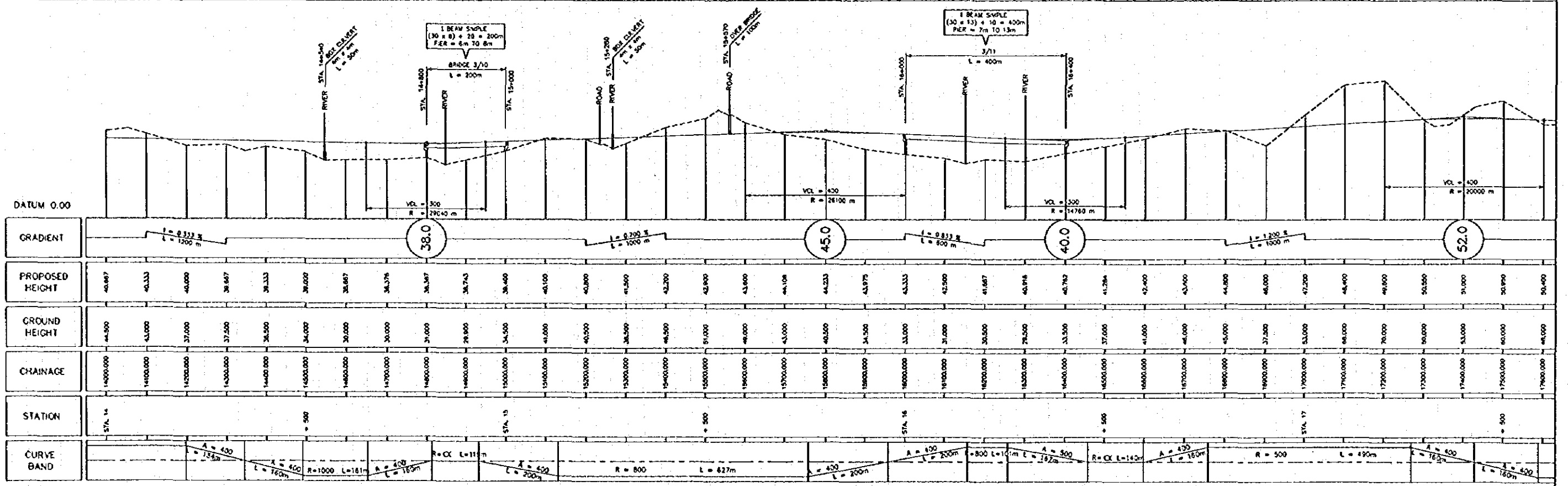
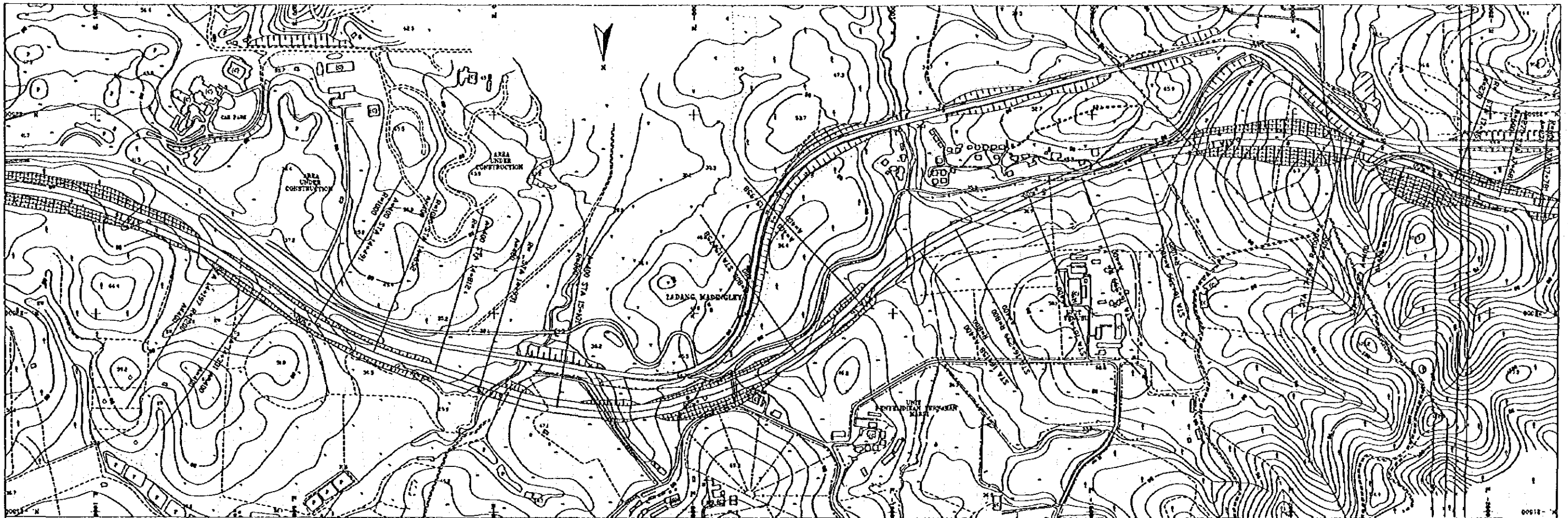


THE FEASIBILITY STUDY ON KUALA LUMPUR OUTER RING ROAD IN MALAYSIA

PLAN NO: 22
PLAN TITLE:
PLAN and PROFILE

SCALE H=1 : 5000
SCALE V=1 : 1000
DATE: MARCH 1995

JAPAN INTERNATIONAL COOPERATION AGENCY
HIGHWAY PLANNING UNIT,
MINISTRY OF WORKS, MALAYSIA
CONSULTANTS:
FUKUYAMA CONSULTANTS INTERNATIONAL
PACIFIC CONSULTANTS INTERNATIONAL



THE FEASIBILITY STUDY ON KUALA LUMPUR OUTER RING ROAD IN MALAYSIA

PLAN NO: 23

PLAN TITLE:
PLAN and PROFILE

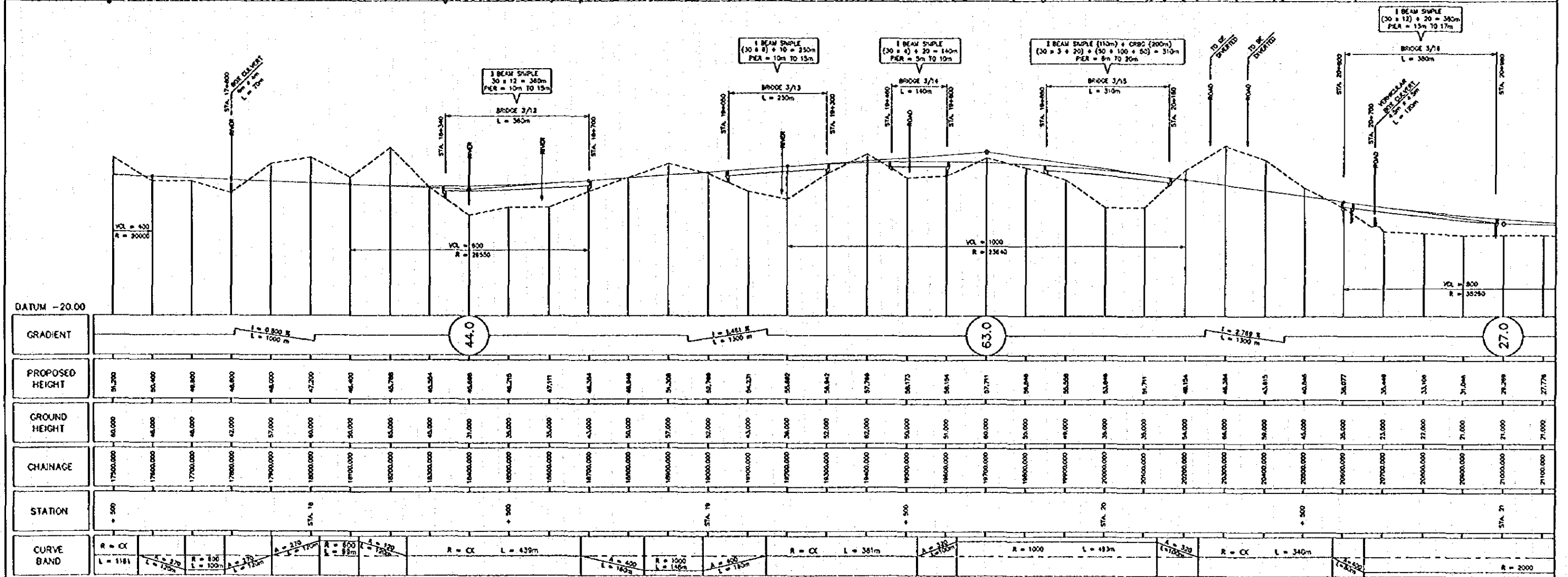
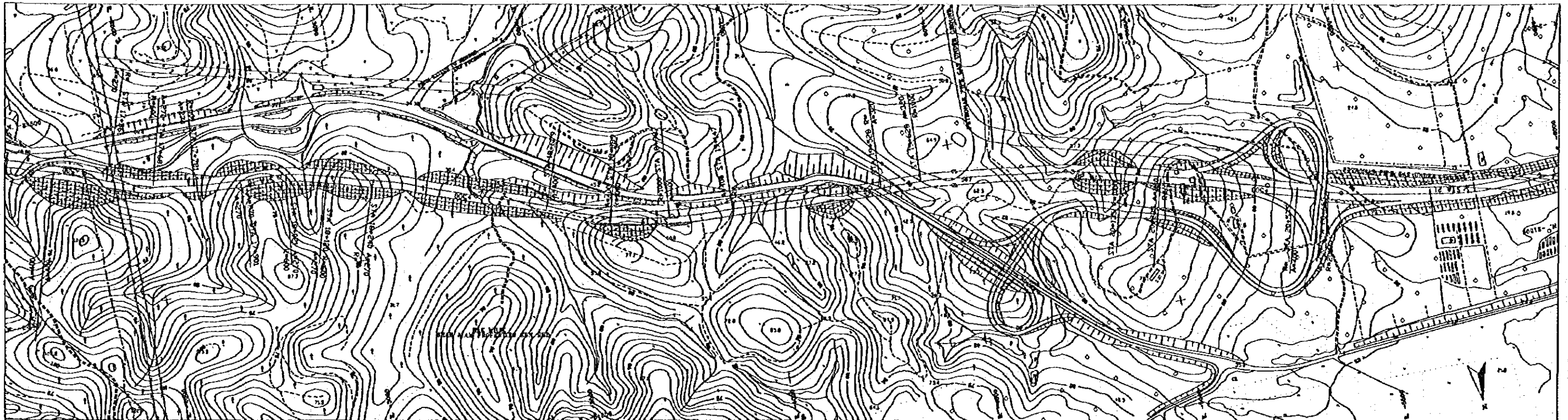
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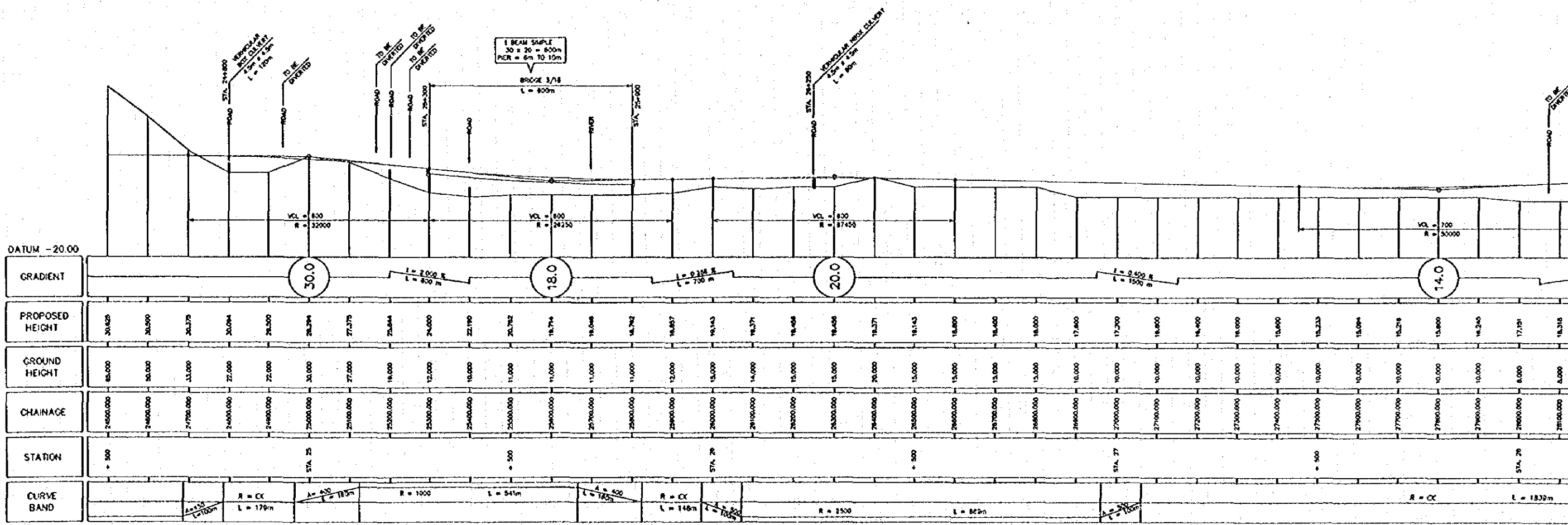
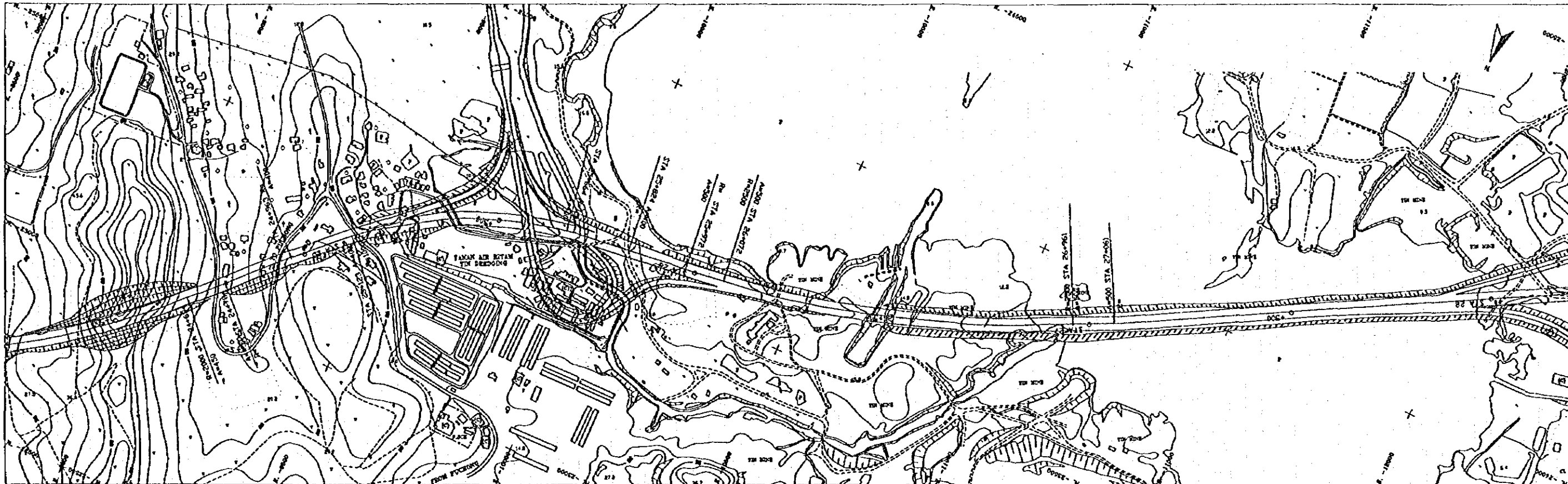
DATE: MARCH 1995

