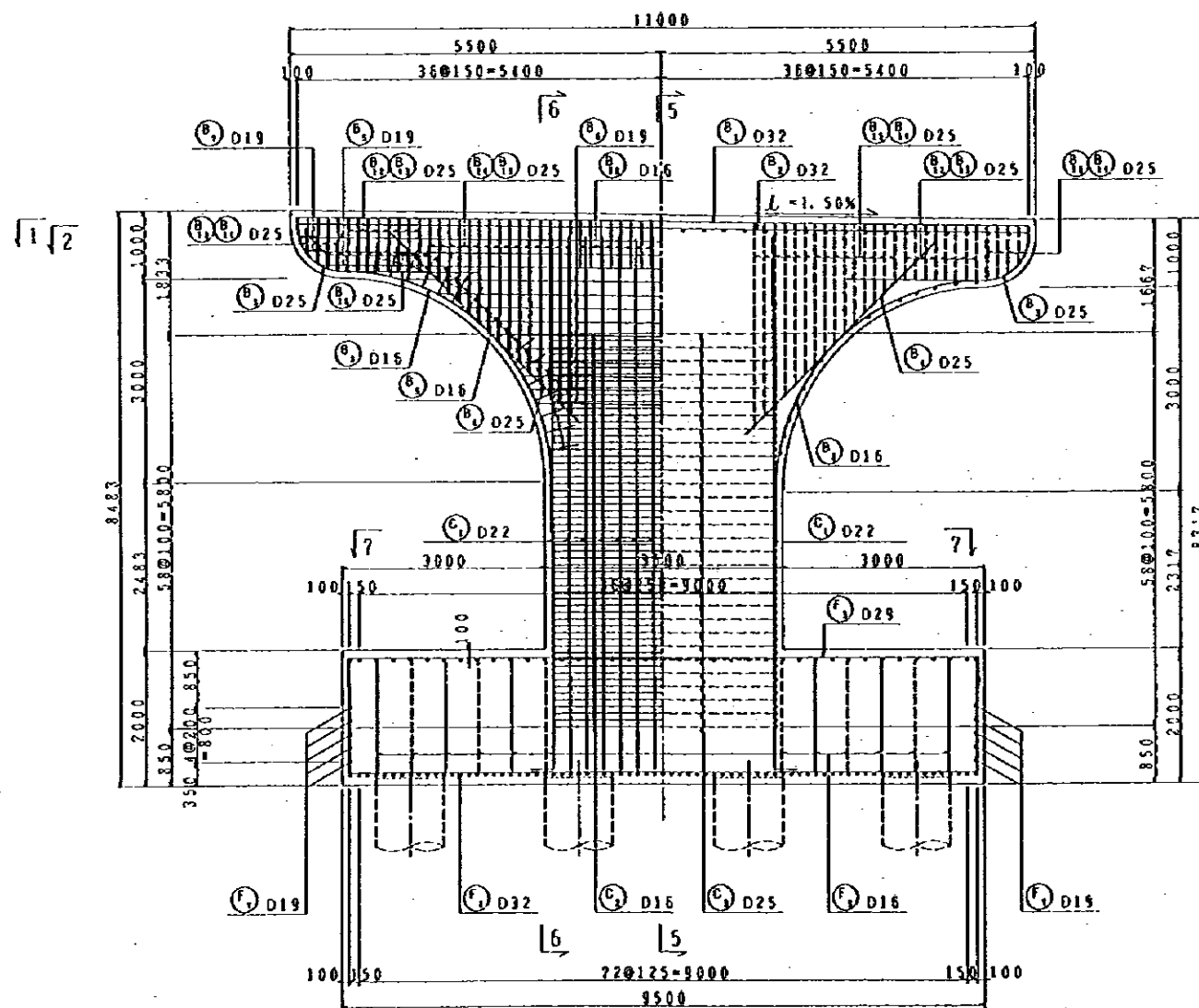
SECTION 1 - 1 S= 1/100 SECTION 2 - 2 S= 1/100



