

ANNEX 2

MICROSCOPIC DEMAND FORECAST IN
MEDAN, SEMARANG AND SOLO

CONTENTS

	<u>Page</u>
1. Microscopic Demand Forecast in Medan Area	
(1) Figure AN-2-1 Guide Map	551
(2) Table AN-2-1	552
Demand Forecast of Medan Area	
(3) Table AN-2-2	553
Demand Forecast of Medan Area (Residential Business Use)	
(4) Table AN-2-3	554
Demand Forecast of Medan Area (Demand Categories)	
(5) Table AN-2-4	555
Demand Forecast of Centrum Exchange	
(6) Table AN-2-5	556
Demand Forecast of Suka Ramai Exchange	
(7) Table AN-2-6	557
Demand Forecast of Pulau Brayan Exchange	
(8) Table AN-2-7	558
Demand Forecast of Padang Bulan Exchange	
(9) Table AN-2-8	559
Demand Forecast of Cinta Damai Exchange	
(10) Table AN-2-9	560
Demand Forecast of Simpang Limun Exchange	

	<u>Page</u>
(11) Table AN-2-10 Demand Forecast of Tanjung Mulia Exchange	561
(12) Table AN-2-11 Demand Forecast of Belawan Exchange	562
(13) Table AN-2-12 Demand Forecast of Tuntungan Exchange	563
(14) Table AN-2-13 Demand Forecast of Labuhan Exchange	564

2. Microscopic Demand Forecast in Medan Area

(1) Figure AN-2-2 Guide Map	565
(2) Table AN-2-14 Demand Forecast of Semarang Area	566
(3) Table AN-2-15 Demand Forecast of Semarang Area (Residential Business)	567
(4) Table AN-2-16 Demand Forecast of Semarang Area (Demand Categories)	568
(5) Table AN-2-17 Demand Forecast of Semarang I Exchange	569
(6) Table AN-2-18 Demand Forecast of Semarang II Exchange	570
(7) Table AN-2-19 Demand Forecast of Tugu Exchange	571

	<u>Page</u>
(8) Table AN-2-20 Demand Forecast of Majapahit Exchange	572
(9) Table AN-2-21 Demand Forecast of Banyumanik Exchange	573
(10) Table AN-2-22 Demand Forecast of Gunuk Exchange	574
(11) Table AN-2-23 Demand Forecast of Mijen Exchange	575
(12) Table AN-2-24 Demand Forecast of Gunung Pati Exchange	576
(13) Table AN-2-25 Demand Forecast of Mang Kang Exchange	577

3. Microscopic Demand Forecast in Solo Area

(1) Figure AN-2-3 Guide Map	578
(2) Table AN-2-26 Demand Forecast of Solo Area	579
(3) Table AN-2-27 Demand Forecast of Solo Area (Residential Business)	580
(4) Table AN-2-28 Demand Forecast of Solo Area (Demand Categories)	581
(5) Table AN-2-29 Demand Forecast of Solo I Exchange	582
(6) Table AN-2-30 Demand Forecast of Solo II Exchange	583

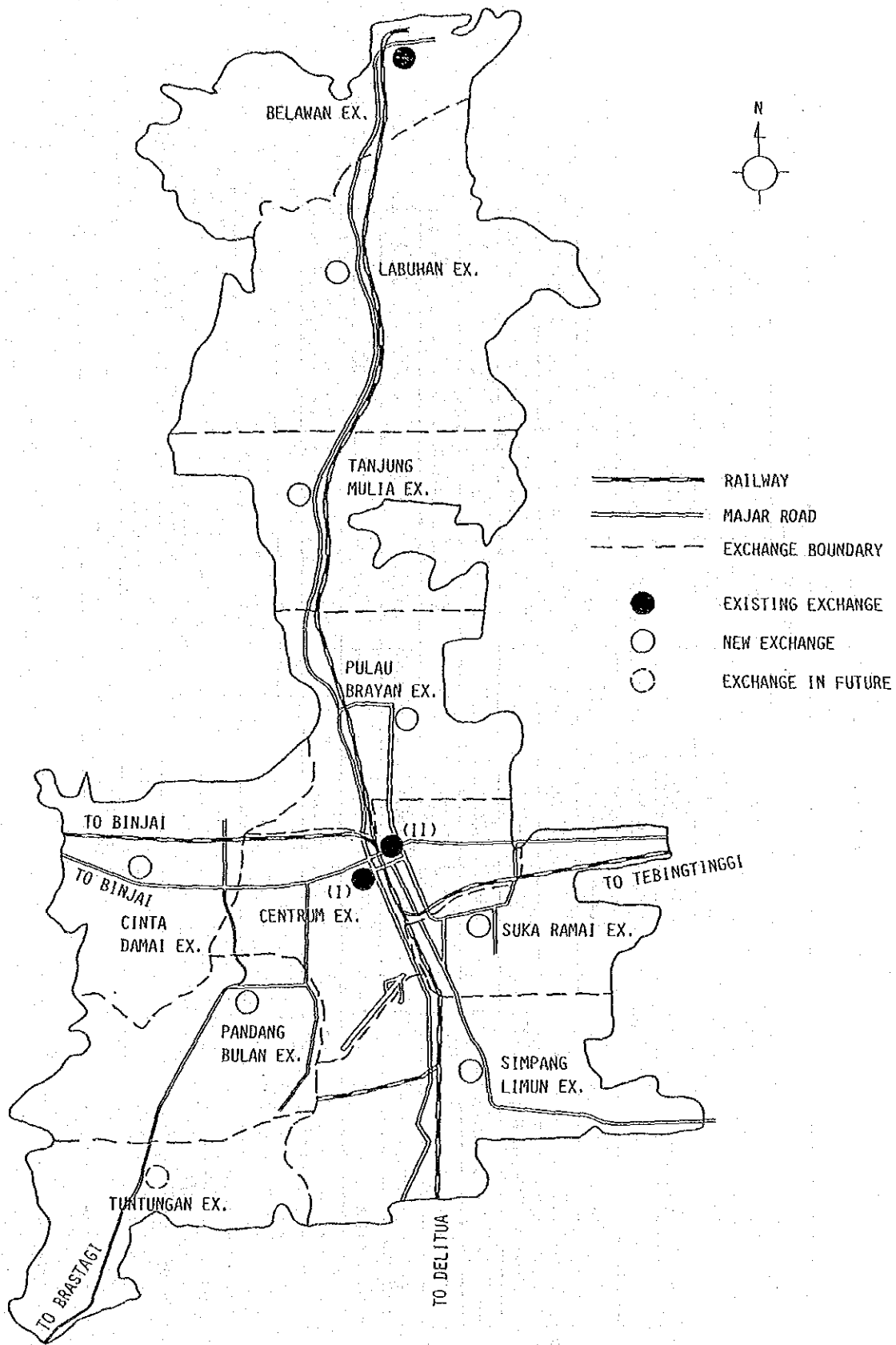


Figure AN-2-1 Guide Map

Table AN-2-1 Demand Forecast of Medan Area

Ref No.	Name of Exchange	Demand									
		1985	1988	1990	1993	1995	1998	2000	2005		
1	Centrum	33400	38800	2100	47300	50500	55500	58600	65400		
2	Suka Rama i	8500	10700	12400	15400	18000	21800	24800	33400		
3	Pulau Brayan	8700	10300	11900	14600	15900	20700	23700	33700		
4	Padang Bulan	2700	3900	5100	7300	9400	12200	14300	20500		
5	Cinta Damai	4700	6300	7700	10400	12400	16500	19700	29900		
6	Simpang Limun	3300	4400	5500	7600	9100	12900	15900	26600		
7	Tanjung Mulia	1300	1800	2300	3500	3900	6800	8700	17700		
8	Belawan	1500	1900	2200	2800	3300	4100	4700	6100		
9	Tuntungan	100	300	400	900	1400	3100	5100	13100		
10	Labuhan	400	600	800	1300	1700	2900	4000	8500		
	Total	64600	78800	90400	111100	125600	156500	179500	254900		

Table AN-2-2 Demand Forecast of Medan Area (Residential Business Use)

Ref. No.	Exchange Name	Demand in 1985			Demand in 1995			Demand in 2005		
		R	B	Total	R	B	Total	R	B	Total
1	Centrum	11200	22200	33400	13700	36800	50500	14800	50600	65400
2	Suka Ramai	3800	4700	8500	7800	10200	18000	12100	21300	33400
3	Pulau Brayan	6000	2700	8700	10100	5800	15900	18100	15600	33700
4	Padang Bulan	2300	400	2700	8100	1300	9400	17700	2800	20500
5	Cinta Damai	2400	2300	4700	6500	5900	12400	19100	10800	29900
6	Simpang Limun	2200	1100	3300	6000	3100	9100	17500	9100	26600
7	Tanjung Mulia	500	800	1300	2200	1700	3900	10900	6800	17700
8	Belawan	500	1000	1500	1900	1400	3300	4200	1900	6100
9	Tuntungan	100	0	100	1300	100	1400	10600	2500	13100
10	Labuhan	300	100	400	1200	500	1700	5900	2600	8500
	Total	29300	35300	64600	58800	66800	125600	130900	124000	254900
	Percentage (%)	45.4	54.6	100	46.8	53.2	100	51.4	48.6	100