JAPAN INTERNATIONAL COOPERATION AGENCY
HIGHWAY PLANNING UNIT,
MINISTRY OF WORKS, MALAYSIA

CONSULTANTS:
FUKUYAMA CONSULTANTS INTERNATIONAL
PACIFIC CONSULTANTS INTERNATIONAL

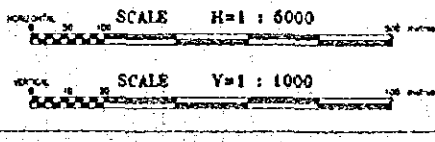


GRADIENT	1 = 0.820 R L = 1000 m		44.0		1 = 1.451 R L = 1300 m		63.0		1 = 2.769 R L = 1300 m		27.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
PROPOSED HEIGHT	51.200	50.400	49.800	48.800	48.000	47.200	46.400	45.700	45.354	45.000	44.715	44.511	44.354	44.244	44.162	44.104	44.068	44.044	44.031	44.028	44.034	44.044	44.058	44.074	44.091	44.109	44.128	44.148	44.169	44.191	44.214	44.238	44.263	44.289	44.316	44.344	44.373	44.403	44.434	44.466	44.500	44.535	44.571	44.608	44.646	44.685	44.725	44.766	44.808	44.851	44.895	44.940	44.986	45.033	45.081	45.130	45.180	45.231	45.283	45.336	45.390	45.445	45.501	45.558	45.616	45.675	45.735	45.796	45.858	45.921	45.985	46.050	46.116	46.183	46.251	46.320	46.390	46.461	46.533	46.606	46.680	46.755	46.831	46.908	46.986	47.065	47.145	47.226	47.308	47.391	47.475	47.560	47.646	47.733	47.821	47.910	48.000	48.091	48.183	48.276	48.370	48.465	48.561	48.658	48.756	48.855	48.955	49.056	49.158	49.261	49.365	49.470	49.576	49.683	49.791	49.900	50.010	50.121	50.233	50.346	50.460	50.575	50.691	50.808	50.926	51.045	51.165	51.286	51.408	51.531	51.655	51.780	51.906	52.033	52.161	52.290	52.420	52.551	52.683	52.816	52.950	53.085	53.221	53.358	53.496	53.635	53.775	53.916	54.058	54.201	54.345	54.490	54.636	54.783	54.931	55.080	55.230	55.381	55.533	55.686	55.840	55.995	56.151	56.308	56.466	56.625	56.785	56.946	57.108	57.271	57.435	57.600	57.766	57.933	58.101	58.270	58.440	58.611	58.783	58.956	59.130	59.305	59.481	59.658	59.836	60.015	60.195	60.376	60.558	60.741	60.925	61.110	61.296	61.483	61.671	61.860	62.050	62.241	62.433	62.626	62.820	63.015	63.211	63.408	63.606	63.805	64.005	64.206	64.408	64.611	64.815	65.020	65.226	65.433	65.641	65.850	66.060	66.271	66.483	66.696	66.910	67.125	67.341	67.558	67.776	67.995	68.215	68.436	68.658	68.881	69.105	69.330	69.556	69.783	70.011	70.240	70.470	70.701	70.933	71.166	71.400	71.635	71.871	72.108	72.346	72.585	72.825	73.066	73.308	73.551	73.795	74.040	74.286	74.533	74.781	75.030	75.280	75.531	75.783	76.036	76.290	76.545	76.801	77.058	77.316	77.575	77.835	78.096	78.358	78.621	78.885	79.150	79.416	79.683	79.951	80.220	80.490	80.761	81.033	81.306	81.580	81.855	82.131	82.408	82.686	82.965	83.245	83.526	83.808	84.091	84.375	84.660	84.946	85.233	85.521	85.810	86.100	86.391	86.683	86.976	87.270	87.565	87.861	88.158	88.456	88.755	89.055	89.356	89.658	89.961	90.265	90.570	90.876	91.183	91.491	91.800	92.110	92.421	92.733	93.046	93.360	93.675	93.991	94.308	94.626	94.945	95.265	95.586	95.908	96.231	96.555	96.880	97.206	97.533	97.861	98.190	98.520	98.851	99.183	99.516	99.850	100.185	100.521	100.858	101.196	101.535	101.875	102.216	102.558	102.901	103.245	103.590	103.936	104.283	104.631	104.980	105.330	105.681	106.033	106.386	106.740	107.095	107.451	107.808	108.166	108.525	108.885	109.246	109.608	109.971	110.335	110.700	111.066	111.433	111.801	112.170	112.540	112.911	113.283	113.656	114.030	114.405	114.781	115.158	115.536	115.915	116.295	116.676	117.058	117.441	117.825	118.210	118.596	118.983	119.371	119.760	120.150	120.541	120.933	121.326	121.720	122.115	122.511	122.908	123.306	123.705	124.105	124.506	124.908	125.311	125.715	126.120	126.526	126.933	127.341	127.750	128.160	128.571	128.983	129.396	129.810	130.225	130.641	131.058	131.476	131.895	132.315	132.736	133.158	133.581	134.005	134.430	134.856	135.283	135.711	136.140	136.570	137.001	137.433	137.866	138.300	138.735	139.171	139.608	140.046	140.485	140.925	141.366	141.808	142.251	142.695	143.140	143.586	144.033	144.481	144.930	145.380	145.831	146.283	146.736	147.190	147.645	148.101	148.558	149.016	149.475	149.935	150.396	150.858	151.321	151.785	152.250	152.716	153.183	153.651	154.120	154.590	155.061	155.533	156.006	156.480	156.955	157.431	157.908	158.386	158.865	159.345	159.826	160.308	160.791	161.275	161.760	162.246	162.733	163.221	163.710	164.200	164.691	165.183	165.676	166.170	166.665	167.161	167.658	168.156	168.655	169.155	169.656	170.158	170.661	171.165	171.670	172.176	172.683	173.191	173.700	174.210	174.721	175.233	175.746	176.260	176.775	177.291	177.808	178.326	178.845	179.365	179.886	180.408	180.931	181.455	181.980	182.506	183.033	183.561	184.090	184.620	185.151	185.683	186.216	186.750	187.285	187.821	188.358	188.896	189.435	189.975	190.516	191.058	191.601	192.145	192.690	193.236	193.783	194.331	194.880	195.430	195.981	196.533	197.086	197.640	198.195	198.751	199.308	199.866	200.425	200.985	201.546	202.108	202.671	203.235	203.800	204.366	204.933	205.501	206.070	206.640	207.211	207.783	208.356	208.930	209.505	210.081	210.658	211.236	211.815	212.395	212.976	213.558	214.141	214.725	215.310	215.896	216.483	217.071	217.660	218.250	218.841	219.433	220.026	220.620	221.215	221.811	222.408	223.006	223.605	224.205	224.806	225.408	226.011	226.615	227.220	227.826	228.433	229.041	229.650	230.260	230.871	231.483	232.096	232.710	233.325	233.941	234.558	235.176	235.795	236.415	237.036	237.658	238.281	238.905	239.530	240.156	240.783	241.411	242.040	242.670	243.301	243.933	244.566	245.200	245.835	246.471	247.108	247.746	248.385	249.025	249.666	250.308	250.951	251.595	252.240	252.886	253.533	254.181	254.830	255.480	256.131	256.783	257.436	258.090	258.745	259.401	260.058	260.716	261.375	262.035	262.696	263.358	264.021	264.685	265.350	266.016	266.683	267.351	268.020	268.690	269.361	270.033	270.706	271.380	272.055	272.731	273.408	274.086	274.765	275.445	276.126	276.808	277.491	278.175	278.860	279.546	280.233	280.921	281.610	282.300	282.991	283.683	284.376	285.070	285.765	286.461	287.158	287.856	288.555	289.255	289.956	290.658	291.361	292.065	292.770	293.476	294.183	294.891	295.600	296.310	297.021	297.733	298.446	299.160	299.875	300.591	301.308	302.026	302.745	303.465	304.186	304.908	305.631	306.355	307.080	307.806	308.533	309.261	309.990	310.720	311.451	312.183	312.916	313.650	314.385	315.121	315.858	316.596	317.335	318.075	318.816	319.558	320.301	321.045	321.790	322.536	323.283	324.031	324.780	325.530	326.281	327.033	327.786	328.540	329.295	330.051	330.808	331.566	332.325	333.085	333.846	334.608	335.371	336.135	336.900	337.666	338.433	339.201	339.970	340.740	341.511	342.283	343.056	343.830	344.605	345.381	346.158	346.936	347.715	348.495	349.276	350.058	350.841	351.625	352.410	353.196	353.983	354.771	355.560	356.350	357.141	357.933	358.726	359.520	360.315	361.111	361.908	362.706	363.505	364.305	365.106	365.908	366.711	367.515	368.320	369.126	369.933	370.741	371.550	372.360	373.171	373.983	374.796	375.610	376.425	377.241	378.058	378.876	379.695	380.515	381.336	382.158	382.981	383.805	384.630	385.456	386.283	387.111	387.940	388.770	389.601	390.433	391.266	392.100	392.935	393.771	394.608	395.446	396.285	397.125	397.966	398.808	399.651	400.495	401.340	402.186	403.033	403.881	404.730	405.580	406.431	407.283	408.136	409.000	409.865	410.731	411.598	412.466	413.335	414.205	415.076	415.948	416.821	417.695	418.570	419.446	420.323	421.201	422.080	422.960	423.841	424.723	425.606	426.490	427.375	428.261	429.148	430.036	430.925	431.815	432.706	433.598	434.491	435.385	436.280	437.176	438.073	438.971	439.870	440.770	441.671	442.573	443.476	444.380	445.285	446.191	447.098	448.006	448.915	449.825	450.736	451.648	452.561	453.475	454.390	455.306	456.223	457.141	458.060	458.980	459.901	460.823	461.746	462.670	463.595	464.521	465.448	466.376	467.305	468.235	469.166	470.098	471.031	471.965	472.900	473.836	474.773	475.711	476.650	477.590	478.531	479.473	480.416	481.360	482.305	483.251	484.198	485.146	486.095	487.045	488.000	488.956	489.913	490.871	491.830	492.790	493.751	494.713	495.676	496.640	497.605	498.571	499.538	500.506	501.475	502.445	503.416	504.388	505.361	506.335	507.310	508.286	509.263	510.241	511.220	512.200	513.181	514.163	515.146	516.130	517.115	518.101	519.088	520.076	521.065	522.055	523.046	524.038	525.031	526.025	527.020	528.016	529.013	530.011	531.010	532.010	533.011	534.012	535.013	536.014	537.015	538.016	539.017	540.018	541.019	542.020	543.021	544.022	545.023	546.024	547.025	548.026	549.027	550.028	551.029	552.030	553.031	554.032	555.033	556.034	557.035	558.036	559.037	560.038	561.039	562.040	563.041	564.042	565.043	566.044	567.045	568.046	569.047	570.048	57

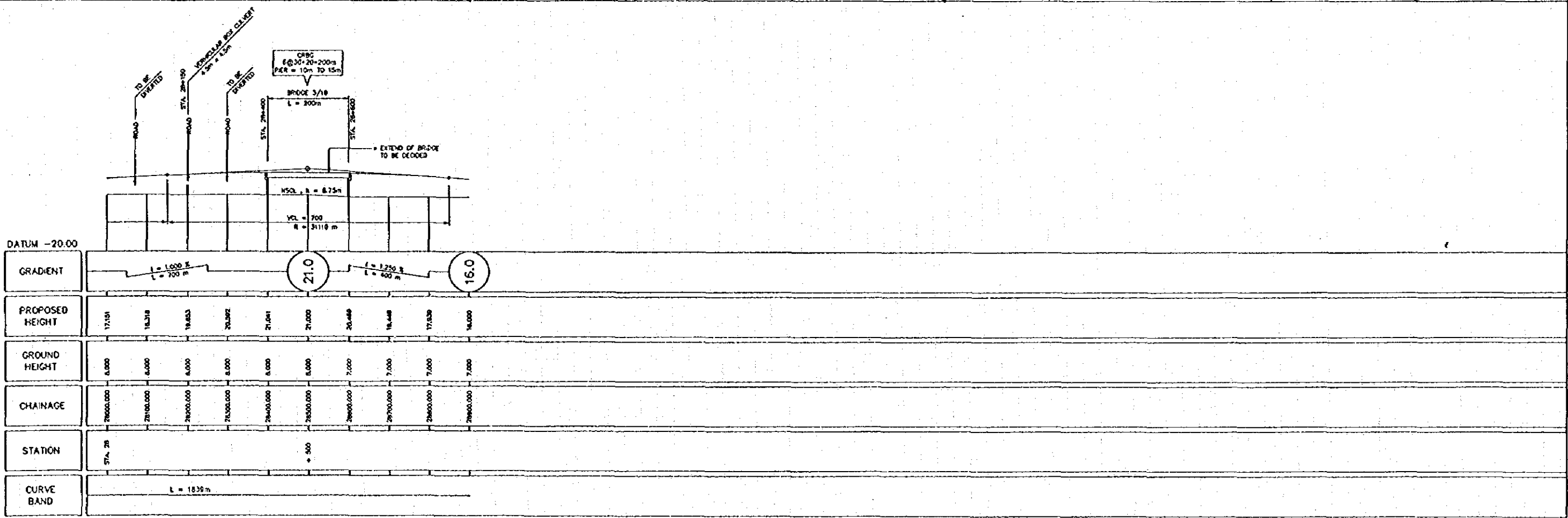
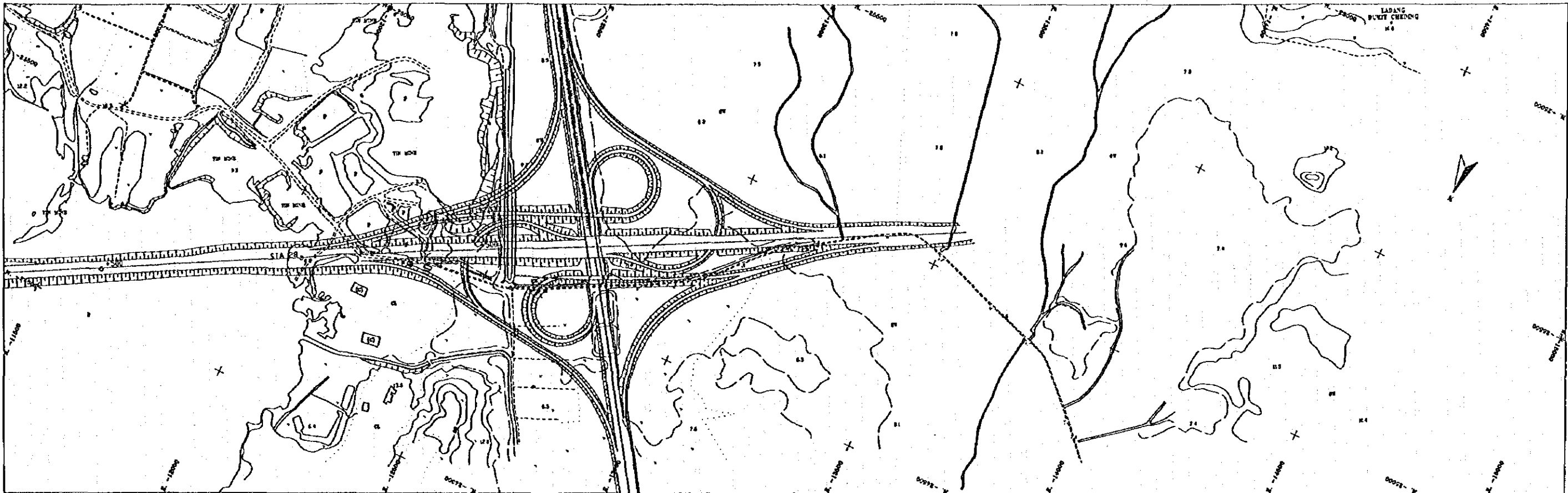


THE FEASIBILITY STUDY ON KUALA LUMPUR OUTER RING ROAD IN MALAYSIA

PLAN NO: 26
PLAN TITLE:
PLAN and PROFILE

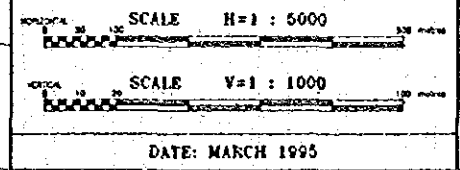


JAPAN INTERNATIONAL COOPERATION AGENCY
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CONSULTANTS:
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PACIFIC CONSULTANTS INTERNATIONAL