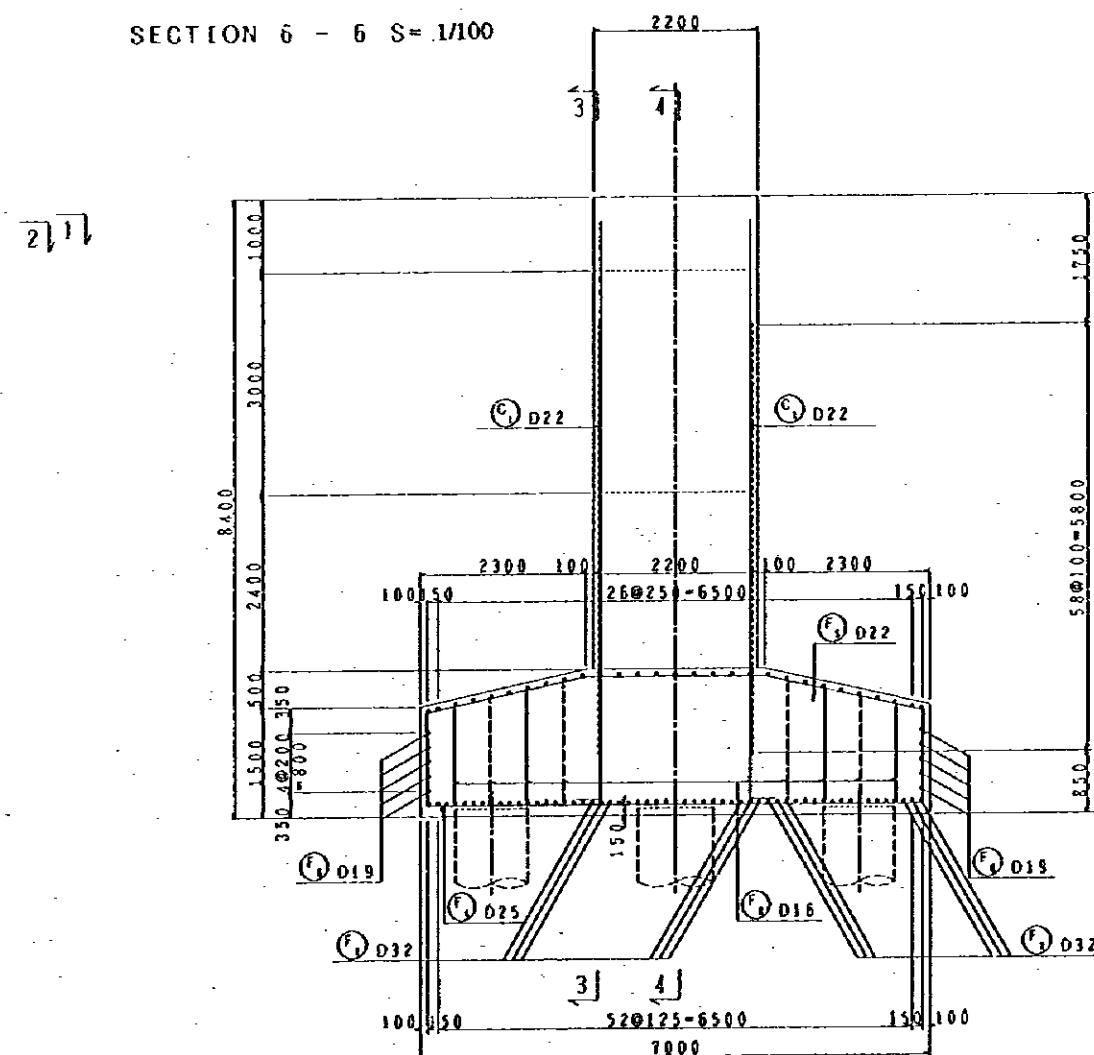
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SECTION 7 - 7 S= 1/100