Note R: Telephone Demand at Residential Area
B: Telephone Demand at Business Area

Table AN-2-3 Demand Forecast of Medan Area (Demand Categories)

Pattern	Item	1985			1995			2005		
		Area (Ha)	Demand	Density	Area (Ha)	Demand	Density	Area (Ha)	Demand	Density
Residential Area	R-1	300	2900	9.7	312	3430	11.0	312	3720	11.9
	R-2	3248	19860	6.1	5280	39810	7.5	9992	95520	9.6
	R-3	3020	6090	2.0	3452	15290	4.4	5828	31480	5.4
	R-4	1480	450	0.3	572	270	0.5	172	180	1.0
Sub Total		8048	29300	3.6	9616	58800	6.1	16304	130900	8.0
Business Area	B-1	24	1150	47.9	24	1820	75.8	32	2880	90.0
	B-2	168	3730	22.3	260	10590	40.7	380	17070	44.9
	C-1	28	1960	70.0	28	3650	130.4	28	4060	145.0
	C-2	416	19730	47.4	588	35530	60.4	1020	69560	68.2
	C-3	240	4860	20.3	344	9160	26.6	652	20880	32.0
	I-1	36	80	2.2	280	1010	3.6	568	2770	4.9
	I-2	556	2830	5.1	632	3860	6.1	648	4970	7.7
Others	288	940	3.3	308	1180	3.8	388	1810	4.7	
Sub Total		1756	35300	20.1	2464	66800	27.1	3716	124000	33.4
Non-Demand		17076			14800			6860		
Total		26880	64600	2.4	26880	125600	4.7	26880	254900	9.5

Table AN-2-4 Demand Forecast of Centrum Exchange

Pattern	Item	1985			1995			2005		
		Area (Ha)	Demand	Density	Area (Ha)	Demand	Density	Area (Ha)	Demand	Density
Residential Area	R-1	300	2900	9.7	312	3440	11.0	312	3720	11.9
	R-2	1112	7700	6.9	996	9060	9.1	944	10380	11.0
	R-3	212	600	2.8	204	1200	5.9	108	700	6.5
	R-4									
Sub Total		1624	11200	6.9	1512	13700	9.1	1364	14800	10.9
Business Area	0-1	24	1150	47.9	24	1820	75.8	32	2880	90.0
	0-2	100	2400	24.0	132	5780	43.8	148	7100	48.0
	C-1	28	1960	70.0	28	3650	130.4	28	4060	145.0
	C-2	280	14280	51.0	352	22200	63.1	472	32940	69.8
	C-3	92	2020	22.0	100	2900	29.0	104	3120	30.0
	1-1 1-2 Others	48	390	8.1	48	450	9.4	48	500	10.4
Sub Total		572	22200	38.8	684	36800	53.8	832	50600	60.8
Non-Demand		176			176			176		
Total		2372	33400	14.1	2372	50500	21.3	2372	65400	27.6

Table AN-2-5 Demand Forecast of Suka Ramai Exchange

Pattern	Item	1985			1995			2005		
		Area (Ha.)	Demand	Density	Area (Ha.)	Demand	Density	Area (Ha.)	Demand	Density
Residential Area	R-1	472	2820	6.0	652	5680	8.7	884	9760	11.0
	R-2	380	950	2.5	372	2120	5.7	308	2340	7.6
	R-3	96	30	0.3						
	R-4									
Sub Total		948	3800	4.0	1024	7800	7.6	1192	12100	10.2
Business Area	0-1				12	500	41.7	24	1080	45.0
	0-2									
	C-1	92	3680	40.0	144	8360	58.1	248	17360	70.0
	C-2	44	880	20.0	44	1170	26.6	76	2660	35.0
	C-3									
	Others	84	140	1.7	84	170	2.0	84	200	2.4
Sub Total		220	4700	21.4	284	10200	35.9	432	21300	49.3
Non-Demand					476			160		
Total		1784	8500	4.8	1784	18000	10.1	1784	33400	18.7

Table AN-2-6 Demand Forecast of Pulau Brayan Exchange

Pattern	Item	1985			1995			2005		
		Area (Ha.)	Demand	Density	Area (Ha.)	Demand	Density	Area (Ha.)	Demand	Density
Residential Area	R-1	796	4480	5.6	832	5990	7.2	1092	12020	11.00
	R-2	868	1515	1.7	820	4100	5.0	796	6080	7.6
	R-3	16	5	0.3	12	10	0.8			
	R-4									
Sub Total		1680	6000	3.6	1664	10100	6.1	1888	18100	9.6
Business Area	0-1				20	800	40.0	32	1440	45.0
	0-2									
	C-1	32	1290	40.3	48	2660	55.4	84	5880	70.0
	C-2	8	160	20.0	32	820	25.6	192	6420	33.4
	C-3									
	Others	240	1250	5.2	240	1520	6.3	240	1860	7.8
Sub Total		280	2700	9.6	340	5800	17.1	548	15600	28.5
Non-Demand		528			484			52		
Total		2488	8700	3.5	2488	15900	6.4	2488	33700	13.5

Table AN-2-7 Demand Forecast of Padang Bulan Exchange

Pattern	Item	1985			1995			2005		
		Area (Ha)	Demand	Density	Area (Ha)	Demand	Density	Area (Ha)	Demand	Density
Residential Area	R-1	224	1300	5.8	788	6350	8.1	1600	15870	9.9
	R-2	364	950	2.6	344	1730	5.0	332	1820	5.5
	R-3	180	50	0.3	56	20	0.4	12	10	0.8
	R-4									
Sub Total		768	2300	3.0	1188	8100	6.8	1944	17700	9.1
Business Area	0-1									
	0-2							4	180	45.0
	C-1									
	C-2	16	300	18.8	8	500	62.5	24	1600	66.7
	C-3					640	26.7	28	840	30.0
	I-1	16	80	5.0	16	110	6.9	16	120	7.5
I-2	20	20	1.0	20	50	2.5	20	60	3.0	
Others										
Sub Total		52	400	7.7	68	1300	19.1	92	2800	30.4
Non-Demand		1520			1084			304		
Total		2340	2700	1.2	2340	9400	4.0	2340	20500	8.8

Table AN-2-8 Demand Forecast of Cinta Damai Exchange

Pattern	Item	1985			1995			2005		
		Area (Ha)	Demand	Density	Area (Ha)	Demand	Density	Area (Ha)	Demand	Density
Residential Area	R-1	276	1550	5.6	612	4460	7.3	1520	16080	10.6
	R-2	448	785	1.8	420	2030	4.8	396	2890	7.6
	R-3	208	65	0.3	20	10	0.5	20	30	1.5
	R-4									
Sub Total		932	2400	2.6	1052	6500	6.2	1936	19100	9.9
Business Area	B-1	52	1010	19.4	60	2320	38.7	68	2880	42.4
	B-2									
	C-1	64	1190	18.6	24	1250	52.1	64	4480	70.0
	C-2				84	2180	26.0	84	2940	35.0
	C-3									
	I-1	4	20	5.0	4	20	5.0	4	30	7.5
	I-2	32	80	2.5	32	130	4.1	56	470	8.4
Others										
Sub Total		152	2300	15.1	204	5900	28.9	276	10800	39.1
Non-Demand		1476			1304			348		
Total		2560	4700	1.8	2560	12400	4.8	2560	29900	11.7

Table AN-2-9 Demand Forecast of Simpang Limun Exchange

Pattern	Item	1985			1995			2005		
		Area (Ha)	Demand	Density	Area (Ha)	Demand	Density	Area (Ha)	Demand	Density
Residential Area	R-1	320	1770	5.5	800	5330	6.7	1656	16570	10.0
	R-2	160	360	2.3	148	600	4.1	128	890	7.0
	R-3	240	70	0.3	176	70	0.4	40	40	1.0
	R-4									
Sub Total		720	2200	3.1	1124	6000	5.3	1824	17500	9.6
Business Area	0-1	8	160	20.0	20	660	33.0	32	1440	45.0
	C-1									
	C-2	16	310	19.4	36	860	23.9	52	3380	65.0
	C-3									
	I-1	120	620	5.2	96	410	4.3	64	1920	30.0
	I-2	4	10	2.5	188	1150	6.1	148	800	5.4
	Others				4	20	5.0	204	1530	7.5
Sub Total		148	1100	7.4	344	3100	9.0	504	9100	18.1
Non-Demand		2496			1896			1036		
Total		3364	3300	1.0	3364	9100	2.7	3364	26600	7.9

Table AN-2-10 Demand Forecast of Tanjung Mulia Exchange

Patern	Item	1985			1995			2005		
		Area (Ha)	Demand	Density	Area (Ha)	Demand	Density	Area (Ha)	Demand	Density
Residential Area	R-1				56	300	5.4	136	860	6.3
	R-2	228	420	1.8	596	1830	3.1	2360	10030	4.3
	R-3	284	80	0.3	132	70	0.5	8	10	1.3
	R-4									
Sub Total		512	500	1.0	784	2200	2.8	2504	10900	4.4
Business Area	B-1							28	1130	40.4
	B-2							24	1070	44.6
	B-3				8	200	25.0	48	1380	28.8
	B-4	36	80	2.2	184	600	3.3	420	1970	4.7
	B-5	148	720	4.9	156	900	5.8	156	1250	8.0
	B-6	Others								
Sub Total		184	800	4.3	348	1700	4.9	676	6800	10.1
Non-Demand		3124			2688			640		
Total		3820	1300	0.3	3820	3900	1.0	3820	17700	4.6

