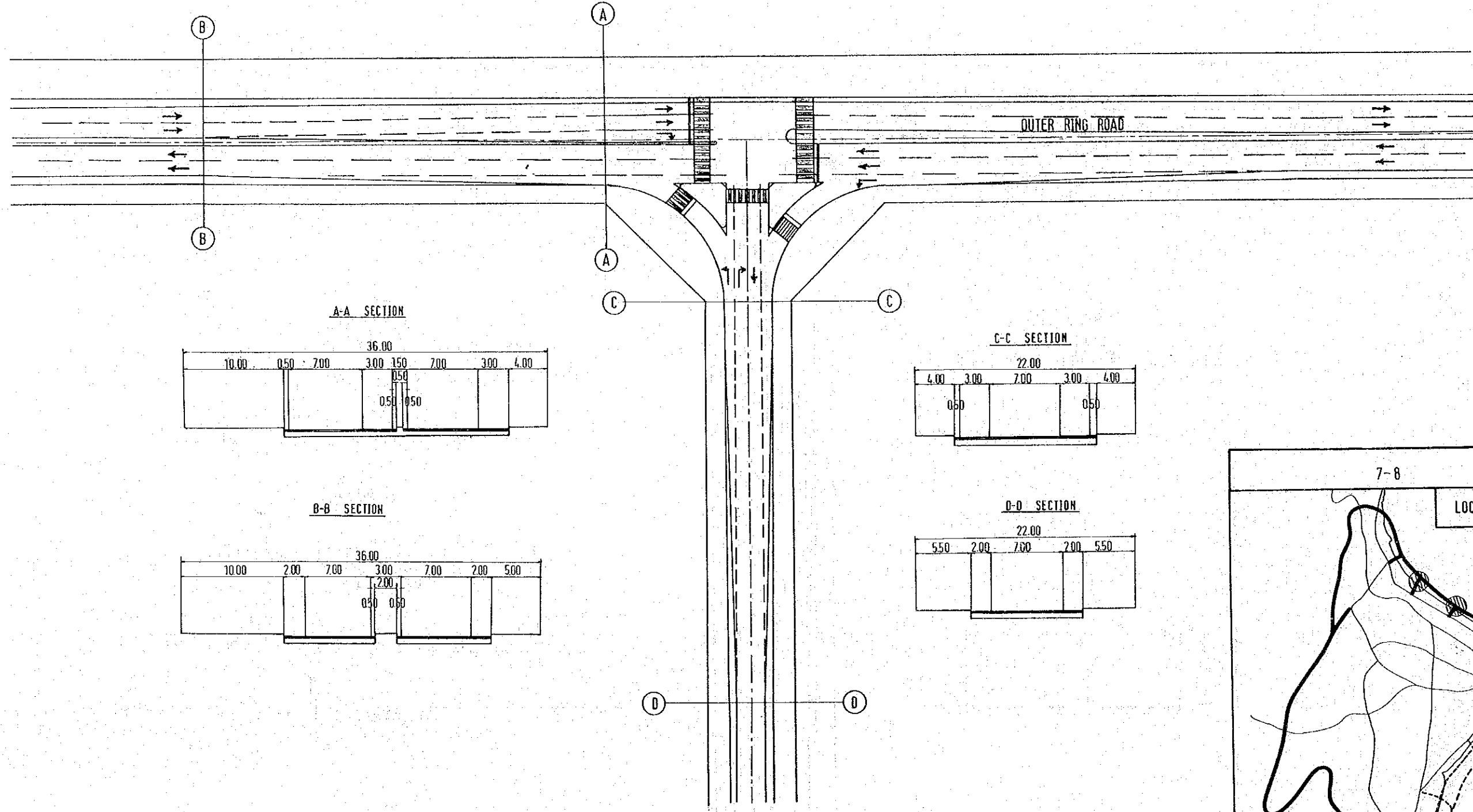
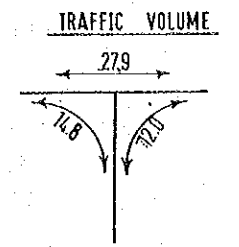
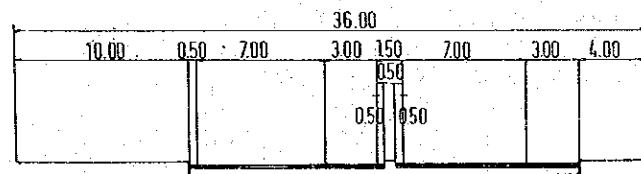


AT-GRADE INTERSECTION PLAN

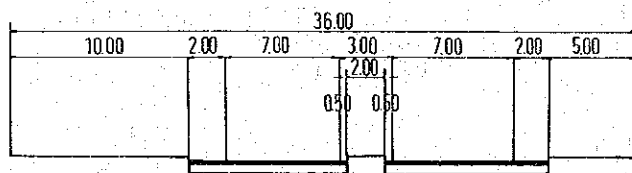
SCALE 0 10 20 30 40 50 m



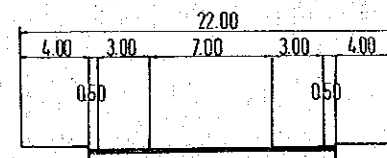
A-A SECTION



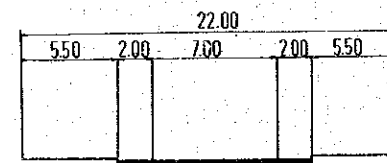
B-B SECTION



C-C SECTION

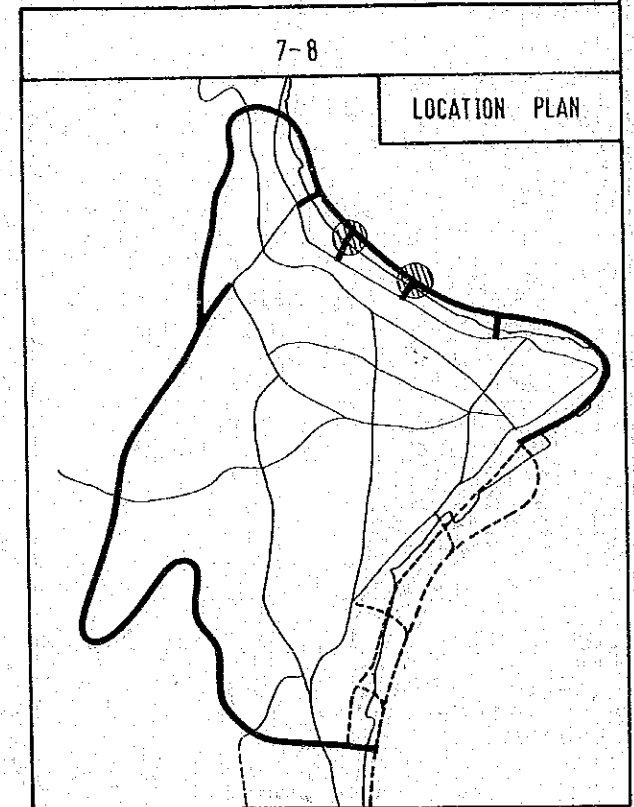


D-D SECTION



7-8

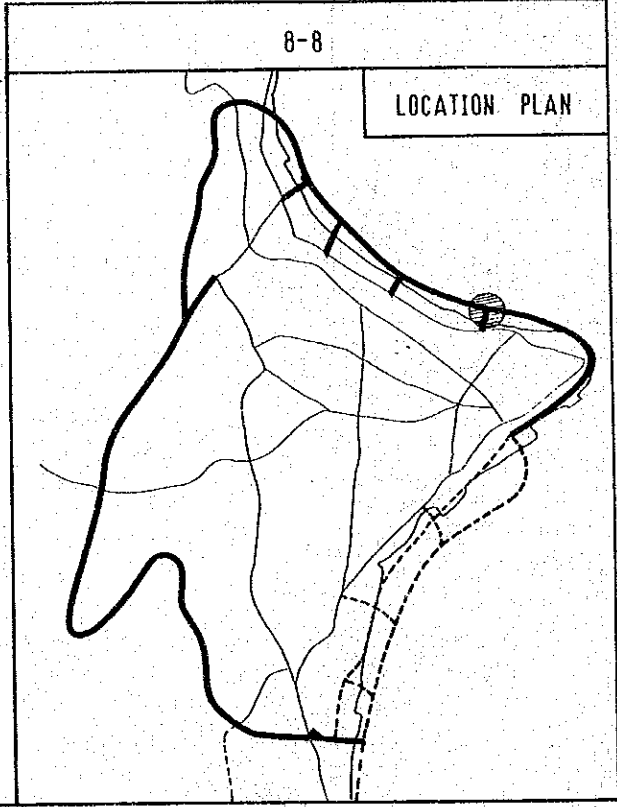
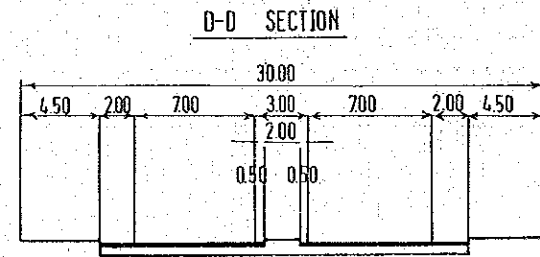
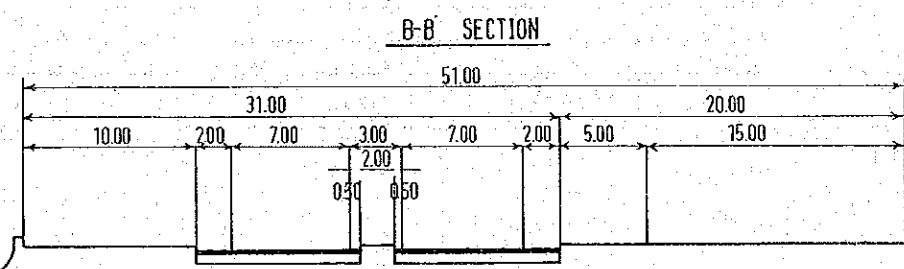
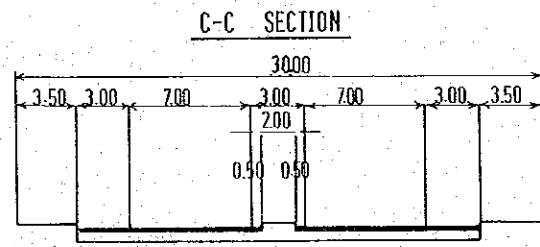
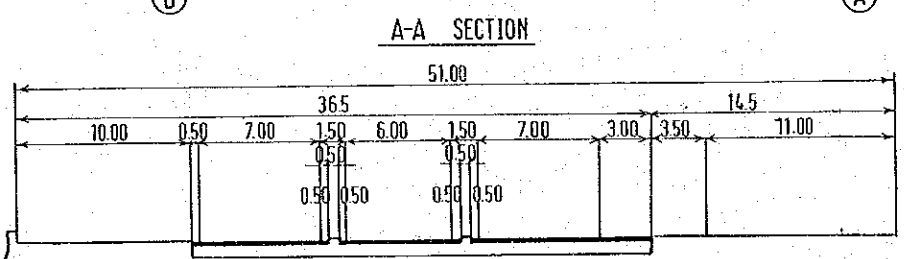
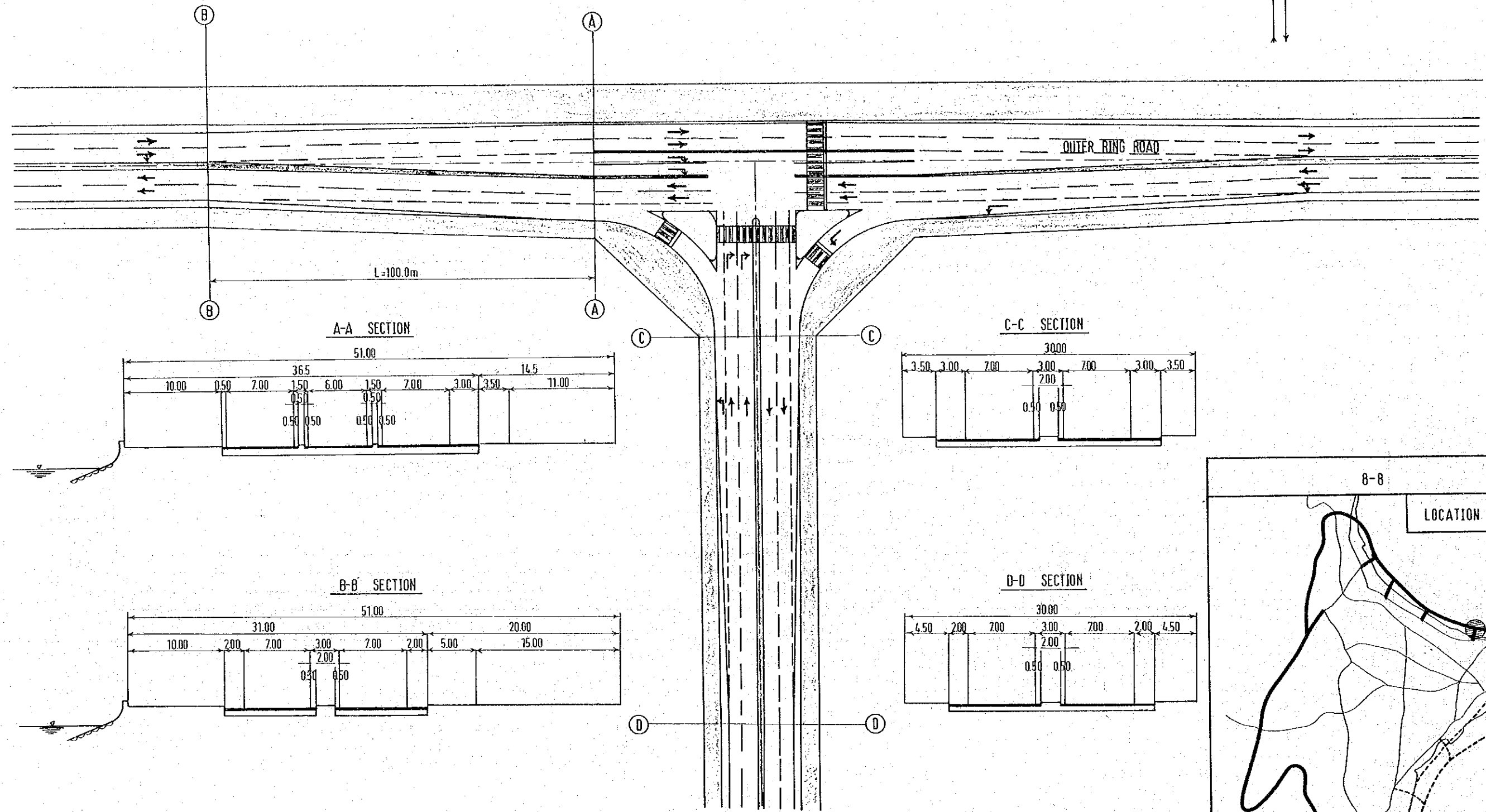
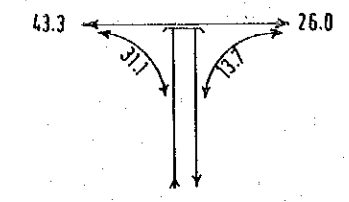
LOCATION PLAN