SECTION 3 - 3 S= 1/100 SECTION 4 - 4 S= 1/100



SECTION 5 - 5 S= 1/100

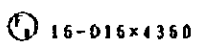
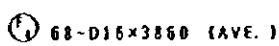
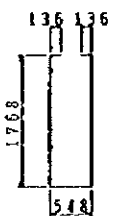
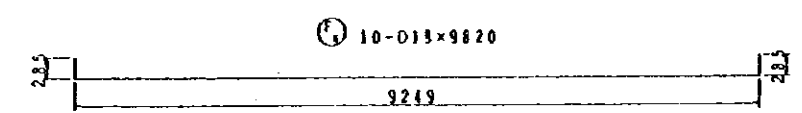
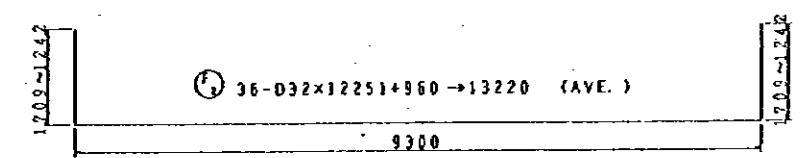
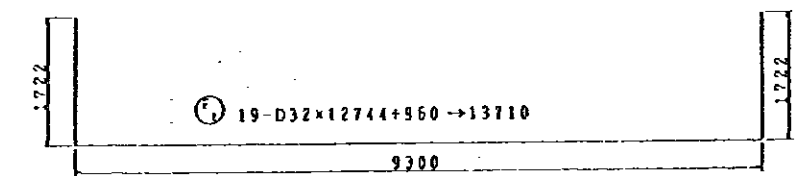
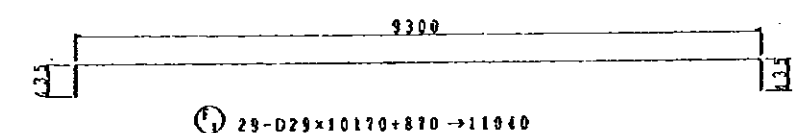
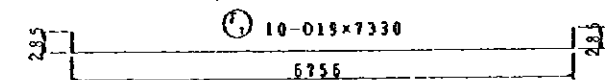
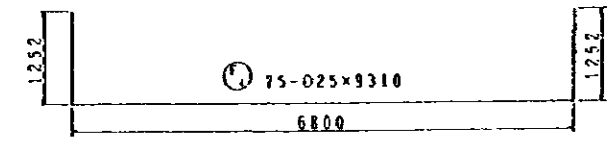
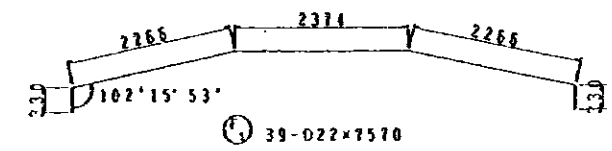
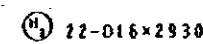
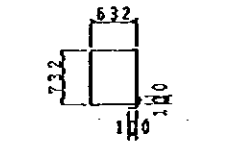
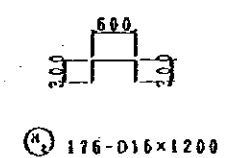
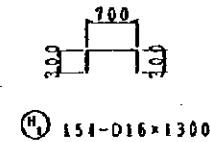
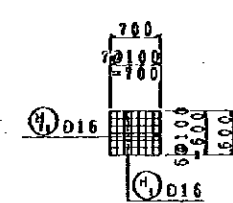
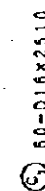
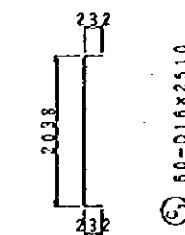
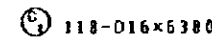
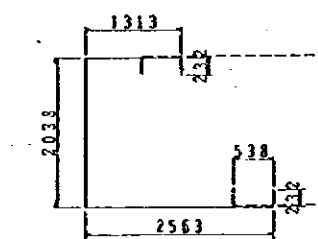
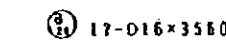
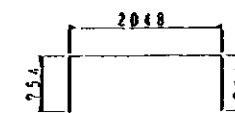