Table AN-2-11 Demand Forecast of Belawan Exchange

Pattern	Item	1985			1995			2005		
		Area (Ha)	Demand	Density	Area (Ha)	Demand	Density	Area (Ha)	Demand	Density
Residential Area	R-1	28	190	6.8	112	780	7.0	148	1220	8.2
	R-2	192	280	1.5	364	1090	3.0	584	2930	5.0
	R-3	88	30	0.3	80	30	0.4	52	50	1.0
	R-4									
Sub Total		308	500	1.6	556	1900	3.4	784	4200	5.4
Business Area	B-1	8	180	22.5	12	430	35.8	12	510	42.5
	B-2	12	480	40.0	12	560	46.7	12	780	65.0
	B-3									
	B-1	8	40	5.0	8	50	6.3	8	60	7.5
	B-2	100	300	3.0	120	360	3.0	176	550	3.1
	Others									
Sub Total		128	1000	7.8	152	1400	9.2	208	1900	9.1
Non-Demand		2104			1832			1548		
Total		2540	1500	0.6	2540	3300	1.3	2540	6100	2.4

Table AN-2-12 Demand Forecast of Tuntungan Exchange

Pattern	Item	1985			1995			2005		
		Area (Ha)	Demand	Density	Area (Ha)	Demand	Density	Area (Ha)	Demand	Density
Residential Area	R-1									
	R-2				312	1250	4.0	1180	7800	6.6
	R-3									4.8
	R-4	316	100	0.3	80	50	0.6	24	20	0.8
Sub Total		316	0.3	392	1300	3.3	1788	10600	5.9	
Business Area	0-1									
	0-2						16	720	45.0	
	C-1									
	C-2							16	1060	66.3
	C-3				4	100	25.0	28	720	25.7
	1-1 1-2 Others									
Sub Total		0		4	100	25.0	60	2500	41.7	
Non-Demand		1852		1772			320			
Total		2168	100	0	2168	1400	0.6	2168	13100	6.0

Table AN-2-13 Demand Forecast of Labuhan Exchange

Patern	Item	1985			1995			2005		
		Area (Ha)	Demand	Density	Area (Ha)	Demand	Density	Area (Ha)	Demand	Density
Residential Area	R-1	20	50	2.5	120	600	5.0	832	4960	6.0
	R-2	168	230	1.4	184	590	3.2	232	920	4.0
	R-3	52	20	0.4	16	10	0.6	16	20	1.3
	R-4									
Sub Total		240	300	1.3	320	1200	3.8	1080	5900	5.5
Business Area	O-1									
	O-2				4	100	25.0	16	590	36.9
	C-1									
	C-2				12	290	24.2	24	1010	42.1
	C-3							28	880	31.4
	I-1									
I-2		20	100	5.0	20	110	5.5	20	120	6.0
Others										
Sub Total		20	100	5.0	36	500	13.9	88	2600	29.5
Non-Demand		3184			3088			2276		
Total		3444	400	0.1	3444	1700	0.5	3444	8500	2.5

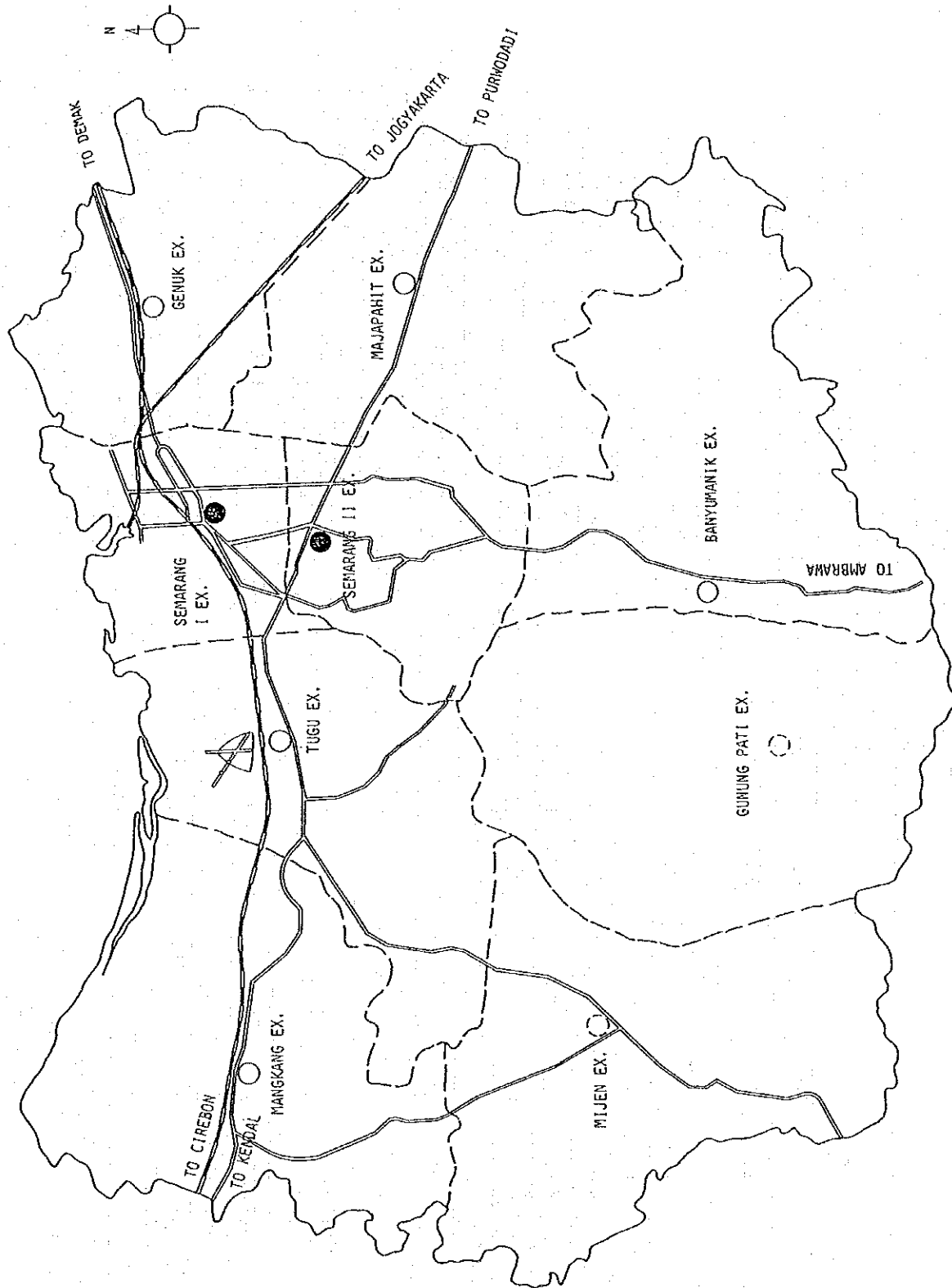


Figure AN-2-2 Guide Map

Table AN-2-14 Demand Forecast of Semarang Area

Ref No.	Name of Exchange	Demand									
		1985	1988	1990	1993	1995	1998	2000	2005		
1	Semarang I	14800	17300	19200	22400	25200	28900	32000	41200		
2	Semarang II	10500	12400	13500	15700	17800	20100	22400	28800		
3	Tugu	5220	7000	8300	10600	12500	15000	17100	22700		
4	Majapahit	3700	5700	7200	9900	12400	15600	18300	25900		
5	Banyumanik	5700	6700	7400	8600	9900	11400	12800	17100		
6	Genuk	1300	2400	3300	4900	6600	8600	10400	15600		
7	Mijen	280	300	400	500	600	700	800	1100		
8	Gunung Pati	400	400	500	600	700	1000	1200	1900		
9	Mang Kang	1300	2400	3200	4400	5600	7000	8200	11500		
	Total	43200	54600	63000	77600	91300	108300	123200	165800		

Table AN-2-15 Demand Forecast of Semarang Area (Residential Business)

Ref. No.	Exchange Name	Demand in 1985			Demand in 1995			Demand in 2005		
		R	B	Total	R	B	Total	R	B	Total
1	Semarang I	4600	10200	14800	6800	18400	25200	9300	31900	41200
2	Semarang II	7000	3500	10500	11000	6800	17800	16800	12000	28800
3	Tugu	2700	2520	5220	7300	5200	12500	14600	8100	22700
4	Majapahit	2800	900	3700	8200	4200	12400	17200	8700	25900
5	Banyumanik	2900	2800	5700	6700	3200	9900	13200	3900	17100
6	Genuk	700	600	1300	3000	3600	6600	7100	8500	15600
7	Mijen	200	80	280	500	100	600	800	300	1100
8	Gunung Pati	300	100	400	500	200	700	1100	800	1900
9	Mang Kang	600	700	1300	2600	3000	5600	5400	6100	11500
	Total	21800	21400	43200	46600	44700	91300	85500	80300	165800
	Percentage (%)	50.5	49.5	100	51	49	100	51.6	48.4	100