AT - GRADE INTERSECTION PLAN

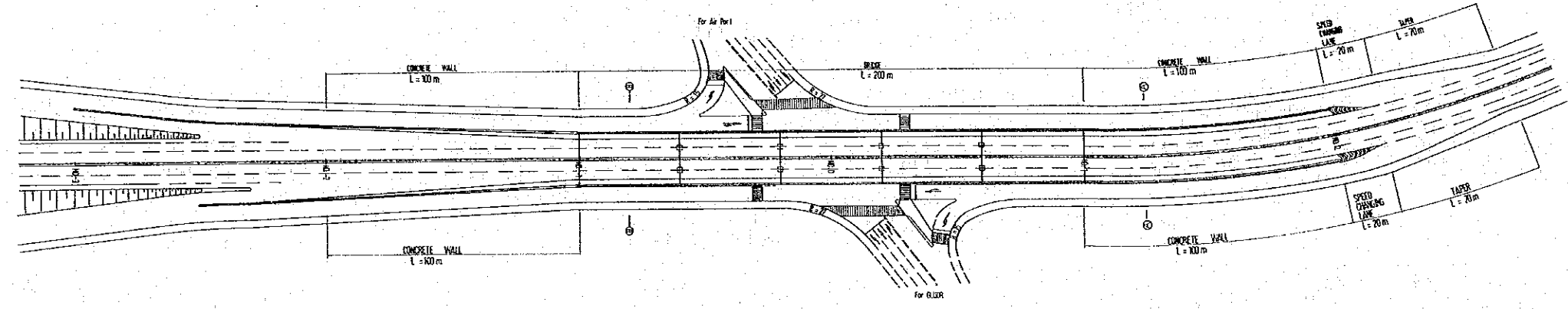
SCALE 10 20 30 40 50 m

TRAFFIC VOLUME
(PCU/DAY)

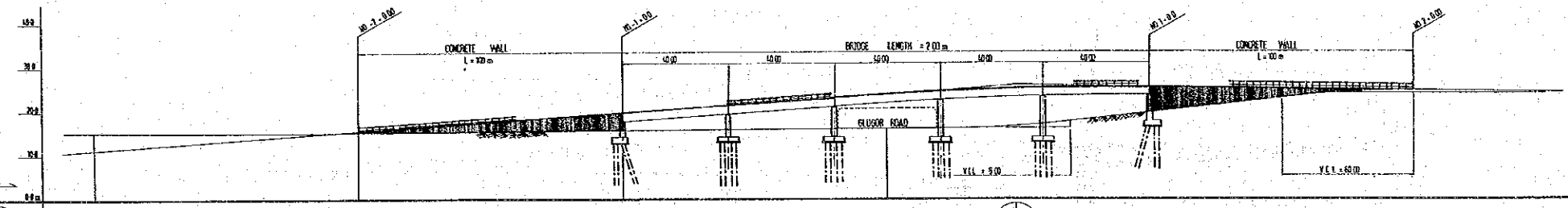


GRADE SEPARATION PLAN (GLUGOR ROAD)

PLAN SCALE = 1:500

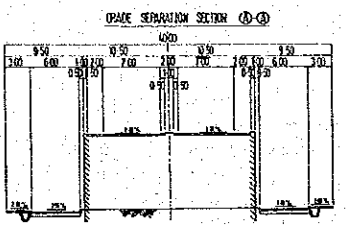


SIDE ELEVATION SCALE = 1:500

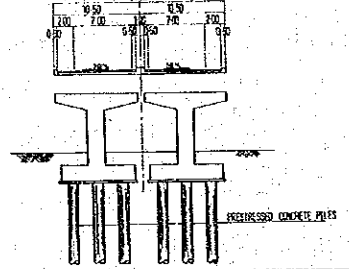


PROPOSED HEIGHT	5.00	5.00	5.00	5.00	5.00	5.00	5.00
DISTANCE	0.00	100.00	200.00	300.00	400.00	500.00	600.00
STATION	0+00	1+00	2+00	3+00	4+00	5+00	6+00

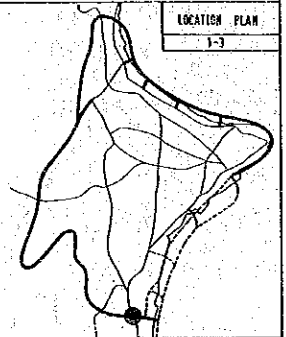
CROSS SECTION



BRIDGE SECTION

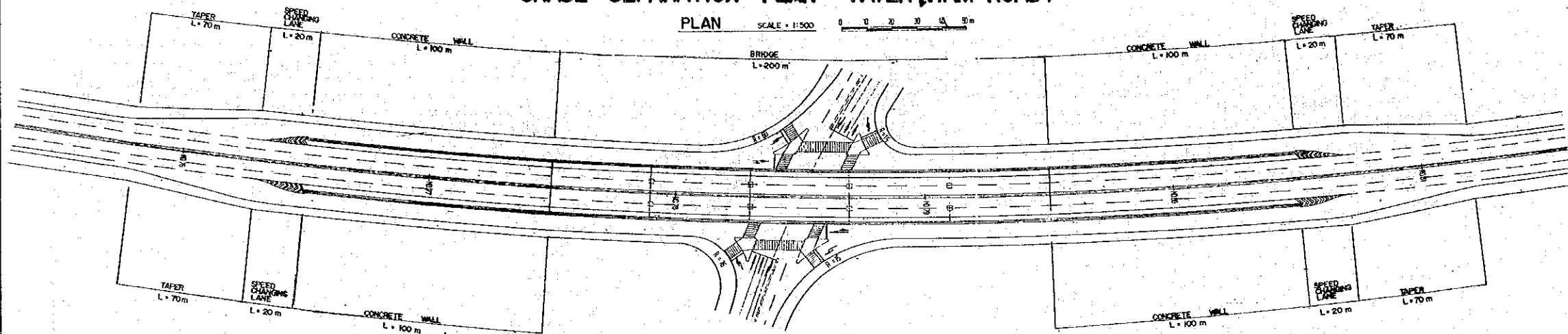


LOCATION PLAN

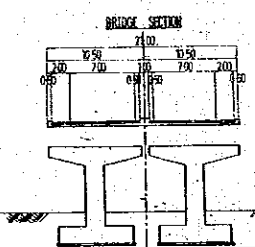
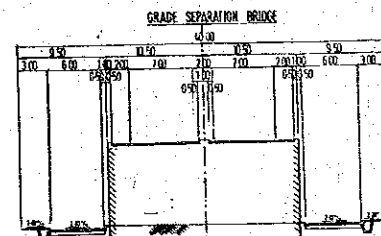
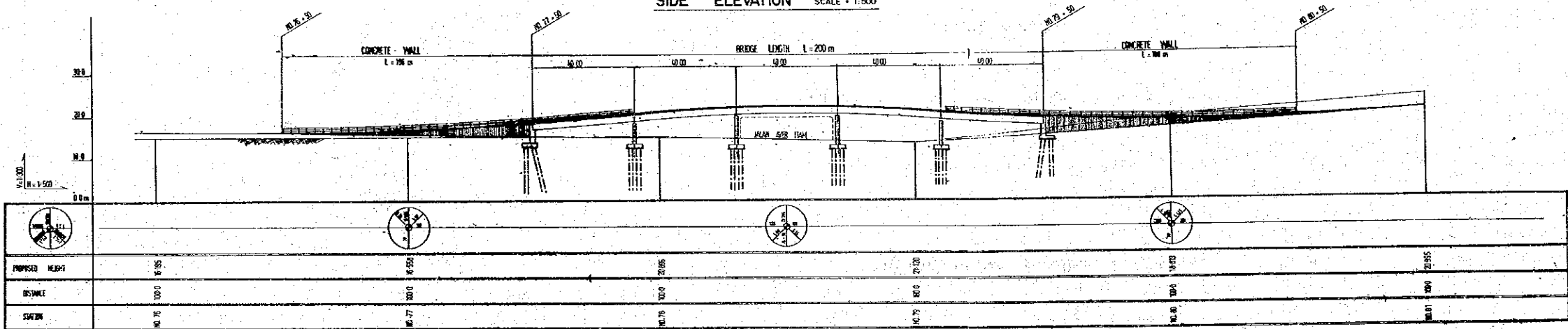


GRADE SEPARATION PLAN (AYER, JAM ROAD)

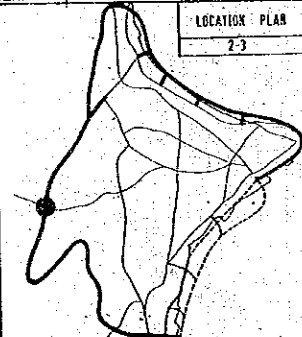
PLAN SCALE = 1:500



SIDE ELEVATION SCALE = 1:500

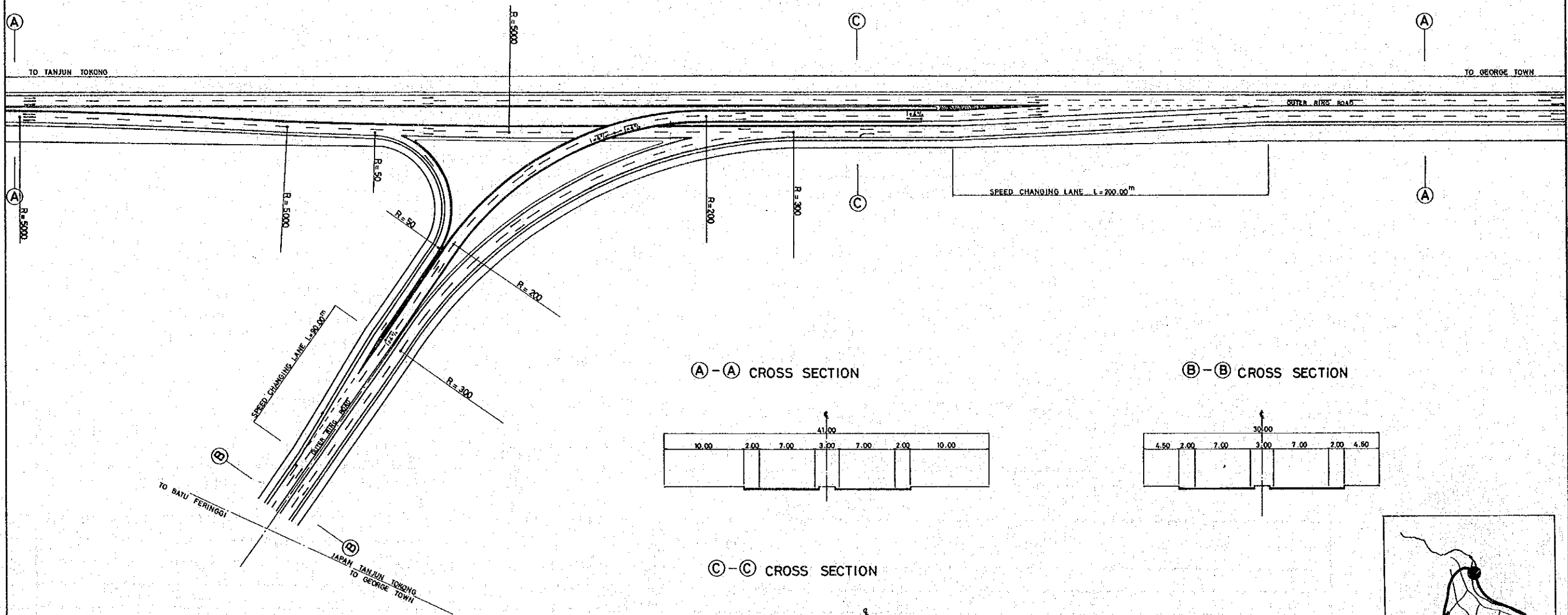


LOCATION PLAN

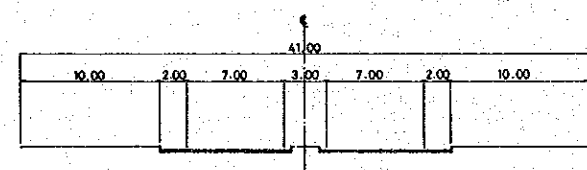


GREAT SEPARATION PLAN (STA 145)
(ALTERNATIVE PLAN)

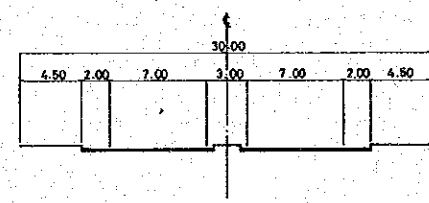
SCALE 0M 20M 40M 60M 80M 100M



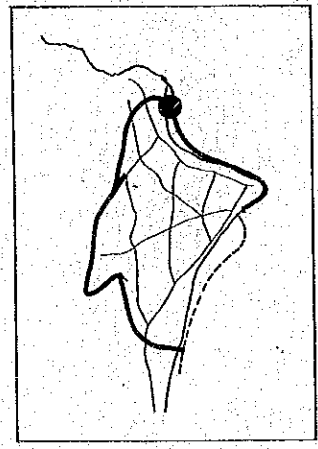
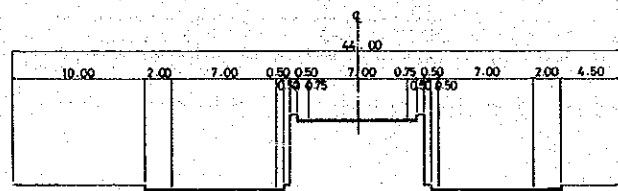
Ⓐ-Ⓐ CROSS SECTION



Ⓑ-Ⓑ CROSS SECTION



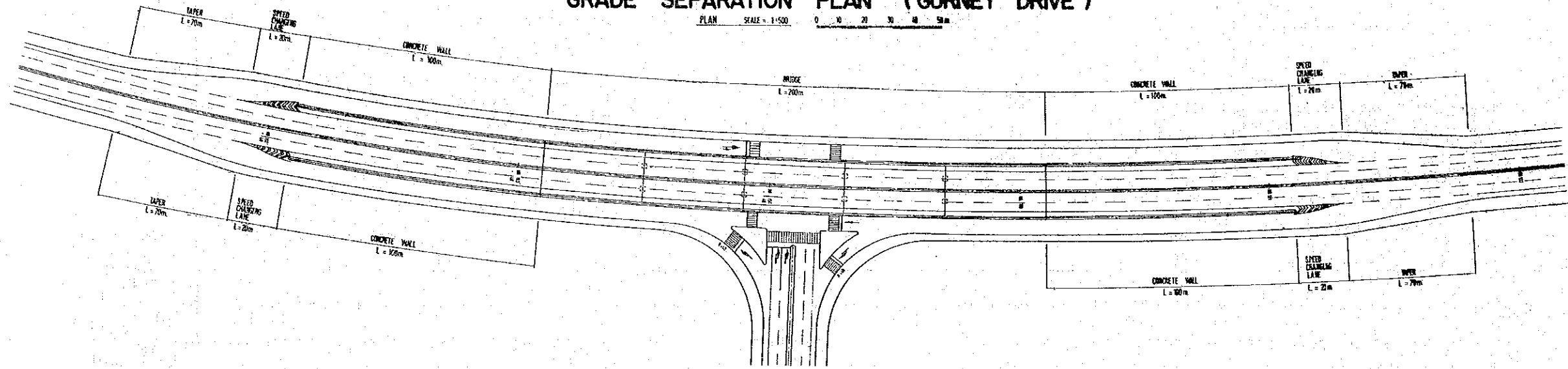
Ⓒ-Ⓒ CROSS SECTION



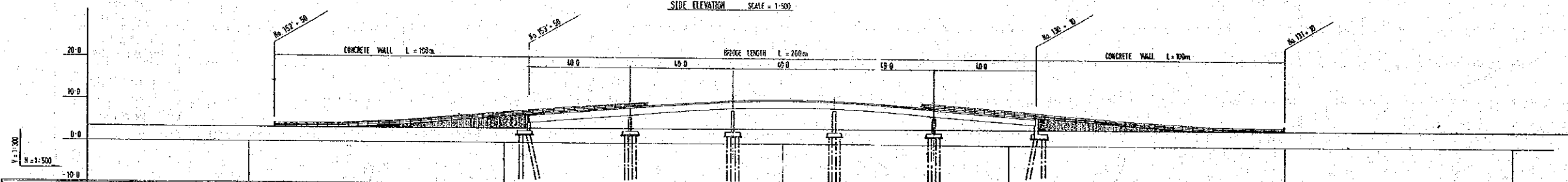
GRADE SEPARATION PLAN (GURNEY DRIVE)