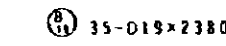
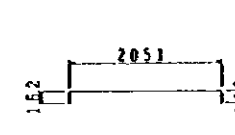
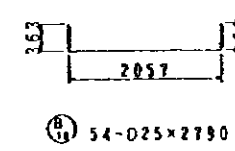
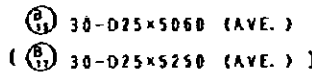
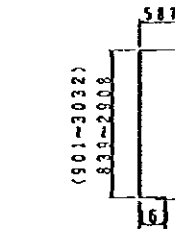
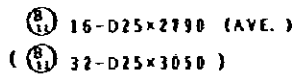
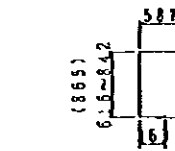
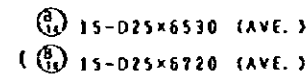
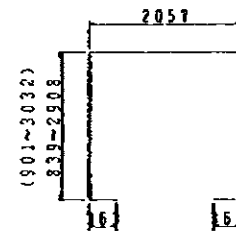
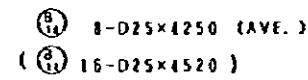
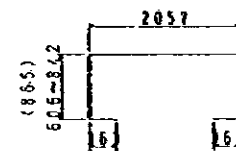
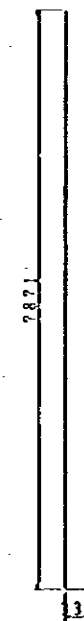
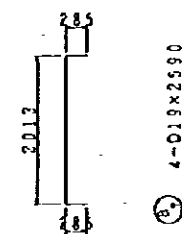
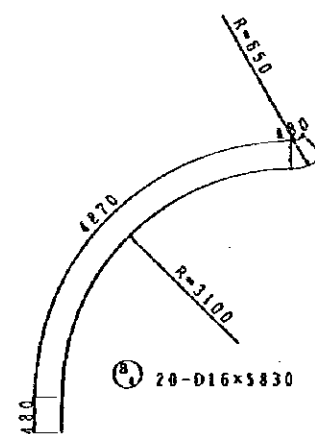
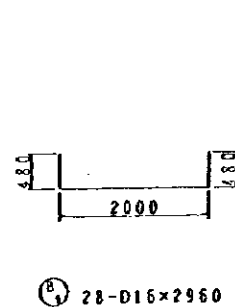
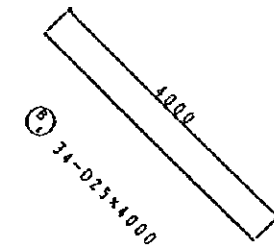
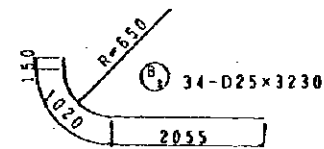
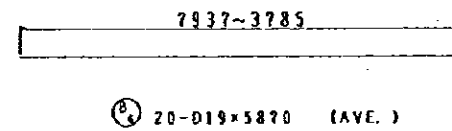
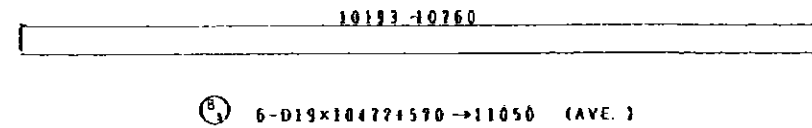
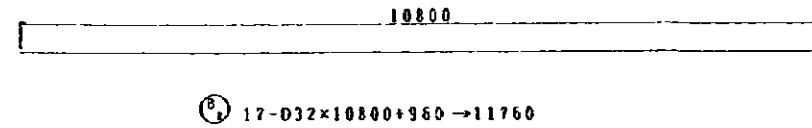
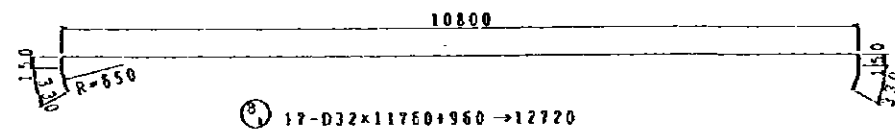
RE-BAR ARRANGEMENT OF T-WALL PIER FOR P1~P10 AT A,B-LINE (1/2)