Table AN-2-16 Demand Forecast of Semarang Area (Demand Categories)

Pattern	Item	1985			1995			2005		
		Area (Ha)	Demand	Density	Area (Ha)	Demand	Density	Area (Ha)	Demand	Density
Residential Area	R-1	548	4780	8.7	548	5360	9.8	556	6610	11.9
	R-2	4040	14480	3.6	6452	34610	5.4	8432	65000	7.7
	R-3	788	1780	2.3	1604	5380	3.4	2260	12000	5.3
	R-4	2500	760	0.3	2224	1250	0.6	1932	1890	1.0
Sub Total		7876	21800	2.8	10828	46600	4.3	13180	85500	6.5
Business Area	B-1	36	1720	47.8	40	2840	71.0	44	3740	85.0
	B-2	232	6160	26.6	320	12770	39.9	444	22000	49.5
	C-1	4	260	65.0	4	370	92.5	4	440	110.0
	C-2	92	3180	34.6	252	12180	48.3	476	27440	57.6
	C-3	280	6970	24.9	244	6810	27.9	280	8580	30.6
	I-1	276	550	2.0	1328	4210	3.2	2352	8570	4.1
	I-2	288	1390	4.8	444	2410	5.4	552	3400	6.2
	Others	364	1170	3.2	1536	3110	2.0	2708	5130	1.9
Sub Total		1572	21400	13.6	4168	44700	10.7	6860	80300	11.7
Non-Demand					24024			18980		
Total		39020	43200	1.1	39020	91300	2.3	39020	165800	4.2

Table AN-2-17 Demand Forecast of Semarang I Exchange

Pattern	Item	1985			1995			2005		
		Area (Ha)	Demand	Density	Area (Ha)	Demand	Density	Area (Ha)	Demand	Density
Residential Area	R-1	100	850	8.5	100	970	9.7	104	1240	11.9
	R-2	844	3380	4.0	860	5490	6.4	840	8060	9.6
	R-3	140	370	2.6	80	340	4.3			
	R-4									
Sub Total		1084	4600	4.2	1040	6800	6.5	944	9300	9.9
Business Area	0-1	36	1720	47.8	40	2840	71.0	44	3740	85.0
	0-2	104	2910	28.0	124	5280	42.6	156	8100	51.9
	C-1	76	2660	35.0	128	7180	56.1	248	16060	64.8
	C-2	96	2400	25.0	64	1960	30.6	64	2240	35.0
	C-3	24	50	2.1	48	170	3.5	76	330	4.3
	I-1	48	240	5.0	48	280	5.8	40	260	6.5
	I-2	100	220	2.2	300	690	2.3	496	1170	2.4
Others										
Sub Total		484	10200	21.1	752	18400	24.5	1124	31900	28.4
Non-Demand		600			376			100		
Total		2168	14800	6.8	2168	25200	11.6	2168	41200	19.0

Table AN-2-18 Demand Forecast of Semarang II Exchange

Pattern	Item	1985			1995			2005		
		Area (Ha)	Demand	Density	Area (Ha)	Demand	Density	Area (Ha)	Demand	Density
Residential Area	R-1	332	2990	9.0	332	3450	10.4	336	4200	12.5
	R-2	988	3930	4.0	1152	7440	6.5	1292	12490	9.7
	R-3	24	70	2.9	24	100	4.2	20	110	5.5
	R-4	32	10	0.3	16	10	0.6			
Sub Total		1376	7000	5.1	1524	11000	7.2	1648	16800	10.2
Business Area	0-1	52	1450	27.9	100	4220	42.2	164	8820	53.8
	0-2	4	260	65.0	4	370	92.5	4	440	110.0
	C-1	12	420	35.0	12	660	55.0	12	780	65.0
	C-2	40	1000	25.0	32	950	29.7	32	1120	35.0
	I-1									
	I-2									
Others		140	370	2.6	240	600	2.5	340	840	2.5
Sub Total		248	3500	14.1	388	6800	17.5	552	12000	21.7
Non-Demand		808			520			232		
Total		2432	10500	4.3	2432	17800	7.3	2432	28800	11.8

Table AN-2-19 Demand Forecast of Tugu Exchange

Pattern	Item	1985			1995			2005		
		Area (Ha)	Demand	Density	Area (Ha)	Demand	Density	Area (Ha)	Demand	Density
Residential Area	R-1	684	2400	3.5	1236	6310	5.1	1628	11700	7.2
	R-2	92	230	2.5	256	900	3.5	488	2840	5.8
	R-3	180	70	0.4	172	90	0.5	60	60	1.0
	R-4									
Sub Total		956	2700	2.8	1664	7300	4.4	2176	14600	6.7
Business Area	B-1	44	1040	23.6	64	2240	35.0	92	3860	42.0
	B-2				20	920	46.0	36	1980	55.0
	B-3	40	1020	25.5	40	1060	26.5	44	1290	29.3
	B-1-1	64	320	5.0	100	540	5.4	72	430	6.0
	B-1-2	8	140	17.5	300	440	1.5	344	540	1.6
	Others									
Sub Total		156	2520	16.2	524	5200	9.9	588	8100	13.8
Non-Demand		3792			2716			2140		
Total		4904	5220	1.1	4904	12500	2.5	4904	22700	4.6

Table AN2-20 Demand Forecast of Majapahit Exchange

Pattern	Item	1985			1995			2005		
		Area (Ha)	Demand	Density	Area (Ha)	Demand	Density	Area (Ha)	Demand	Density
Residential Area	R-1	8	70	8.8	8	80	10.0	8	90	11.3
	R-2	820	2470	3.0	1400	6820	4.9	1928	13800	7.2
	R-3	72	150	2.1	360	1150	3.2	616	3190	5.2
	R-4	364	110	0.3	244	150	0.6	124	120	1.0
Sub Total		1264	2800	2.2	2012	8200	4.1	2676	17200	6.4
Business Area	0-1	8	170	21.3	8	240	30.0	8	300	37.5
	0-2									
	C-1				52	2140	41.2	104	5200	50.0
	C-2	20	470	23.5	20	490	24.5	20	570	28.5
	C-3				280	920	3.3	544	2240	4.1
	I-1	52	260	5.0	52	290	5.6	36	230	6.4
I-2				84	120	1.4	168	160	1.0	
Others										
Sub Total		80	900	11.3	496	4200	8.5	880	8700	9.9
Non-Demand		2944			1780			732		
Total		4288	3700	0.9	4288	12400	2.9	4288	25900	6.0

Table AN-2-21 Demand Forecast of Banyumanik Exchange

Pattern	Item	1985			1995			2005		
		Area (Ha)	Demand	Density	Area (Ha)	Demand	Density	Area (Ha)	Demand	Density
Residential Area	R-1	108	870	8.1	108	860	8.0	108	1080	10.0
	R-2	436	1520	3.5	920	4580	5.0	1336	9570	7.2
	R-3	176	360	2.0	308	1040	3.4	424	2300	5.4
	R-4	392	150	0.4	360	220	0.6	240	250	1.0
Sub Total		1112	2900	2.6	1696	6700	4.0	2108	13200	6.3
Business Area	0-1	20	480	24.0	20	650	32.5	20	760	38.0
	0-2									
	C-1									
	C-2	72	1900	26.4	60	1630	27.2	72	2040	28.3
	C-3									
	Others									
Sub Total		224	2800	12.5	400	3200	8.0	532	3900	7.3
Non-Demand		3928			3168			2624		
Total		5264	5700	1.1	5264	9900	1.9	5264	17100	3.2

Table AN-2-22 Demand Forecast of Gunuk Exchange

Pattern	Item	1985			1995			2005		
		Area (Ha)	Demand	Density	Area (Ha)	Demand	Density	Area (Ha)	Demand	Density
Residential Area	R-1	200	550	2.8	520	2080	4.0	752	4800	6.4
	R-2	48	80	1.7	280	840	3.0	460	2250	4.9
	R-3	212	70	0.3	132	80	0.6	52	50	1.0
	R-4									
Sub Total		460	700	1.5	932	3000	3.2	1264	7100	5.6
Business Area	0-1									
	0-2									
	C-1	4	100	25.0	40	1280	32.0	76	3420	45.0
	C-2									
	C-3	64	130	2.0	460	1500	3.3	848	3600	4.2
	I-1	48	190	4.0	92	460	5.0	120	780	6.5
I-2	16	180	11.3	144	360	2.5	276	700	2.5	
Others										
Sub Total		132	600	4.5	736	3600	4.9	1320	8500	6.4
Non-Demand		2596			1520			604		
Total		3188	1300	0.4	3188	6600	2.1	3188	15600	4.9

Table AN-2-23 Demand Forecast of Mijen Exchange

Pattern	Item	1985			1995			2005		
		Area (Ha)	Demand	Density	Area (Ha)	Demand	Density	Area (Ha)	Demand	Density
Residential Area	R-1	8	20	2.5	8	40	5.0	8	50	6.3
	R-2	36	60	1.7	36	130	3.6	52	210	4.0
	R-3	484	120	0.2	484	330	0.7	572	540	0.9
	R-4									
Sub Total		528	200	0.4	528	500	0.9	632	800	1.3
Business Area	0-1									
	0-2									
	C-1									
	C-2									
	C-3	4	80	20.0	4	100	25.0	12	300	25.0
	1-1									
1-2										
Others										
Sub Total		4	80	20.0	4	100	25.0	12	300	25.0
Non-Demand		5064			5064			4952		
Total		5596	280	0.1	5596	600	0.1	5596	1100	0.2