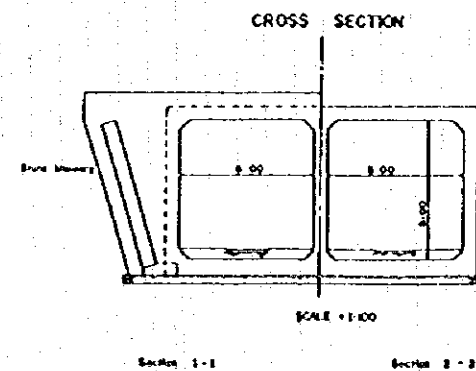
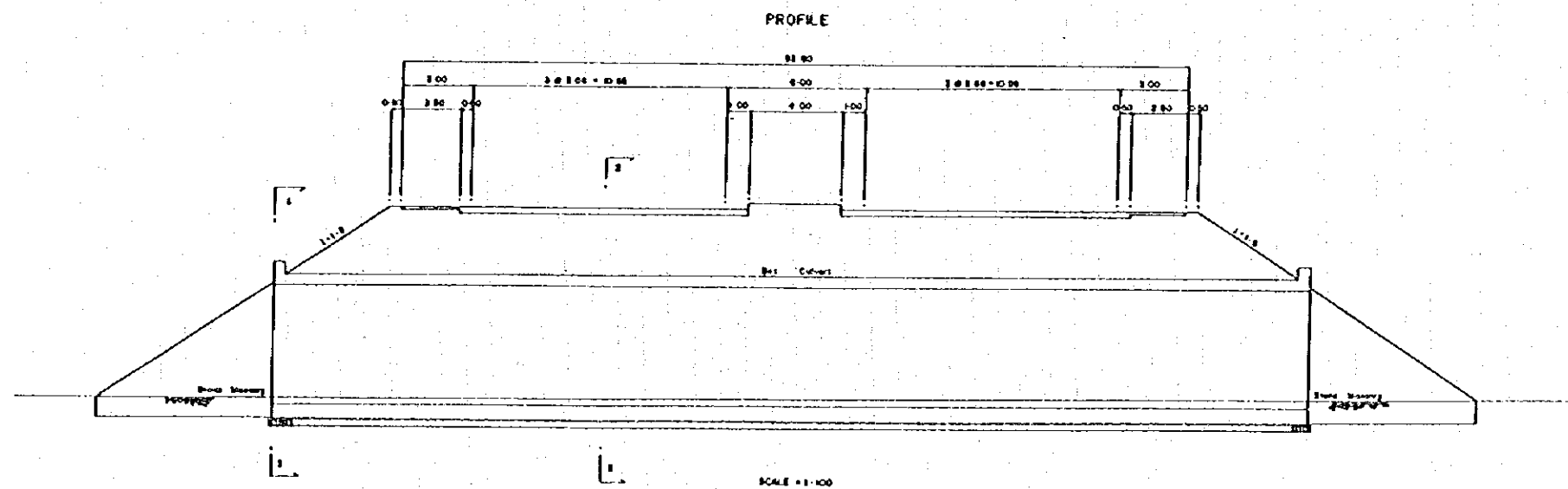
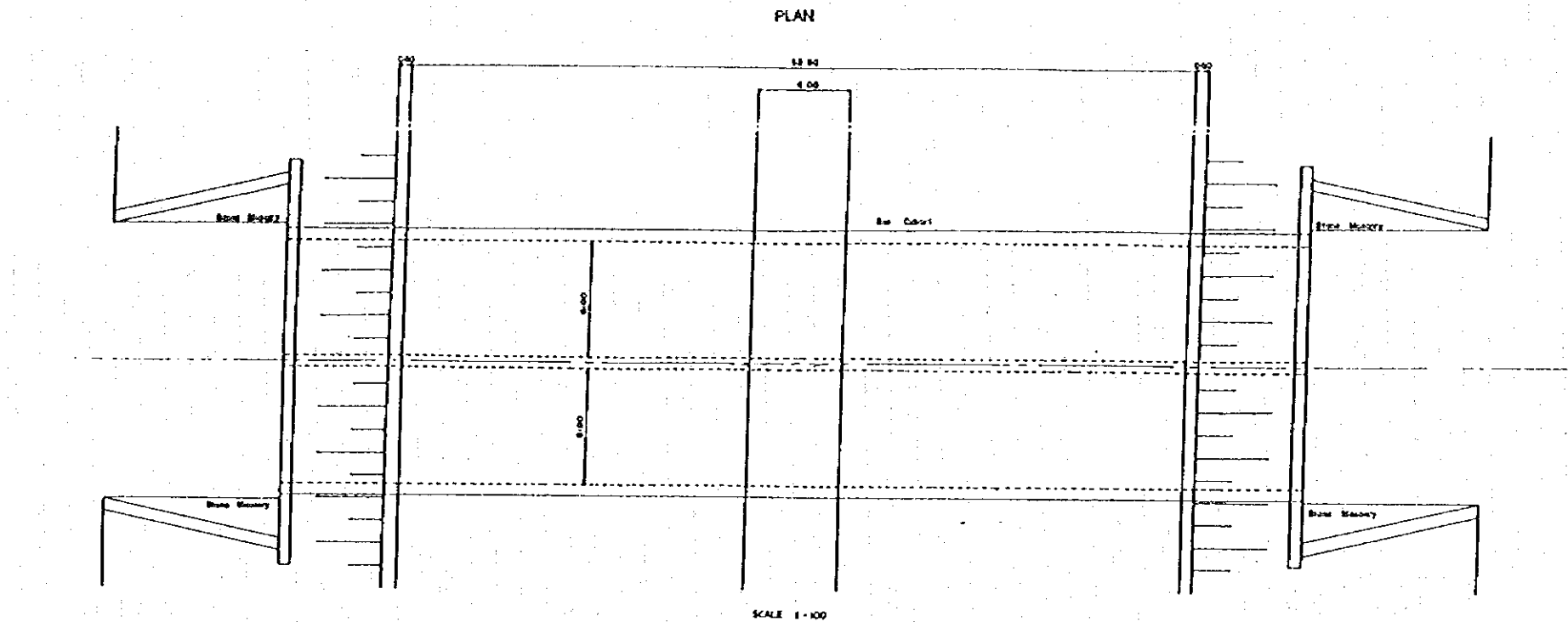
THE FEASIBILITY STUDY ON KUALA LUMPUR OUTER RING ROAD IN MALAYSIA

PLAN NO: 27
PLAN TITLE:
PLAN and PROFILE



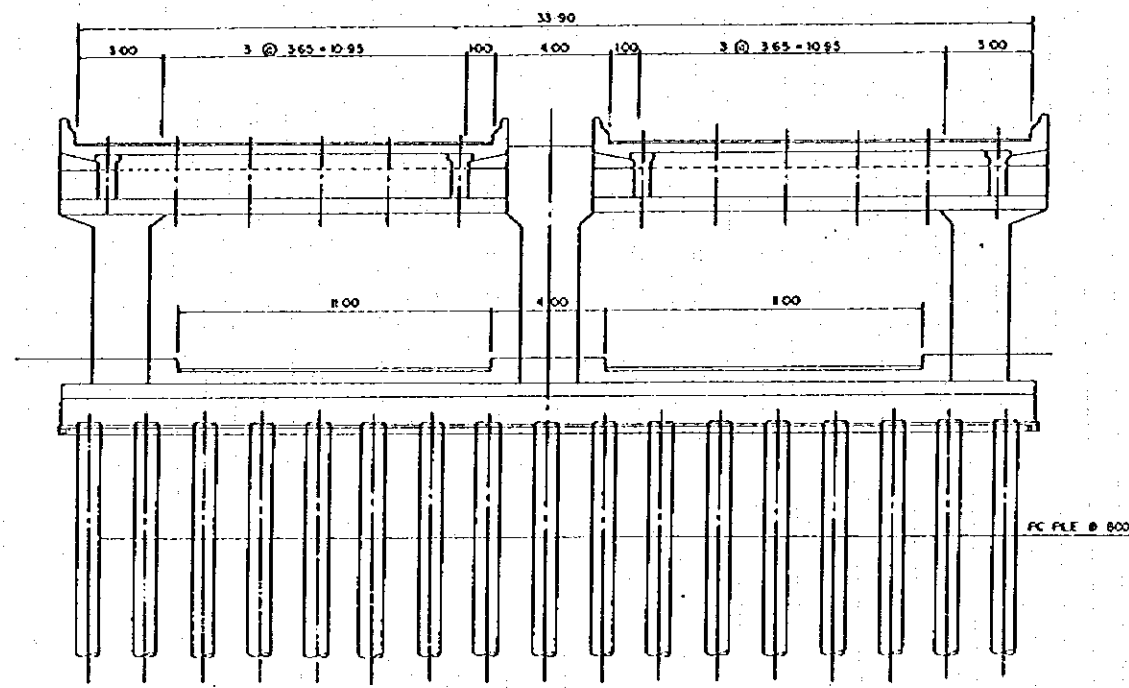
JAPAN INTERNATIONAL COOPERATION AGENCY
HIGHWAY PLANNING UNIT,
MINISTRY OF WORKS, MALAYSIA
CONSULTANTS:
FUKUYAMA CONSULTANTS INTERNATIONAL
PACIFIC CONSULTANTS INTERNATIONAL

4.0 STRUCTURAL DESIGN



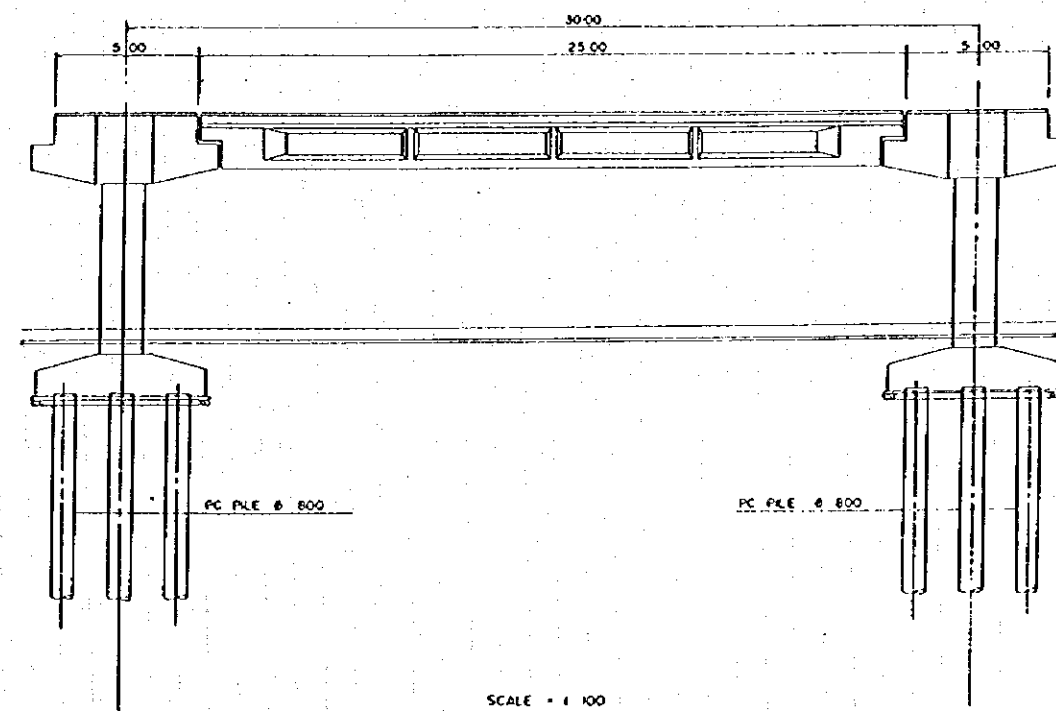
4.1 Box Culvert

CROSS SECTION



SCALE = 1/100

PROFILE

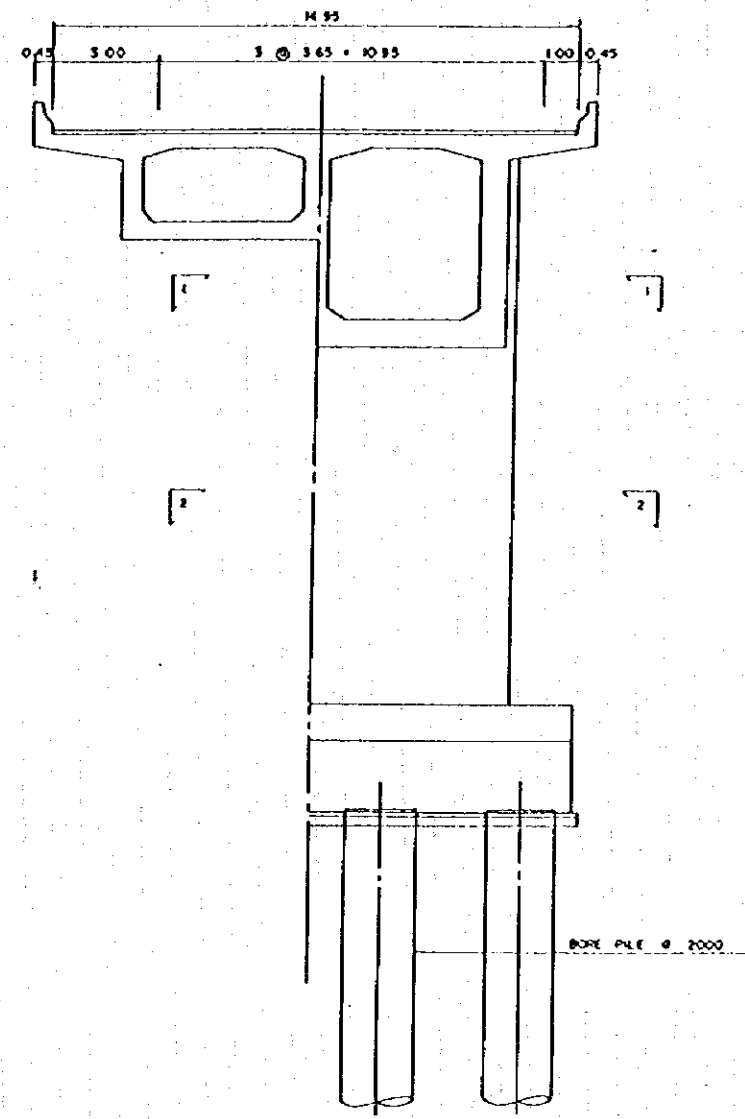
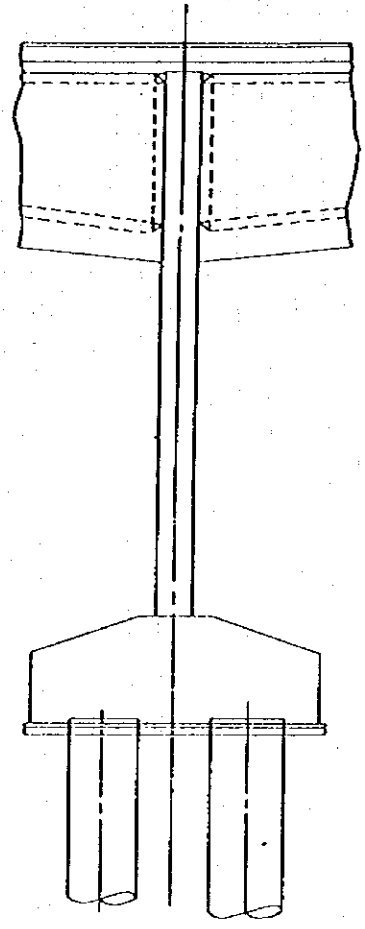


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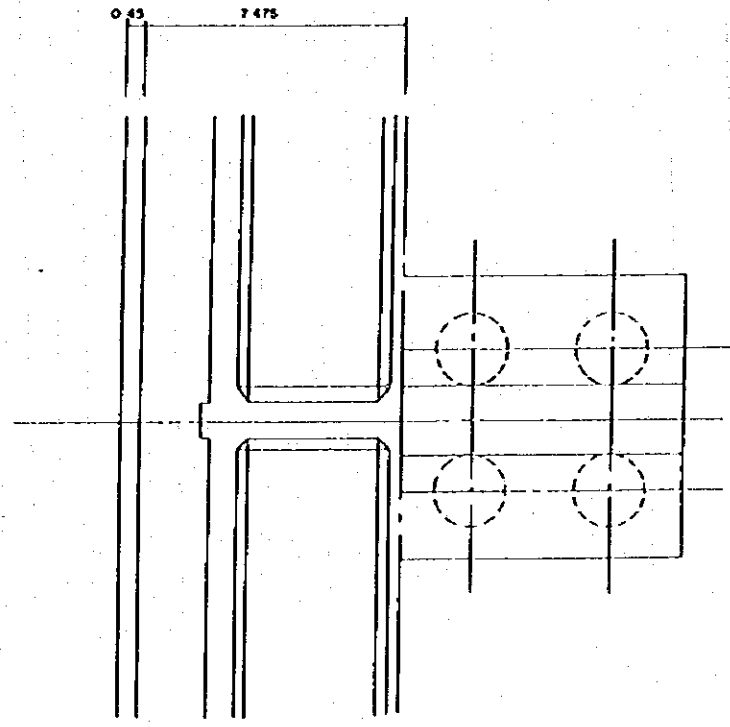
4.2 Viaduct of City Area