NOTES:

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CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE: RE-BAR ARRANGEMENT OF T-WALL PIER(P1-P10) AT A,B-LINE(1/2)
DATE: DWONO. B-42

RA/10 SAHAM



DETAIL OF SHOEBED S=1/100

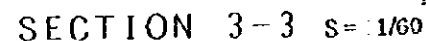
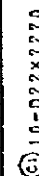
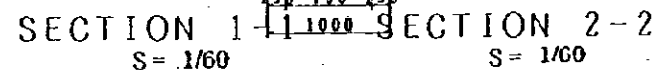
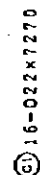
RE-BAR ARRANGEMENT OF T-WALL PIER FOR P1~P10 AT A,B-LINE (2/2)

NOTES:

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CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE: RE-BAR ARRANGEMENT OF T-WALL PIER(P1-P10) AT A,B-LINE(2/2)
DATE: _____ DWGNO. B-43

RA/10 SAHAM



(A1 ABUTMENT)

(A2 ABUTMENT)

RE-BAR ARRANGEMENT OF PILE FOUNDATION (1/2)

NOTES: This drawing shows one pile foundation. This is applied for all substructures in RA/10 SAHAM. The total number of pile foundations are 14 for one abutment.

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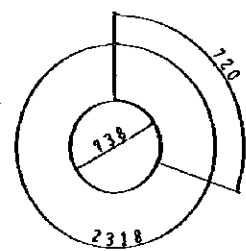
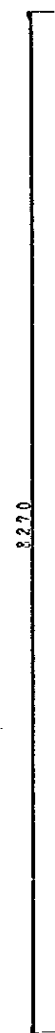
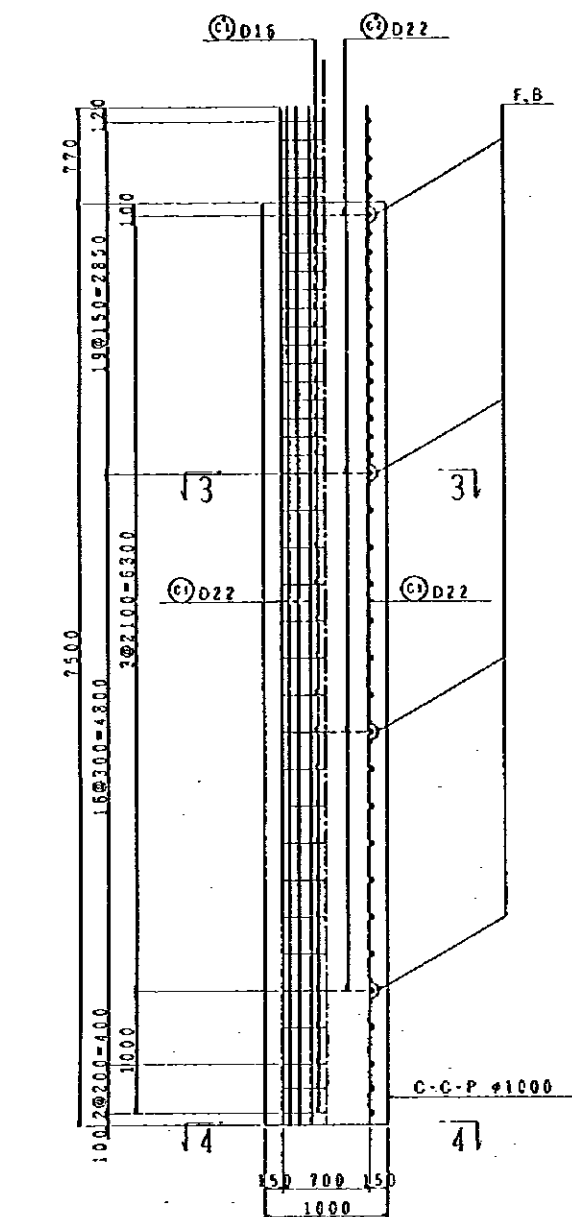
CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

