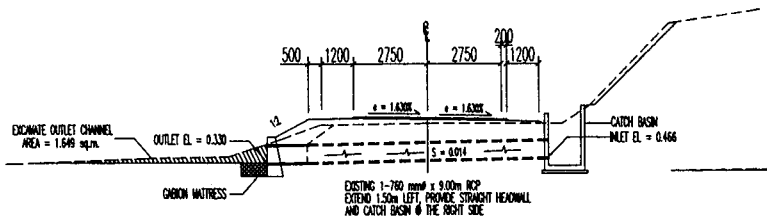
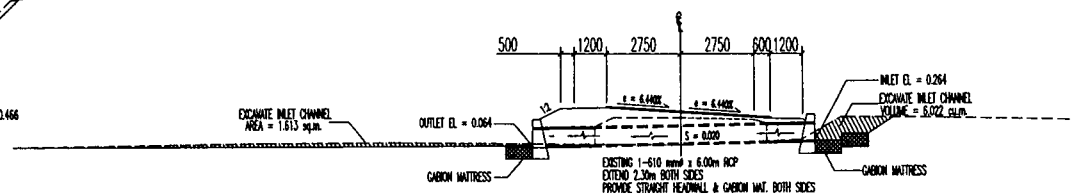
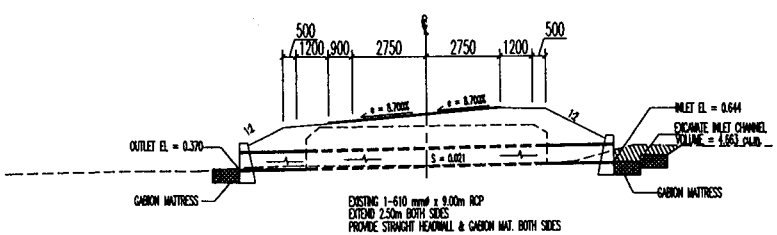


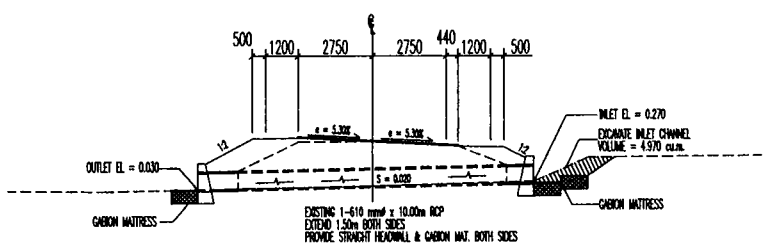
STA. 6 + 338
GH=1.860
FH=2.060



STA. 8 + 018.50
GH=1.440
FH=1.829

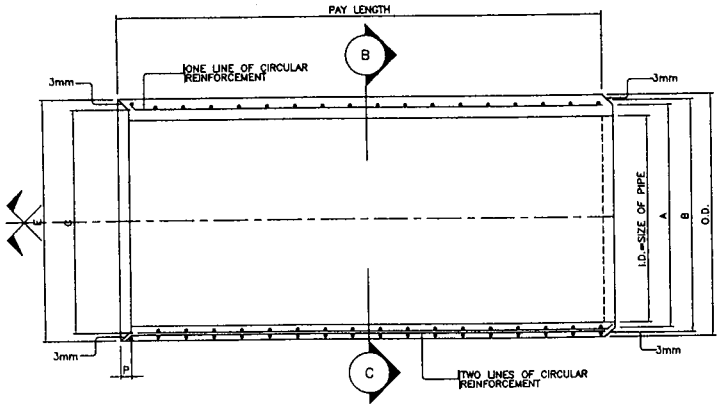


STA. 4 + 483
GH=1.820
FH=2.440

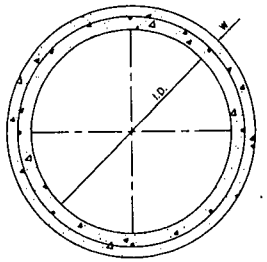


STA. 7 + 791.50
GH=1.750
FH=1.829

DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION STATE OF YAP, FEDERATED STATES OF MICRONESIA	BASIC DESIGN STUDY ON THE ROAD IMPROVEMENT PROJECT FOR THE STATE OF YAP IN THE FEDERATED STATES OF MICRONESIA	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL	TITLE : CROSS SECTION OF CENTRAL ROAD (STA. 4 + 483 - STA. 7 + 791.50)	SCALE : H = 1 :100 V = 1 :100	DRAWING No: D-1