34-41

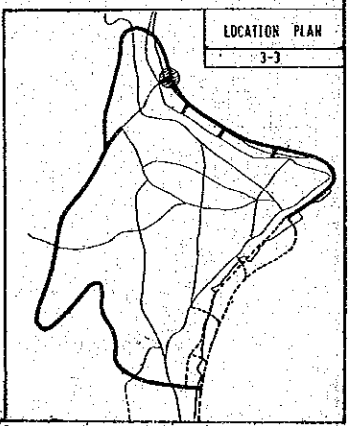
PLAN SCALE = 1:500 0 10 20 30 40 50m



SIDE ELEVATION SCALE = 1:500



PROPOSED HEIGHT	2.000	3.000	3.50	3.000	5.750	4.000	6.750	3.000	3.000	3.000
DISTANCE	0.0	10.0	20.0	50.0	100.0	100.0	75.0	25.0	10.0	0.0
STATION	1+000	1+010	1+030	1+080	1+180	1+440	1+515	1+540	1+550	1+560



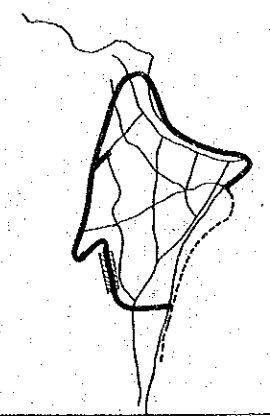
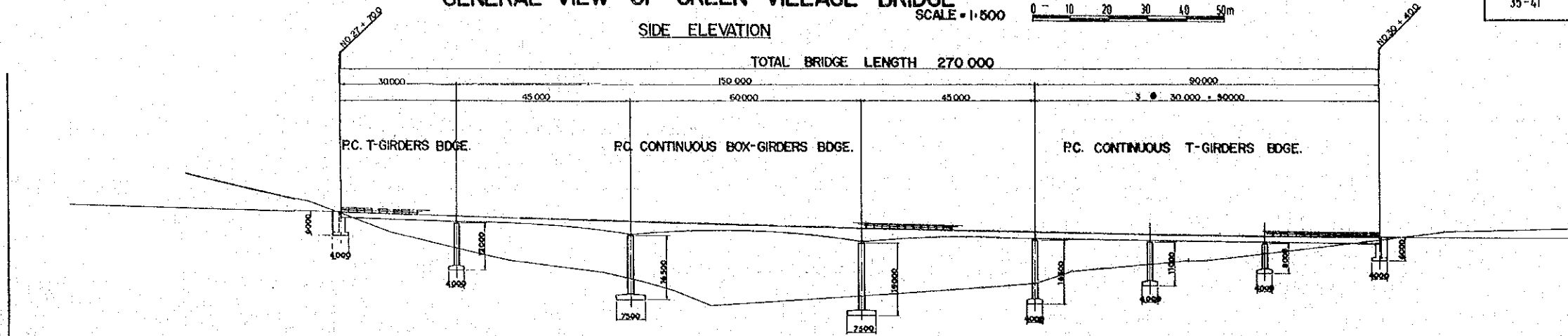
GENERAL VIEW OF GREEN VILLAGE BRIDGE

SCALE = 1:500



35-41

SIDE ELEVATION



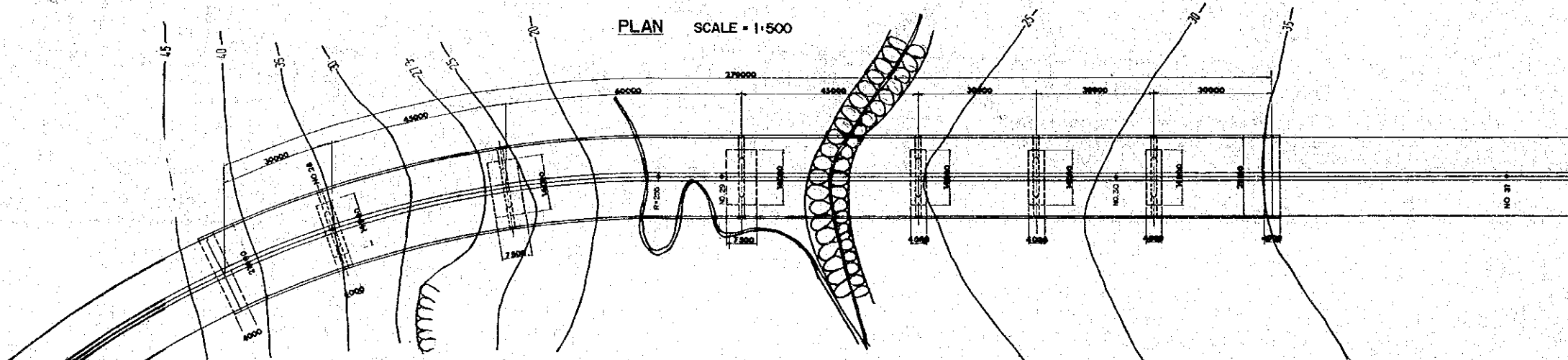
1-5

D.L. = 10.0m

SCALE 1:500

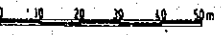
	0+00	0+30	0+60	0+90	0+120	0+150
PROPOSED HEIGHT (m)	45.000	42.000	38.000	36.000	34.750	34.750
EMBANKMENT HEIGHT (m)		0.000	20.000	4.000		
CUTTING DEPTH (m)	7.500 13.400					3.25
EXISTING G.H. (m)	47.6 58.4	34.0	18.40	31.5	31.50	31.50
ACCUMULATE DISTANCE (m)	27000	28000	30000	30000	30000	30000
DISTANCE (m)		1000	1000	1000	1000	1000
STATION	NO.27	NO.28	NO.29	NO.30	NO.31	NO.31

PLAN SCALE = 1:500

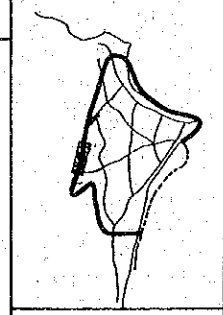


GENERAL VIEW OF RIFLE RANGE BRIDGE

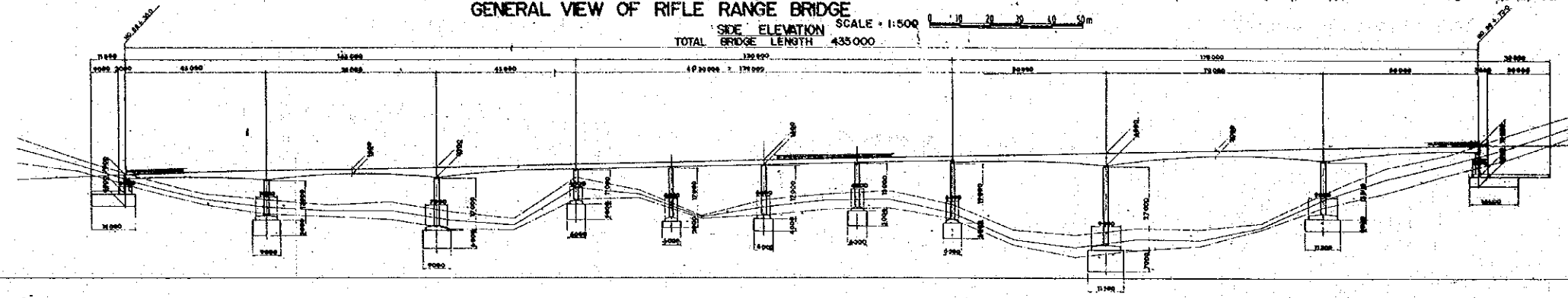
SCALE = 1:500
TOTAL BRIDGE LENGTH 435.000



36-41



2-5



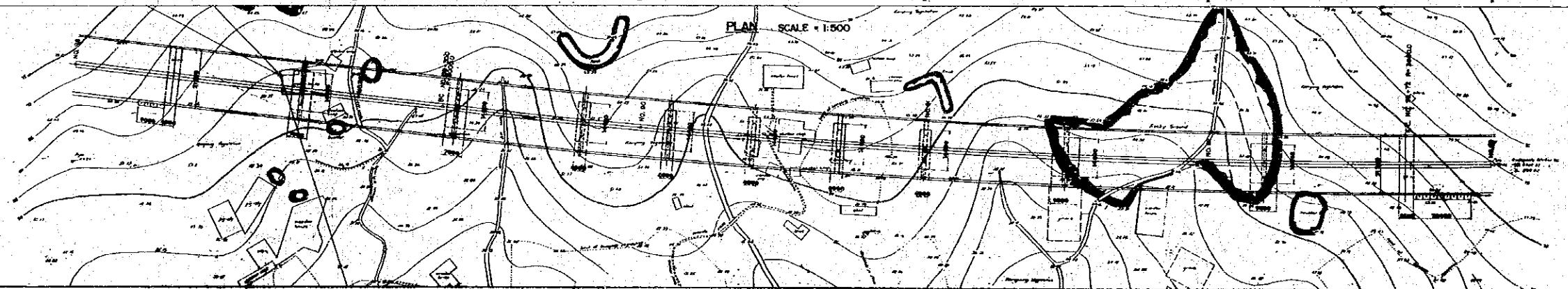
D.L. = 30.0

SCALE 1:500



PROPOSED HEIGHT (m)	12.20	12.20	12.20	12.20	12.20	12.20	12.20	12.20	12.20	12.20	12.20	12.20	12.20
EMBANKMENT HEIGHT (m)		1.30		1.30		1.30		1.30		1.30		1.30	
CUTTING DEPTH (m)	10.80												
EXISTING G.H. (m)	7.4	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9
ACCUMULATE DISTANCE (m)	0	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000	12000
DISTANCE (m)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
STATION	0+00	1+00	2+00	3+00	4+00	5+00	6+00	7+00	8+00	9+00	10+00	11+00	12+00