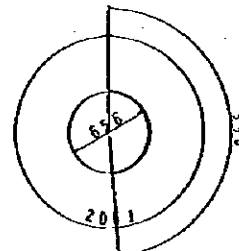
TITLE	RE-BAR ARRANGEMENT OF PILE FOUNDATION(1/2)
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DATE	DWGNO.	B-44
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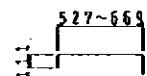
RA/10 SAHAM



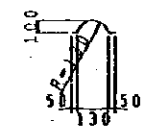
① 38-016x3040



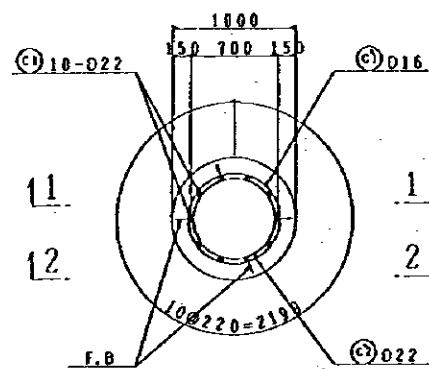
4-D22x3060



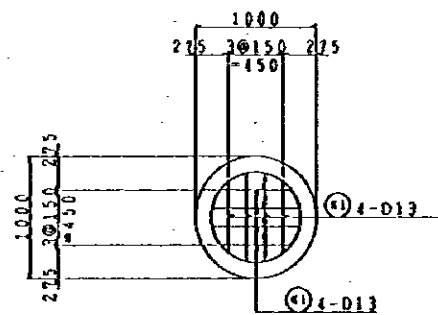
④ 8-D13×900 (AVE)



F.8 16-50x6x450



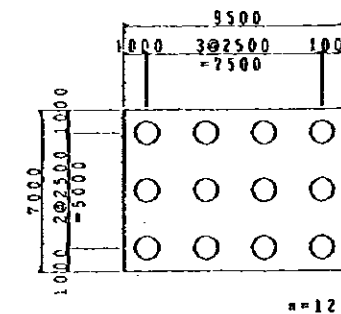
SECTION 3-3 S = 1/60



SECTION 4-4 S=1/60

PIER

RE-BAR ARRANGEMENT OF PILE FOUNDATION (2/2)



॥ १ ॥

NOTES: This drawing shows one pile foundation. This is applied for all substructures in RA/10 SAHAM. The total number of pile foundations are 12 for one pier.

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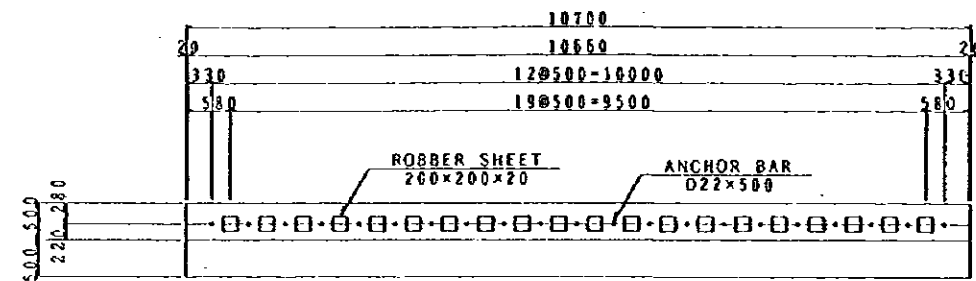
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CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

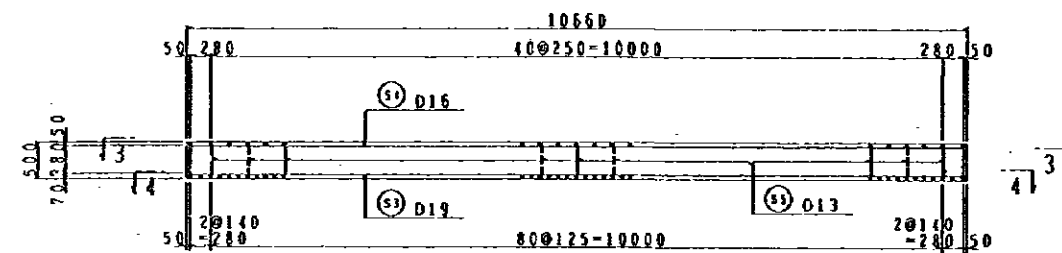
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