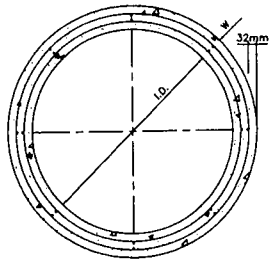


Ⓐ LONGITUDINAL SECTION



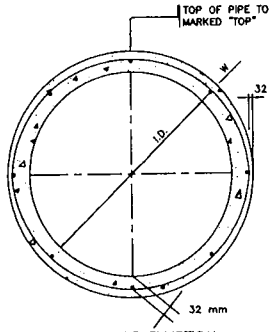
ONE LINE OF CIRCULAR REINFORCEMENT

Ⓑ SECTION

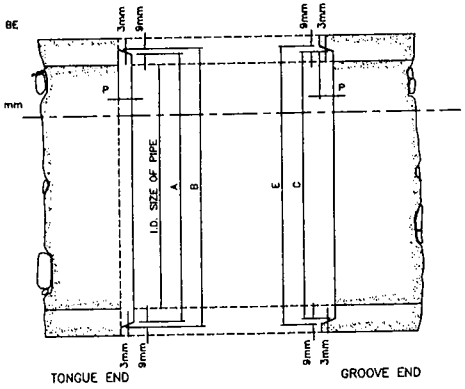


TWO LINES OF CIRCULAR REINFORCEMENT

Ⓒ SECTION



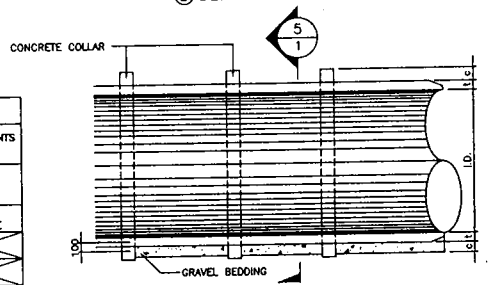
ONE LINE OF ELLIPTICAL REINFORCEMENT



Ⓓ DETAIL OF R.C.P. ENDS

1 / D-24 REINFORCED CONCRETE PIPE CULVERTS

SCALE NTS



Ⓔ DETAIL OF R.C.P. JOINT

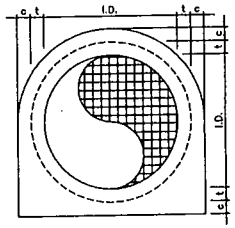
STANDARD STRENGTH REINFORCED CONCRETE PIPE CULVERTS																				EXTRA STRENGTH REINFORCED CONCRETE PIPE CULVERTS									
		CONCRETE 247 kg/cm² (3,500 lb/in²)								CONCRETE 317 kg/cm² (4,500 lb/in²)								STRENGTH TEST REQUIREMENTS kg/m OF PIPE		CONCRETE 317 kg/cm² (4,500 lb/in²)								STRENGTH TEST REQUIREMENTS kg/m OF PIPE	
SIZE OF PIPE (in)	SIZE OF PIPE (mm)	WALL THICKNESS (mm)	TONGUE (mm)		GROOVE (mm)		DEPTH (mm)	MINIMUM REINFORCEMENT cm²/m OF PIPE		WALL THICKNESS (mm)	TONGUE (mm)		GROOVE (mm)		DEPTH (mm)	MINIMUM REINFORCEMENT cm²/m OF PIPE ●		THREE-EDGE-BEARING METHOD ✱		WALL THICKNESS (mm)	TONGUE (mm)		GROOVE (mm)		DEPTH (mm)	MINIMUM REINFORCEMENT cm²/m OF PIPE ○		THREE-EDGE-BEARING METHOD	
I.D.	I.D.	W	A	B	C	E	P	CIRCULAR REINFORCEMENT	ELLIPTICAL REINFORCEMENT	W	A	B	C	E	P	CIRCULAR REINFORCEMENT	ELLIPTICAL REINFORCEMENT	0.00025mCRACK LOAD	ULTIMATE LOAD	W	A	B	C	E	P	CIRCULAR REINFORCEMENT	ELLIPTICAL REINFORCEMENT	0.00025mCRACK LOAD	LOAD ULTIMATE
12	300	57	344	363	351	370	44	1 LINE 1.48		51	495	514	502	521	44	1 LINE 1.69		3.355	5.218	–	–	–	–	–					
15	380	57	344	363	351	370	44	1 LINE 1.90		51	495	514	502	521	44	1 LINE 2.33		3.914	6.060	–	–	–	–	–					
18	460	64	508	527	514	534	44	1 LINE 2.54	1 LINE 2.12	51	495	514	502	521	44	1 LINE 2.96		4.473	6.709	–	–	–	–	–					
24	610	76	673	692	680	699	44	1 LINE 3.60	1 LINE 2.75	64	660	680	667	686	44	1 LINE 4.23	1 LINE 3.60	4.473	7.454	76	673	692	680	699	44	1 LINE 5.50	1 LINE 4.23	5.964	8.945
30	760	89	858	857	845	864	51	1 LINE 4.66	1 LINE 3.60	76	825	845	832	851	51	1 LINE 5.92	1 LINE 4.44	5.032	8.573	89	838	857	845	864	51	1 LINE 6.56	1 LINE 5.08	7.454	11.182
36	910	102	1003	1022	1010	1029	64	2 LINES EACH 3.81	1 LINE 3.81	86	988	1007	994	1013	64	2 LINES EACH 4.66	1 LINE 4.66	6.038	9.840	102	1003	1022	1010	1029	64	2 LINES EACH 5.92	1 LINE 5.92	8.945	13.418
42	1070	114	1168	1187	1175	1194	64	2 LINES EACH 4.44	1 LINE 4.44	95	1150	1165	1156	1175	64	2 LINES EACH 5.29	1 LINE 5.29	7.045	10.958	114	1168	1187	1175	1194	64	2 LINES EACH 6.98	1 LINE 6.98	10.436	15.655
48	1220	127	1334	1353	1340	1359	64	2 LINES EACH 5.29	1 LINE 5.29	108	1315	1334	1321	1340	64	2 LINES EACH 6.56	1 LINE 6.56	8.051	11.927	127	1334	1353	1340	1359	64	2 LINES EACH 8.04	1 LINE 8.04	11.927	17.891
60	1520	152	1664	1683	1670	1690	64	2 LINES EACH 6.98	1 LINE 6.98	127	1639	1658	1645	1664	64	2 LINES EACH 8.68	1 LINE 8.68	8.945	14.909	152	1664	1683	1670	1690	64	2 LINES EACH 10.58	1 LINE 10.58	13.418	22.364

● THE DISTANCE FROM CENTERLINE OF THE REINFORCEMENT TO THE NEAREST SURFACE OF THE CONCRETE HAS BEEN ASSUMED AS 32mm FOR PIPES WITH A SHELL THICKNESS OF 64mm OR MORE.

✱ TEST LOADS FOR SAND-BEARING TEST SHALL BE ONE AND ONE – HALF TIMES THOSE SPECIFIED IN THIS TABLE FOR THE THREE – EDGE BEARING TEST.

NOTE : THIS DRAWING WAS COPIED FROM THE PREVIOUSLY APPROVED CARMONA – TERNATE – NASUGBU – LOOC PROJECT.

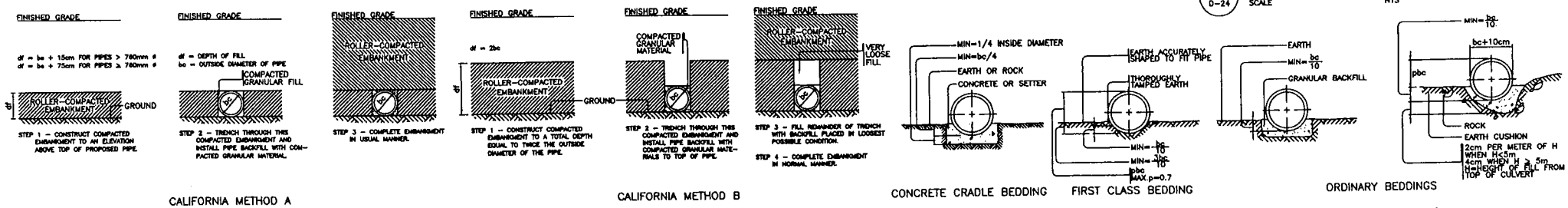
2 / D-24 DESIGN REQUIREMENTS OF REINFORCED CONCRETE PIPE CULVERTS



I.D.	t MACHINE MADE	t HAND MADE	C
610	64	90	130
760	76	102	130
910	86	114	150
1220	110	–	150
1520	127	–	150

E / D-24 SECTION

SCALE NTS



3 / D-24 METHODS OF PIPE INSTALLATION

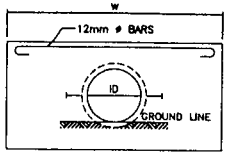
SCALE NTS

4 / D-24 TYPICAL BEDDING FOR PROJECTING CONDUITS

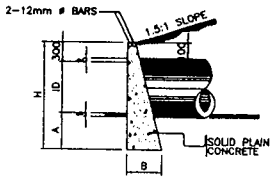
SCALE NTS

Note : Pipe Diameter ϕ610 and ϕ760 shall be applicable for, and the others are reffarence only.

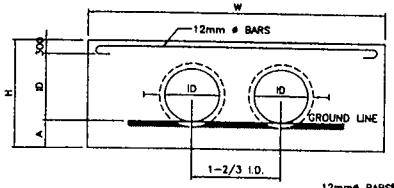
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION STATE OF YAP, FEDERATED STATES OF MICRONESIA	BASIC DESIGN STUDY ON THE ROAD IMPROVEMENT PROJECT FOR THE STATE OF YAP IN THE FEDERATED STATES OF MICRONESIA	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL	TITLE : STANDARD REINFORCED CONCRETE PIPE CULVERT DETAILS	SCALE :	DRAWING No: D-2