PLAN SCALE = 1:500



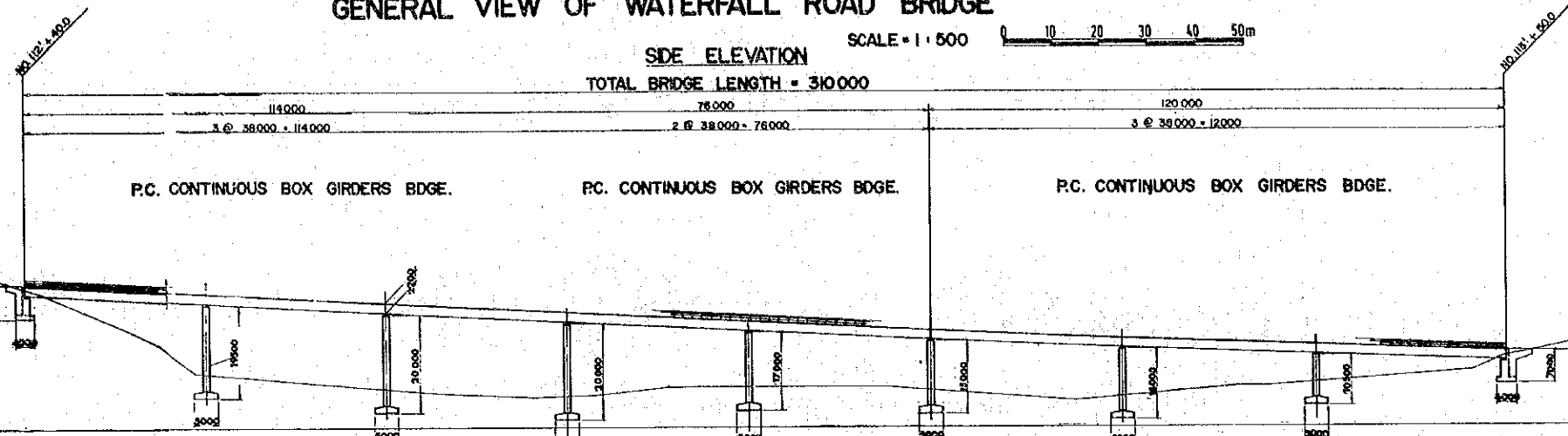
GENERAL VIEW OF WATERFALL ROAD BRIDGE

SIDE ELEVATION

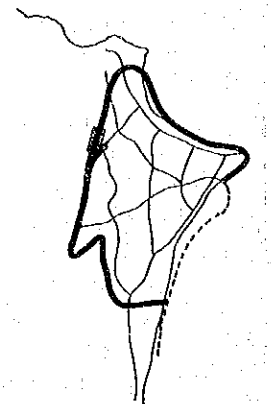
SCALE = 1 : 500



TOTAL BRIDGE LENGTH = 310 000



37-41

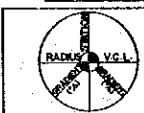


3-5

D.L. = 10.0m

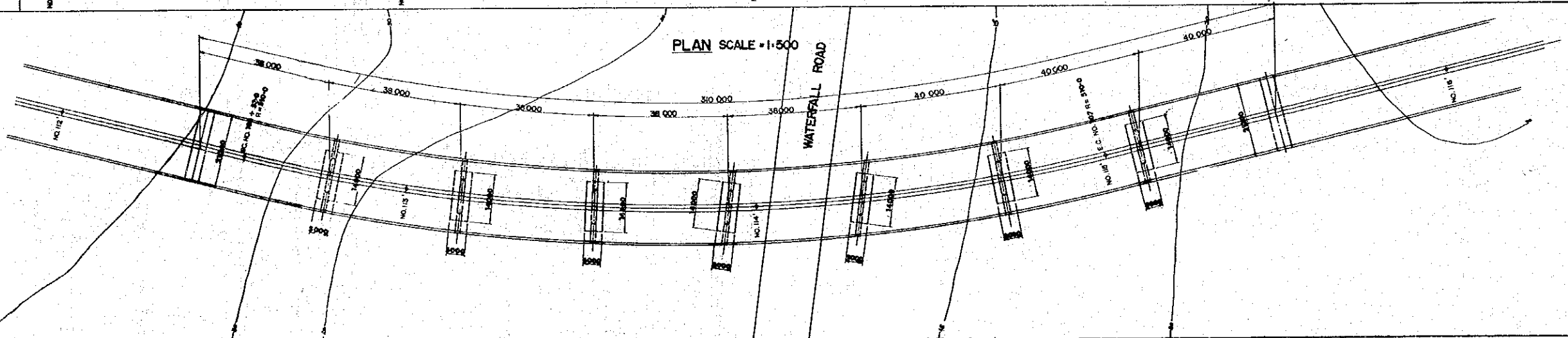
SCALE

1:500



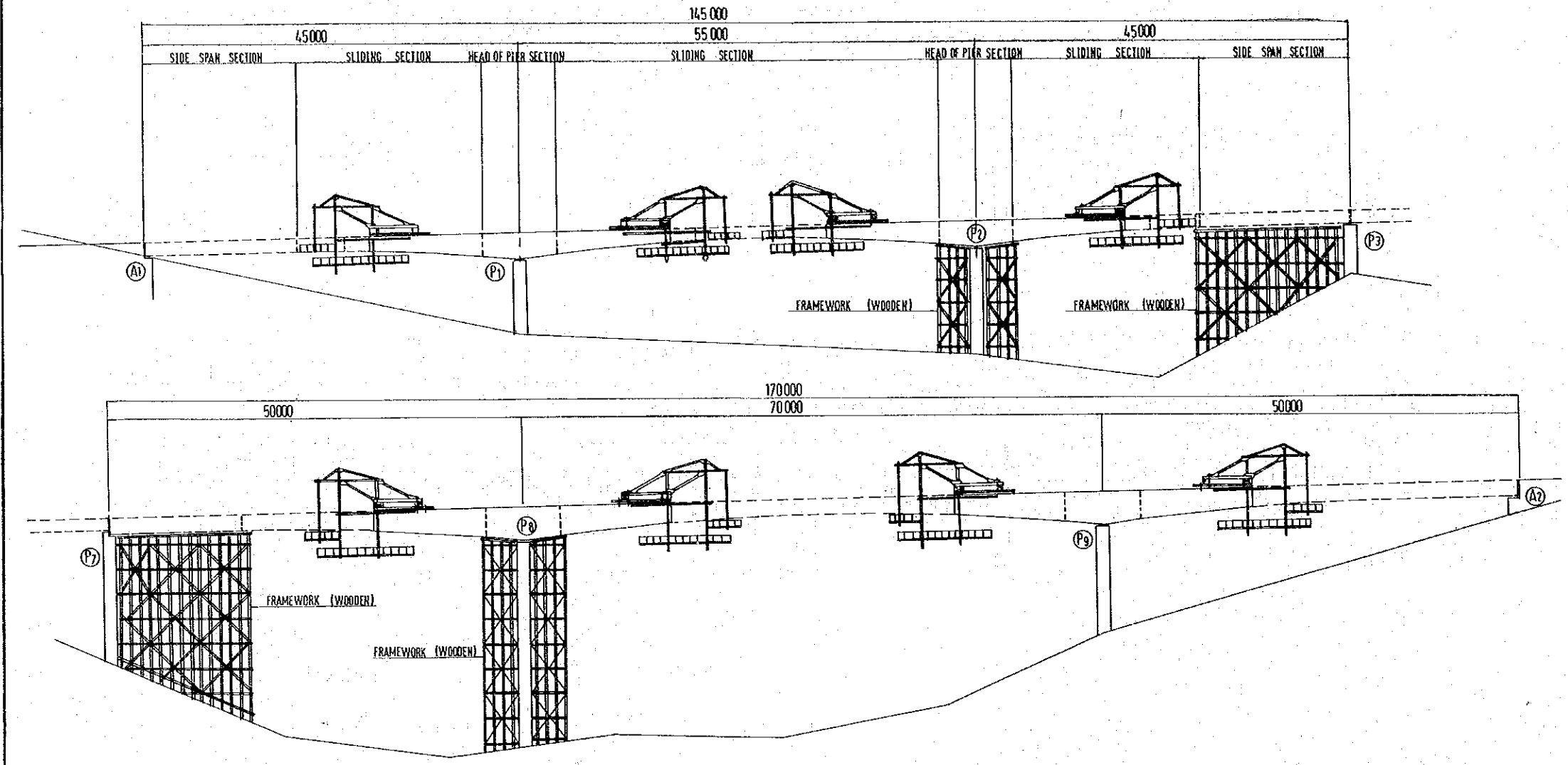
PROPOSED HEIGHT (m)	40.045	39.045	30.045	20.045	20.045
EMBANKMENT HEIGHT (m)		10.045	14.045		
CUTTING DEPTH (m)	6.005				10.005
EXISTING G.H. (m)	52.0	49.2	16.2	16.2	30.0
ACCUMULATE DISTANCE (m)	1500	1200	11400	11500	11600
DISTANCE (m)	100.0	100.0	100.0	100.0	100.0
STATION	100.0	100.0	100.0	100.0	100.0

PLAN SCALE = 1:500

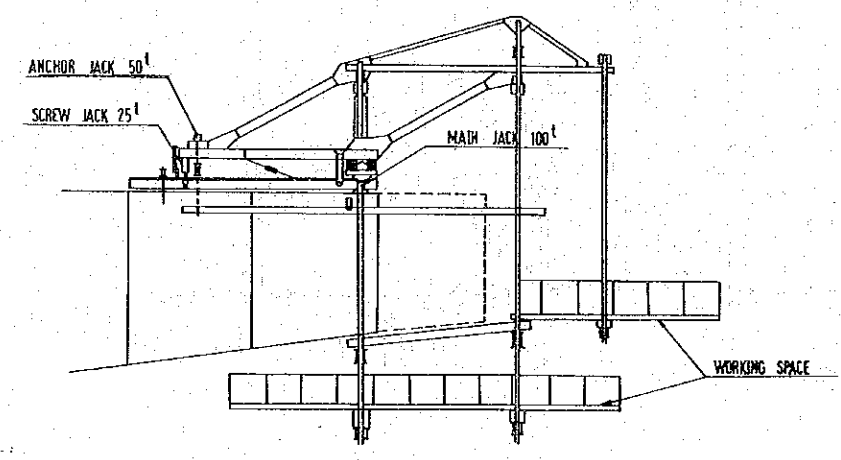


CONSTRUCTION PLAN (DYWIDAG METHOD)

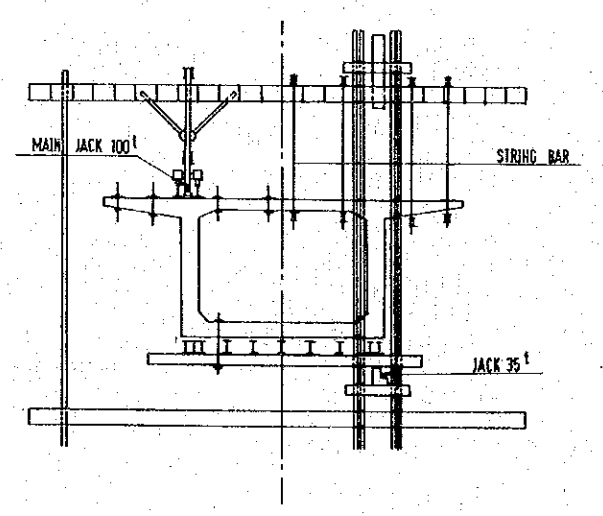
SIDE VIEW



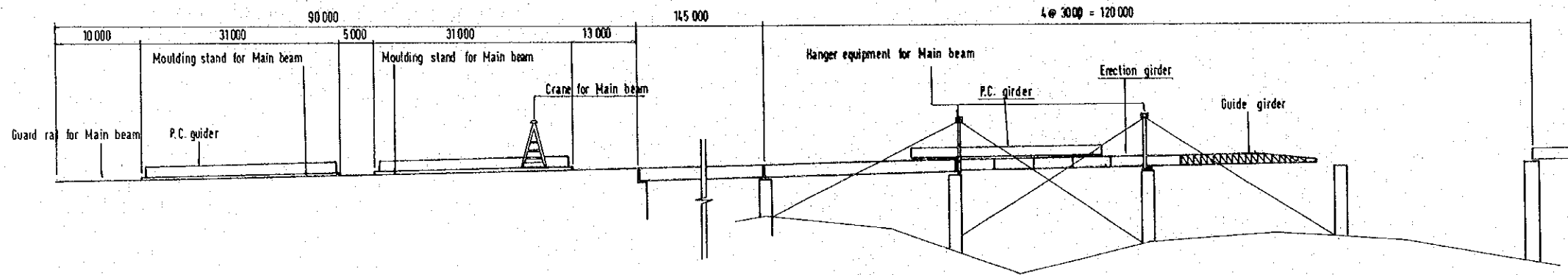
SIDE SECTION



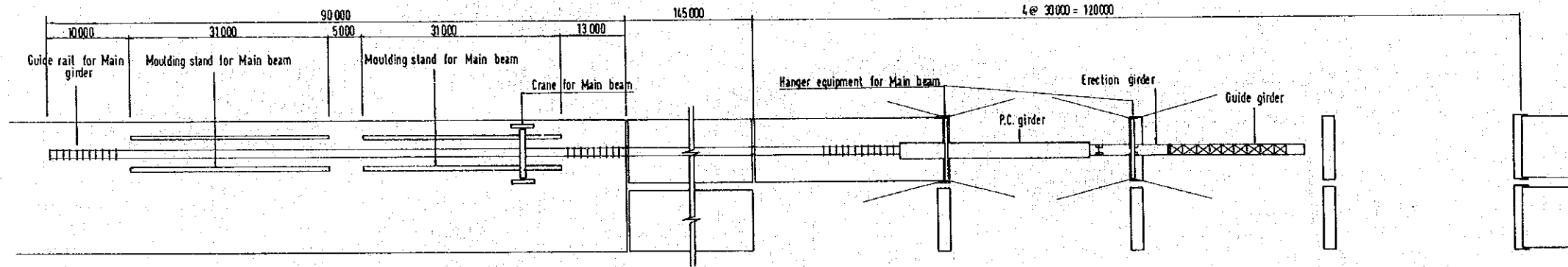
CROSS-SECTION



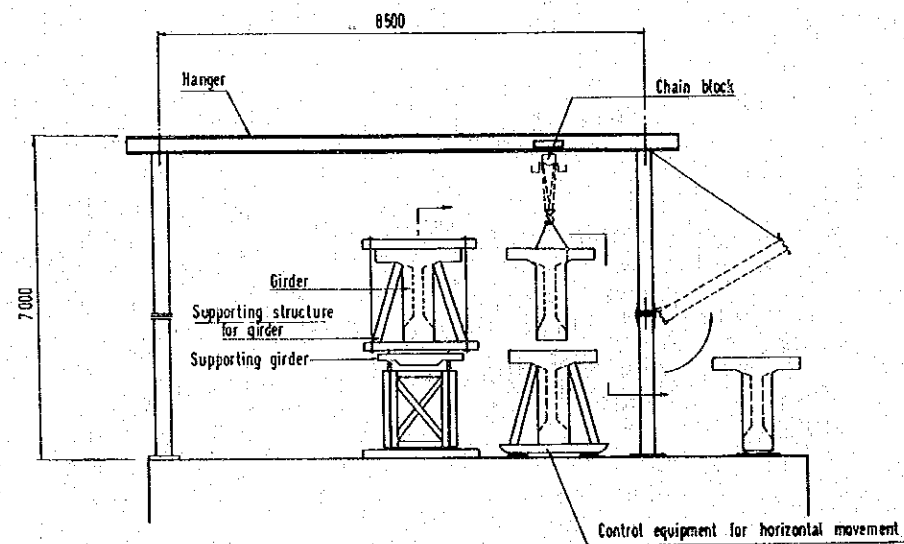
SIDE VIEW



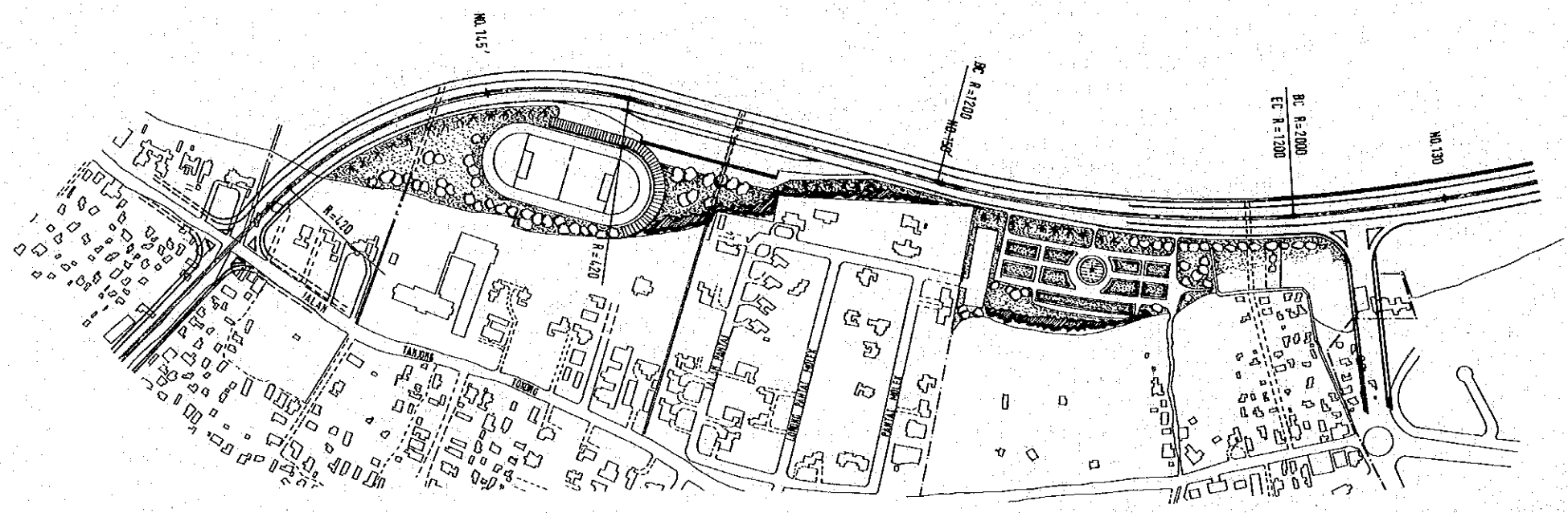
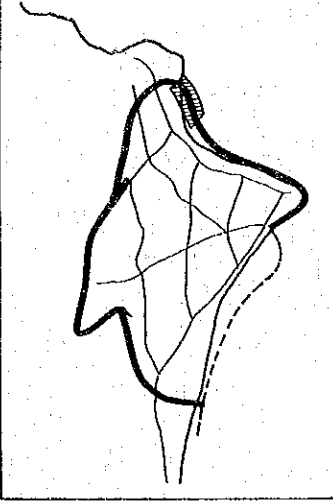
PLAN



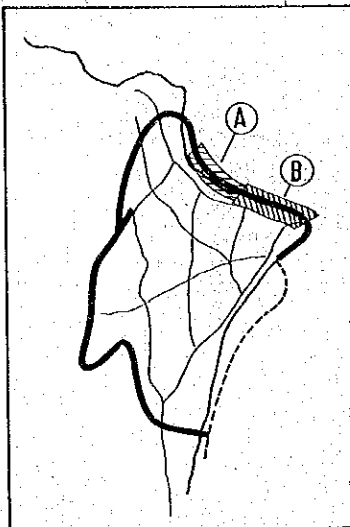
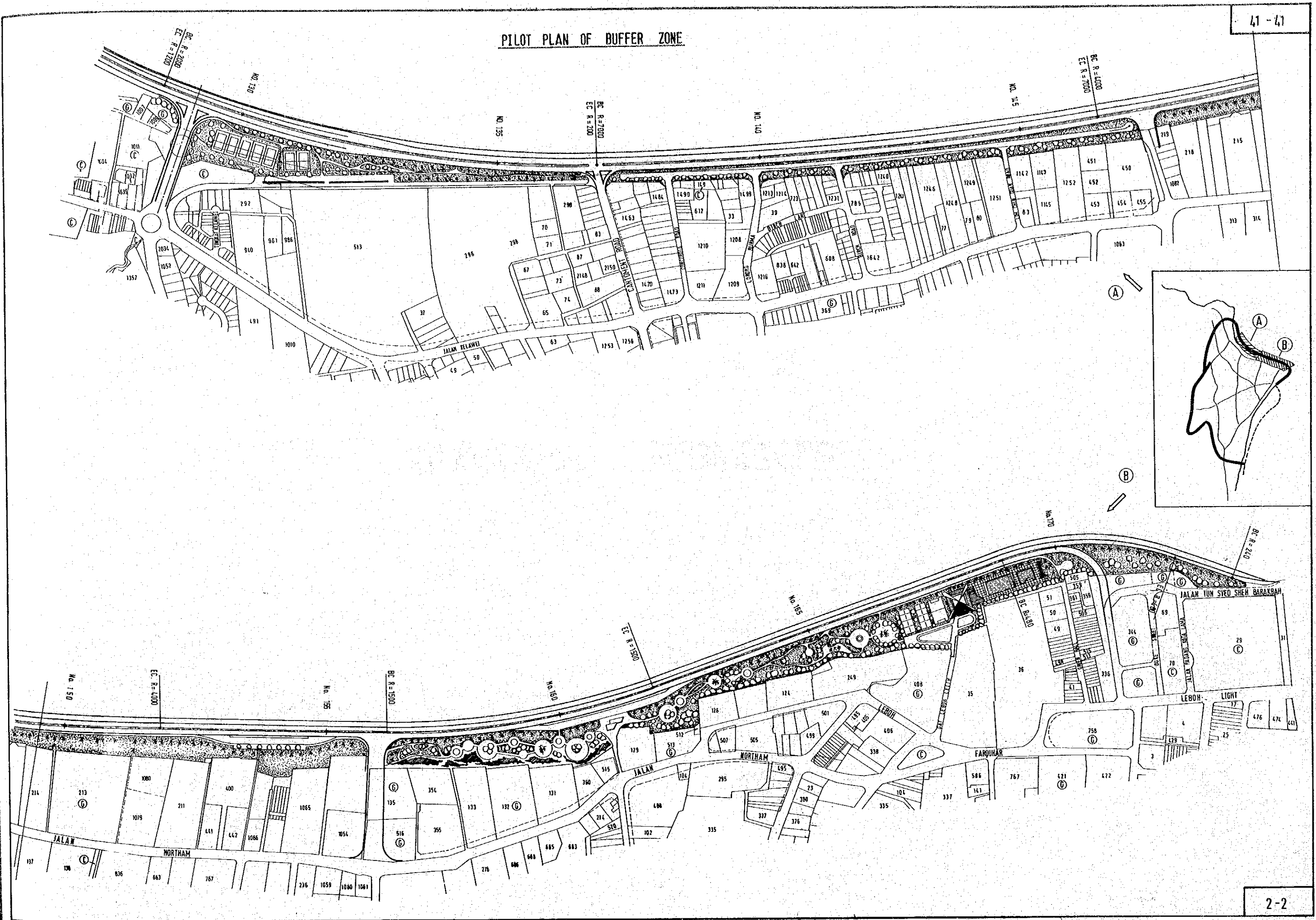
CROSS SECTION