ALTERNATIVE 1

FOR HIGH PIER (WITH SUPPORTING)



SCALE 1:100

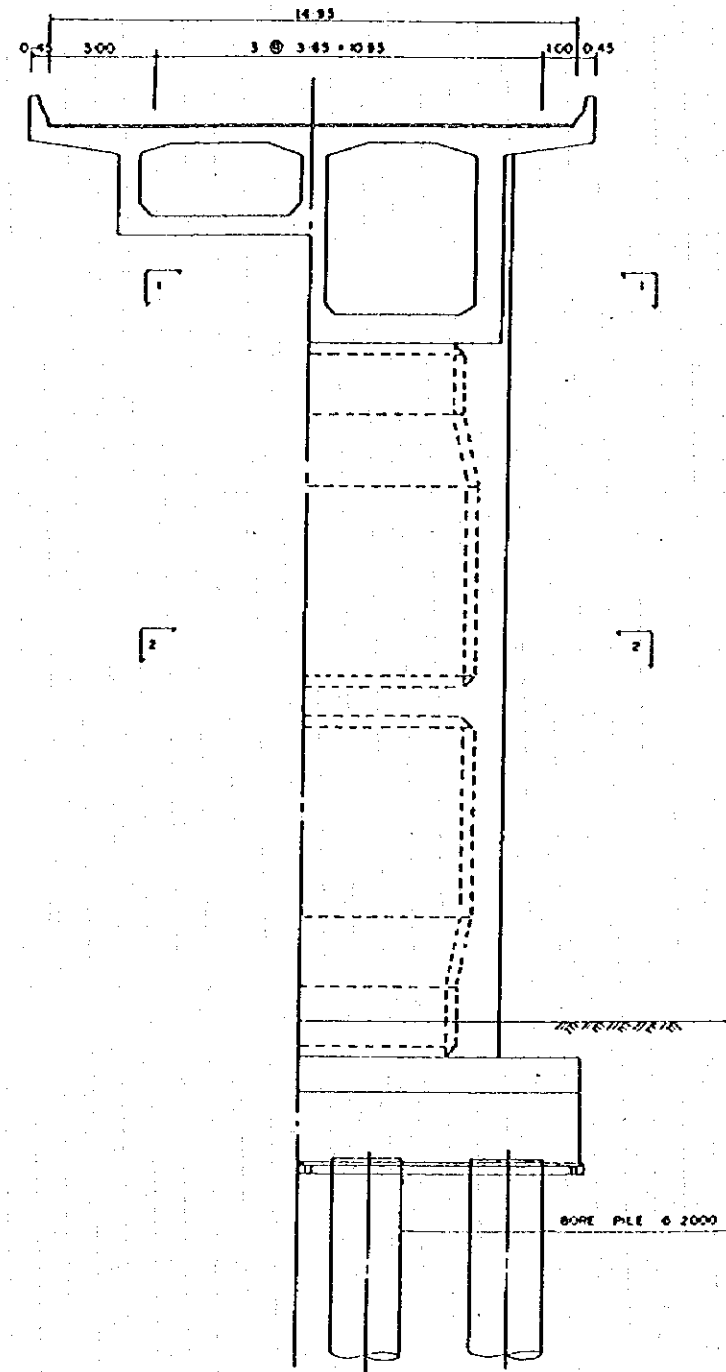
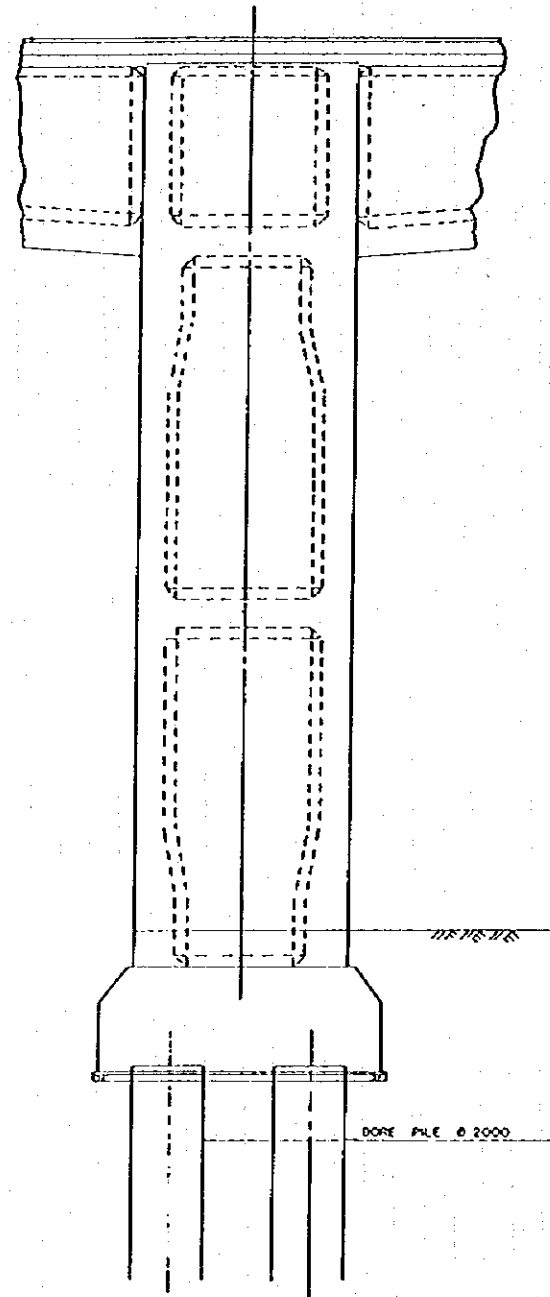


SECTION 1 - 1 SECTION 2 - 2

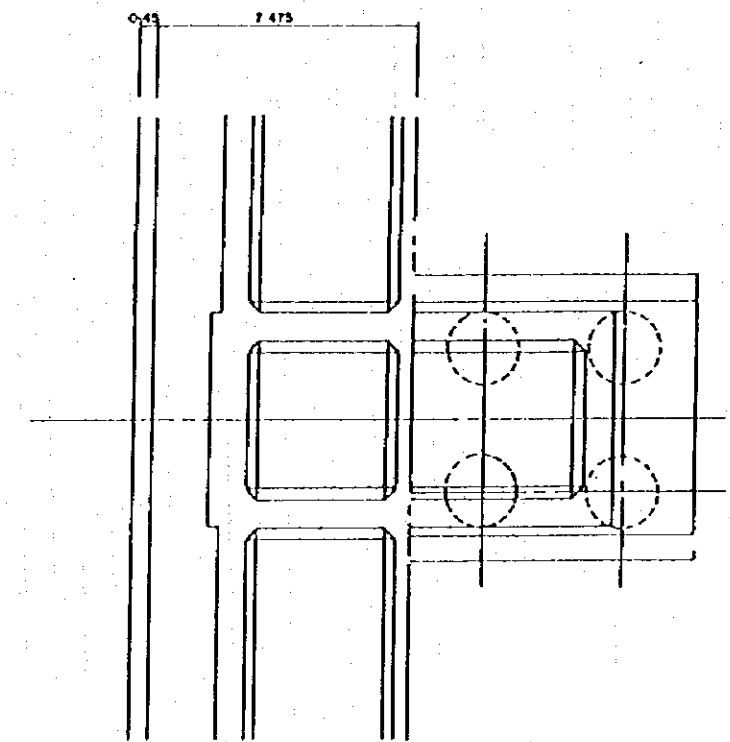
4.3 Pier for Balanced Cantilever Bridge (1)

ALTERNATIVE 2

FOR HIGH PIER (WITHOUT SUPPORTING)



SCALE 1:100



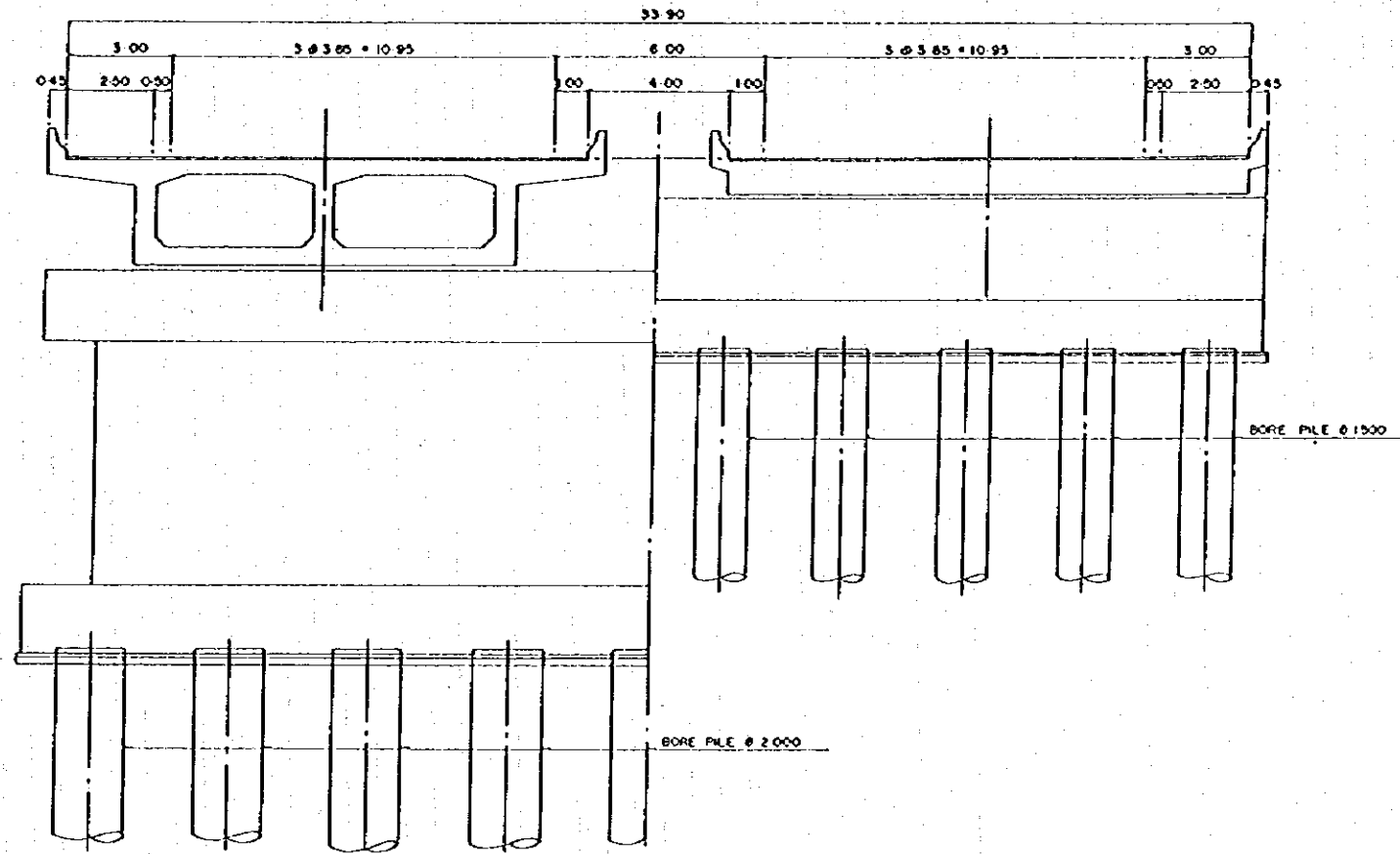
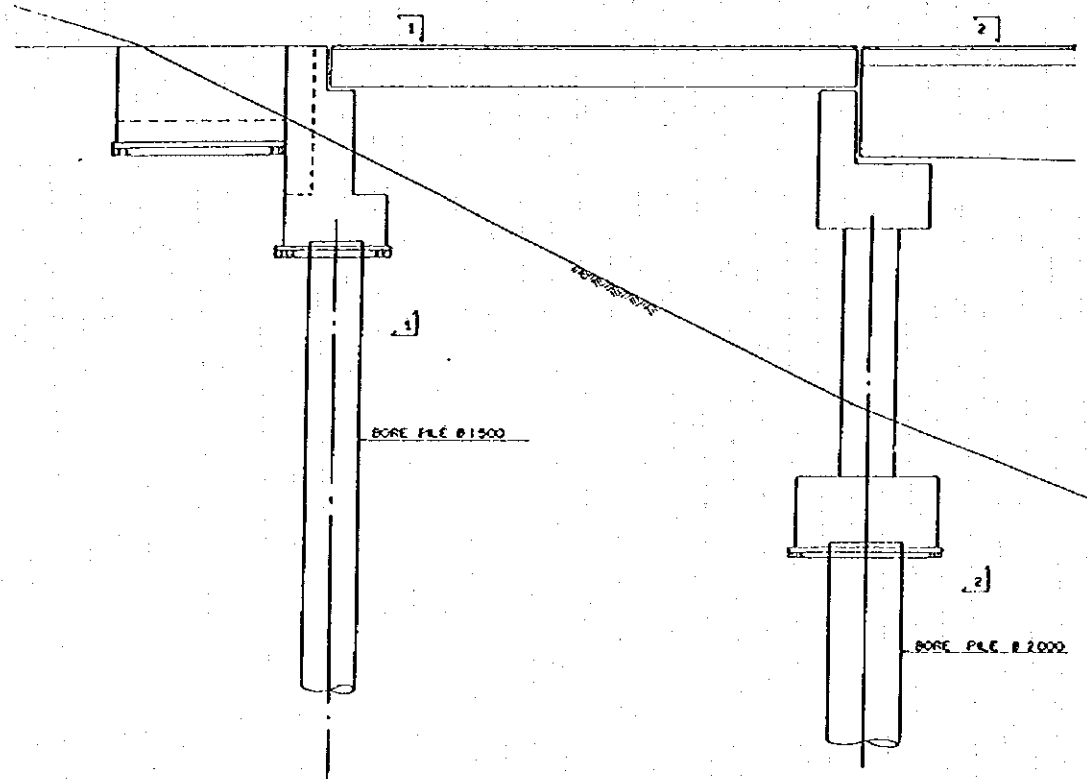
SECTION 1 - 1