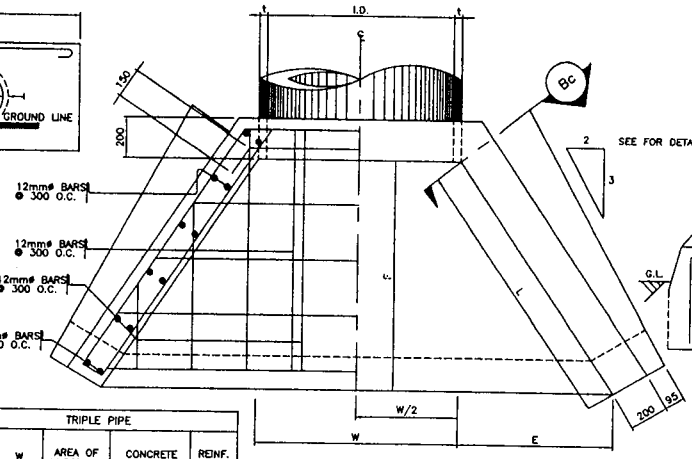
SINGLE PIPE



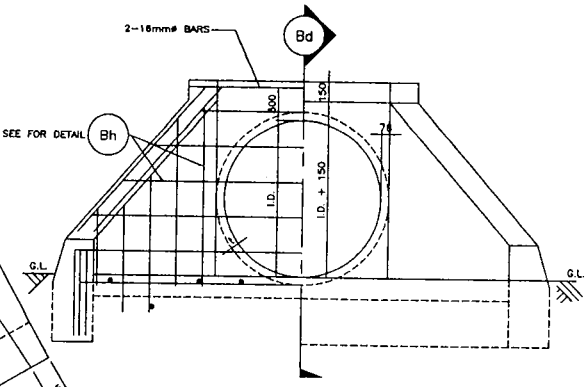
SECTION



DOUBLE PIPE



PLAN



ELEVATION

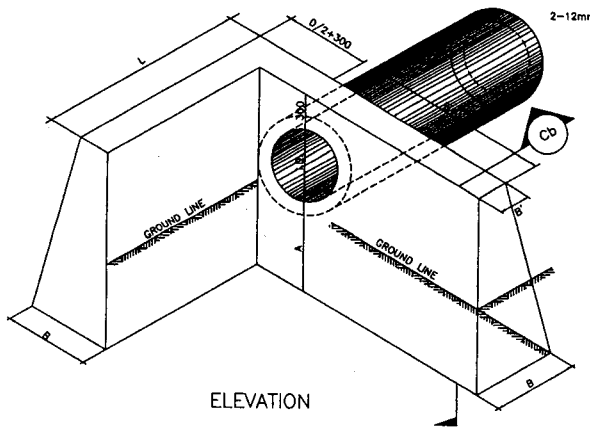
A D-25 STRAIGHT TYPE HEADWALL

NOT TO SCALE

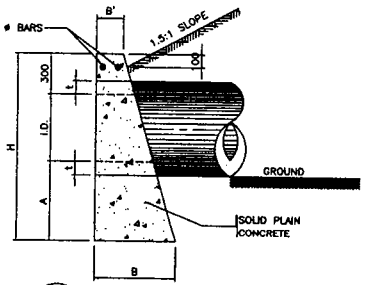
TYPE"HW(C)-A"

TABLE A (ONE STRAIGHT TYPE HEADWALL)

DIA. & THICKNESS-PIPE(mm)			DIMENSIONS (mm)			SINGLE PIPE					DOUBLE PIPE					TRIPLE PIPE					
INTERNAL DIAMETER (I.D.)	MACHINE MADE MIN.THK SHELL(t)	HAND MADE MIN.THK SHELL(t)	A	B	H	W (mm)	AREA OF WATERWAY m²	CONCRETE m³ M.M.	CONCRETE m³ H.M.	REINF. STEEL kg.	W (mm)	AREA OF WATERWAY m²	CONCRETE m³ M.M.	CONCRETE m³ H.M.	REINF. STEEL kg.	ø	W (mm)	AREA OF WATERWAY m²	CONCRETE m³ M.M.	CONCRETE m³ H.M.	REINF. STEEL kg.
460	50	76	310	350	1070	1500	0.15	0.46	0.15	3.48	2600	0.33	0.83	0.60	4.90	460					
610	64	90	410	430	1320	2400	0.29	0.87	0.85	4.55	3500	0.58	1.20	1.16	6.50	610	5200	0.87	1.51	1.692	8.45
760	76	102	510	530	1570	3000	0.45	1.50	1.47	5.61	4400	0.80	2.02	1.97	8.10	760					
910	86	114	610	600	1820	3600	0.65	2.28	2.52	6.66	5200	1.30	3.16	3.09	9.52	910	6800	1.95	3.85	3.73	12.36
1220	110	–	810	810	2330	4800	1.17	4.43	–	8.81	6900	2.34	6.70	–	12.54	1220	8700	3.51	7.97	–	16.14
1520	127	–	1010	980	2830	6000	1.81	8.80	–	10.94	8800	3.63	11.93	–	15.56	1520					

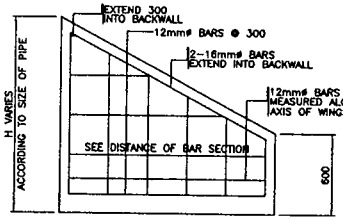


ELEVATION

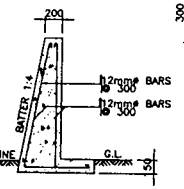


Cb D-25 SECTION

SCALE NTS



DETAIL

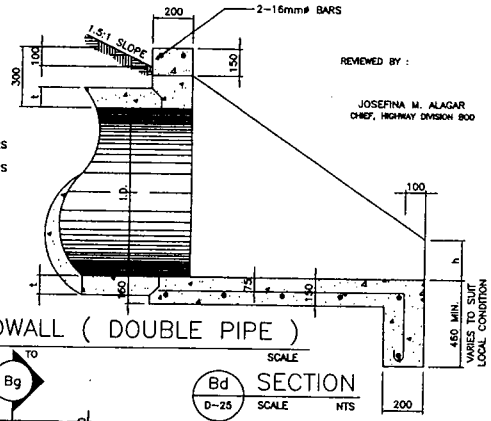


Bc D-25 SECTION

SCALE NTS

B D-25 FLARED TYPE HEADWALL (DOUBLE PIPE)

NOT TO SCALE

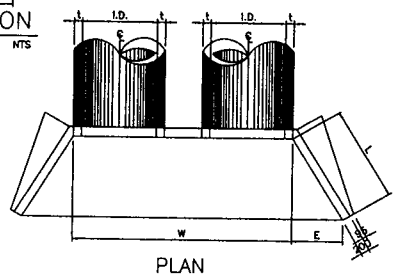


REVIEWED BY :

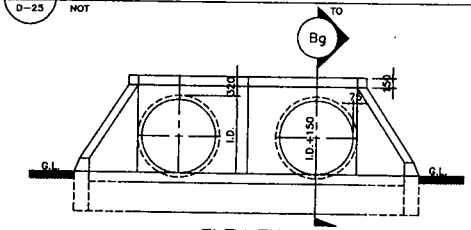
JOSEFINA M. ALAGAR
CHIEF, HIGHWAY DIVISION BOO

Bd D-25 SECTION

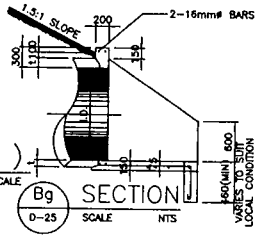
SCALE NTS



PLAN



ELEVATION



B D-25 FLARED TYPE HEADWALL (DOUBLE PIPE)

NOT TO SCALE

TYPE"HW(C)-B"

Bg D-25 SECTION

SCALE NTS

C D-25 L-TYPE HEADWALL

NOT TO SCALE

TYPE"HW(C)-C"

TABLE C (ONE L-TYPE HEADWALL)