PILOT PLAN OF BUFFER ZONE



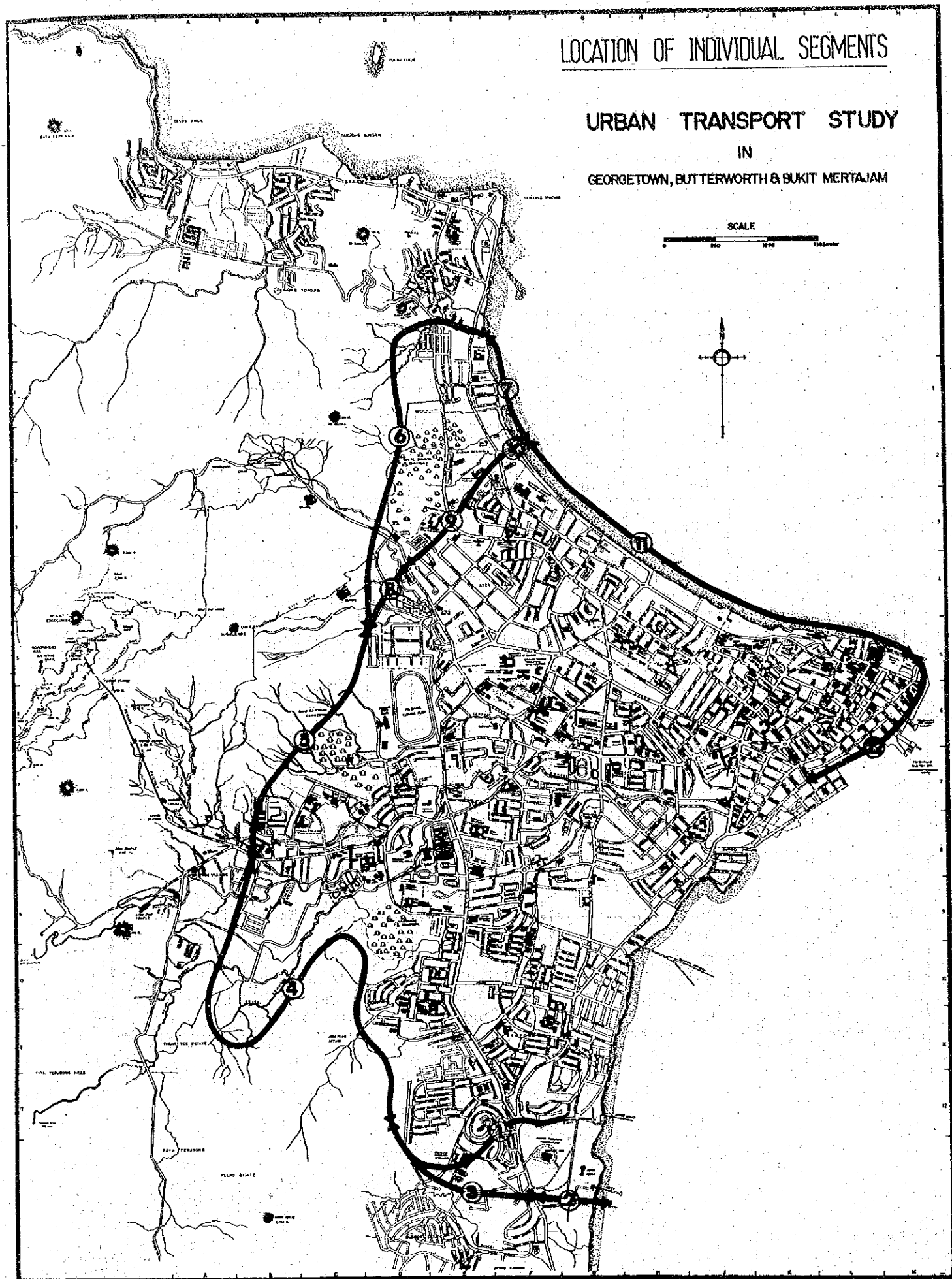
PILOT PLAN OF BUFFER ZONE



ESTIMATION OF CONSTRUCTION QUANTITY

OF

INDIVIDUAL SEGMENTS



THE LENGTH OF INDIVIDUAL SEGMENTS

Segment	Station No.	Length (m)	Remarks
1	No -5 ~ No 20	2,500	
2	No -7 ~ No 0	700	
3	No 0 ~ No 20	2,000	
4	No 20 ~ No 79	5,900	
5	No 79 ~ No 100	2,100	
6	No 100' ~ No 143'	4,300	
7	No 143' ~ No 154' + 50	1,150	
8	No 100 ~ No 112	1,200	
9	No 112 ~ No 128	1,600	
10	No 128 ~ No 129 + 10	110	
11	No 129 + 10 ~ No 173 + 0	3,390	
12	No 173 ~ No 194	2,100	

(4-lane)

QUANTITY LIST OF INDIVIDUAL SEGMENTS

Item	Sub-Item	Class	Unit	Quantity											
				Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6	Segment 7	Segment 8	Segment 9	Segment 10	Segment 11	Segment 12
Site Clearing	Residential		m ²	112,710	25,400	75,260	0	0	0	0	0	15,000	0	0	0
	Field		m ²	0	0	0	0	0	0	0	0	0	0	0	0
	Mountain		m ²	0	0	0	297,030	80,190	163,130	0	45,670	0	0	0	0
Excavation	Soil		m ³	58,800	18,000	263,800	579,500	168,600	353,000	0	88,000	11,250	0	0	0
	Rock		m ³	407,000	0	328,800	234,100	162,050	223,500	0	169,400	0	0	0	0
Embankment			m ³	79,850	12,600	47,650	503,750	30,650	164,200	273,250	13,550	0	0	1,490,660	0
Slope	Grass		m ²	15,950	1,160	12,690	44,520	17,790	29,850	0	9,400	0	0	0	0
	Concrete		m ²	25,700	0	23,260	23,970	14,480	21,590	0	14,470	0	0	0	0
Turfing	Sidewalk	Grass & Tree	m ²	5,000	1,160	755	0	0	0	1,150	0	1,500	200	44,500	0
	Open Space	Grass	m ²	0	0	0	16,450	0	0	0	0	0	0	157,400	0
Drainage	Roadside	0.5 x 1.0	m	5,000	1,600	4,000	4,500	0	1,600	1,150	0	1,500	400	8,900	4,000
		1.0 x 1.0	m	5,000	0	1,100	3,600	2,150	7,000	0	1,120	0	0	0	0
	Pipe Culvert	600	m	150	60	120	468	172	344	92	89	90	0	360	0
	Box Culvert	3.0 x 3.0	m	0	0	40	185	0	265	325	0	0	200	180	0
		5.0 x 5.0	m	0	0	0	0	0	0	0	0	0	0	0	0
	Demolishing	0.5 x 1.0	m	0	0	0	0	0	0	0	0	1,500	400	0	4,000
Wall	Concrete	H = 5.0	m	200	0	200	200	300	0	200	200	0	0	0	0
	Masonry	H = 5.0	m	0	0	0	0	0	0	0	0	0	0	0	0
	Revetment	Stone	m	0	0	0	0	0	0	1,150	0	0	0	4,450	0

(4-lane)

QUANTITY LIST OF INDIVIDUAL SEGMENT (CON'T)

Item	Sub-Item	Class	Unit	Quantity											
				Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6	Segment 7	Segment 8	Segment 9	Segment 10	Segment 11	Segment 12
Pavement	Carriageway	Asphalt	m ²	35,600	14,200	33,400	90,280	28,440	50,240	18,400	18,400	12,000	0	71,200	0
	Shoulder	Asphalt	m ²	6,550	2,400	5,400	13,015	4,230	7,080	3,450	2,400	2,250	0	13,350	0
	Service Road	Asphalt	m ²	0	0	0	0	1,800	0	0	0	0	0	0	0
	Sidewalk	Concrete Block	m ²	9,220	7,400	7,600	3,480	7,480	6,400	11,500	0	6,000	0	44,500	3,000
	Overlay	Asphalt	m ²	0	0	0	0	0	0	0	0	0	13,500	3,600	0
Additional Facility	Kerb	Concrete	m	5,000	1,600	4,000	11,700	4,300	8,600	2,300	2,240	3,000	400	8,900	4,000
	Central Reserved	Concrete	m	2,500	800	2,000	8,850	2,150	4,300	1,150	1,120	1,500	200	4,450	2,000
	Guard Rail	Steel	m	5,000	800	1,000	4,500	2,150	4,300	2,300	0	3,000	200	8,900	4,000
	Lighting	Steel	m	0	0	0	0	0	0	1,150	0	0	0	4,450	0
	Lane-Marks	Paint	m	2,500	800	2,000	5,850	2,150	4,300	1,150	0	1,500	200	4,450	0
Intersection	At-grade		No.	1	1	1	2	0	3	0	0	3	1	3	3
	Interchange		Vol.	0	1	0	0	0	0	0	0	0	0	0	0
Bridge	L ≤ 50	Concrete	m ²	-	-	-	-	-	-	-	-	-	-	-	-
	L > 50	Concrete	m ²	-	-	-	-	-	-	-	-	-	-	-	-
Approach	Road		m	0	0	0	0	0	0	0	0	0	0	300	0

(2-lane)

QUANTITY LIST OF INDIVIDUAL SEGMENTS

Item	Sub-Item	Class	Unit	Quantity											
				Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6	Segment 7	Segment 8	Segment 9	Segment 10	Segment 11	Segment 12
Site Clearing	Residential		m ²	91,734	17,430	40,920	0	0	0	0	0	0	0	0	0
	Field		m ²	0	0	0	0	0	0	0	0	0	0	0	0
	Mountain		m ²	0	0	0	190,690	55,660	118,125	0	35,170	0	0	0	0
Excavation	Soil		m ³	170,300	10,600	204,900	433,240	136,650	272,050	0	64,350	0	0	0	0
	Rock		m ³	31,800	0	258,800	183,000	140,100	178,700	0	13,200	0	0	0	0
Embankment			m ³	54,800	8,550	27,200	238,600	15,600	102,160	273,250	6,900	0	0	1,242,720	0
Slope	Grass		m ²	16,600	1,160	11,930	45,450	20,370	30,170	0	9,720	0	0	0	0
	Concrete		m ²	26,600	0	24,560	26,700	16,720	23,050	0	16,470	0	0	0	0
Turfing	Sidewalk	Grass & Tree	m ²	5,000	1,160	755	0	0	0	1,150	0	0	0	0	0
	Open Space	Grass	m ²	0	0	0	16,450	0	0	0	0	0	0	157,400	0
Drainage	Roadside	0.5 x 1.0	m	5,000	1,160	4,000	4,500	0	1,600	1,150	0	0	0	8,900	0
		1.0 x 1.0	m	5,000	0	1,100	3,600	2,150	7,000	0	1,120	0	0	0	0
	Pipe Culvert	600	m	75	60	80	351	114	229	92	89	0	0	180	0
	Box Culvert	3.0 x 3.0	m	0	0	30	155	0	205	325	0	0	0	160	0
		5.0 x 5.0	m	0	0	0	0	0	0	0	0	0	0	0	0
	Demolishing	0.5 x 1.0	m	0	0	0	0	0	0	0	0	0	0	0	0
Wall	Concrete	H = 5.0	m	0	0	0	0	300	0	0	0	0	0	0	0
	Masonry	H = 5.0	m	0	0	0	0	0	0	0	0	0	0	0	0
	Revetment	Stone	m	0	0	0	0	0	0	1,150	0	0	0	4,450	0

QUANTITY LIST OF INDIVIDUAL SEGMENT (CON'T)

(2-lane)

Item	Sub-Item	Class	Unit	Quantity											
				Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6	Segment 7	Segment 8	Segment 9	Segment 10	Segment 11	Segment 12
Pavement	Carriageway	Asphalt	m ²	18,800	6,400	16,000	52,440	13,520	25,120	9,200	9,700	0	0	35,600	0
	Shoulder	Asphalt	m ²	7,050	2,400	6,000	19,665	5,070	9,420	1,725	3,645	0	0	6,675	0
	Service Road	Asphalt	m ²	0	0	0	0	0	0	0	0	0	0	0	0
	Sidewalk	Concrete Block	m ²	9,200	6,400	3,000	3,480	5,200	6,400	11,500	0	0	0	2,225	0
	Overlay	Asphalt	m ²	0	0	0	0	0	0	0	0	0	0	0	0
Additional Facility	Kerb	Concrete	m	5,000	1,600	4,000	0	4,300	8,600	2,300	2,240	0	0	0	0
	Central Reserved	Concrete	m	0	0	0	0	0	0	0	0	0	0	0	0
	Guard Rail	Steel	m	0	0	1,000	4,500	2,150	4,300	2,300	0	0	0	0	0
	Lighting	Steel	m	0	0	0	0	0	0	1,150	0	0	0	0	0
	Lane-Marks	Paint	m	2,500	800	2,000	5,850	2,150	4,300	1,150	0	0	0	0	0
Intersection	At-grade		No.	0	2	0	3	0	4	1	1	0	0	4	0
	Interchange		Vol.	0	1	0	0	0	0	0	0	0	0	0	0
Bridge	L ≤ 50	Concrete	m ²	-	-	-	-	-	-	-	-	-	-	-	-
	L > 50	Concrete	m ²	-	-	-	-	-	-	-	-	-	-	-	-
Approach	Road		m	0	0	0	0	0	0	0	0	0	0	300	0

ESTIMATION OF CONSTRUCTION COST

OF

INDIVIDUAL SEGMENTS

CONSTRUCTION COST FOR ROAD (4-lane)

4-lane

Unit : \$Million

		Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6	Segment 7	Segment 8	Segment 9	Segment 10	Segment 11	Segment 12
CONSTRUCTION COST	F.C.	4,633.5	1,228.6	3,568.1	5,506.7	2,144.4	3,936.8	2,029.8	1,646.1	647.7	195.1	9,572.6	582.7
	L.C.	6,910.0	1,333.2	5,357.4	6,560.5	2,997.9	5,310.1	2,424.5	2,527.8	833.3	292.2	11,817.8	1,052.4
	Tax	579.5	126.1	446.1	607.1	264.5	464.4	269.0	211.8	83.3	27.7	1,469.1	102.5
	Total	12,123.0	2,687.9	9,371.6	12,674.3	5,406.8	9,709.3	4,723.3	4,385.7	1,564.3	515.0	22,859.5	1,737.6

CONSTRUCTION COST FOR ROAD (2-lane)

2-lane

Unit : \$Million

		Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6	Segment 7	Segment 8	Segment 9	Segment 10	Segment 11	Segment 12
CONSTRUCTION COST	F.C.	1,984.4	1,063.2	2,579.7	3,923.9	1,724.4	3,070.8	1,788.8	558.1	0	0	7,546.0	0
	L.C.	2,435.5	1,235.4	4,033.3	4,969.9	2,514.0	4,331.9	2,222.6	670.0	0	0	9,984.6	0
	Tax	214.3	110.5	332.1	445.2	221.0	370.2	244.3	62.4	0	0	992.8	0
	Total	4,634.2	2,409.1	6,945.1	9,339.0	4,459.4	7,772.9	4,255.7	1,290.4	0	0	18,523.4	0