SECTION 2 - 2

4.4 Pier for Balanced Cantilever Bridge (2)

ALTERNATIVE I

FOR GENTLE SLOPE OF GROUND SURFACE



SECTION 1-1

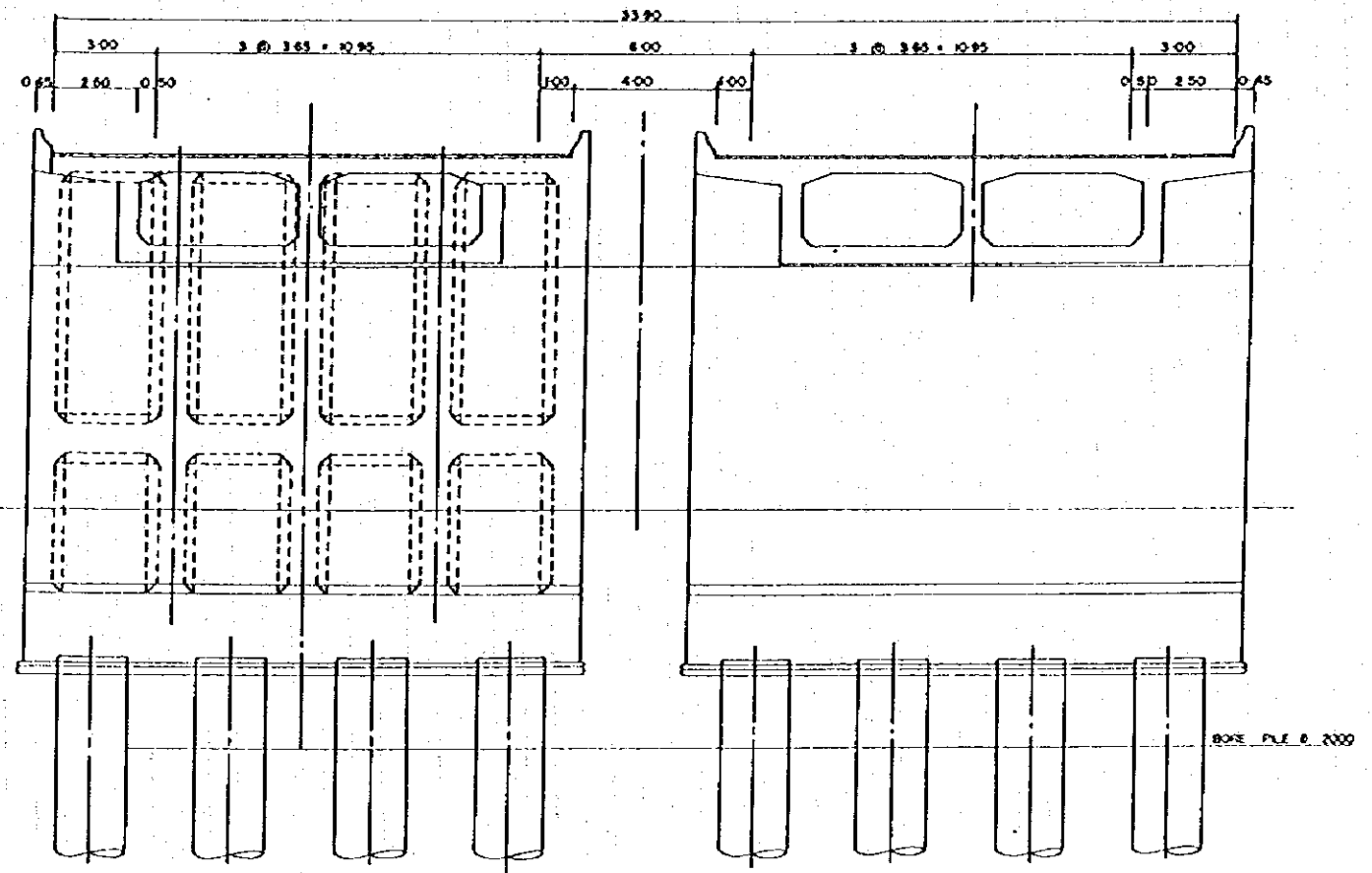
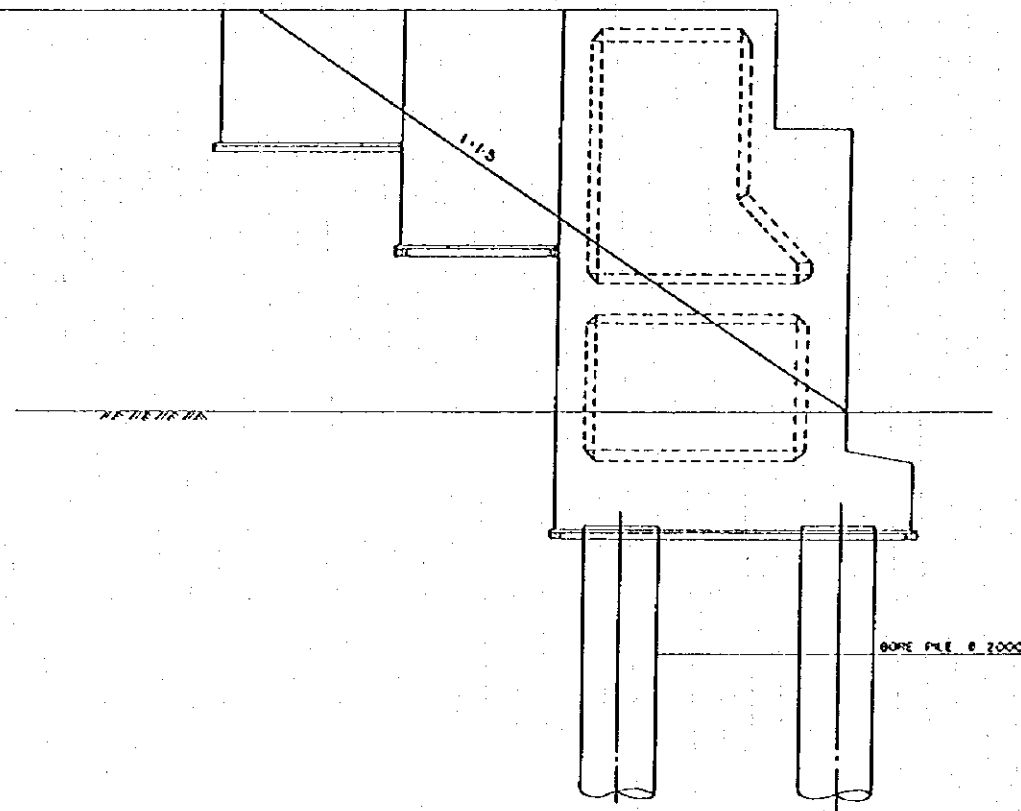
SECTION 2-2

SCALE 1:100

4.5 Abutment for Balanced Cantilever Bridge (1)

ALTERNATIVE 2

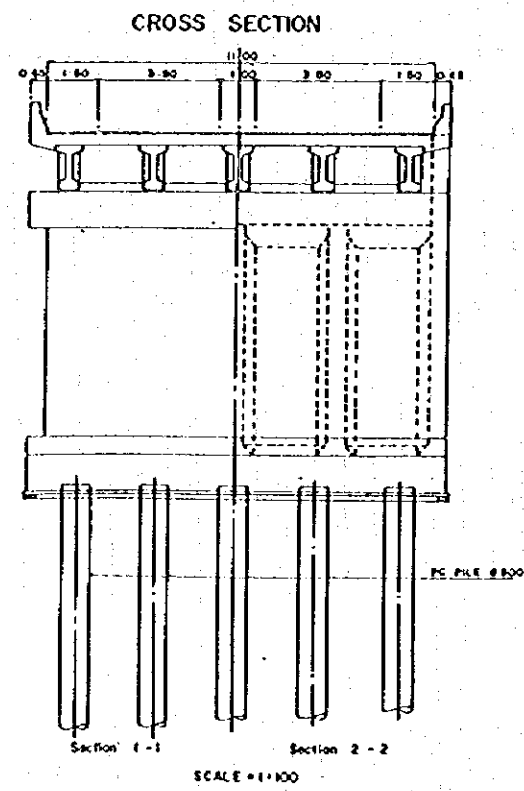
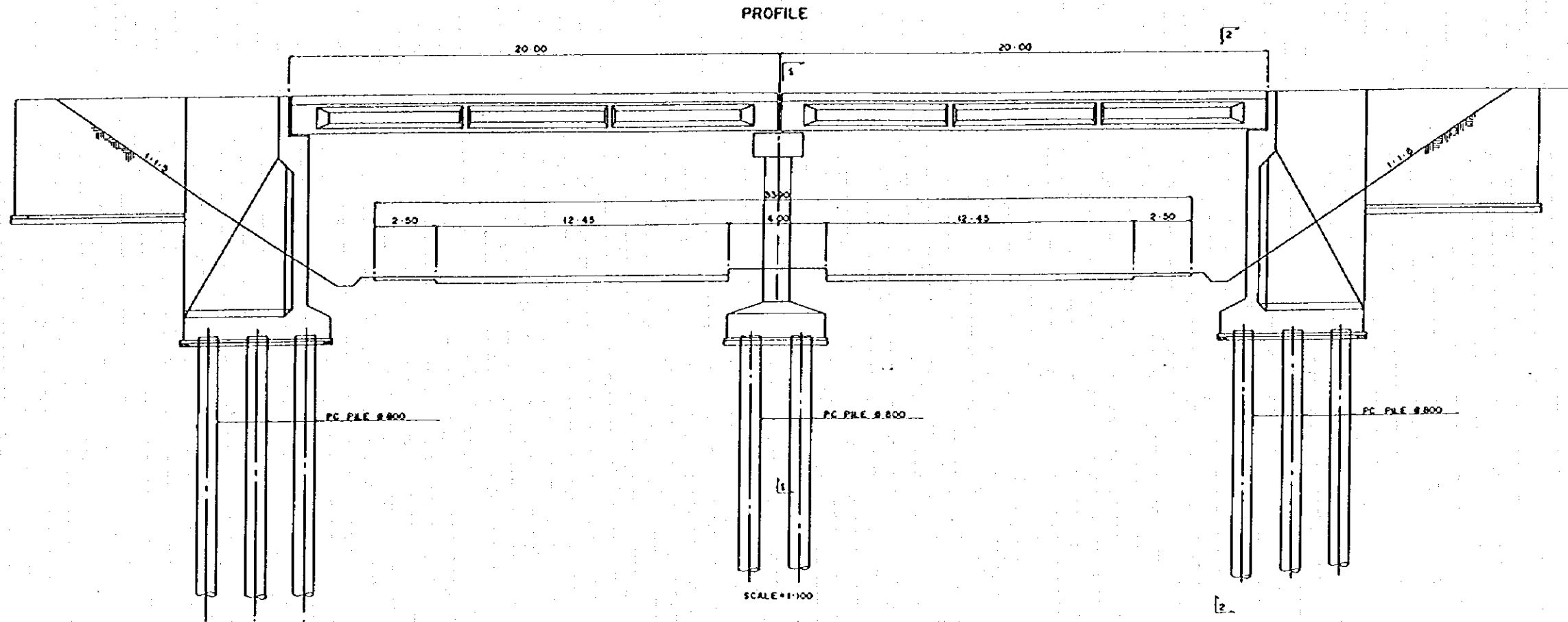
FOR STEEP SLOPE OF GROUND SURFACE



SCALE 1:100

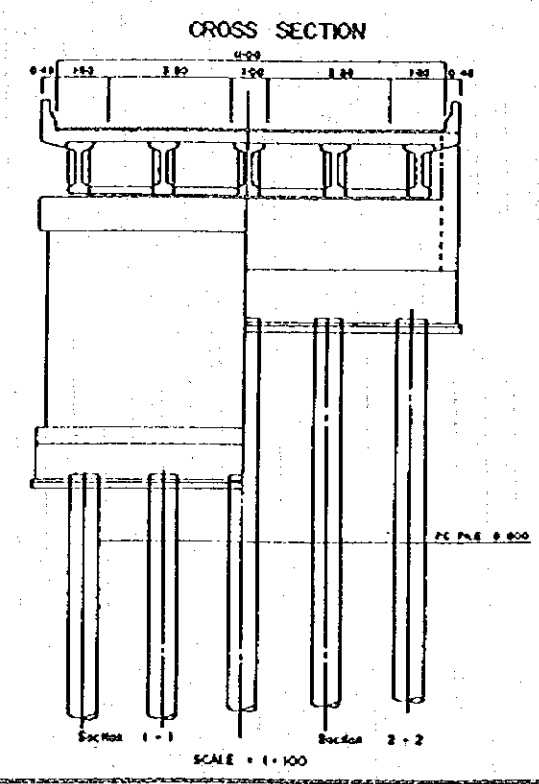
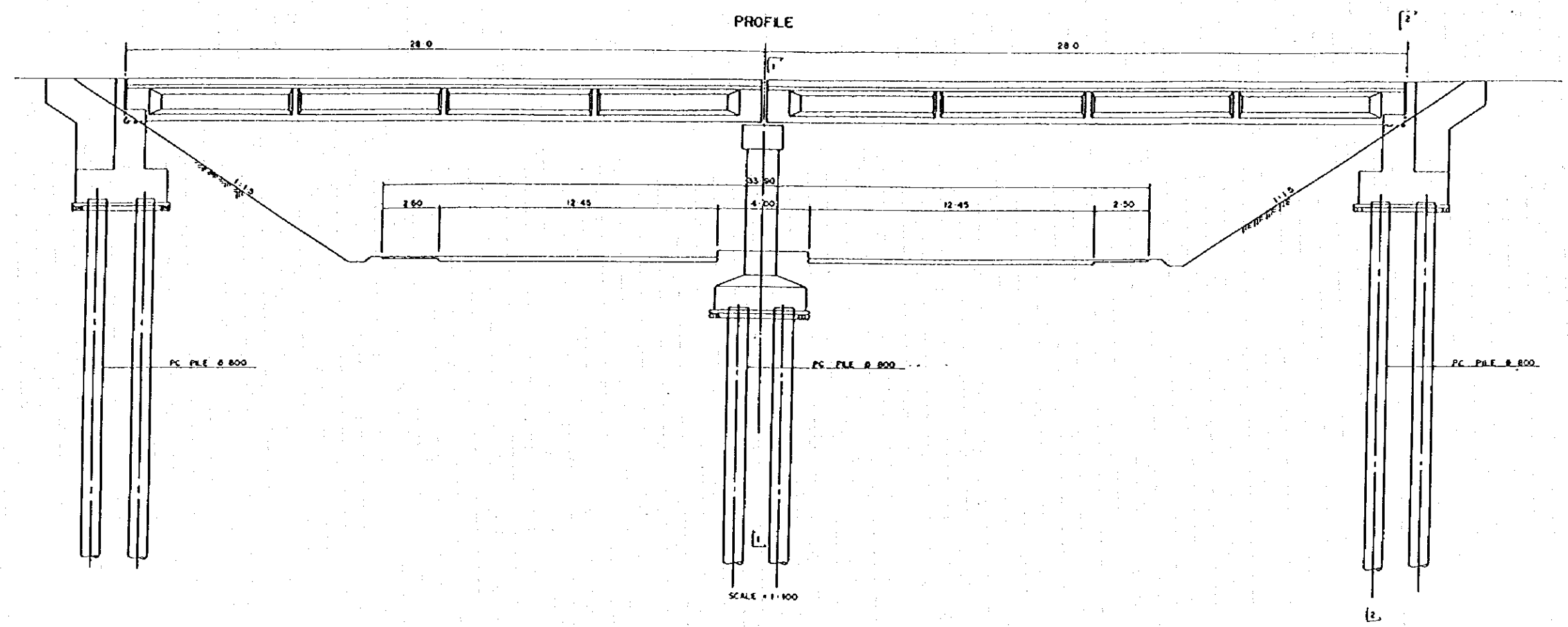
4.6 Abutment for Balanced Cantilever Bridge (2)

ALTERNATIVE 1



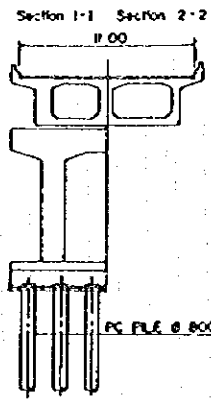
4.7 Flyover (1)

ALTERNATIVE 2



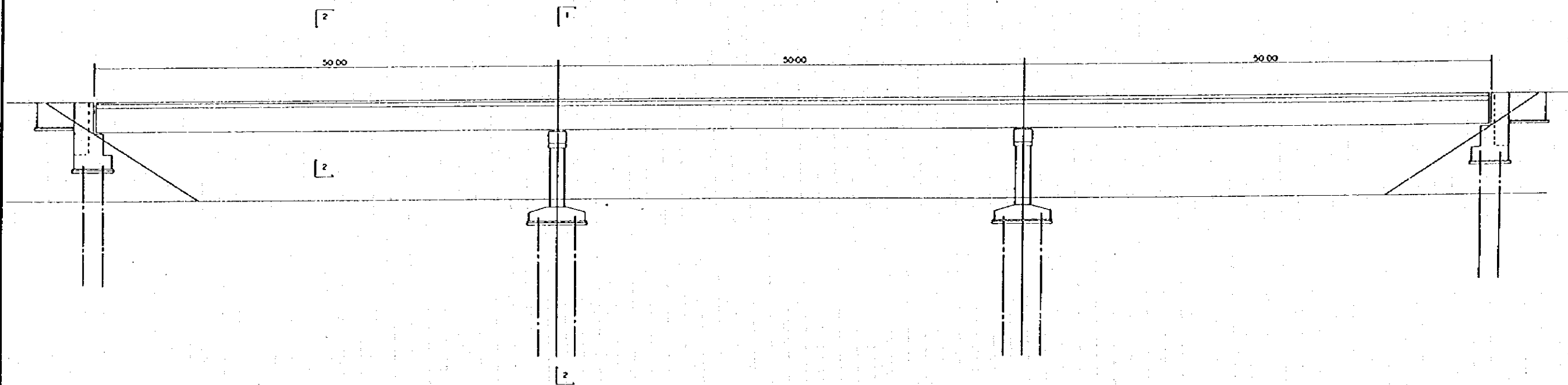
4.8 Flyover (2)