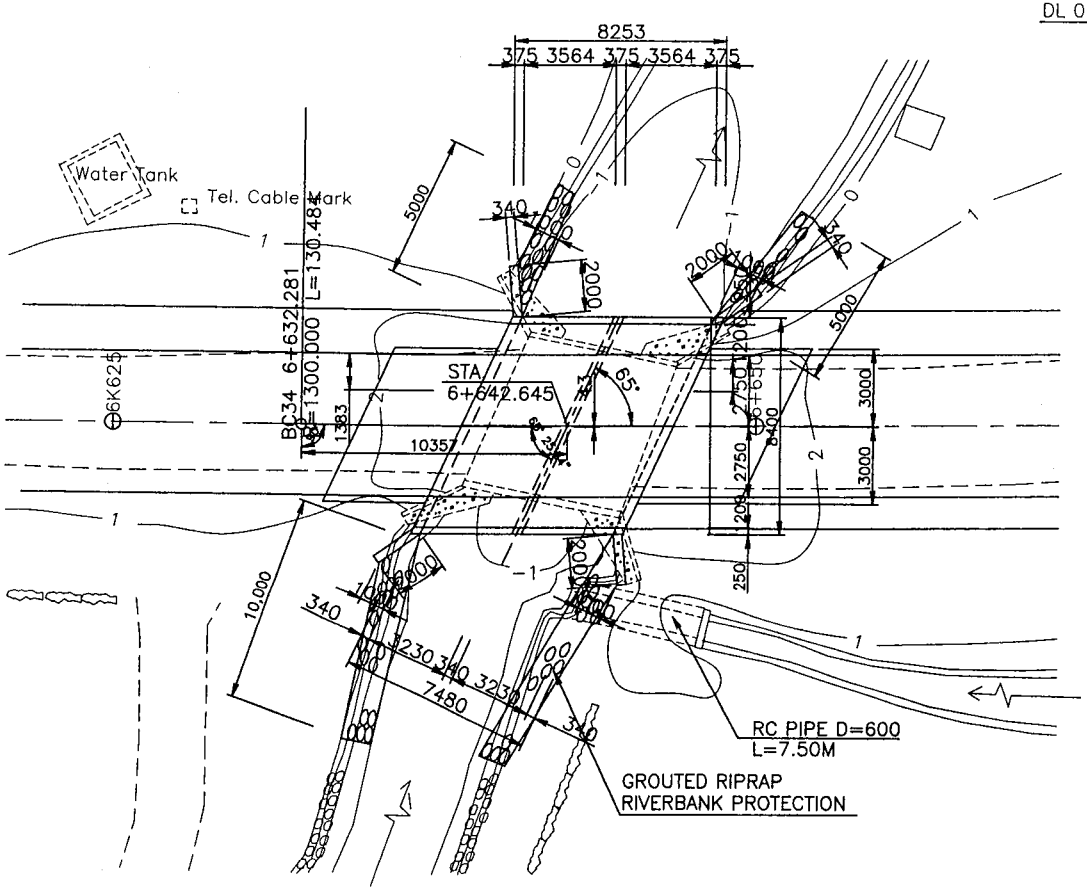
DIA. & THICKNESS-PIPE(mm)			DIMENSIONS (mm)						SINGLE PIPE		
INTERNAL DIAMETER (I.D.)	MACHINE MADE MIN.THK SHELL(t)	HAND MADE MIN.THK SHELL(t)	A	B	B'	H	W	L	CONCRETE m³ M.M.	CONCRETE m³ H.M.	REINF. STEEL kg.
460	50	76	310	350	200	1070	1070	1070	0.66	0.65	6
510	64	90	410	430	200	1320	1220	1220	1.06	1.04	8
760	76	102	510	530	200	1570	1520	1520	1.85	1.83	9
910	86	114	610	610	200	1820	1820	1820	2.76	2.72	11
1220	110	140	810	870	300	2530	2120	VARIES	–	–	–
1520	127	–	1010	980	300	3030	2420	VARIES	–	–	–

TABLE B (ONE FLARED TYPE HEADWALL, 1.5:1)

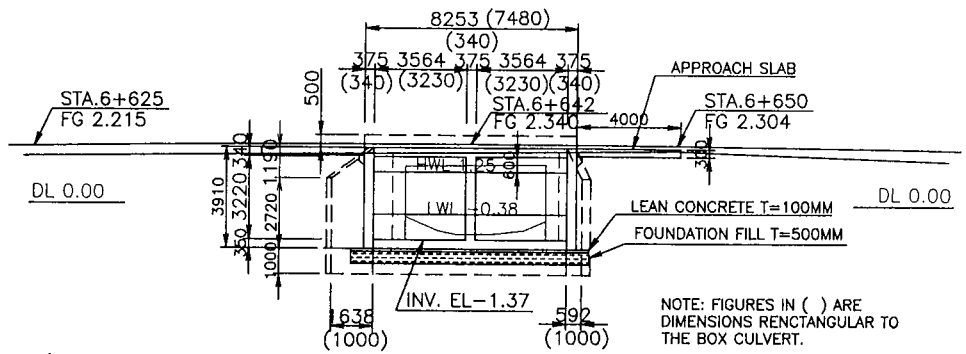
DIA. & THICKNESS-PIPE(mm)			DIMENSIONS (mm)				SINGLE PIPE				DOUBLE PIPE				TRIPLE PIPE			
INTERNAL DIAMETER (I.D.)	MACHINE MADE MIN.THK SHELL(t)	HAND MADE MIN.THK SHELL(t)	L	E	F	h	AREA OF WATERWAY m²	W (mm)	EST. OF QUANTITIES CONC. m³	EST. OF QUANTITIES REINF. STEEL kg.	AREA OF WATERWAY m²	W (mm)	EST. OF QUANTITIES CONC. m³	EST. OF QUANTITIES REINF. STEEL kg.	AREA OF WATERWAY m²	W (mm)	EST. OF QUANTITIES CONC. m³	EST. OF QUANTITIES REINF. STEEL kg.
610	64	90	960	530	800	0	0.29	760	0.82	36.46	0.58	1780	1.16	48.39				
910	86	114	1510	840	1260	600	0.65	1070	1.55	58.92	1.30	2590	2.22	92.61	1.95	4100	3.36	150.98
1220	110	140	2040	1130	1690	600	1.17	1370	2.66	110.27	2.34	3400	3.71	154.77	3.51	5360	5.36	241.34
1520	127	–	2540	1410	2110	600	1.81	1680	3.93	174.74	3.63	4229	5.47	228.18				

Note : Pipe Diameter ϕ610 and ϕ760 shall be applicable for, and the others are reffarence only.

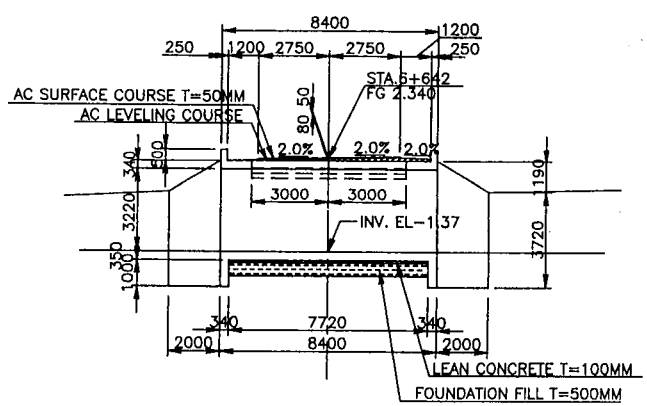
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION STATE OF YAP, FEDERATED STATES OF MICRONESIA	BASIC DESIGN STUDY ON THE ROAD IMPROVEMENT PROJECT FOR THE STATE OF YAP IN THE FEDERATED STATES OF MICRONESIA	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL	TITLE: STANDARD HEADWALL FOR REINFORCED CONCRETE PIPE CULVERT	SCALE:	DRAWING No: D-3



PLAN

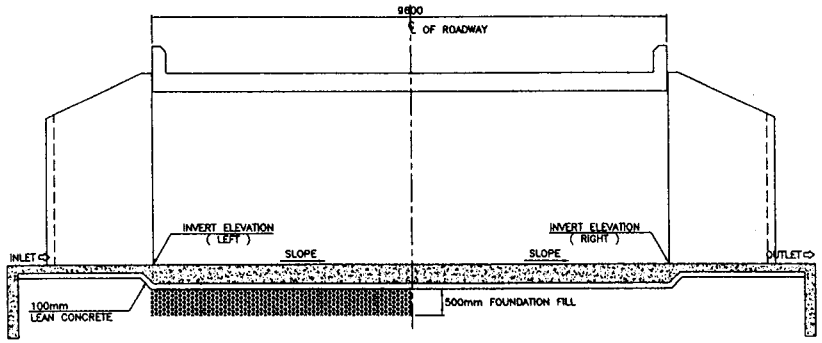


ELEVATION



CROSS SECTION

DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION STATE OF YAP, FEDERATED STATES OF MICRONESIA	BASIC DESIGN STUDY ON THE ROAD IMPROVEMENT PROJECT FOR THE STATE OF YAP IN THE FEDERATED STATES OF MICRONESIA	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL	TITLE : TWO-CELL BOX CULVERT DETAILS	SCALE : 1 : 100	DRAWING No: B - 1	



1A TYPICAL ROAD CROSS SECTION (NORMAL)
NOT TO SCALE

GENERAL NOTES :

SPECIFICATION :

AASHTO STANDARD SPECIFICATION FOR HIGHWAY BRIDGES, 15th EDITION 1992

DESIGN LOAD :

LIVE LOAD MS-18 (HS 20-44)

CONCRETE :

ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSION STRENGTH IN 28 DAYS OF f'c = 20.7 MPa (3000psi). ALL EXPOSED CORNERS TO BE CHAMFERED 20 MINIMUM. NO CONSTRUCTION JOINT ARE TO BE MADE EXCEPT WHERE SHOWN. CLEAR COVER SHALL BE 75mm ON BARREL AND 60mm AT WINGWALL.