CONSTRUCTION COST FOR ROAD (CON'T)

Segment 1 (4-lane) (No.-5' - No.20)

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C	L.C	Tax	F.C	L.C	Tax	Total	
Pavement	Carriageway	Asphalt	m ²	35,600	15.9	11.6	1.3	566,040	412,960	46,280	1,025,280	
	Shoulder	Asphalt	m ²	6,550	12.4	8.3	1.0	81,220	54,365	6,550	142,135	
	Service Road	Asphalt	m ²	0	12.4	8.3	1.0	0	0	0	0	
	Sidewalk	Concrete Block	m ²	9,220	6.1	8.4	0.8	56,242	77,448	7,376	141,066	
	Overlay	Asphalt	m ²	0	2.5	10.3	1.4	0	0	0	0	
Additional Facility	Kerb	Concrete	m	5,000	5.7	12.6	0.9	28,500	63,000	4,500	96,000	
	Central Reserved	Concrete	m	2,500	10.4	25.2	1.8	26,000	63,000	4,500	93,500	
	Guard Rail	Steel	m	5,000	34.5	10.3	4.4	172,500	51,500	22,000	246,000	
	Lighting	Steel	m	0	11.0	9.0	1.0	0	0	0	0	
	Lane-Marks	Paint	m	2,500	0.3	0.6	0.05	750	1,500	125	2,375	
Intersection	At-Grade		No.	1	30,534.8	59,728.4	2,706.2	30,534.8	59,728.4	2,706.2	92,969.4	
	Interchange		Vol.	0	705,314.0	775,542.6	74,928.8	0	0	0	0	
Bridge	L ≤ 50	Concrete	m ²	-	-	-	-	-	-	-	-	
	L > 50	Concrete	m ²	-	-	-	-	-	-	-	-	
Approach	Road		m	0	428.2	461.3	45.1	0	0	0	0	
TOTAL								4,633,483	6,909,958	579,492	12,122,934	

CONSTRUCTION COST FOR ROAD

Segment 1 (4-lane) (No.-5' - No.20)

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C.	L.C.	Tax	F.C.	L.C.	Tax	Total	
Site Clearing	Residential		m ²	112,710	1.80	1.20	0.15	202,878	135,252	16,906.5	355,036.5	
	Field		m ²	0	0.25	0.16	0.02	0	0	0	0	
	Mountain		m ²	0	0.35	0.20	0.03	0	0	0	0	
Excavation	Soil		m ³	58,800	1.18	0.85	0.10	69,384	49,980	5,880	125,244	
	Rock		m ³	407,000	5.51	10.68	0.81	2,242,570	4,346,760	329,670	6,919,000	
Embankment			m ³	79,850	1.40	0.90	0.11	414,190	266,265	32,543.5	712,998.5	
Slope	Grass		m ²	15,950	0	5.00	0.30	0	79,750	4,785	84,535	
	Concrete		m ²	25,700	4.80	3.80	0.70	123,360	97,660	17,990	239,010	
Turfing	Sidewalk	Grass & Tree	m ²	5,000	1.20	4.70	0.30	6,000	23,500	1,500	31,000	
	Open Space	Grass	m ²	0	0	5.00	0.30	0	0	0	0	
Drainage	Roadside	0.5 x 1.0	m	5,000	48.50	101.30	6.10	242,500	506,500	30,500	779,500	
		1.0 x 1.0	m	5,000	54.00	99.10	6.60	270,000	495,500	33,000	798,500	
	Pipe Culvert	600	m	150	59.30	91.40	6.80	8,895	13,710	1,020	23,625	
	Box Culvert	3.0 x 3.0	m	0	609.50	702.15	77.40	0	0	0	0	
		5.0 x 5.0	m	0	1,374.30	1,563.90	162.70	0	0	0	0	
	Demolishing	0.5 x 1.0	m	0	6.80	3.10	0.90	0	0	0	0	
Wall	Concrete	H = 5.0	m	200	459.60	557.90	58.30	91,920	111,580	11,660	215,160	
	Masonry	H = 5.0	m	0	76.00	116.80	9.70	0	0	0	0	
	Revetment	Stone	m	0	671.10	1,110.50	123.60	0	0	0	0	

CONSTRUCTION COST FOR ROAD

Segment 1 (2-lane) (No.-5' - No.20)

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C.	L.C.	Tax	F.C.	L.C.	Tax	Total	
Site Clearing	Residential		m ²	91,734	1.80	1.20	0.15	165,121.2	110,080.8	13,760.1	288,962.1	
	Field		m ²	0	0.25	0.16	0.02	0	0	0	0	
	Mountain		m ²	0	0.35	0.20	0.03	0	0	0	0	
Excavation	Soil		m ³	170,300	1.18	0.85	0.10	200,954	144,755	17,030	362,739	
	Rock		m ³	31,800	5.51	10.68	0.81	175,218	339,624	25,758	540,600	
Embankment			m ³	54,800	1.40	0.90	0.11	320,810	206,235	25,206.5	552,251.5	
Slope	Grass		m ²	16,600	0	5.00	0.30	0	83,000	4,980	87,980	
	Concrete		m ²	26,600	4.80	3.80	0.70	127,680	101,080	18,620	247,380	
Turfing	Sidewalk	Grass & Tree	m ²	5,000	1.20	4.70	0.30	6,000	23,500	1,500	31,000	
	Open Space	Grass	m ²	0	0	5.00	0.30	0	0	0	0	
Drainage	Roadside	0.5 x 1.0	m	5,000	48.50	101.30	6.10	242,500	506,500	30,500	779,500	
		1.0 x 1.0	m	5,000	54.00	99.10	6.60	270,000	495,500	33,000	798,500	
	Pipe Culvert	600	m	75	59.30	91.40	6.80	4,447.5	6,855	510	11,812.5	
	Box Culvert	3.0 x 3.0	m	0	609.50	702.15	77.40	0	0	0	0	
		5.0 x 5.0	m	0	1,374.30	1,563.90	162.70	0	0	0	0	
	Demolishing	0.5 x 1.0	m	0	6.80	3.10	0.90	0	0	0	0	
Wall	Concrete	H = 5.0	m	0	459.60	557.90	58.30	0	0	0	0	
	Masonry	H = 5.0	m	0	76.00	116.80	9.70	0	0	0	0	
	Revetment	Stone	m	0	671.10	1,110.50	123.60	0	0	0	0	

CONSTRUCTION COST FOR ROAD (CON'T)

Segment 1 (2-lane) (NO.-5' - NO.20)

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C.	L.C.	Tax	F.C.	L.C.	Tax	Total	
Pavement	Carriageway	Asphalt	m ²	18,800	15.9	11.6	1.3	298,920	218,080	24,440	541,440	
	Shoulder	Asphalt	m ²	7,050	12.4	8.3	1.0	87,420	58,515	7,050	152,985	
	Service Road	Asphalt	m ²	0	12.4	8.3	1.0	0	0	0	0	
	Sidewalk	Concrete Block	m ²	9,200	6.1	8.4	0.8	56,120	77,280	7,360	140,760	
	Overlay	Asphalt	m ²	0	2.5	10.3	1.4	0	0	0	0	
Additional Facility	Kerb	Concrete	m	5,000	5.7	12.6	0.9	28,500	63,000	4,500	96,000	
	Central Reserved	Concrete	m	0	10.4	25.2	1.8	0	0	0	0	
	Guard Rail	Steel	m	0	34.5	10.3	4.4	0	0	0	0	
	Lighting	Steel	m	0	11.0	9.0	1.0	0	0	0	0	
	Lane-Marks	Paint	m	2,500	0.3	0.6	0.05	750	1,500	125	2,375	
Intersection	At-grade		No.	0	30,534.8	59,728.4	2,706.2	0	0	0	0	
	Interchange		Vol.	0	705,314.0	775,542.6	74,928.8	0	0	0	0	
	L ≤ 50	Concrete	m ²	-	-	-	-	-	-	-	-	
	L > 50	Concrete	m ²	-	-	-	-	-	-	-	-	
Approach	Road		m	0	428.2	461.3	45.1	0	0	0	0	
TOTAL								1,984,440	2,435,504	214,339.6	4,634,285	

CONSTRUCTION COST FOR ROAD

Segment 2 (4-lane) (No.-7' - No.0)

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C.	L.C.	Tax	F.C.	L.C.	Tax	Total	
Site Clearing	Residential		m ²	25,400	1.80	1.20	0.15	45,720	30,480	3,810	80,010	
	Field		m ²	0	0.25	0.16	0.02	0	0	0	0	
	Mountain		m ²	0	0.35	0.20	0.03	0	0	0	0	
Excavation	Soil		m ³	18,800	1.18	0.85	0.10	22,184	15,980	1,880	40,044	
	Rock		m ³	0	5.51	10.68	0.81	0	0	0	0	
Embankment			m ³	12,600	1.40	0.90	0.11	17,640	11,340	1,386	30,366	
Slope	Grass		m ²	1,160	0	5.00	0.30	0	5,800	348	6,148	
	Concrete		m ²	0	4.80	3.80	0.70	0	0	0	0	
Turfing	Sidewalk	Grass & Tree	m ²	1,160	1.20	4.70	0.30	1,392	5,452	348	7,192	
	Open Space	Grass	m ²	0	0	5.00	0.30	0	0	0	0	
Drainage	Roadside	0.5 x 1.0	m	1,600	48.50	101.30	6.10	56,260	117,508	7,076	180,844	
		1.0 x 1.0	m	0	54.00	99.10	6.60	0	0	0	0	
	Pipe Culvert	600	m	60	59.30	91.40	6.80	3,558	5,484	408	9,450	
	Box Culvert	3.0 x 3.0	m	0	609.50	702.15	77.40	0	0	0	0	
		5.0 x 5.0	m	0	1,374.30	1,563.90	162.70	0	0	0	0	
	Demolishing	0.5 x 1.0	m	0	6.80	3.10	0.90	0	0	0	0	
Wall	Concrete	H = 5.0	m	0	459.60	557.90	58.30	0	0	0	0	
	Masonry	H = 5.0	m	0	76.00	116.80	9.70	0	0	0	0	
	Revetment	Stone	m	0	671.10	1,110.50	123.60	0	0	0	0	

CONSTRUCTION COST FOR ROAD (CON'T)

Segment 2 (4-lane) (No.-7¹- No.0)

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C	L.C	Tax	F.C	L.C	Tax	Total	
Pavement	Carriageway	Asphalt	m ²	14,200	15.9	11.6	1.3	225,780	164,720	18,460	408,960	
	Shoulder	Asphalt	m ²	2,400	12.4	8.3	1.0	29,760	19,920	2,400	52,080	
	Service Road	Asphalt	m ²	0	12.4	8.3	1.0	0	0	0	0	
	Sidewalk	Concrete Block	m ²	7,400	6.1	8.4	0.8	45,140	62,160	5,920	113,220	
	Overlay	Asphalt	m ²	0	2.5	10.3	1.4	0	0	0	0	
Additional Facility	Kerb	Concrete	m	1,600	5.7	12.6	0.9	9,120	20,160	1,440	30,720	
	Central Reserved	Concrete	m	800	10.4	25.2	1.8	8,320	20,160	1,440	29,920	
	Guard Rail	Steel	m	800	34.5	10.3	4.4	27,600	8,240	3,520	39,360	
	Lighting	Steel	m	0	11.0	9.0	1.0	0	0	0	0	
	Lane-Marks	Paint	m	800	0.3	0.6	0.05	240	480	40	760	
Intersection	At-Grade		No.	1	30,534.8	59,728.4	2,706.2	30,534.8	69,728.4	2,706.2	102,969.4	
	Interchange		Vol.	1	705,314.0	775,542.6	74,928.8	705,314.0	775,542.6	74,928.8	1,555,785.4	
Bridge	L ≤ 50	Concrete	m ²	-	-	-	-	-	-	-	-	
	L > 50	Concrete	m ²	-	-	-	-	-	-	-	-	
Approach	Road		m	0	428.2	461.3	45.1	0	0	0	0	
TOTAL								1,228,562	1,333,155	126,111	2,687,828	

CONSTRUCTION COST FOR ROAD

Segment 2 (2-lane) (No. -7' - No.0)

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C.	L.C.	Tax	F.C.	L.C.	Tax	Total	
Site Clearing	Residential		m ²	17,430	1.80	1.20	0.15	31,374	20,916	2,614.5	54,904.5	
	Field		m ²	0	0.25	0.16	0.02	0	0	0	0	
	Mountain		m ²	0	0.35	0.20	0.03	0	0	0	0	
Excavation	Soil		m ³	10,600	1.18	0.85	0.10	12,508	9,010	1,060	22,578	
	Rock		m ³	0	5.51	10.68	0.81	0	0	0	0	
Embankment			m ³	8,550	1.40	0.90	0.11	11,970	7,695	940.5	20,605.5	
Slope	Grass		m ²	1,160	0	5.00	0.30	0	5,800	348	6,148	
	Concrete		m ²	0	4.80	3.80	0.70	0	0	0	0	
Turfing	Sidewalk	Grass & Tree	m ²	1,160	1.20	4.70	0.30	1,392	5,452	348	7,192	
	Open Space	Grass	m ²	0	0	5.00	0.30	0	0	0	0	
Drainage	Roadside	0.5 x 1.0	m	1,160	48.50	101.30	6.10	56,260	117,508	7,076	180,844	
		1.0 x 1.0	m	0	54.00	99.10	6.60	0	0	0	0	
	Pipe Culvert	600	m	60	59.30	91.40	6.80	3,558	5,484	408	9,450	
	Box Culvert	3.0 x 3.0	m	0	609.50	702.15	77.40	0	0	0	0	
		5.0 x 5.0	m	0	1,374.30	1,563.90	162.70	0	0	0	0	
Demolishing	0.5 x 1.0	m	0	6.80	3.10	0.90	0	0	0	0		
Wall	Concrete	H = 5.0	m	0	459.60	557.90	58.30	0	0	0	0	
	Masonry	H = 5.0	m	0	76.00	116.80	9.70	0	0	0	0	
	Revetment	Stone	m	0	671.10	1,110.50	123.60	0	0	0	0	

CONSTRUCTION COST FOR ROAD (CON'T)

Segment 2 (2-lane) (NO.-7' - NO.0)

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C.	L.C.	Tax	F.C.	L.C.	Tax	Total	
Pavement	Carriageway	Asphalt	m ²	6,400	15.9	11.6	1.3	101,760	74,240	8,320	184,320	
	Shoulder	Asphalt	m ²	2,400	12.4	8.3	1.0	29,760	19,920	2,400	52,080	
	Service Road	Asphalt	m ²	0	12.4	8.3	1.0	0	0	0	0	
	Sidewalk	Concrete Block	m ²	6,400	6.1	8.4	0.8	39,040	53,760	5,120	97,920	
	Overlay	Asphalt	m ²	0	2.5	10.3	1.4	0	0	0	0	
Additional Facility	Kerb	Concrete	m	1,600	5.7	12.6	0.9	9,120	20,160	1,440	30,720	
	Central Reserved	Concrete	m	0	10.4	25.2	1.8	0	0	0	0	
	Guard Rail	Steel	m	0	34.5	10.3	4.4	0	0	0	0	
	Lighting	Steel	m	0	11.0	9.0	1.0	0	0	0	0	
	Lane-Marks	Paint	m	800	0.3	0.6	0.05	240	480	40	760	
Intersection	At-grade		No.	2	30,534.8	59,728.4	2,706.2	61,069.6	119,456.8	5,412.4	185,938.8	
	Interchange	Concrete	Vol.	1	705,314.0	775,542.8	74,928.8	705,314.0	775,542.6	74,928.8	1,555,785.4	
Bridge	L ≤ 50	Concrete	m ²	-	-	-	-	-	-	-	-	
	L > 50	Concrete	m ²	-	-	-	-	-	-	-	-	
Approach	Road		m	0	428.2	461.3	45.1	0	0	0	0	
TOTAL								1,063,365	1,235,424	110,456.2	2,409,246	