CROSS SECTION



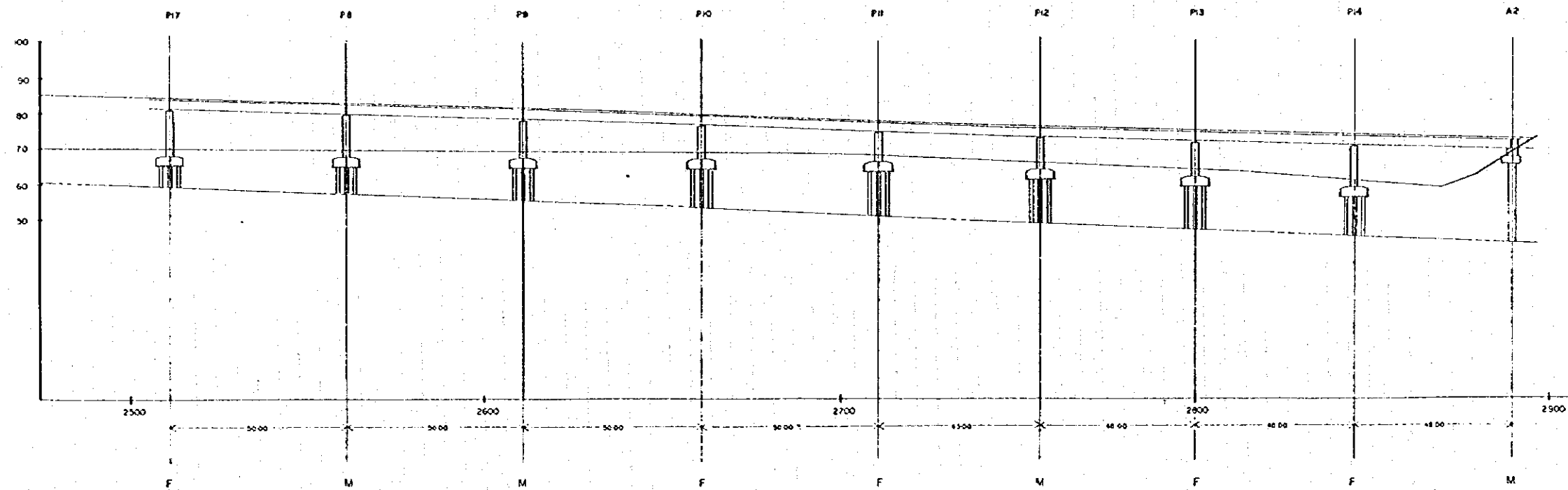
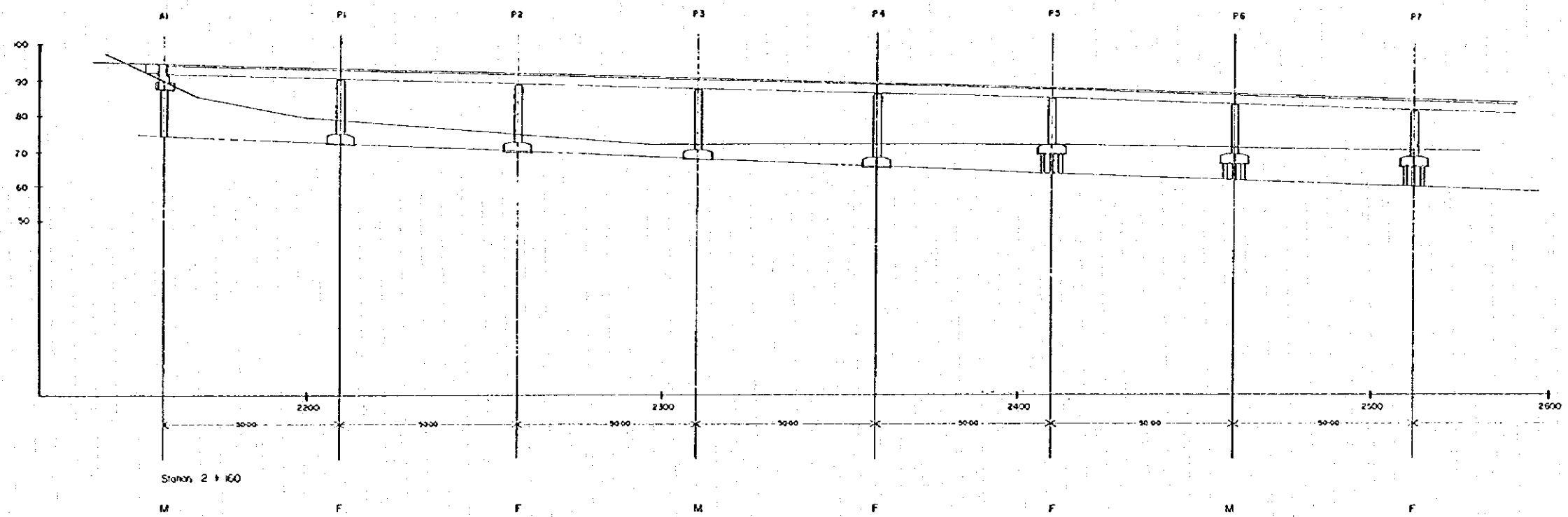
SCALE 1 : 200

PROFILE

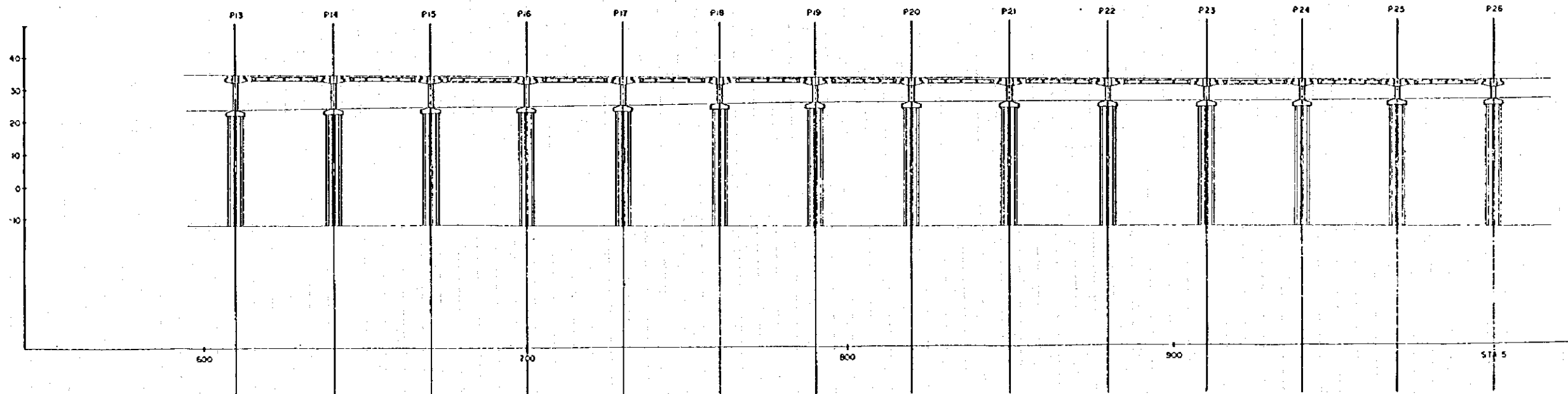
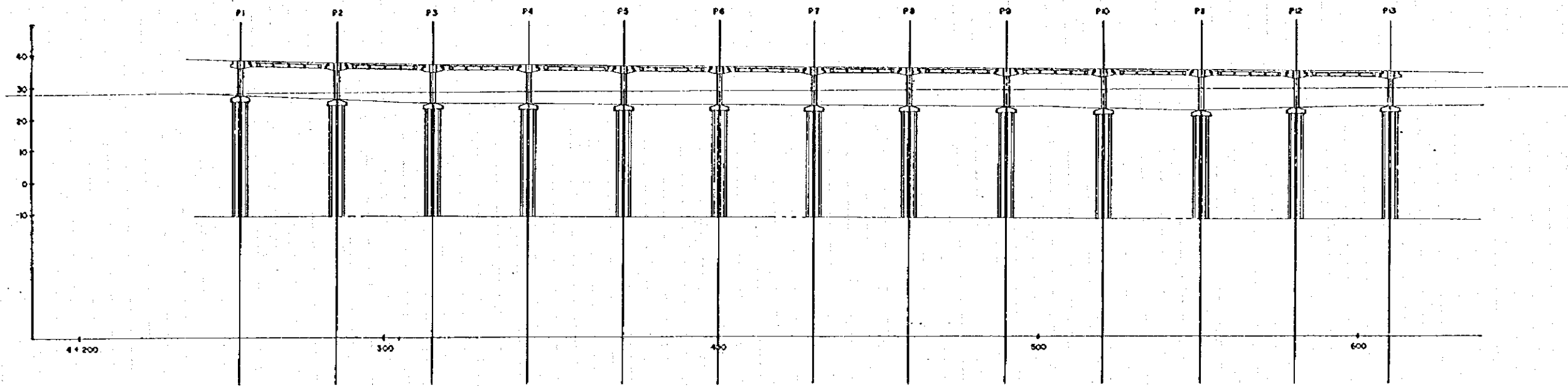


SCALE 1 : 200

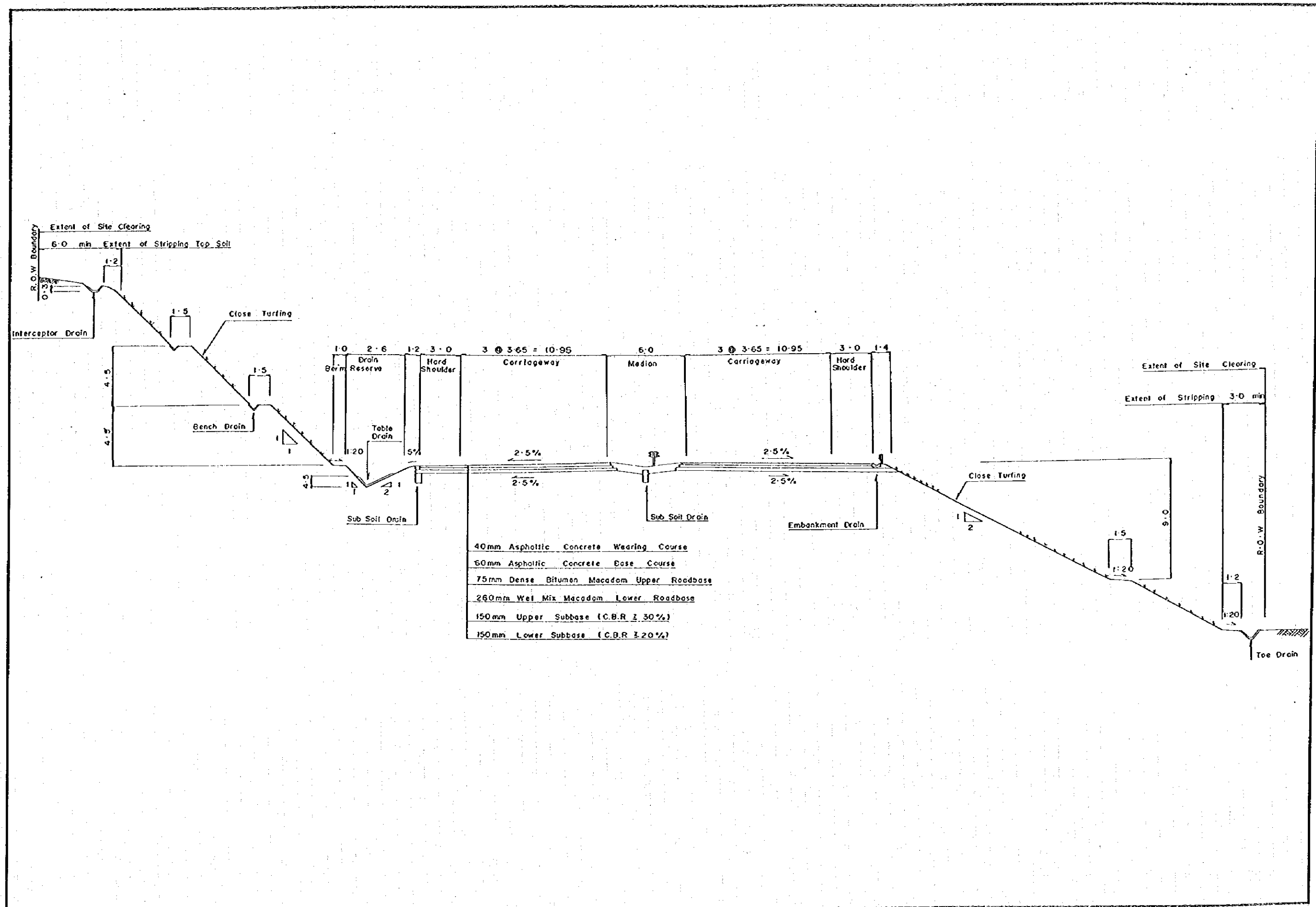
4.9 Three Span Continuous Box Girder Bridge