STEEL REINFORCEMENT :

ALL REINFORCING STEEL TO BE INTERMEDIATE (GRADE 40) ASTM A-615 WITH DEFORMATIONS CONFORMING TO ASTM A-305.

GENERAL :

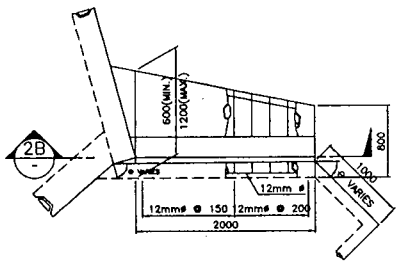
IN STATING CULVERT SIZE, GIVE WIDTH BY HEIGHT (WIDTH FIRST) WHEN HEIGHT OF FILL, H=0 THE TOP OF SURFACE OF THE UPPER SLAB SHALL FOLLOW THE CROWN OF THE FINISHED ROADWAY. THE THE BOX CULVERT SHALL BE CONSTRUCTED ON A LAYER OF LEAN CONCRETE 50mm MINIMUM THICKNESS.

LIVE LOAD DISTRIBUTION REINFORCEMENT :

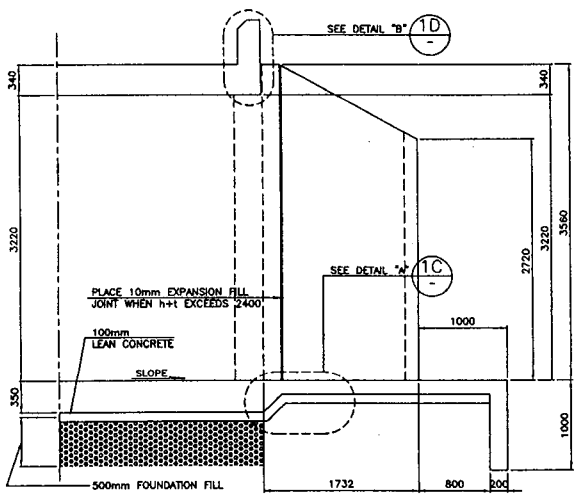
WHEN THERE IS LESS THAN 600mm OF FILL ABOVE TOP SLAB OF CULVERT ADDITIONAL TRANSVERSE TO THE MAIN REINFORCEMENT IS ADDED TO THE BOTTOM OF THE TOP SLAB IN ACCORDANCE WITH AASHTO 1.3.2.E.

HEIGHT OF FILL :

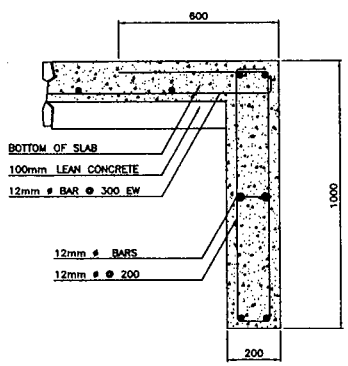
MAXIMUM HEIGHT OF FILL IS 3000mm ABOVE TOP SLAB, FOR HEIGHT OF FILL GREATER THAN 3000mm SPECIAL DESIGN OF BOX CULVERT SHOULD BE DONE.

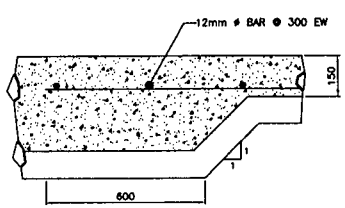


2A WIGWALL PLAN
SCALE SCALE



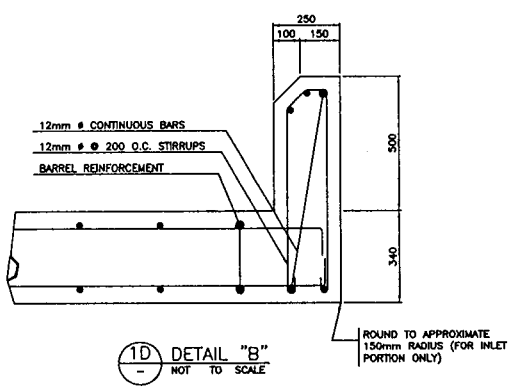
1B PART SECTION ALONG CENTERLINE OF CULVERT
NOT TO SCALE