Table AN-2-24 Demand Forecast of Gunung Pati Exchange

Pattern	Item	1985			1995			2005		
		Area (Ha)	Demand	Density	Area (Ha)	Demand	Density	Area (Ha)	Demand	Density
Residential Area	R-1									
	R-2	52	100	1.9	52	160	3.1	60	300	5.0
	R-3	744	200	0.3	744	340	0.5	816	800	1.0
	R-4									
Sub Total		796	300	0.4	796	500	0.6	876	1100	1.3
Business Area	0-1									
	0-2									
	C-1									
	C-2									
	C-3	8	100	12.5	8	200	25.0	20	560	28.0
	I-1 I-2 Others							72	240	3.3
Sub Total		8	100	12.5	8	200	25.0	92	800	8.7
Non-Demand		5336			5336			5172		
Total		6140	400	0.1	6140	700	0.1	6140	1900	0.3

Table AN-2-25 Demand Forecast of Mang Kang Exchange

Pattern	Item	1985			1995			2005		
		Area (Ha)	Demand	Density	Area (Ha)	Demand	Density	Area (Ha)	Demand	Density
Residential Area	R-1	60	210	3.5	356	1850	5.2	648	4530	7.0
	R-2	148	360	2.4	208	720	3.5	140	800	5.7
	R-3	92	30	0.3	72	30	0.4	68	70	1.0
	R-4									
Sub Total		300	600	2.0	636	2600	4.1	856	5400	6.3
Business Area	0-1	4	110	27.5	4	140	35.0	4	160	40.0
	0-2									
	C-1				16	420	26.3	16	460	28.8
	C-2				540	1620	3.0	884	3400	3.8
	C-3	188	370	2.0	120	660	5.5	252	1500	6.0
	I-1	44	220	5.0	180	160	0.9	604	580	1.0
I-2										
Others										
Sub Total		236	700	3.0	860	3000	3.5	1760	6100	3.5
Non-Demand		4504			3544			2424		
Total		5040	1300	0.3	5040	5600	1.1	5040	11500	2.3

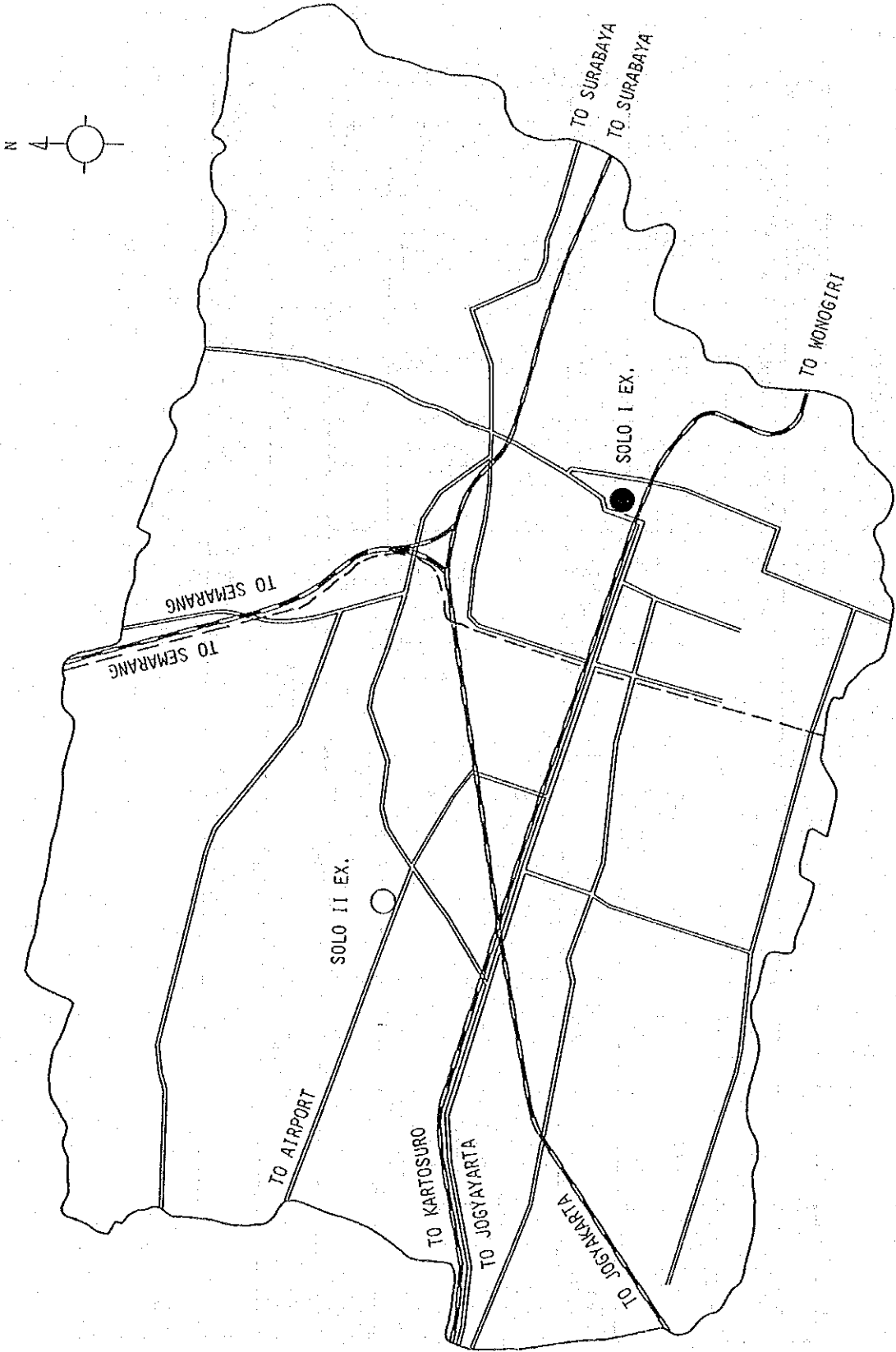


Figure AN-2-3 Guide Map

Table AN-2-26 Demand Forecast of Solo Area

Ref. No.	Name of Exchange	Demand									
		1985	1988	1990	1993	1995	1998	2000	2005		
1	Solo I	10100	11500	12500	14300	15600	17800	19400	24000		
2	Solo II	5800	9100	11500	14900	17200	20700	23000	28800		
	Total	15900	20600	24000	29200	32800	38500	42400	52800		

Table AN-2-27 Demand Forecast of Solo Area (Residential Business)

Ref. No.	Exchange Name	Demand in 1985			Demand in 1995			Demand in 2005		
		R	B	Total	R	B	Total	R	B	Total
1	Solo I	3800	6300	10100	6400	9200	15600	10900	13100	24000
2	Solo II	3800	2000	5800	10200	7000	17200	17200	11600	28800
	Total	7600	8300	15900	16600	16200	32800	28100	24700	52800
	Percentage (%)	47.8	52.2	100	50.6	49.4	100	53.2	46.8	100

Table AN-2-28 Demand Forecast of Solo Area (Demand Categories)

Pattern	Item	1985			1995			2005		
		Area (Ha)	Demand	Density	Area (Ha)	Demand	Density	Area (Ha)	Demand	Density
Residential Area	R-1	84	670	8.0	84	750	8.9	84	930	11.1
	R-2	2052	5950	2.9	3536	14550	4.1	3720	25010	6.7
	R-3	448	810	1.8	316	870	2.8	268	1340	5.0
	R-4	560	170	0.3	872	430	0.5	820	820	1.0
Sub Total		3144	7600	2.4	4808	16600	3.5	4892	28100	5.7
Business Area	0-1	60	1910	31.8	144	6540	45.4	176	10310	58.6
	0-2	48	1370	28.5	80	2380	29.8	100	3920	39.2
	C-1	184	4390	23.9	188	4690	24.9	188	5450	29.0
	C-2	24	60	2.5	196	510	2.6	224	930	4.2
	I-1	68	340	5.0	268	1690	6.3	452	3410	7.5
	I-2	40	230	5.8	80	390	4.9	96	680	7.1
	Others									
Sub Total		424	8300	19.6	956	16200	16.9	1236	24700	20.0
Non-Demand		1068			1108			744		
Total		4636	15900	3.4	6872	32800	4.8	6872	52800	7.7