TITLE	RE-BAR ARRANGEMENT OF PILE FOUNDATION(2/2)
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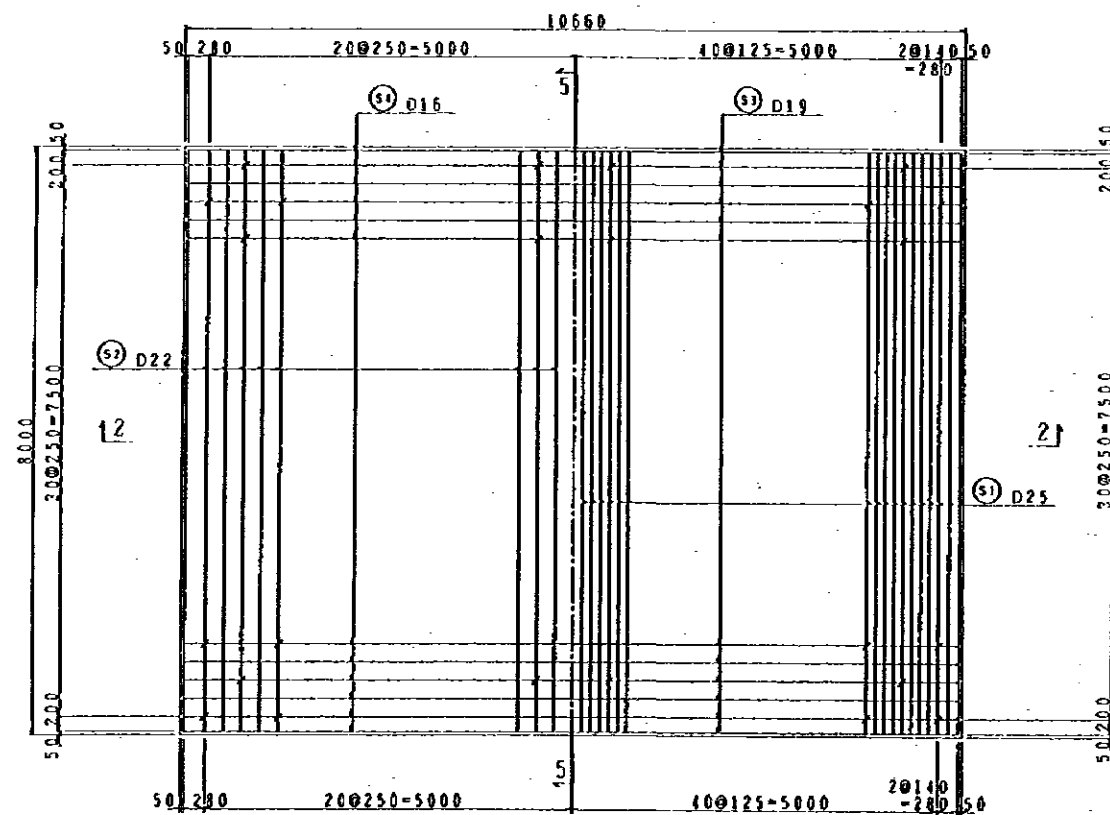
DATE	DWGNO.	B-45
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SECTION 1-1 S=1/100