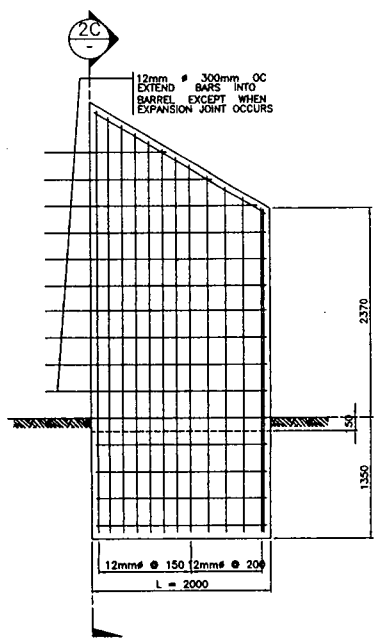
1C DETAIL "A"
NOT TO SCALE

HORIZONTAL SKEW ANGLE ∝	L1 (mm)
65'	2000

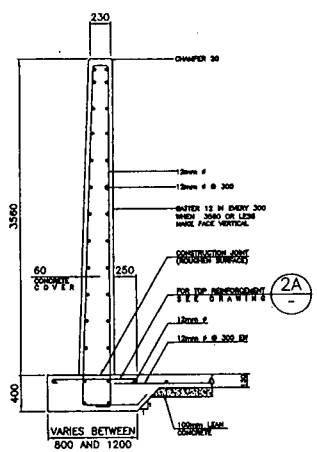


1D DETAIL "B"
NOT TO SCALE

1 WINGWALL CONCRETE AND PARTIAL REINF. DETAILS
SCALE AS SHOWN



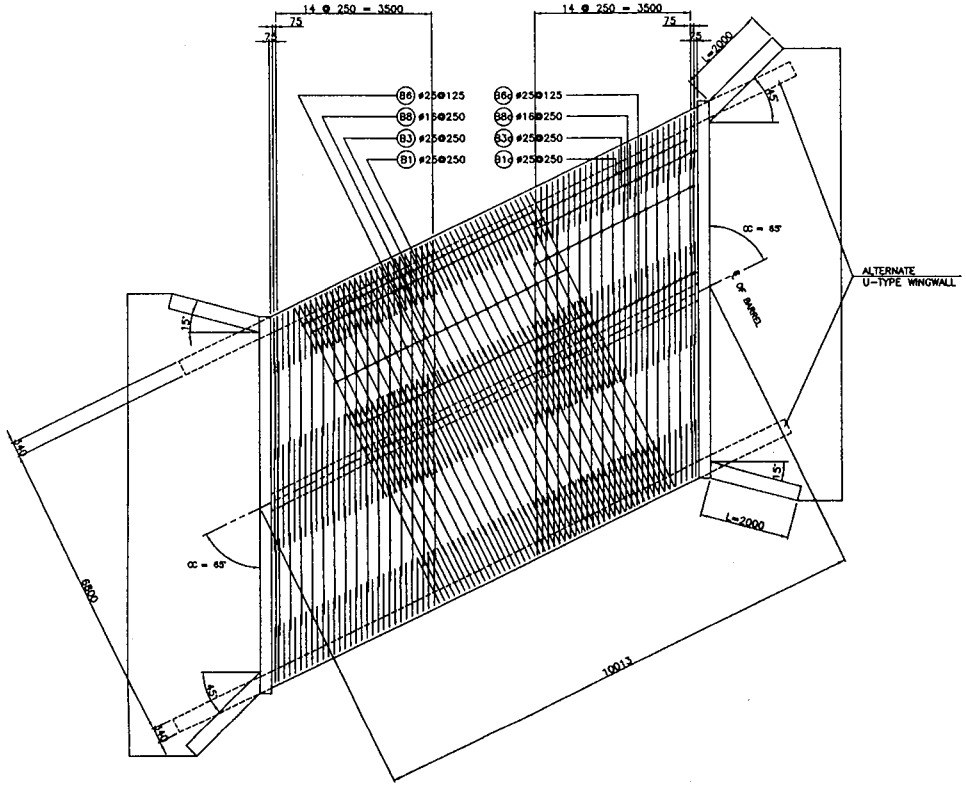
2A WIGWALL ELEVATION
SCALE SCALE



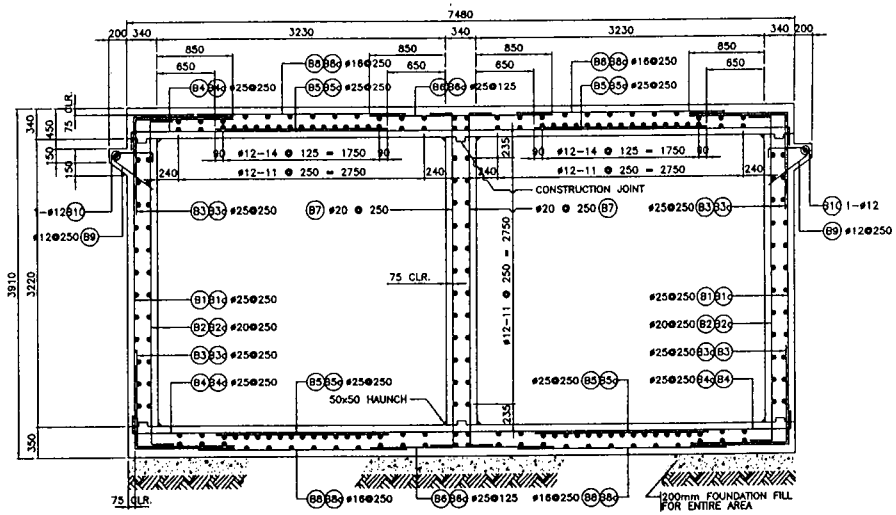
2C SECTION
SCALE SCALE

2 WINGWALL REINFORCEMENT DETAILS
SCALE AS SHOWN

DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION STATE OF YAP, FEDERATED STATES OF MICRONESIA	BASIC DESIGN STUDY ON THE ROAD IMPROVEMENT PROJECT FOR THE STATE OF YAP IN THE FEDERATED STATES OF MICRONESIA	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL	TITLE : TWO - CELL BOX CULVERT DETAILS	SCALE : AS SHOWN	DRAWING No: B-2

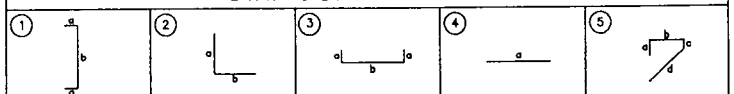


1 PART PLAN CC = 65°
NOT TO SCALE



2 DOUBLE BARREL SECTION
SCALE 1:30

BAR BENDING DIAGRAM



SCHEDULE OF REINFORCEMENT PER PRESTRESSED GIRDER

BAR MARK	SIZE (mm)	QTY.	SPACING	BAR SHAPE	DIMENSION a	DIMENSION b	DIMENSION c	DIMENSION d	LENGTH EACH BAR (mm)	TOTAL LENGTH (m)	UNIT WT (kg/m)	TOTAL WT (kg)	REMARKS
B1	25	56	250	1	1115	3760	–	–	5990	347.42	3.853	1338.61	
B1a	25	64	250	1	1379	3760	–	–	6518	417.15	3.853	1607.29	
B2	20	56	250	1	925	3760	–	–	5610	325.38	2.466	802.39	
B2a	20	64	250	1	1144	3760	–	–	6048	387.07	2.466	954.52	
B3	25	108	250	2	1115	1115	–	–	2230	240.84	3.853	927.96	
B3a	25	112	250	2	1115	1200	–	–	2315	259.28	3.853	999.01	
B4	25	58	250	3	200	7330	–	–	7730	448.34	3.853	1727.45	
B4a	25	64	250	3	200	8156	–	–	8556	547.56	3.853	2109.84	
B5	25	108	250	4	1940	–	–	–	1940	209.52	3.853	807.28	
B5a	25	112	250	4	2160	–	–	–	2160	241.92	3.853	932.12	
B6	25	114	125	4	1955	–	–	–	1955	222.87	3.853	858.72	
B6a	25	120	125	4	2176	–	–	–	2176	261.12	3.853	1006.40	
B7	20	122	250	1	265	3760	–	–	4290	523.38	2.466	1290.66	
B8	16	116	250	4	1940	–	–	–	1940	225.04	1.578	355.11	
B8a	16	128	250	4	2160	–	–	–	2160	276.48	1.578	436.29	
B9	12	86	250	5	120	390	70	580	1160	99.76	0.888	88.59	
B10	12	2	AS SHOWN	4	10530	–	–	–	10530	21.06	0.888	18.70	
												TOTAL = 16260.94 KGS	

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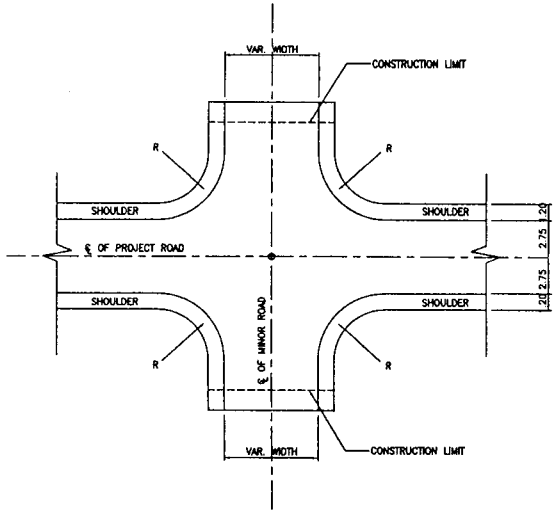
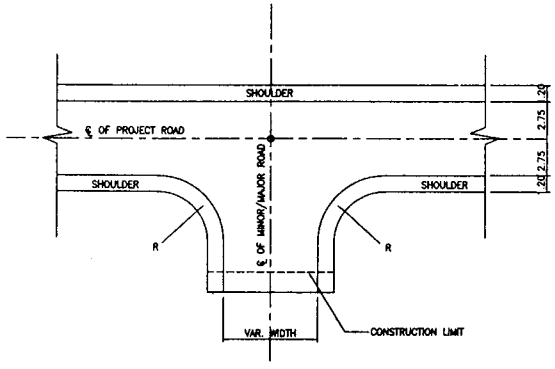


D / B-2 TYPICAL DETAIL OF 4-LEG INTERSECTION
SCALE 1:200



F / B-2 TYPICAL DETAIL OF T-INTERSECTION
SCALE 1:200

TYPE OF ROAD	WIDTH OF CARRIAGEWAY	RADIUS IN METER
MINOR ROAD	< 6.00m.	5.00
MAJOR ROAD	≥ 6.00m.	10.00

FOR W=5.00m., R_2 =5.00m.