Table AN2-29 Demand Forecast of Solo I Exchange

Pattern	Item	1985			1995			2005		
		Area (Ha)	Demand	Density	Area (Ha)	Demand	Density	Area (Ha)	Demand	Density
Residential Area	R-1	24	190	7.9	24	220	9.2	24	280	11.7
	R-2	976	2890	3.0	1288	5280	4.1	1316	9110	6.9
	R-3	340	600	1.8	264	720	2.7	232	1160	5.0
	R-4	392	120	0.3	368	180	0.5	352	350	1.0
Sub Total		1732	3800	2.2	1944	6400	3.3	1924	10900	5.7
Business Area	O-1	32	1050	32.8	52	2340	45.0	56	3310	59.1
	C-1	36	1040	28.9	64	1920	30.0	84	3300	39.3
	C-2	160	3900	24.4	160	4060	25.4	160	4650	29.1
	C-3				68	140	2.1	92	400	4.3
	I-1	32	160	5.0	96	520	5.4	136	1040	7.6
	I-2	28	150	5.4	36	220	6.1	40	400	10.0
Sub Total		288	6300	21.9	476	9200	19.3	568	13100	23.1
Non-Demand		696			472			400		
Total		2716	10100	3.7	2892	15600	5.4	2892	24000	8.3

Table AN-2-30 Demand Forecast of Solo II Exchange

Pattern	Item	1985			1995			2005		
		Area (Ha)	Demand	Density	Area (Ha)	Demand	Density	Area (Ha)	Demand	Density
Residential Area	R-1	60	480	8.0	60	530	8.8	60	650	10.8
	R-2	1076	3060	2.8	2248	9270	4.1	2404	15900	6.6
	R-3	108	210	1.9	52	150	2.9	36	180	5.0
	R-4	168	50	0.3	504	250	0.5	468	470	1.0
Sub Total		1412	3800	2.7	2864	10200	3.6	2968	17200	5.8
Business Area	0-1	28	860	30.7	92	4200	45.7	120	7000	58.3
	C-1	12	330	27.5	16	460	28.8	16	620	38.8
	C-2	24	490	20.4	28	630	22.5	28	800	28.6
	C-3	24	60	2.5	128	370	2.9	132	530	4.0
	I-1	36	180	5.0	172	1170	6.8	316	2370	7.5
	I-2	12	80	6.7	44	170	3.9	56	280	5.0
Sub Total		136	2000	14.7	480	7000	14.6	668	11600	17.4
Non-Demand		372			636			344		
Total		1920	5800	3.0	3980	17200	4.3	3980	28800	7.2

ANNEX 3

INSTALLATION TARGET IN
MEDAN, SEMARANG AND SOLO

CONTENTS

	<u>Page</u>
1. Microscopic Installation Target in Medan Area	
(1) Figure AN-3-1 Installation Target of Medan Area	591
(2) Figure AN-3-2 Installation Target of Centrum Exchange	592
(3) Figure AN-3-3 Installation Target of Suka Ramai Exchange	593
(4) Figure AN-3-4 Installation Target of Pulau Brayan Exchange	594
(5) Figure AN-3-5 Installation Target of Padang Bulan Exchange	595
(6) Figure AN-3-6 Installation Target of Tuntungan Exchange	596
(7) Figure AN-3-7 Installation Target of Cinta Damai Exchange	597
(8) Figure AN-3-8 Installation Target of Simpang Limun Exchange	598
(9) Figure AN-3-9 Installation Target of Tanjung Mulia Exchange	599
(10) Figure AN-3-10 Installation Target of Belawan Exchange	600

	<u>Page</u>
(11) Figure AN-3-11	601
Installation Target of Labuhan Exchange	
2. Microscopic Installation Target in Medan Area	
(1) Figure AN-3-12	602
Installation Target of Semarang Area	
(2) Figure AN-3-13	603
Installation Target of Semarang I Exchange	
(3) Figure AN-3-14	604
Installation Target of Semarang II Exchange	
(4) Figure AN-3-15	605
Installation Target of Genuk Exchange	
(5) Figure AN-3-16	606
Installation Target of Tugu Exchange	
(6) Figure AN-3-17	607
Installation Target of Mijen Exchange	
(7) Figure AN-3-18	608
Installation Target of Banyumanik Exchange	
(8) Figure AN-3-19	609
Installation Target of Gunung Pati Exchange	
(9) Figure AN-3-20	610
Installation Target of Majapahit Exchange	
(10) Figure AN-3-21	611
Installation Target of Mang Kang Exchange	

3. Microscopic Installation Target in Solo Area

(1)	Figure AN-3-22	612
	Installation Target of Solo Area	
(2)	Figure AN-3-23	613
	Installation Target of Solo I Exchange	
(3)	Figure AN-3-24	614
	Installation Target of Solo II Exchange	