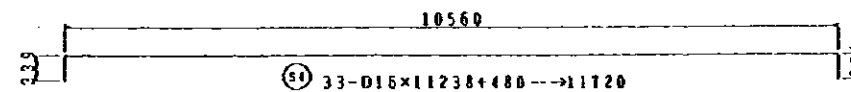


SECTION 2-2 S=1/100

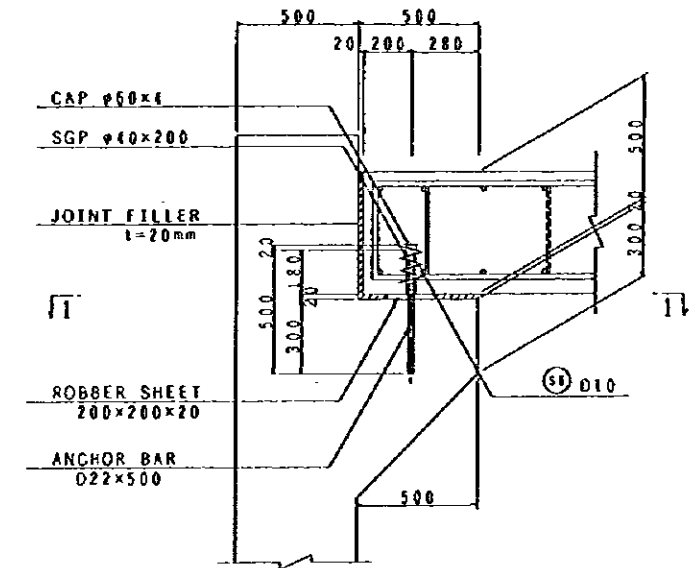
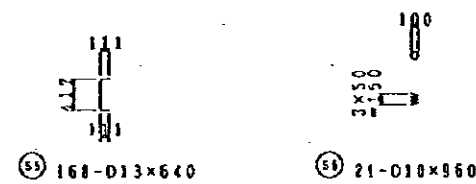


SECTION 3-3 S=1/100

SECTION 4-4 S=1/100



SECTION 5-5 S=1/100



PLAN S=1/30

RE-BAR ARRANGEMENT OF APPROACH SLAB


NOTES: This drawing shows one approach slab. This is applied for all 4 abutments. So the total number of approach slabs are 4.

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PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE: RE-BAR ARRANGEMENT OF APPROACH SLAB
DATE: _____ DWGNO. B-46

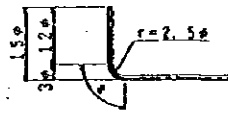
BAR BENDING DIAGRAM

LAP JOINT LENGTH

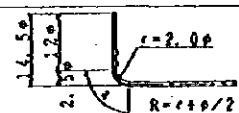
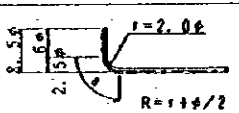
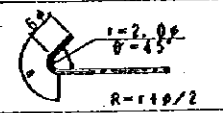
ϕ	a	LAP JOINT LENGTH
D13	390	
D16	480	
D19	570	
D22	660	
D25	750	
D29	870	
D32	960	

	JAPAN		OMAN	
	CROSS-SECTIONAL AREA (cm ²)	NOMINAL WEIGHT (kg/m)	CROSS-SECTIONAL AREA (cm ²)	NOMINAL WEIGHT (kg/m)
D13	1.267	0.995	1.290	0.994
D16	1.986	1.56	2.000	1.552
D19	2.865	2.25	2.839	2.235
D22	3.871	3.04	3.871	3.042
D25	5.067	3.98	5.097	3.973
D29	6.424	5.04	6.452	5.059
D32	7.942	6.23	8.194	6.403

BENDING DIMENSION (MAIN REINFORCEMENT)

ϕ	$\theta \leq 90^\circ$ R=3 ϕ	$\theta > 90^\circ$ R=5.5 ϕ	HOOK LENGTH
D13	39	71.5	
D16	48	88	
D19	57	104.5	
D22	66	121	
D25	75	137.5	
D29	87	159.5	
D32	96	176	

BENDING DIMENSION (STIRRUP, ERECTION BAR)

ϕ	R=2.5 ϕ	$\theta=90^\circ$	$\theta=45^\circ$	HOOK LENGTH		
		a	b	STIRRUP	ERECTION BAR	HOOP
D13	32.5	51	77			
D16	40	63	94			
D19	47.5	75	112			
D22	55	86	130			

NOTES:

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PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE: BAR BENDING DIAGRAM
DATE: _____ DWGNO. B-47