CONSTRUCTION COST FOR ROAD

Segment 2-1 (4-lane) (No.-4 - No.0)

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C.	L.C.	Tax	F.C.	L.C.	Tax	Total	
Site Clearing	Residential		m ²	12,150	1.80	1.20	0.15	21,870	14,580	1,823	38,273	
	Field		m ²	0	0.25	0.16	0.02	0	0	0	0	
	Mountain		m ²	0	0.35	0.20	0.03	0	0	0	0	
Excavation	Soil		m ³	1,600	1.18	0.85	0.10	1,888	1,360	160	3,408	
	Rock		m ³	0	5.51	10.68	0.81	0	0	0	0	
Embankment			m ³	2,700	1.40	0.90	0.11	3,780	2,430	297	6,507	
Slope	Grass		m ²	980	0	5.00	0.30	0	4,900	294	5,194	
	Concrete		m ²	0	4.80	3.80	0.70	0	0	0	0	
Turfing	Sidewalk	Grass & Tree	m ²	800	1.20	4.70	0.30	960	3,760	240	4,960	
	Open Space	Grass	m ²	0	0	5.00	0.30	0	0	0	0	
Drainage	Roadside	0.5 x 1.0	m	800	48.50	101.30	6.10	38,800	81,040	4,880	124,720	
		1.0 x 1.0	m	0	54.00	99.10	6.60	0	0	0	0	
	Pipe Culvert	600	m	0	59.30	91.40	6.80	0	0	0	0	
	Box Culvert	3.0 x 3.0	m	0	609.50	702.15	77.40	0	0	0	0	
		5.0 x 5.0	m	0	1,374.30	1,563.90	162.70	0	0	0	0	
	Demolishing	0.5 x 1.0	m	0	6.80	3.10	0.90	0	0	0	0	
Wall	Concrete	H = 5.0	m	0	459.60	557.90	58.30	0	0	0	0	
	Masonry	H = 5.0	m	0	76.00	116.80	9.70	0	0	0	0	
	Revetment	Stone	m	0	671.10	1,110.50	123.60	0	0	0	0	

CONSTRUCTION COST FOR ROAD (CON'T)

Segment 2-1 (4-lane) (No.-4 - No.0)

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C	L.C	Tax	F.C	L.C	Tax	Total	
Pavement	Carriageway	Asphalt	m ²	9,200	15.9	11.6	1.3	146,280	106,720	11,960	264,960	
	Shoulder	Asphalt	m ²	1,300	12.4	8.3	1.0	16,120	10,990	1,300	28,410	
	Service Road	Asphalt	m ²	0	12.4	8.3	1.0	0	0	0	0	
	Sidewalk	Concrete Block	m ²	1,800	6.1	8.4	0.8	10,980	15,120	1,440	27,540	
	Overlay	Asphalt	m ²	0	2.5	10.3	1.4	0	0	0	0	
Additional Facility	Kerb	Concrete	m	800	5.7	12.6	0.9	4,560	10,080	720	15,360	
	Central Reserved	Concrete	m	300	10.4	25.2	1.8	3,120	7,560	540	11,220	
	Guard Rail	Steel	m	300	34.5	10.3	4.4	10,350	3,090	1,320	14,760	
	Lighting	Steel	m	0	11.0	9.0	1.0	0	0	0	0	
	Lane-Marks	Paint	m	400	0.3	0.6	0.05	120	240	20	380	
Intersection	At-Grade		No.	1	30,534.8	59,728.4	2,706.2	30,535	59,728	2,706	92,969	
	Interchange		Vol.	0	705,314.0	775,542.6	74,928.8	0	0	0	0	
Bridge	L ≤ 50	Concrete	m ²	-	-	-	-	-	-	-	-	
	L > 50	Concrete	m ²	-	-	-	-	-	-	-	-	
Approach	Road		m	0	428.2	461.3	45.1	0	0	0	0	
TOTAL								289,363	321,598	27,700	638,661	

CONSTRUCTION COST FOR ROAD

Segment 2-1 (2-lane) (No.-4 - No.0)

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C.	L.C.	Tax	F.C.	L.C.	Tax	Total	
Site Clearing	Residential		m ²	8,250	1.80	1.20	0.15	14,850	9,900	1,237	25,987	
	Field		m ²	0	0.25	0.16	0.02	0	0	0	0	
	Mountain		m ²	0	0.35	0.20	0.03	0	0	0	0	
Excavation	Soil		m ³	9,300	1.18	0.85	0.10	16,740	13,020	1,395	31,155	
	Rock		m ³	0	5.51	10.68	0.81	0	0	0	0	
Embankment			m ³	1,700	1.40	0.90	0.11	2,380	1,530	187	4,097	
Slope	Grass		m ²	980	0	5.00	0.30	0	4,900	294	5,194	
	Concrete		m ²	0	4.80	3.80	0.70	0	0	0	0	
Turfing	Sidewalk	Grass & Tree	m ²	800	1.20	4.70	0.30	960	3,760	240	4,960	
	Open Space	Grass	m ²	0	0	5.00	0.30	0	0	0	0	
Drainage	Roadside	0.5 x 1.0	m	800	48.50	101.30	6.10	38,800	81,040	4,880	124,720	
		1.0 x 1.0	m	0	54.00	99.10	6.60	0	0	0	0	
	Pipe Culvert	600	m	20	59.30	91.40	6.80	1,186	1,826	136	3,148	
	Box Culvert	3.0 x 3.0	m	0	609.50	702.15	77.40	0	0	0	0	
		5.0 x 5.0	m	0	1,374.30	1,563.90	162.70	0	0	0	0	
	Demolishing	0.5 x 1.0	m	0	6.80	3.10	0.90	0	0	0	0	
Wall	Concrete	H = 5.0	m	0	459.60	557.90	58.30	0	0	0	0	
	Masonry	H = 5.0	m	0	76.00	116.80	9.70	0	0	0	0	
	Revetment	Stone	m	0	671.10	1,110.50	123.60	0	0	0	0	

CONSTRUCTION COST FOR ROAD (CON'T)

Segment 2-1 (2-lane) (NO.-4 - NO.0)

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C.	L.C.	Tax	F.C.	L.C.	Tax	Total	
Pavement	Carriageway	Asphalt	m ²	3,200	15.9	11.6	1.3	50,880	37,120	4,160	92,160	
	Shoulder	Asphalt	m ²	800	12.4	8.3	1.0	9,920	6,640	800	17,360	
	Service Road	Asphalt	m ²	0	12.4	8.3	1.0	0	0	0	0	
	Sidewalk	Concrete Block	m ²	1,800	6.1	8.4	0.8	10,980	15,120	1,440	27,540	
	Overlay	Asphalt	m ²	0	2.5	10.3	1.4	0	0	0	0	
Additional Facility	Kerb	Concrete	m	400	5.7	12.6	0.9	2,280	5,040	360	7,680	
	Central Reserved	Concrete	m	0	10.4	25.2	1.8	0	0	0	0	
	Guard Rail	Steel	m	400	34.5	10.3	4.4	13,800	4,120	1,760	19,680	
	Lighting	Steel	m	0	11.0	9.0	1.0	0	0	0	0	
	Lane-Marks	Paint	m	400	0.3	0.6	0.05	120	240	20	380	
Intersection	At-grade		No.	2	30,534.8	59,728.4	2,706.2	61,070	119,457	5,412	185,939	
	Interchange		Vol.	0	705,314.0	775,542.6	74,928.8	0	0	0	0	
Bridge	L ≤ 50	Concrete	m ²	-	-	-	-	-	-	-	-	
	L > 50	Concrete	m ²	-	-	-	-	-	-	-	-	
Approach	Road		m	0	428.2	461.3	45.1	0	0	0	0	
TOTAL								223,966	303,713	22,321	550,000	

CONSTRUCTION COST FOR ROAD

Segment 3 (4-lane) (No.0 - No.20)

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C	L.C.	Tax	F.C.	L.C.	Tax	Total	
Site Clearing	Residential		m ²	75,260	1.80	1.20	0.15	135,468	90,312	11,289	237,069	
	Field		m ²	0	0.25	0.16	0.02	0	0	0	0	
	Mountain		m ²	0	0.35	0.20	0.03	0	0	0	0	
Excavation	Soil		m ³	263,800	1.18	0.85	0.10	311,284	224,230	26,380	561,894	
	Rock		m ³	328,800	5.51	10.68	0.81	1,811,688	3,511,584	266,328	5,589,600	
Embankment			m ³	47,650	1.40	0.90	0.11	66,710	42,885	5,241.5	114,836.5	
Slope	Grass		m ²	12,690	0	5.00	0.30	0	63,450	3,807	67,257	
	Concrete		m ²	23,260	4.80	3.80	0.70	111,648	88,388	16,282	216,318	
Turfing	Sidewalk	Grass & Tree	m ²	755	1.20	4.70	0.30	906	3,548.5	226.5	4,681	
	Open Space	Grass	m ²	0	0	5.00	0.30	0	0	0	0	
Drainage	Roadside	0.5 x 1.0	m	4,000	48.50	101.30	6.10	194,000	405,200	24,400	623,600	
		1.0 x 1.0	m	1,100	54.00	99.10	6.60	59,400	109,010	7,260	175,670	
	Pipe Culvert	600	m	120	59.30	91.40	6.80	7,116	10,968	816	18,900	
	Box Culvert	3.0 x 3.0	m	40	609.50	702.15	77.40	24,380	28,086	3,096	55,562	
		5.0 x 5.0	m	0	1,374.30	1,563.90	162.70	0	0	0	0	
Demolishing	0.5 x 1.0	m	0	6.80	3.10	0.90	0	0	0	0		
Wall	Concrete	H = 5.0	m	200	459.90	557.90	58.30	91,920	111,580	11,660	215,160	
	Masonry	H = 5.0	m	0	76.00	116.80	9.70	0	0	0	0	
	Revetment	Stone	m	0	671.10	1,110.50	123.60	0	0	0	0	

CONSTRUCTION COST FOR ROAD (CON'T)

Segment 3 (4-lane) (No.0 - No.20)

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C	L.C	Tax	F.C	L.C	Tax	Total	
Payement	Carriageway	Asphalt	m ²	33,400	15.9	11.6	1.3	531,060	387,440	43,420	961,920	
	Shoulder	Asphalt	m ²	5,400	12.4	8.3	1.0	66,960	44,820	5,400	117,180	
	Service Road	Asphalt	m ²	0	12.4	8.3	1.0	0	0	0	0	
	Sidewalk	Concrete Block	m ²	7,600	6.1	8.4	0.8	46,360	63,840	6,080	116,280	
	Overlay	Asphalt	m ²	0	2.5	10.3	1.4	0	0	0	0	
Additional Facility	Kerb	Concrete	m	4,000	5.7	12.6	0.9	22,800	50,400	3,600	76,800	
	Central Reserved	Concrete	m	2,000	10.4	25.2	1.8	20,800	50,400	3,600	74,800	
	Guard Rail	Steel	m	1,000	34.5	10.3	4.4	34,500	10,300	4,400	49,200	
	Lighting	Steel	m	0	11.0	9.0	1.0	0	0	0	0	
	Lane-Marks	Paint	m	2,000	0.3	0.6	0.05	600	1,200	100	1,900	
Intersection	At-Grade		No.	1	30,534.8	59,728.4	2,706.2	30,534.8	59,728.4	2,706.2	92,969.4	
	Interchange		Vol.	0	705,314.0	775,542.6	74,928.8	0	0	0	0	
Bridge	L ≤ 50	Concrete	m ²	-	-	-	-	-	-	-	-	
	L > 50	Concrete	m ²	-	-	-	-	-	-	-	-	
Approach	Road		m	0	428.2	461.3	45.1	0	0	0	0	
TOTAL								3,568,134	5,357,369	446,092	9,371,596	

CONSTRUCTION COST FOR ROAD

Segment 3 (2-lane) (No.0.- No.20)

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C.	L.C.	Tax	F.C.	L.C.	Tax	Total	
Site Clearing	Residential		m ²	40,920	1.80	1.20	0.15	73,656	49,104	6,138	128,898	
	Field		m ²	0	0.25	0.16	0.02	0	0	0	0	
	Mountain		m ²	0	0.35	0.20	0.03	0	0	0	0	
Excavation	Soil		m ³	204,900	1.18	0.85	0.10	241,782	174,165	20,490	436,437	
	Rock		m ³	258,800	5.51	10.68	0.81	1,425,988	2,763,984	209,628	4,399,600	
Embankment			m ³	27,200	1.40	0.90	0.11	38,080	24,480	2,992	65,552	
Slope	Grass		m ²	11,930	0	5.00	0.30	0	59,650	3,579	63,229	
	Concrete		m ²	24,560	4.80	3.80	0.70	117,888	93,328	17,192	228,408	
Turfing	Sidewalk	Grass & Tree	m ²	755	1.20	4.70	0.30	906	3,548.5	226.5	4,681	
	Open Space	Grass	m ²	0	0	5.00	0.30	0	0	0	0	
Drainage	Roadside	0.5 x 1.0	m	4,000	48.50	101.30	6.10	194,000	405,200	24,400	623,600	
		1.0 x 1.0	m	1,100	54.00	99.10	6.60	59,400	109,010	7,260	175,670	
	Pipe Culvert	600	m	80	59.30	91.40	6.80	4,744	7,312	544	12,600	
	Box Culvert	3.0 x 3.0	m	30	609.50	702.15	77.40	18,285	21,064.5	2,322	41,671.5	
		5.0 x 5.0	m	0	1,374.30	1,563.90	162.70	0	0	0	0	
Demolishing	0.5 x 1.0	m	0	6.80	3.10	0.90	0	0	0	0		
Wall	Concrete	H = 5.0	m	0	459.60	557.90	58.30	0	0	0	0	
	Masonry	H = 5.0	m	0	76.00	116.80	9.70	0	0	0	0	
	Revetment	Stone	m	0	671.10	1,110.50	123.60	0	0	0	0	

CONSTRUCTION COST FOR ROAD (CON'T)

Segment 3 (2-lane) (No.0 - No.20)

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C	L.C	Tax	F.C	L.C	Tax	Total	
Pavement	Carriageway	Asphalt	m ²	16,000	15.9	11.6	1.3	254,400	185,600	20,800	460,800	
	Shoulder	Asphalt	m ²	6,000	12.4	8.3	1.0	74,400	49,800	6,000	130,200	
	Service Road	Asphalt	m ²	0	12.4	8.3	1.0	0	0	0	0	
	Sidewalk	Concrete Block	m ²	3,000	6.1	8.4	0.8	18,300	25,200	2,400	45,900	
	Overlay	Asphalt	m ²	0	2.5	10.3	1.4	0	0	0	0	
Additional Facility	Kerb	Concrete	m	4,000	5.7	12.6	0.9	22,800	50,400	3,600	76,800	
	Central Reserved	Concrete	m	0	10.4	25.2	1.8	0	0	0	0	
	Guard Rail	Steel	m	1,000	34.5	10.3	4.4	34,500	10,300	4,400	49,200	
	Lighting	Steel	m	0	11.0	9.0	1.0	0	0	0	0	
	Lane-Marks	Paint	m	2,000	0.3	0.6	0.05	600	1,200	100	1,900	
Intersection	At-Grade		No.	0	30,534.8	59,728.4	2,706.2	0	0	0	0	
	Interchange		Vol.	0	705,314.0	775,542.6	74,928.8	0	0	0	0	
Bridge	L ≤ 50	Concrete	m ²	-	-	-	-	-	-	-	-	
	L > 50	Concrete	m ²	-	-	-	-	-	-	-	-	
Approach	Road		m	0	428.2	461.3	45.1	0	0	0	0	
TOTAL								2,579,729	4,033,346	332,071	6,945,146	

CONSTRUCTION COST FOR ROAD

Segment 4 (4-lane) (No.20 - No.79)