4.11 Side View



4.13 Side View



4.14 Pavement Design and Drainage

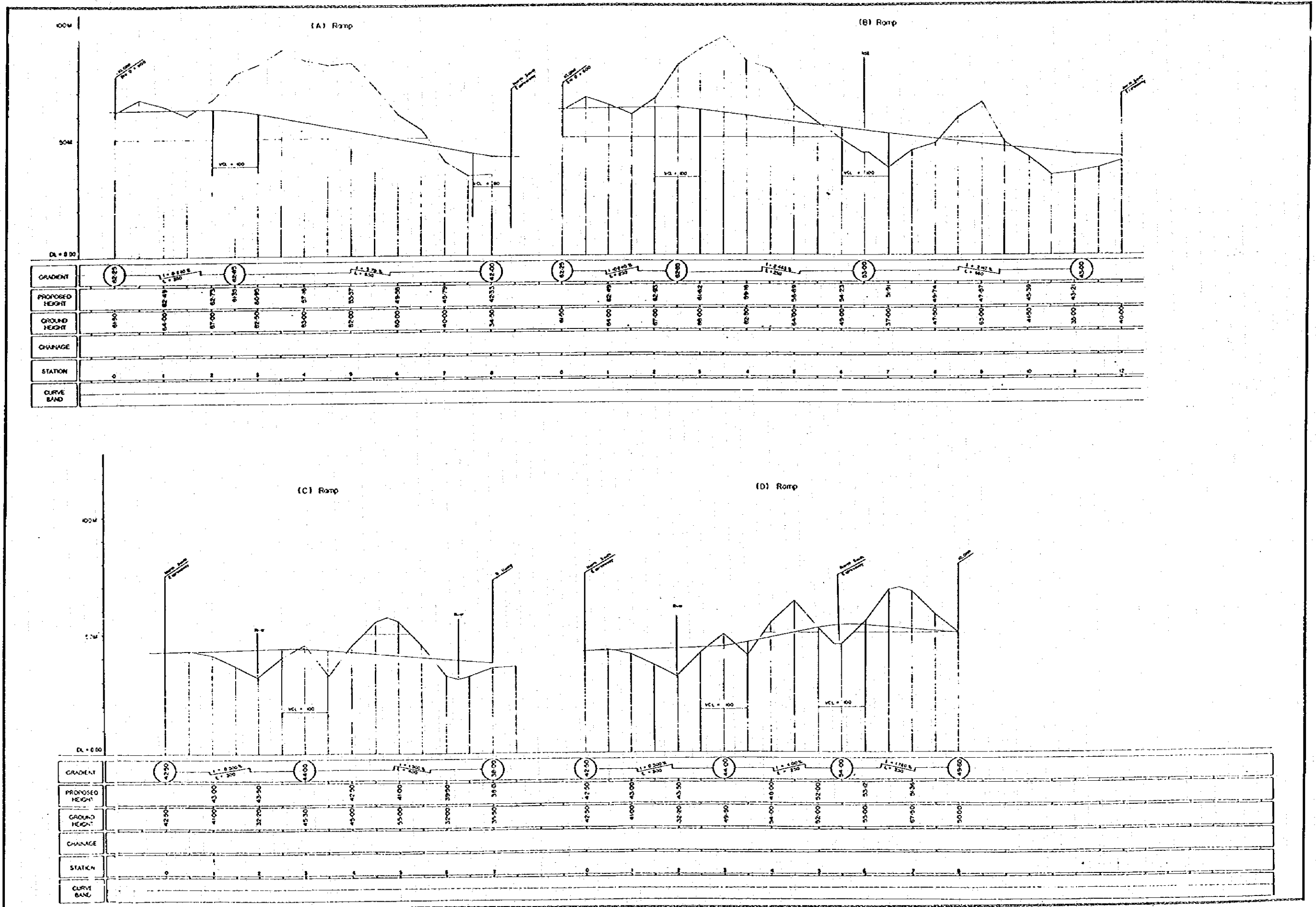
5.0 INTERCHANGE DESIGN



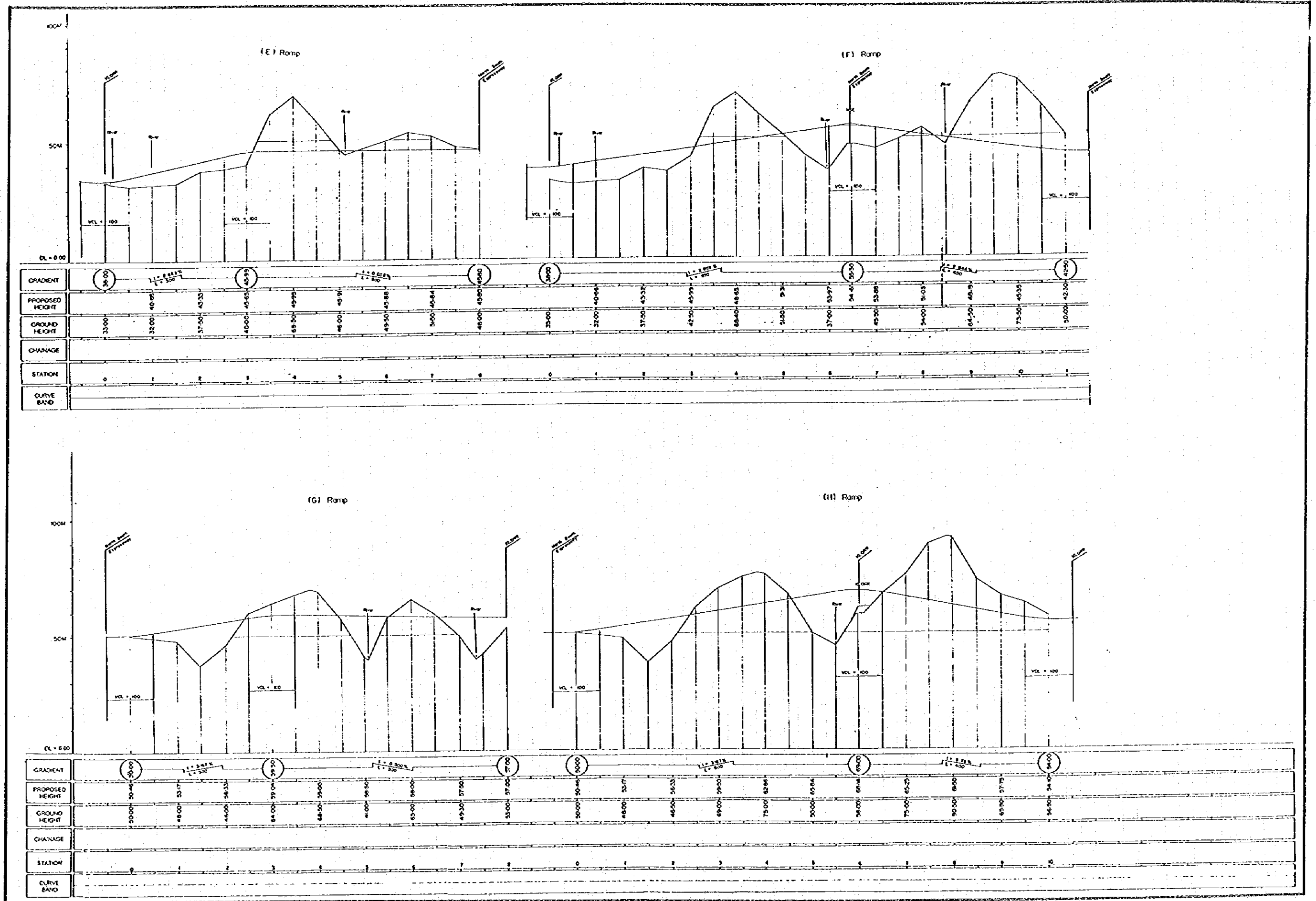
THE FEASIBILITY STUDY ON
 KUALA LUMPUR OUTER RING ROAD IN MALAYSIA

5.1 Interchange 1:
 KLORR - NORTH SOUTH EXPRESSWAY

JAPAN INTERNATIONAL COOPERATION AGENCY
 HIGHWAY PLANNING UNIT,
 MINISTRY OF WORKS, MALAYSIA
 CONSULTANTS:
 FUKUYAMA CONSULTANTS INTERNATIONAL
 PACIFIC CONSULTANTS INTERNATIONAL



5.1.1 I/C No.1 KLORR - N-S Exp. Profile



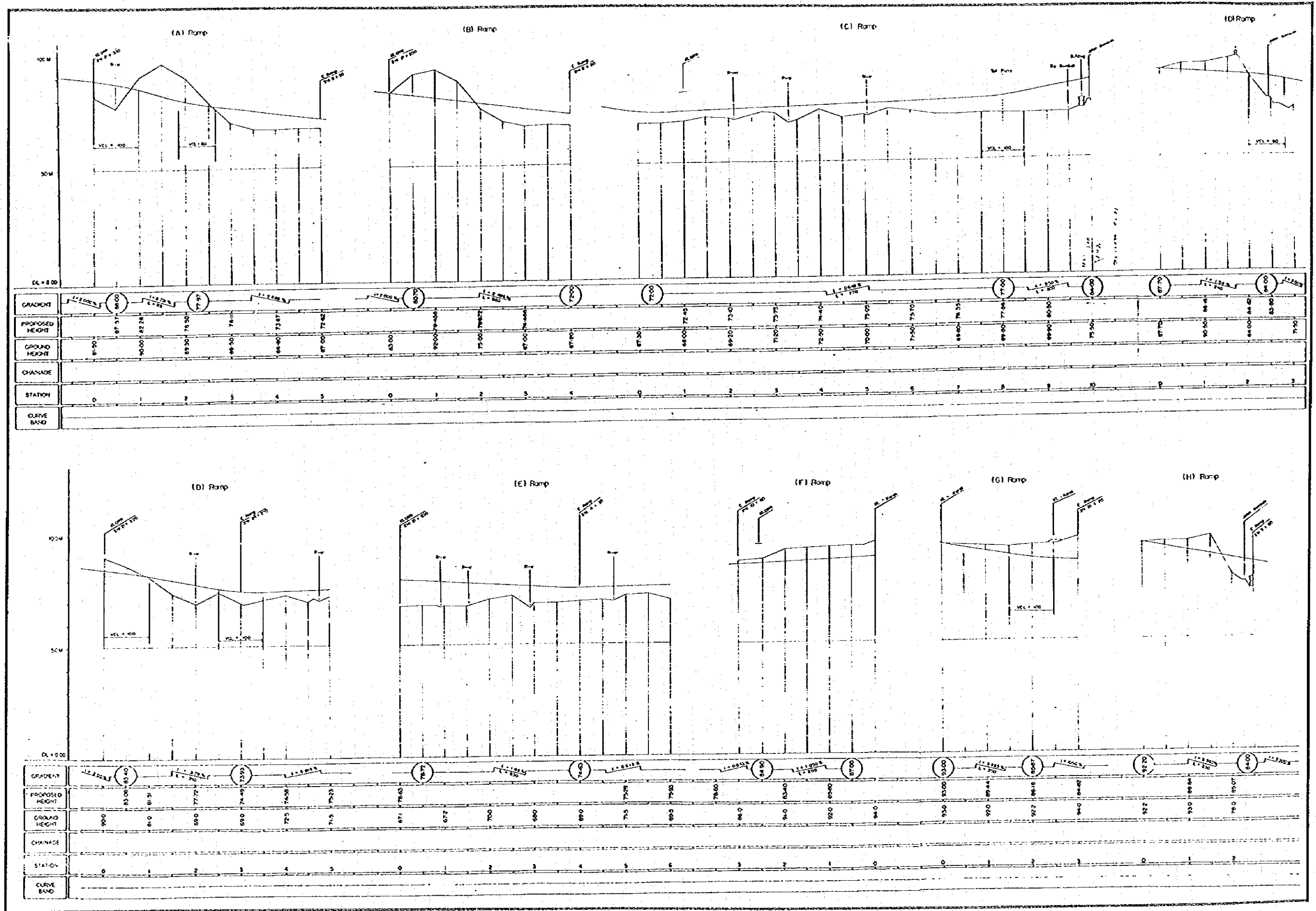
5.1.2 I/C No.1 KLORR - N-S Exp. Profile



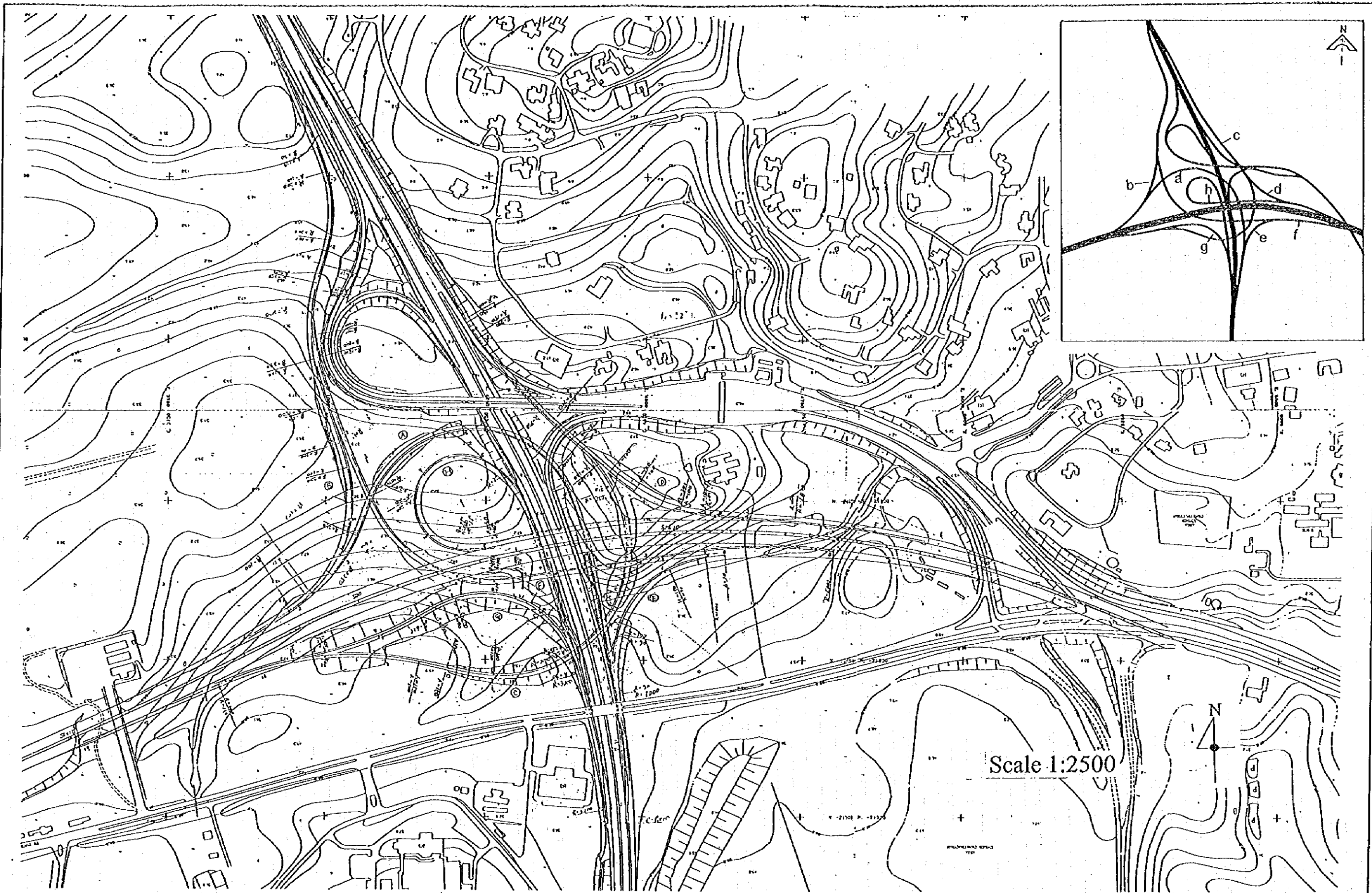
THE FEASIBILITY STUDY ON
KUALA LUMPUR OUTER RING ROAD IN MALAYSIA

5.2 Interchange 4:
KLORR - KL-KARAK HIGHWAY

JAPAN INTERNATIONAL COOPERATION AGENCY
HIGHWAY PLANNING UNIT,
MINISTRY OF WORKS, MALAYSIA
CONSULTANTS:
FUKUYAMA CONSULTANTS INTERNATIONAL
PACIFIC CONSULTANTS INTERNATIONAL



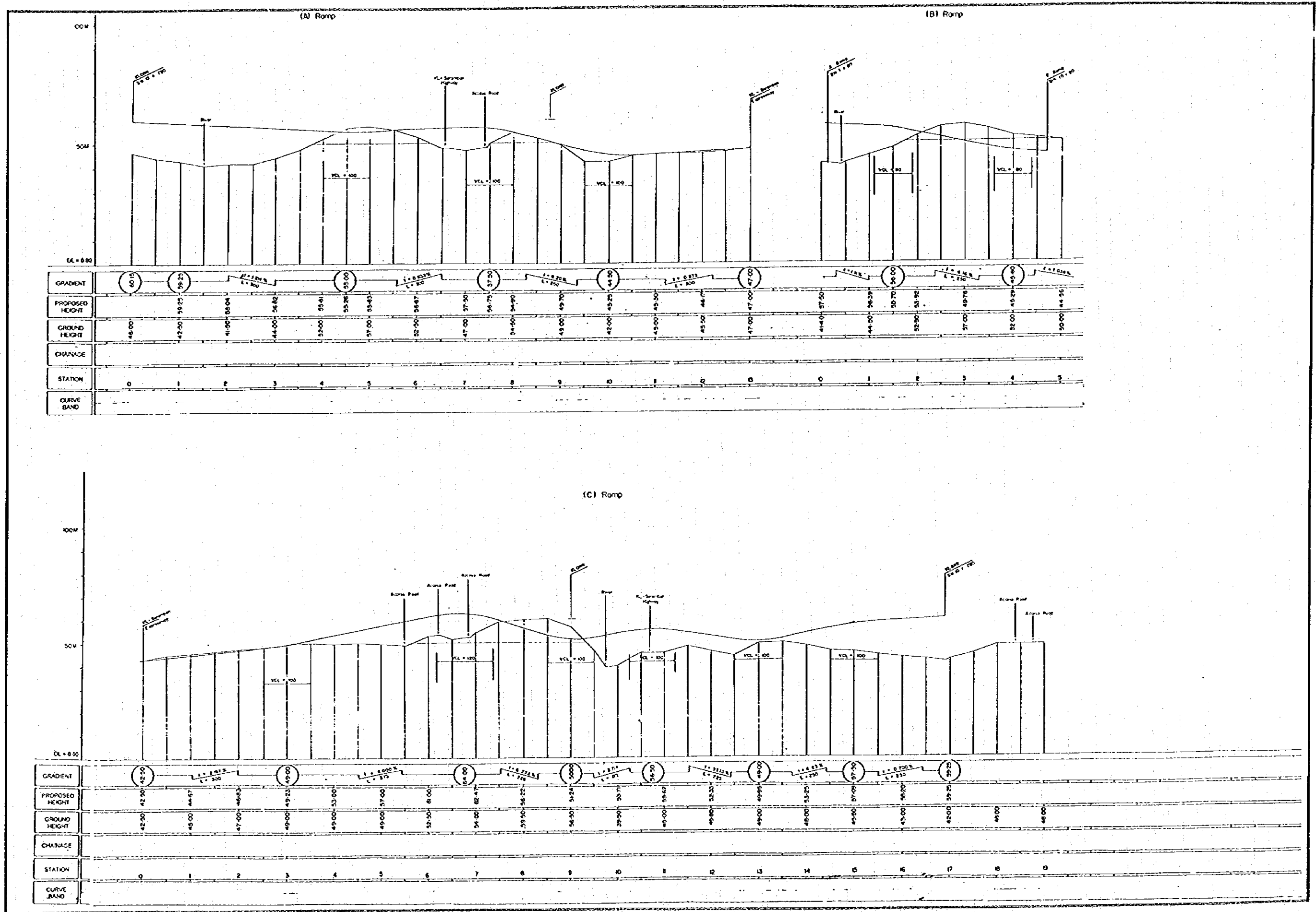
5.2.1 I/C No.4: KLORR - KL-Karak Highway Profile