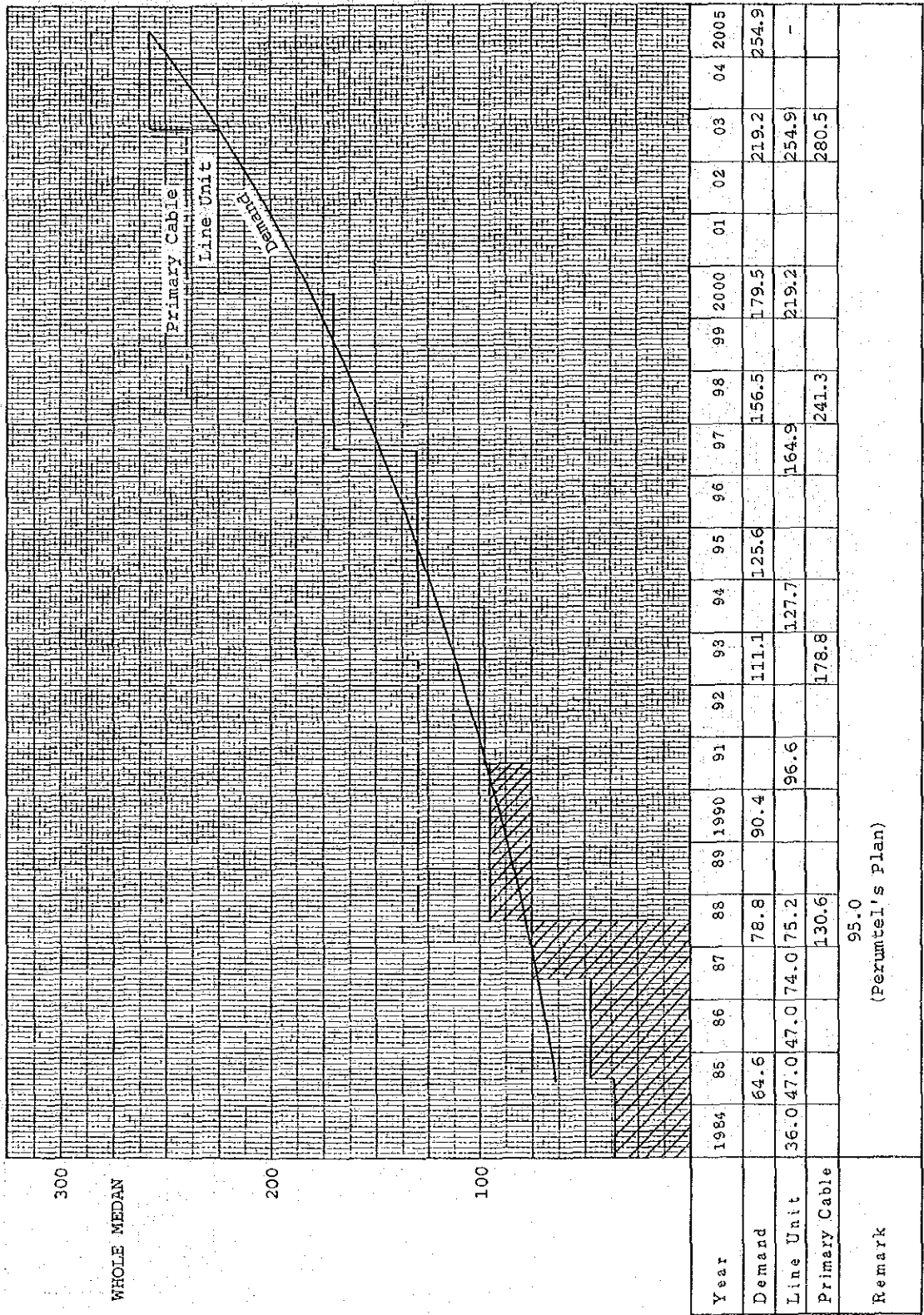


Figure AN-3-1 Installation Target of Medan Area

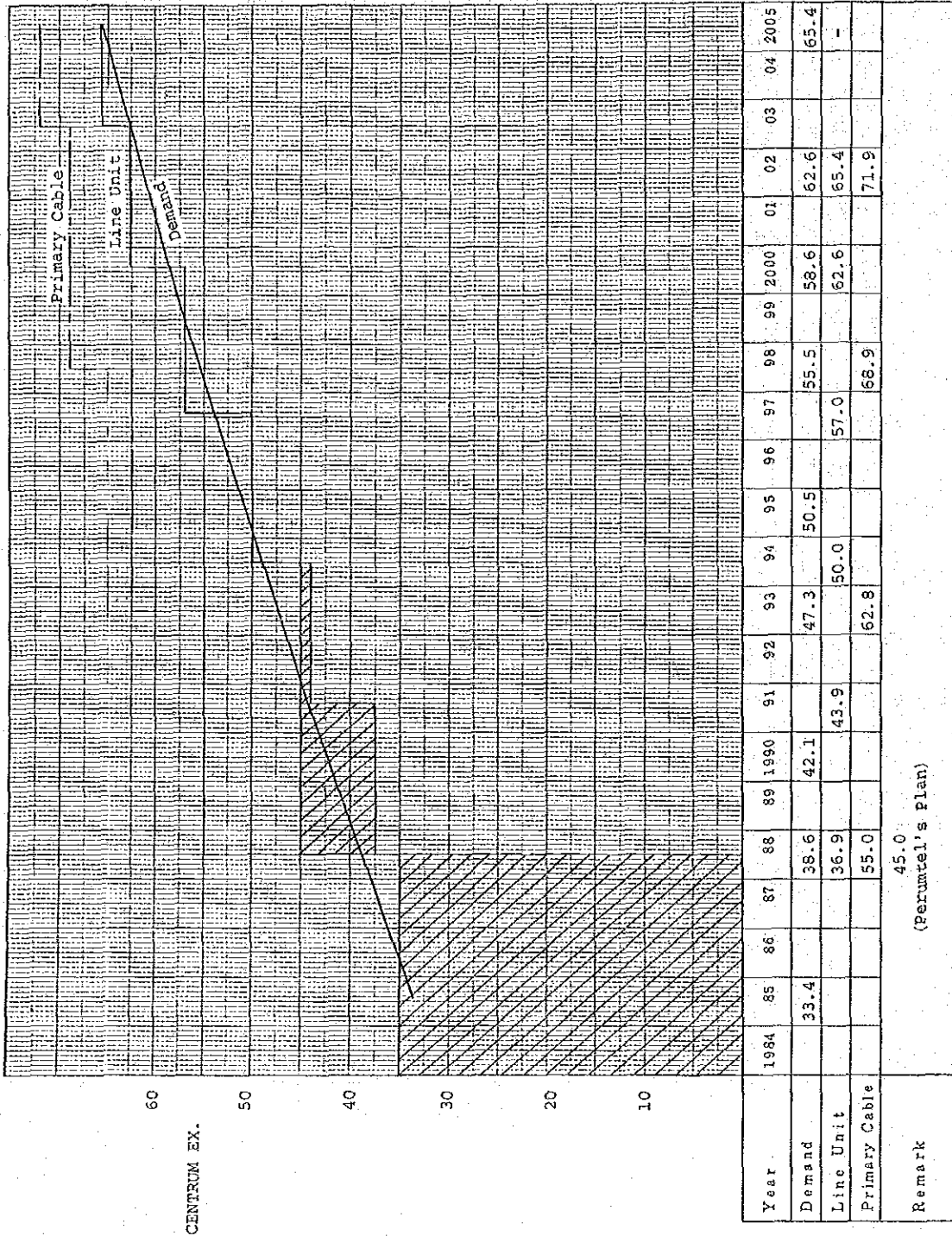


Figure AN-3-2 Installation Target of Centrum Exchange

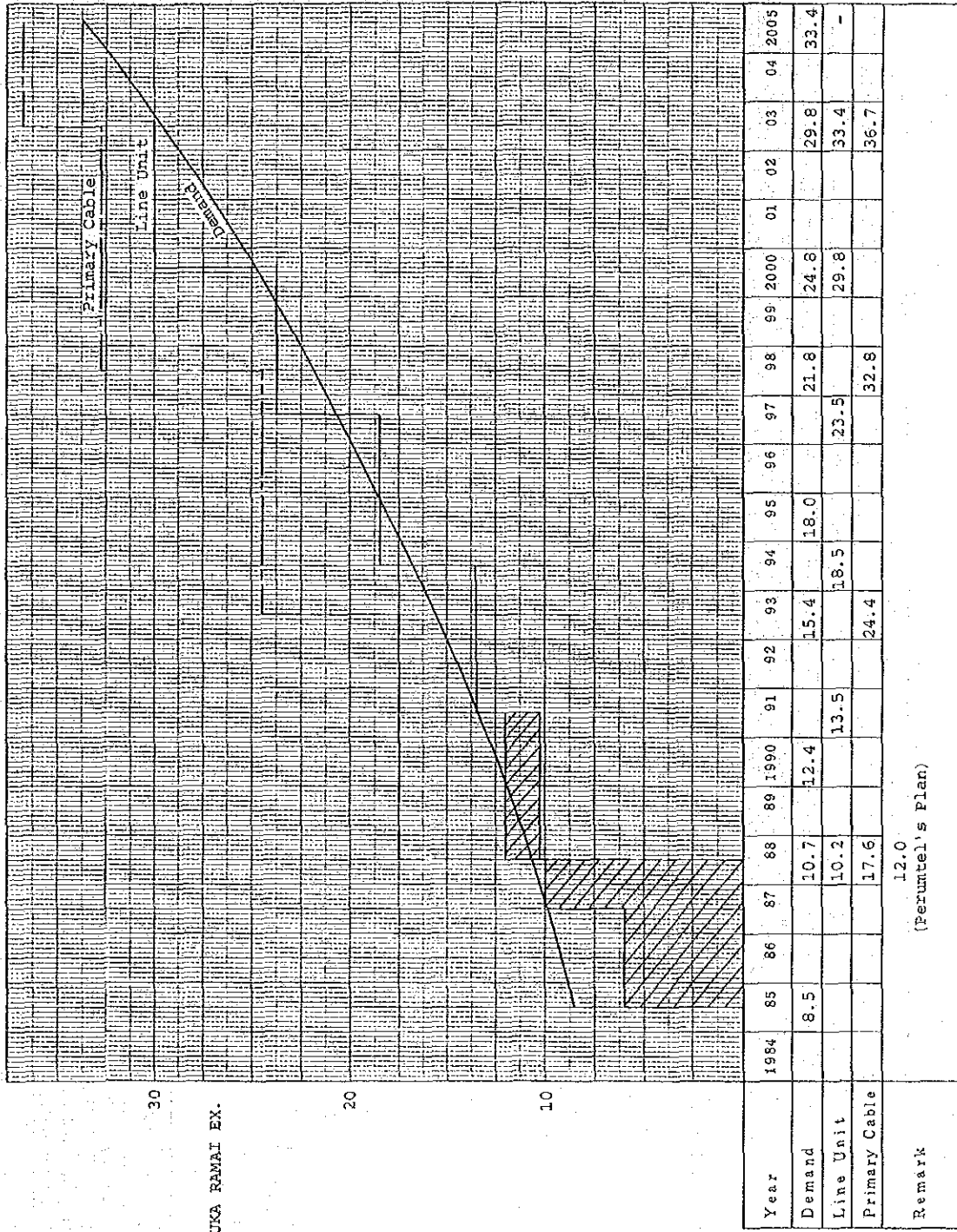


Figure AN-3-3 Installation Target of Suka Ramai Exchange

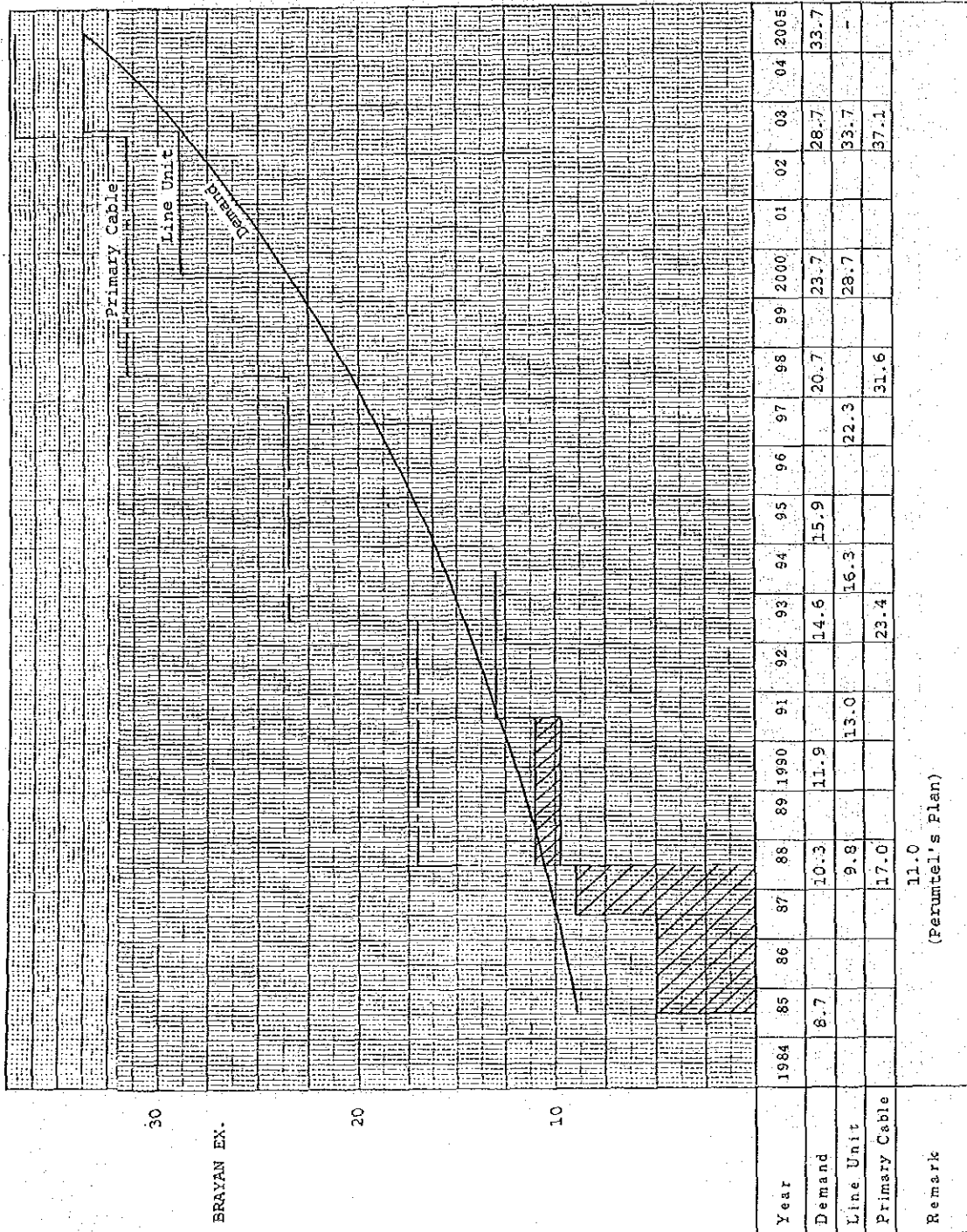


Figure AN-3-4 Installation Target of Pulau Brayan Exchange

20

PADANG BULAN EX.
(After 1994
"Tuntungan" area
is separated)