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C	L.C	Tax	F.C	L.C	Tax	Total	
Site Clearing	Residential		m ²	0	1.80	1.20	0.15	0	0	0	0	
	Field		m ²	0	0.25	0.16	0.02	0	0	0	0	
	Mountain		m ²	297,030	0.35	0.20	0.03	103,960.50	59,406	8,910.90	172,277.40	
Excavation	Soil		m ³	579,500	1.18	0.85	0.10	683,810	492,575	57,950	1,234,335	
	Rock		m ³	234,100	5.51	10.68	0.81	1,289,891	2,500,188	189,621	3,979,700	
Embankment			m ³	503,750	1.40	0.90	0.11	705,250	453,375	55,412.50	1,214,037.50	
Slope	Grass		m ²	44,520	0	5.00	0.30	0	222,600	13,356	235,956	
	Concrete		m ²	23,970	4.80	3.80	0.70	115,056	91,086	16,779	222,921	
Turfing	Sidewalk	Grass & Tree	m ²	0	1.20	4.70	0.30	0	0	0	0	
	Open Space	Grass	m ²	16,450	0	5.00	0.30	0	82,250	4,935	87,185	
Drainage	Roadside	0.5 x 1.0	m	4,500	48.50	101.30	6.10	218,250	455,850	27,450	701,550	
		1.0 x 1.0	m	3,600	54.00	99.10	6.60	194,400	356,760	23,760	574,920	
	Pipe Culvert	600	m	468	59.30	91.40	6.80	27,752.40	42,775.20	3,182.40	73,710	
	Box Culvert	3.0 x 3.0	m	185	609.50	702.15	77.40	112,757.50	129,897.75	14,319	256,974.25	
		5.0 x 5.0	m	0	1,374.30	1,563.90	162.70	0	0	0	0	
	Demolishing	0.5 x 1.0	m	0	6.80	3.10	0.90	0	0	0	0	
Wall	Concrete	H = 5.0	m	200	459.60	557.90	58.30	91,920	111,580	11,660	215,160	
	Masonry	H = 5.0	m	0	76.00	116.80	9.70	0	0	0	0	
	Revetment	Stone	m	0	671.10	1,110.50	123.60	0	0	0	0	

CONSTRUCTION COST FOR ROAD (CON'T)

Segment 4 (4-lane) (No.20 - No.79)

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C	L.C	Tax	F.C	L.C	Tax	Total	
Pavement	Carriageway	Asphalt	m ²	90,280	15.9	11.6	1.3	1,435,452	1,047,248	117,364	2,600,064	
	Shoulder	Asphalt	m ²	13,015	12.4	8.3	1.0	161,386	108,024.5	13,015	282,425.5	
	Service Road	Asphalt	m ²	0	12.4	8.3	1.0	0	0	0	0	
	Sidewalk	Concrete Block	m ²	3,480	6.1	8.4	0.8	21,228	29,232	2,784	53,244	
	Overlay	Asphalt	m ²	0	2.5	10.3	1.4	0	0	0	0	
Additional Facility	Kerb	Concrete	m	11,700	5.7	12.6	0.9	66,690	147,420	10,530	224,640	
	Central Reserved	Concrete	m	5,850	10.4	25.2	1.8	60,840	60,865.2	10,530	132,235.2	
	Guard Rail	Steel	m	4,500	34.5	10.3	4.4	155,250	46,350	19,800	221,400	
	Lighting	Steel	m	0	11.0	9.0	1.0	0	0	0	0	
	Lane-Marks	Paint	m	5,850	0.3	0.6	0.05	1,755	3,510	292.5	5,557.5	
Intersection	At-Grade		No.	2	30,534.8	59,728.4	2,706.2	61,069.6	119,456.8	5,412.4	185,938.8	
	Interchange		Vol.	0	705,314.0	775,542.6	74,928.8	0	0	0	0	
Bridge	L ≤ 50	Concrete	m ²	-	-	-	-	-	-	-	-	
	L > 50	Concrete	m ²	-	-	-	-	-	-	-	-	
Approach	Road		m	0	428.2	461.3	45.1	0	0	0	0	
TOTAL								5,506,718	6,560,449	607,063	12,674,231	

CONSTRUCTION COST FOR ROAD

Segment 4 (2-lane) (No.20 - No.79)

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C	L.C	Tax	F.C	L.C	Tax	Total	
Site Clearing	Residential		m ²	0	1.80	1.20	0.15	0	0	0	0	
	Field		m ²	0	0.25	0.16	0.02	0	0	0	0	
	Mountain		m ²	190,690	0.35	0.20	0.03	66,741.50	38,138	5,720.70	110,600.20	
Excavation	Soil		m ³	433,240	1.18	0.85	0.10	511,223.20	368,254	43,324	922,801.20	
	Rock		m ³	183,000	5.51	10.68	0.81	1,008,330	1,954,440	148,230	3,111,000	
Embankment			m ³	238,600	1.40	0.90	0.11	334,040	214,740	26,246	575,026	
Slope	Grass		m ²	45,450	0	5.00	0.30	0	227,250	13,635	240,885	
	Concrete		m ²	26,700	4.80	3.80	0.70	128,160	101,460	18,690	248,310	
Turfing	Sidewalk	Grass & Tree	m ²	0	1.20	4.70	0.30	0	0	0	0	
	Open Space	Grass	m ²	16,450	0	5.00	0.30	0	82,250	4,935	87,185	
Drainage	Roadside	0.5 x 1.0	m	4,500	48.50	101.30	6.10	218,250	455,850	27,450	701,550	
		1.0 x 1.0	m	3,600	54.00	99.10	6.60	194,400	356,760	23,760	574,920	
	Pipe Culvert	600	m	351	59.30	91.40	6.80	20,814.30	32,081.40	2,386.80	55,282.50	
	Box Culvert	3.0 x 3.0	m	155	609.50	702.15	77.40	94,472.50	108,833.25	11,997	215,302.75	
		5.0 x 5.0	m	0	1,374.30	1,563.90	162.70	0	0	0	0	
Demolishing	0.5 x 1.0	m	0	6.80	3.10	0.90	0	0	0	0		
Wall	Concrete	H = 5.0	m	0	459.60	557.90	58.30	0	0	0	0	
	Masonry	H = 5.0	m	0	76.00	116.80	9.70	0	0	0	0	
	Revetment	Stone	m	0	671.10	1,110.50	123.60	0	0	0	0	

CONSTRUCTION COST FOR ROAD (CON'T)

Segment 4 (2-lane) (No.20 - No.79)

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C	L.C	Tax	F.C	L.C	Tax	Total	
Pavement	Carriageway	Asphalt	m ²	52,440	15.9	11.6	1.3	833,796	608,304	68,172	1,510,272	
	Shoulder	Asphalt	m ²	19,665	12.4	8.3	1.0	243,846	163,219.5	19,665	426,730.5	
	Service Road	Asphalt	m ²	0	12.4	8.3	1.0	0	0	0	0	
	Sidewalk	Concrete Block	m ²	3,480	6.1	8.4	0.8	21,228	29,232	2,784	53,244	
	Overlay	Asphalt	m ²	0	2.5	10.3	1.4	0	0	0	0	
Additional Facility	Kerb	Concrete	m	0	5.7	12.6	0.9	0	0	0	0	
	Central Reserved	Concrete	m	0	10.4	25.2	1.8	0	0	0	0	
	Guard Rail	Steel	m	4,500	34.5	10.3	4.4	155,250	46,350	19,800	221,400	
	Lighting	Steel	m	0	11.0	9.0	1.0	0	0	0	0	
	Lane-Marks	Paint	m	5,850	0.3	0.6	0.05	1,755	3,510	292.5	5,557.5	
Intersection	At-Grade		No.	3	30,534.8	59,728.4	2,706.2	91,604.4	179,185.2	8,118.6	278,908.2	
	Interchange		Vol.	0	705,314.0	775,542.6	74,928.8	0	0	0	0	
Bridge	L ≤ 50	Concrete	m ²	-	-	-	-	-	-	-	-	
	L > 50	Concrete	m ²	-	-	-	-	-	-	-	-	
Approach	Road		m	0	428.2	461.3	45.1	0	0	0	0	
TOTAL								3,923,910	4,969,857	445,206.6	9,338,974	

CONSTRUCTION COST FOR ROAD

Segment 5 (4-lane) (No.79 - No.100)

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C	L.C	Tax	F.C	L.C	Tax	Total	
Site Clearing	Residential		m ²	0	1.80	1.20	0.15	0	0	0	0	
	Field		m ²	0	0.25	0.16	0.02	0	0	0	0	
	Mountain		m ²	80,190	0.35	0.20	0.03	28,066.50	16,038	2,405.70	46,510.20	
Excavation	Soil		m ³	168,600	1.18	0.85	0.10	139,948	100,810	11,860	252,618	
	Rock		m ³	162,050	5.51	10.68	0.81	892,895.50	1,730,694	131,260.50	2,754,850	
Embankment			m ³	30,650	1.40	0.90	0.11	55,510	35,685	4,361.50	95,556.50	
Slope	Grass		m ²	17,790	0	5.00	0.30	0	88,950	5,337	94,287	
	Concrete		m ²	14,480	4.80	3.80	0.70	69,504	55,024	10,136	134,664	
Turfing	Sidewalk	Grass & Tree	m ²	0	1.20	4.70	0.30	0	0	0	0	
	Open Space	Grass	m ²	0	0	5.00	0.30	0	0	0	0	
Drainage	Roadside	0.5 x 1.0	m	0	48.50	101.30	6.10	0	0	0	0	
		1.0 x 1.0	m	2,150	54.00	99.10	6.60	116,100	213,065	14,190	343,355	
	Pipe Culvert	600	m	172	59.30	91.40	6.80	10,199.60	15,720.80	1,169.60	27,090	
	Box Culvert	3.0 x 3.0	m	0	609.50	702.15	77.40	0	0	0	0	
		5.0 x 5.0	m	0	1,374.30	1,563.90	162.70	0	0	0	0	
	Demolishing	0.5 x 1.0	m	0	6.80	3.10	0.90	0	0	0	0	
Wall	Concrete	H = 5.0	m	300	459.60	557.90	58.30	137,880	167,370	17,490	322,740	
	Masonry	H = 5.0	m	0	76.00	116.80	9.70	0	0	0	0	
	Revetment	Stone	m	0	671.10	1,110.50	123.60	0	0	0	0	

CONSTRUCTION COST FOR ROAD (CON'T)

Segment 5 (4-lane) (No.79 - No.100)

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C	L.C	Tax	F.C	L.C	Tax	Total	
Pavement	Carriageway	Asphalt	m ²	28,440	15.9	11.6	1.3	452,196	329,904	36,972	819,072	
	Shoulder	Asphalt	m ²	4,230	12.4	8.3	1.0	52,452	35,109	4,230	91,791	
	Service Road	Asphalt	m ²	1,800	12.4	8.3	1.0	22,320	14,940	1,800	39,060	
	Sidewalk	Concrete Block	m ²	7,480	6.1	8.4	0.8	45,628	62,832	5,984	114,444	
	Overlay	Asphalt	m ²	0	2.5	10.3	1.4	0	0	0	0	
Additional Facility	Kerb	Concrete	m	4,300	5.7	12.6	0.9	24,510	54,180	3,870	82,560	
	Central Reserved	Concrete	m	2,150	10.4	25.2	1.8	22,360	54,180	3,870	80,410	
	Guard Rail	Steel	m	2,150	34.5	10.3	4.4	74,175	22,145	9,460	105,780	
	Lighting	Steel	m	0	11.0	9.0	1.0	0	0	0	0	
	Lane-Marks	Paint	m	2,150	0.3	0.6	0.05	645	1,290	107.5	2042.5	
Intersection	At-Grade		No.	0	30,534.8	59,728.4	2,706.2	0	0	0	0	
	Interchange		Vol.	0	705,314.0	775,542.6	74,928.8	0	0	0	0	
Bridge	L ≤ 50		m ²	-	-	-	-	-	-	-	-	
	L > 50	Bridge	m ²	-	-	-	-	-	-	-	-	
Approach	Road	Bridge	m	0	428.2	461.3	45.1	0	0	0	0	
TOTAL								2,144,389	2,997,936	264,503	5,406,830	

CONSTRUCTION COST FOR ROAD

Segment 5 (2-lane) (No.79 - No.100)

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost			Total	Remarks
					F.C	L.C	Tax	F.C	L.C	Tax		
Site Clearing	Residential		m ²	0	1.80	1.20	0.15	0	0	0	0	
	Field		m ²	0	0.25	0.16	0.02	0	0	0	0	
	Mountain		m ²	55,660	0.35	0.20	0.03	19,481	11,132	1,669.80	32,282.80	
Excavation	Soil		m ³	136,650	1.18	0.85	0.10	161,247	116,152.50	13,665	291,064.50	
	Rock		m ³	140,100	5.51	10.68	0.81	771,951	1,496,268	113,481	2,381,700	
Embankment			m ³	15,600	1.40	0.90	0.11	21,840	14,040	1,716	37,596	
Slope	Grass		m ²	20,370	0	5.00	0.30	0	101,850	6,111	107,961	
	Concrete		m ²	16,720	4.80	3.80	0.70	80,256	63,536	11,704	155,496	
Turfing	Sidewalk	Grass & Tree	m ²	0	1.20	4.70	0.30	0	0	0	0	
	Open Space	Grass	m ²	0	0	5.00	0.30	0	0	0	0	
Drainage	Roadside	0.5 x 1.0	m	0	48.50	101.30	6.10	0	0	0	0	
		1.0 x 1.0	m	2,150	54.0	99.10	6.60	116,100	213,065	14,190	343,355	
	Pipe Culvert	600	m	114	59.30	91.40	6.80	6,760.20	10,419.60	775.20	17,955	
	Box Culvert	3.0 x 3.0	m	0	609.50	702.15	77.40	0	0	0	0	
		5.0 x 5.0	m	0	1,374.30	1,563.90	162.70	0	0	0	0	
Demolishing	0.5 x 1.0	m	0	6.80	3.10	0.90	0	0	0	0		
Wall	Concrete	H = 5.0	m	300	459.60	557.90	58.30	137,880	167,370	17,490	322,740	
	Masonry	H = 5.0	m	0	76.00	116.80	9.70	0	0	0	0	
	Revetment	Stone	m	0	671.10	1,110.50	123.60	0	0	0	0	

CONSTRUCTION COST FOR ROAD (CON'T)

Segment 5 (2-lane) (No.79 - No.100)

Item	Sub-Item	Class	Unit	Quantity	Unit Cost			Construction Cost				Remarks
					F.C	L.C	Tax	F.C	L.C	Tax	Total	
Pavement	Carriageway	Asphalt	m ²	13,520	15.9	11.6	1.3	214,968	156,832	17,576	389,376	
	Shoulder	Asphalt	m ²	5,070	12.4	8.3	1.0	62,868	42,081	5,070	110,019	
	Service Road	Asphalt	m ²	0	12.4	8.3	1.0	0	0	0	0	
	Sidewalk	Concrete Block	m ²	5,200	6.1	8.4	0.8	31,720	43,680	4,160	79,560	
	Overlay	Asphalt	m ²	0	2.5	10.3	1.4	0	0	0	0	
Additional Facility	Kerb	Concrete	m	4,300	5.7	12.6	0.9	24,510	54,180	3,870	82,560	
	Central Reserved	Concrete	m	0	10.4	25.2	1.8	0	0	0	0	
	Guard Rail	Steel	m	2,150	34.5	10.3	4.4	74,175	22,145	9,460	105,780	
	Lighting	Steel	m	0	11.0	9.0	1.0	0	0	0	0	
	Lane-Marks	Paint	m	2,150	0.3	0.6	0.05	645	1,290	107.5	2,042.5	
Intersection	At-Grade		No.	0	30,534.8	59,728.4	2,706.2	0	0	0	0	
	Interchange		Vol.	0	705,314.0	775,542.6	74,928.8	0	0	0	0	
Bridge	L ≤ 50	Concrete	m ²	-	-	-	-	-	-	-	-	
	L > 50	Concrete	m ²	-	-	-	-	-	-	-	-	
Approach	Road		m	0	428.2	461.3	45.1	0	0	0	0	
TOTAL								1,724,401	2,514,041	221,045.5	4,459,487	