ANGLE OF TURN (I) (DEGREE)	R_1 (M)	L (M)
45	20.60	19.52
60	10.00	14.14
75	5.12	10.81

FOR VARYING W,

$$L = \frac{W}{2 \tan I} + \frac{3.50}{\sin I} + \frac{R_1}{\tan I/2}$$

$$T = \frac{W}{2 \tan I} + \frac{5.00}{\sin I}$$

$$R_1 = \frac{T}{\tan I/2} - \frac{W}{2}$$

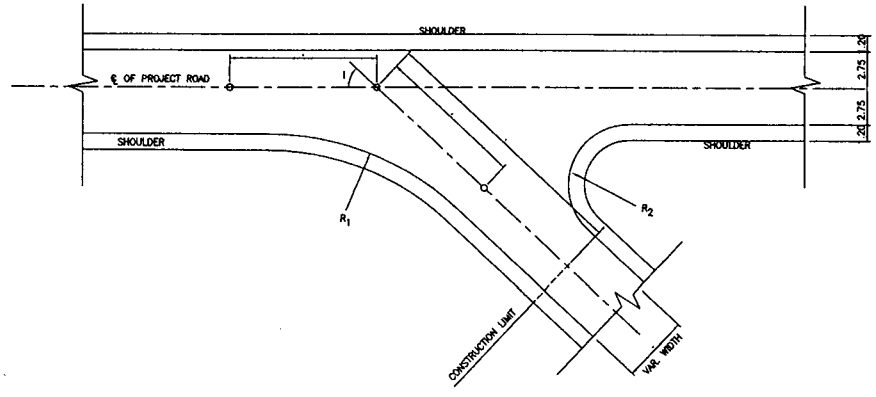
WHERE :

L = DISTANCE OF THE CONSTRUCTION LIMIT FROM THE CENTERLINE OF THE PROJECT ROAD

T = TANGENT DISTANCE FROM ROAD CENTERLINE

R = RADIUS OF CIRCULAR CURVE AT EDGE OF PAVEMENT

W = WIDTH OF MINOR ROAD



E / B-2 TYPICAL DETAIL OF Y-INTERSECTION
SCALE 1:200

N O T E S :

(1) FOR ANGLE OF TURN (I) = 90°, SEE TABLE FOR T-INTERSECTION

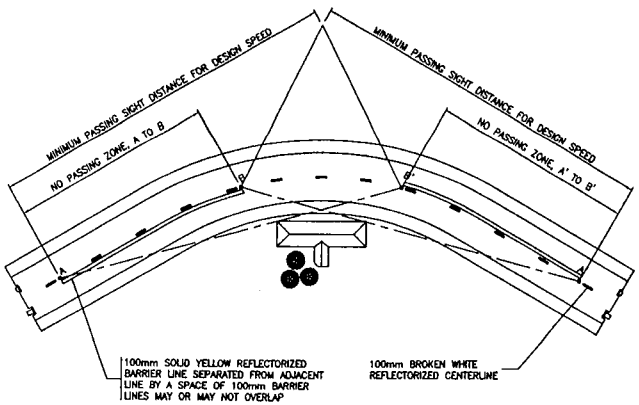
(2) CONSTRUCTION LIMIT SHALL BE DETERMINED AND APPROVED BY THE ENGINEER.

(3) FINAL LOCATION OF ROAD INTERSECTION SHALL BE APPROVED BY THE ENGINEER.

(4) ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

A11-42

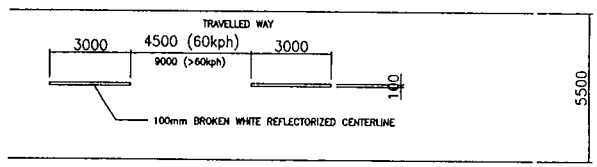
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION STATE OF YAP, FEDERATED STATES OF MICRONESIA	BASIC DESIGN STUDY ON THE ROAD IMPROVEMENT PROJECT FOR THE STATE OF YAP IN THE FEDERATED STATES OF MICRONESIA	JAPAN INTERNATIONAL COOPERATION AGENCY KATAHIRA & ENGINEERS INTERNATIONAL	TITLE: TYPICAL DETAILS OF INTERSECTION	SCALE:	DRAWING No: M-1



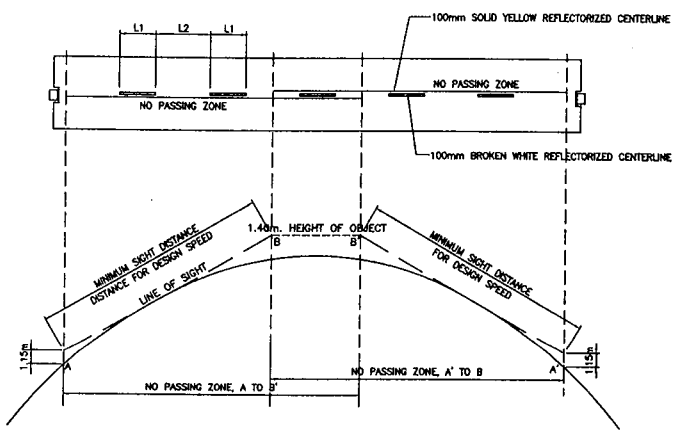
A, A' BEGIN NO – PASSING ZONE SIGHT DISTANCE BECOMES LESS THAN THE MINIMUM AS MEASURED BETWEEN POINTS ON CENTERLINE.

B, B' END NO – PASSING ZONE SIGHT DISTANCE AGAIN EXCEED THE MINIMUM REQUIRED LENGTH.

METHOD OF LOCATING AND DETERMINING THE LIMIT OF NO – PASSING ZONES ON HORIZONTAL CURVES



CENTER & EDGE LINE MARKINGS
RURAL HIGHWAY, TWO LANE



A, A', BEGIN NO PASSING ZONE SIGHT DISTANCE BECOMES LESS THAN MINIMUM MEASURED BETWEEN POINTS 1.40m. ABOVE PAVEMENT

B, B' END NO PASSING ZONE SIGHT DISTANCE AGAIN EXCEED MINIMUM REQUIRED LENGTH

NO PASSING ZONES IN OPPOSITE DIRECTIONS MAY OR MAY NOT OVERLAP, DEPENDING ON VERTICAL ALIGNMENT

METHOD OF LOCATING AND DETERMINING THE LIMIT OF NO – PASSING ZONES ON VERTICAL CURVES

NOTES :

1. ALL DIMENSIONS SHOWN ARE IN MILIMETERS UNLESS OTHERWISE NOTED.
2. SOLID YELLOW BARRIER LINES SHALL BE REFLECTORIZED.
3. OBJECTS THAT MAY OR MAY NOT BE ON THE ROADWAY BUT SO CLOSE TO THE EDGE OF THE ROADWAY WHICH CONSTITUTE A DEFINITE HAZARD SUCH AS POSTS, PIER, ABUTMENTS AND CULVERTS HEADWALL SHALL BE MARKED WITH STANDARD CLEARANCE MARKERS IN ADDITION TO THE WHITE PAINT OR THE DIAGONAL STRIPE DESIGN.
4. OTHER ADJACENT OBJECTS LIKE GUARDRAILS, TREES AND ROCKS MAY BE PAINTED WITH SOLID WHITE.
5. PAVEMENT MARKING SHALL BE PLACE IN ACCORDANCE WITH THE LATEST DPWH MANUAL ON PAVEMENT MARKINGS. IT SHALL BE THERMOPLASTIC MATERIALS.