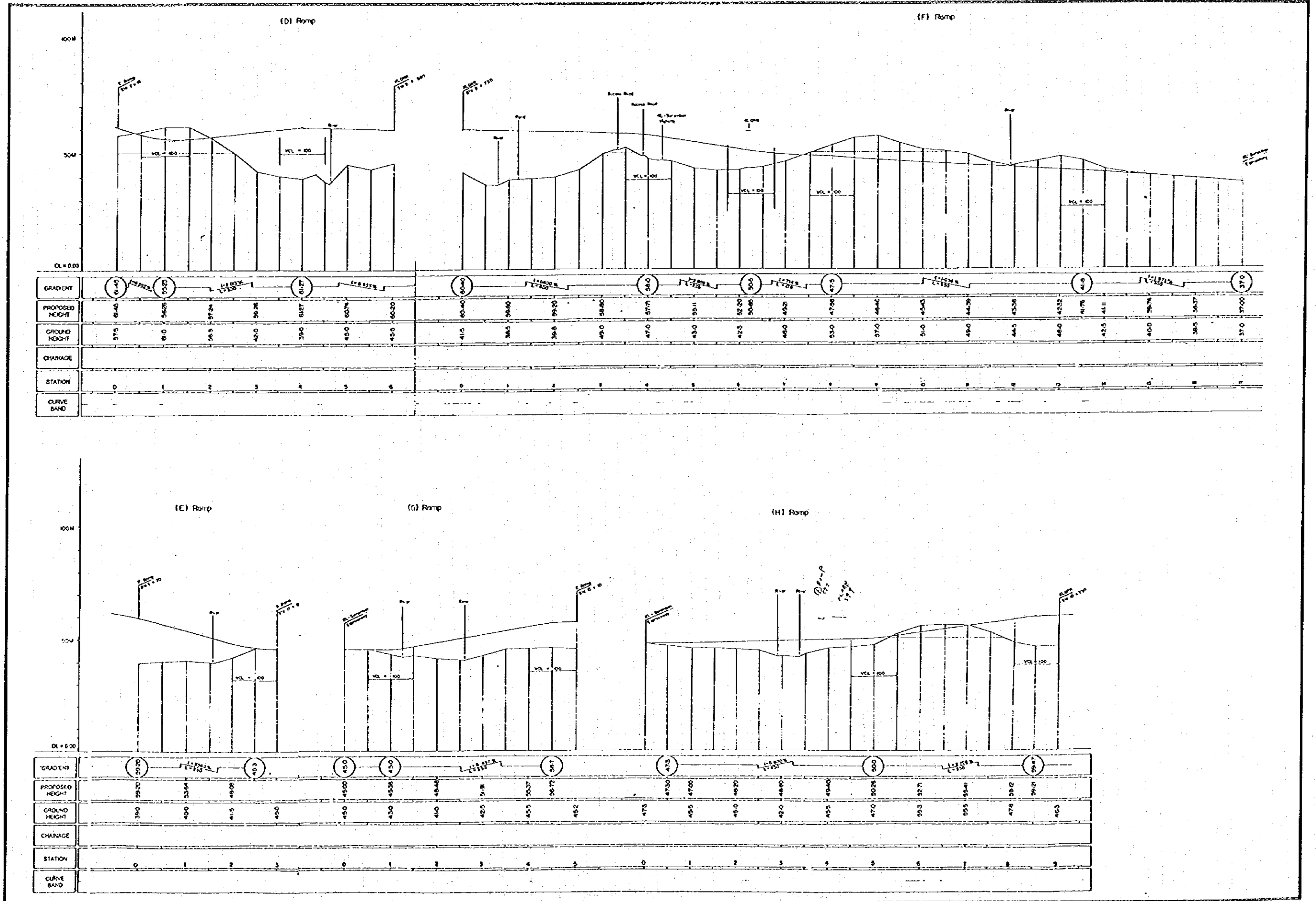
THE FEASIBILITY STUDY ON
KUALA LUMPUR OUTER RING ROAD IN MALAYSIA

5.3 Interchange 9:
KLORR - NORTH SOUTH EXPRESSWAY

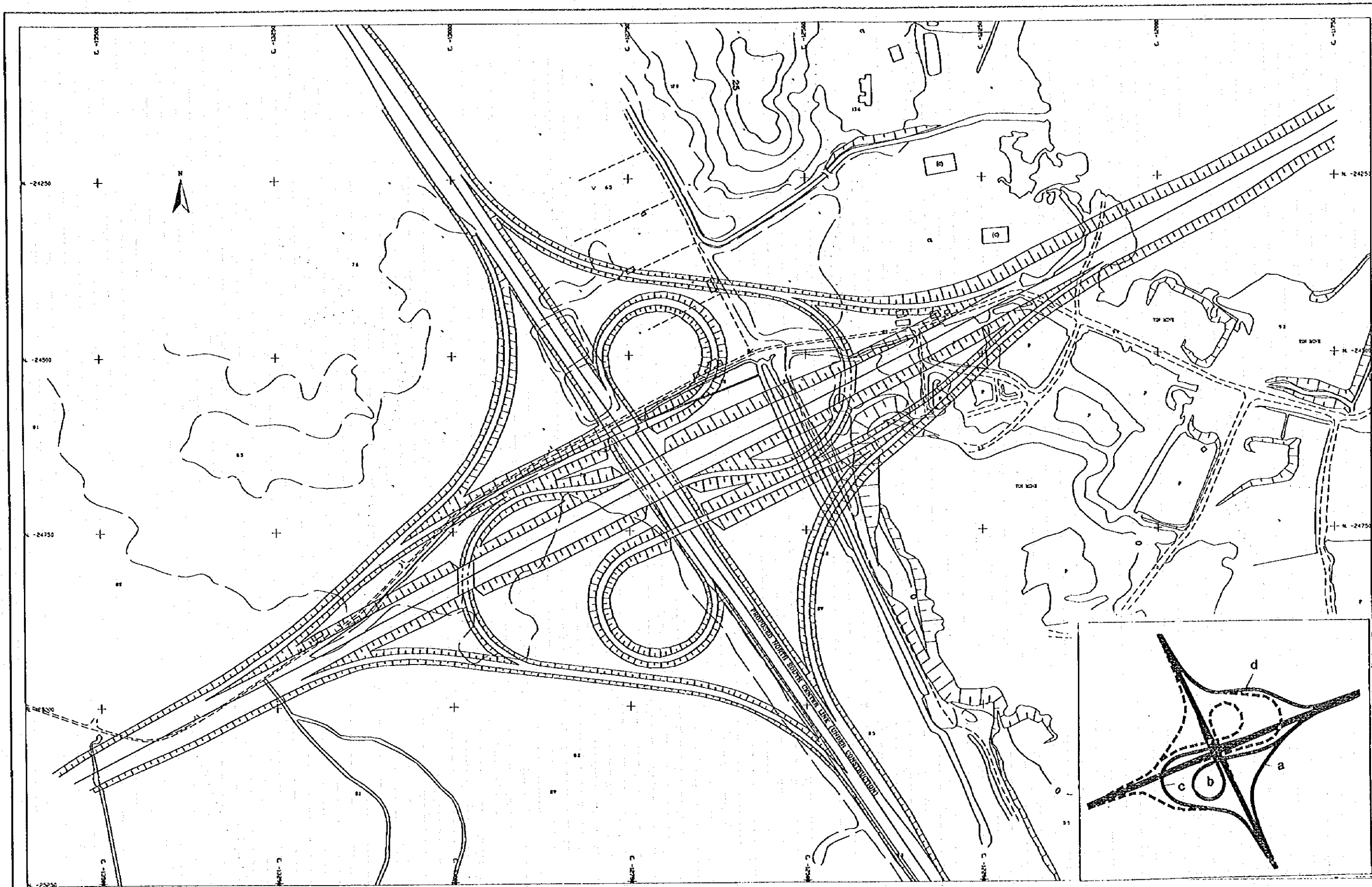
JAPAN INTERNATIONAL COOPERATION AGENCY
HIGHWAY PLANNING UNIT,
MINISTRY OF WORKS, MALAYSIA
CONSULTANTS:
FUKUYAMA CONSULTANTS INTERNATIONAL
PACIFIC CONSULTANTS INTERNATIONAL



5.3.1 I/C No.9: KLORR - KL-Seremban Exp. Profile



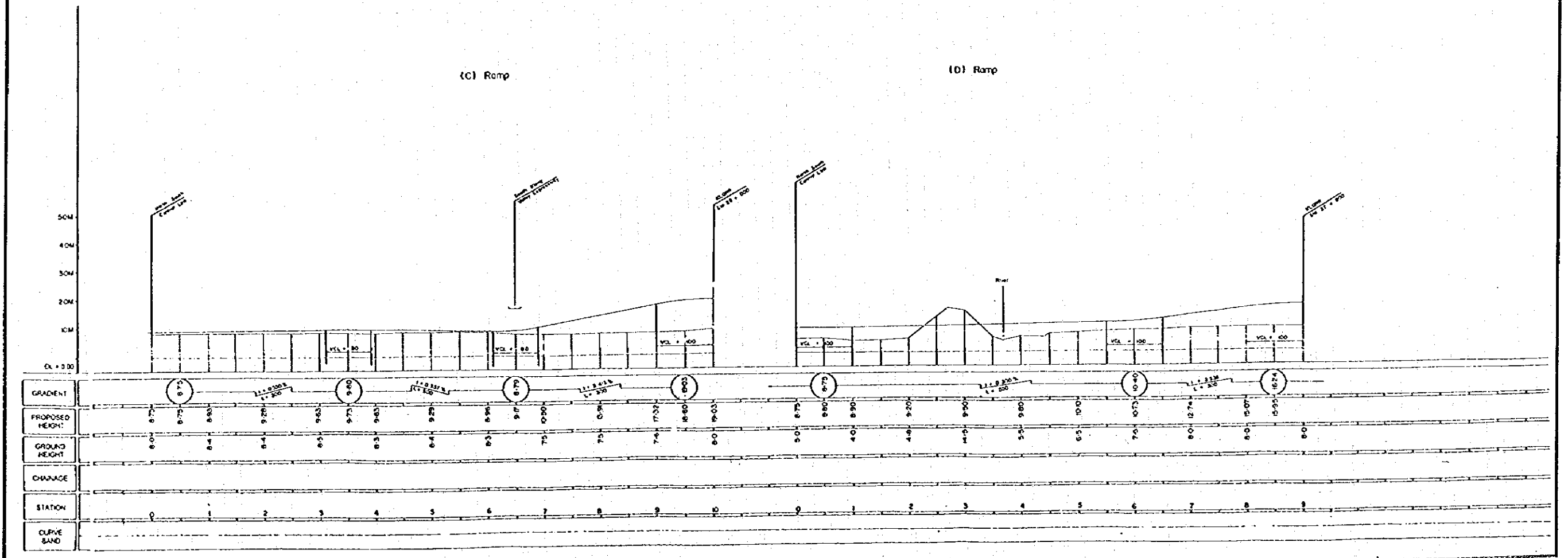
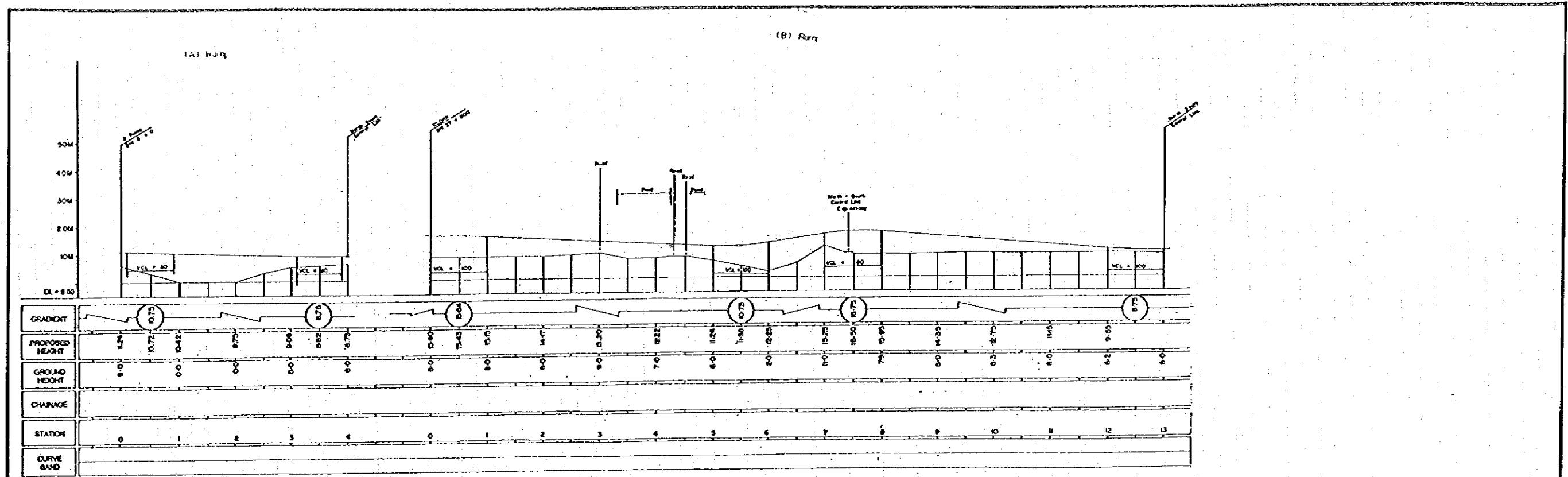
5.3.2 I/C No.9: KLORR - KL-Seremban Exp. Profile



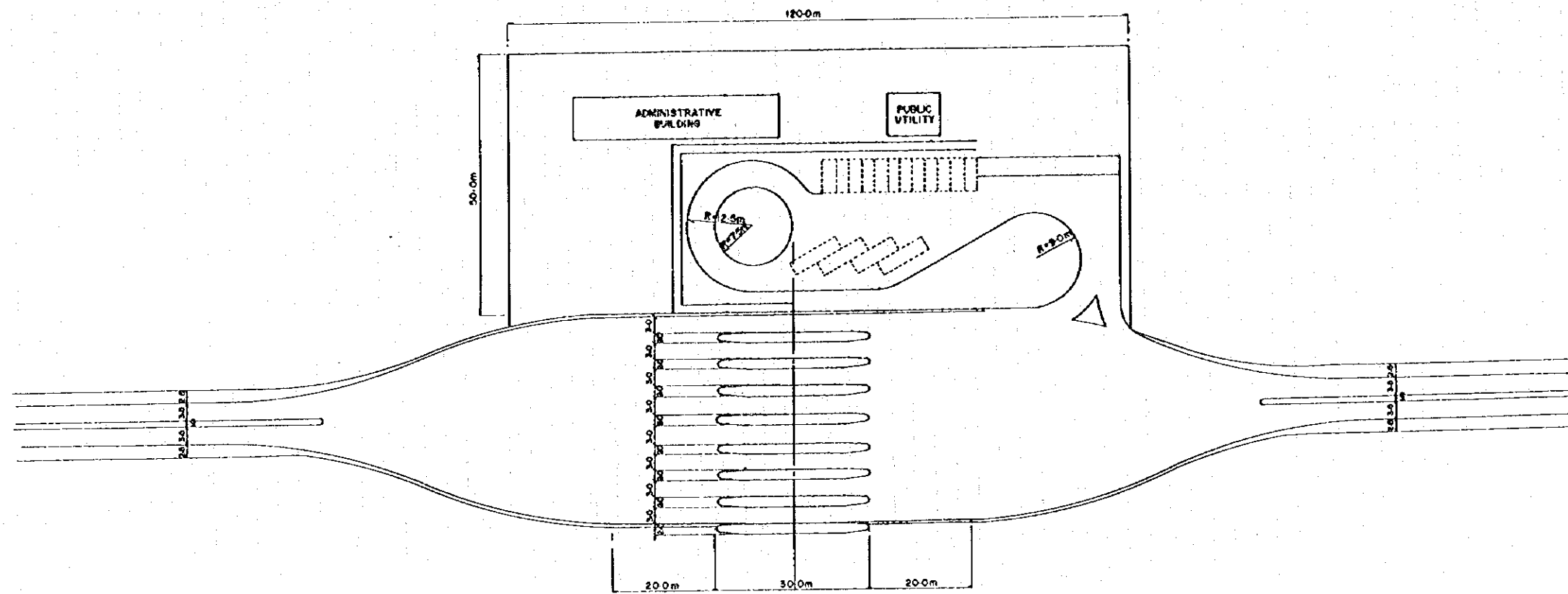
THE FEASIBILITY STUDY ON
KUALA LUMPUR OUTER RING ROAD IN MALAYSIA

5.4 Interchange 13:
KLORR - NORTH SOUTH CENTRAL LINK
EXPRESSWAY

JAPAN INTERNATIONAL COOPERATION AGENCY
HIGHWAY PLANNING UNIT,
MINISTRY OF WORKS, MALAYSIA
CONSULTANTS:
FUKUYAMA CONSULTANTS INTERNATIONAL
PACIFIC CONSULTANTS INTERNATIONAL



5.4.1 I/C No.13: KLORR - N-S Central Link Exp. Profile



5.5 Toll Plaza