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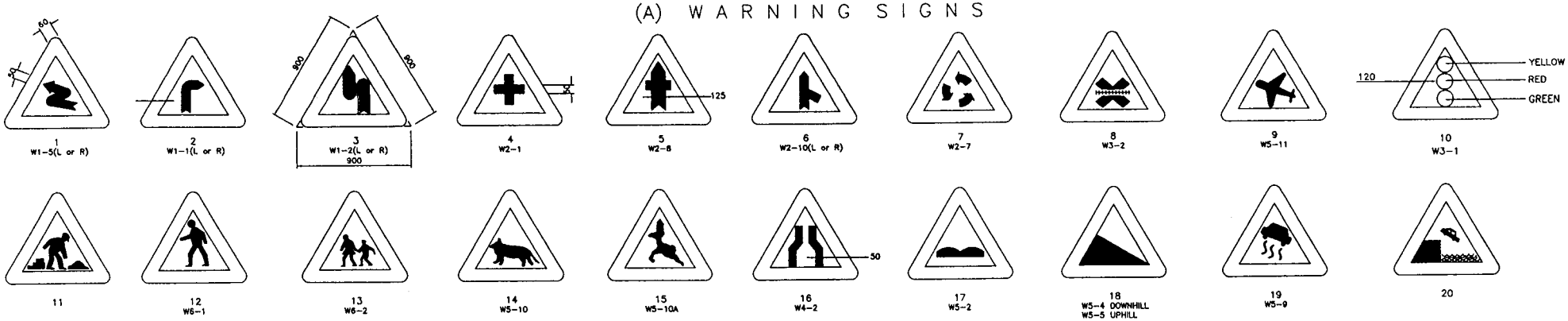
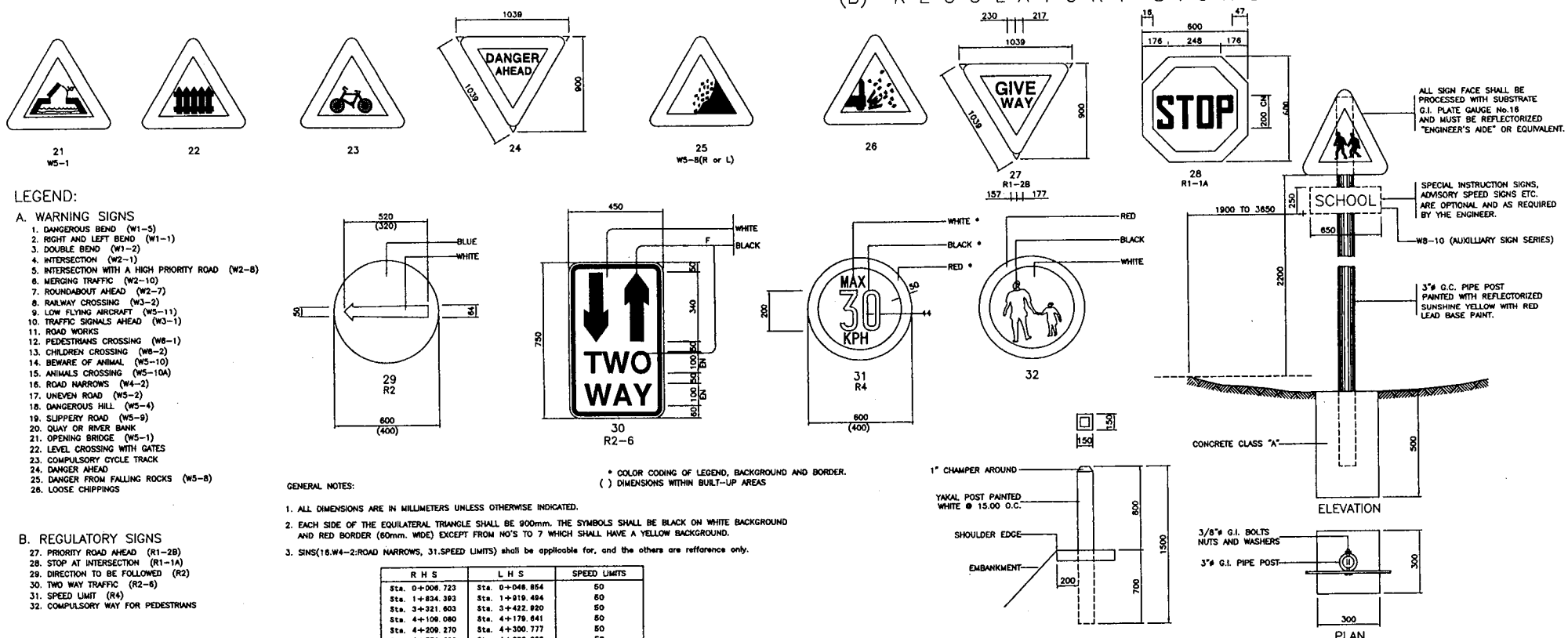
(A) WARNING SIGNS



(B) REGULATORY SIGNS



GUIDE POST DETAILS
SCALE 1:20

DETAILS OF INSTALLATION
USE CONCRETE CLASS "A"

LEGEND:

A. WARNING SIGNS
1. DANGEROUS BEND (W1-5)
2. RIGHT AND LEFT BEND (W1-1)
3. DOUBLE BEND (W1-2)
4. INTERSECTION (W2-1)
5. INTERSECTION WITH A HIGH PRIORITY ROAD (W2-8)
6. MERGING TRAFFIC (W2-10)
7. ROUNDABOUT AHEAD (W2-7)
8. RAILWAY CROSSING (W3-2)
9. LOW FLYING AIRCRAFT (W5-11)
10. TRAFFIC SIGNALS AHEAD (W3-1)
11. ROAD WORKS
12. PEDESTRIANS CROSSING (W6-1)
13. CHILDREN CROSSING (W6-2)
14. BEWARE OF ANIMAL (W5-10)
15. ANIMALS CROSSING (W5-10A)
16. ROAD NARROWS (W4-2)
17. UNEVEN ROAD (W5-2)
18. DANGEROUS HILL (W5-4)
19. SLIPPERY ROAD (W5-9)
20. QUAY OR RIVER BANK
21. OPENING BRIDGE (W5-1)
22. LEVEL CROSSING WITH GATES
23. COMPULSORY CYCLE TRACK
24. DANGER AHEAD
25. DANGER FROM FALLING ROCKS (W5-8)
26. LOOSE CHIPPINGS

B. REGULATORY SIGNS
27. PRIORITY ROAD AHEAD (R1-2B)
28. STOP AT INTERSECTION (R1-1A)
29. DIRECTION TO BE FOLLOWED (R2)
30. TWO WAY TRAFFIC (R2-6)
31. SPEED LIMIT (R4)
32. COMPULSORY WAY FOR PEDESTRIANS

C. AUXILLIARY SIGN SERIES W-8
1. BLIND (W8-7) : 0.55X0.25m.
2. AGED (W8-8) : 0.55X0.25m.
3. PLAYGROUND (W8-9) : 0.70x0.20m.
4. SCHOOL (W8-10) : 0.65X0.25m.

GENERAL NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.
2. EACH SIDE OF THE EQUILATERAL TRIANGLE SHALL BE 900mm. THE SYMBOLS SHALL BE BLACK ON WHITE BACKGROUND AND RED BORDER (60mm. WIDE) EXCEPT FROM NO'S TO 7 WHICH SHALL HAVE A YELLOW BACKGROUND.
3. SINS(16.W4-2:ROAD NARROWS, 31.SPEED LIMITS) shall be applicable for, and the others are refrance only.

* COLOR CODING OF LEGEND, BACKGROUND AND BORDER.
( ) DIMENSIONS WITHIN BUILT-UP AREAS

R H S	L H S	SPEED LIMITS
Sta. 0+006.723	Sta. 0+048.854	50
Sta. 1+834.393	Sta. 1+919.494	50
Sta. 3+321.603	Sta. 3+422.920	50
Sta. 4+109.080	Sta. 4+179.641	50
Sta. 4+209.270	Sta. 4+300.777	50
Sta. 4+758.683	Sta. 4+806.092	50
Sta. 5+105.301	Sta. 5+188.566	50
Sta. 5+981.320	Sta. 6+051.535	50
Sta. 6+501.471	Sta. 6+548.409	50
Sta. 7+522.537	Sta. 7+610.480	50
Sta. 7+679.254	Sta. 7+763.212	50
Sta. 7+872.415	Sta. 7+910.698	40
Sta. 10+807.720	Sta. 10+885.392	40
Sta. 13+578.072	Sta. 13+658.980	30

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