10

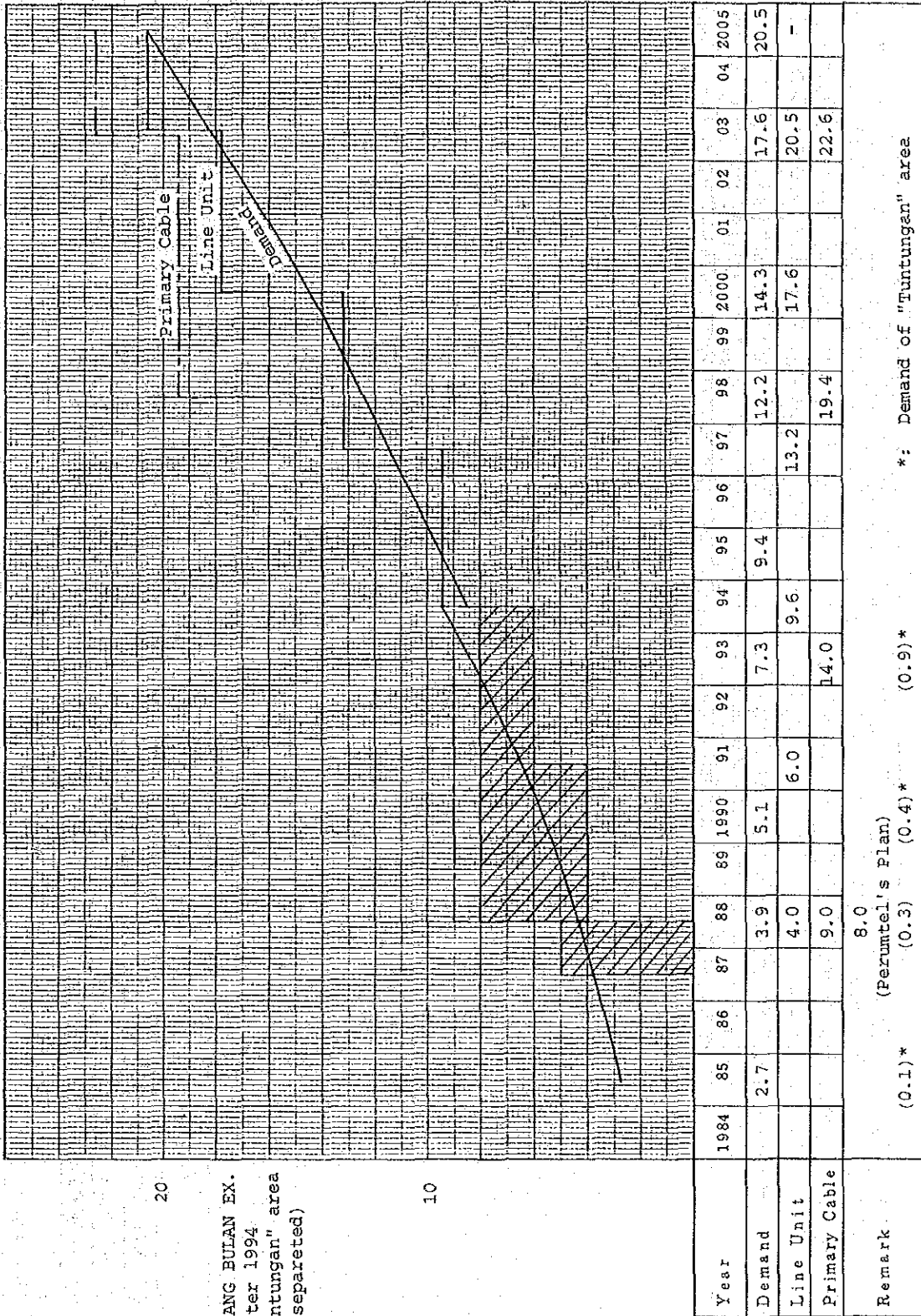


Figure AN-3-5 Installation Target of Padang Bulan Exchange

TUNTUNGAN EX.
 (Until 1994
 combined with
 "Padang Bulan")

20

10

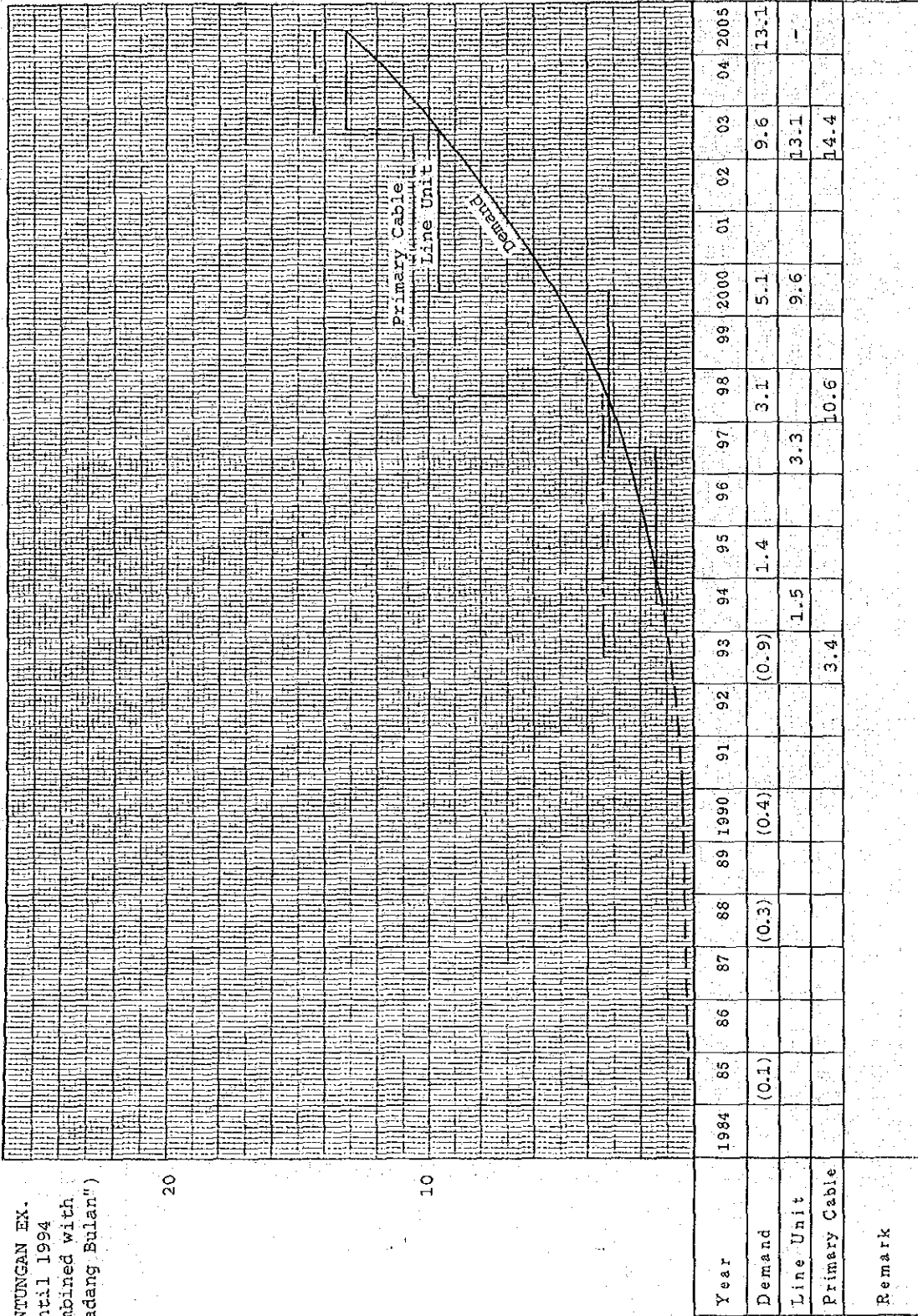


Figure AN-3-6 Installation Target of Tuntungan Exchange

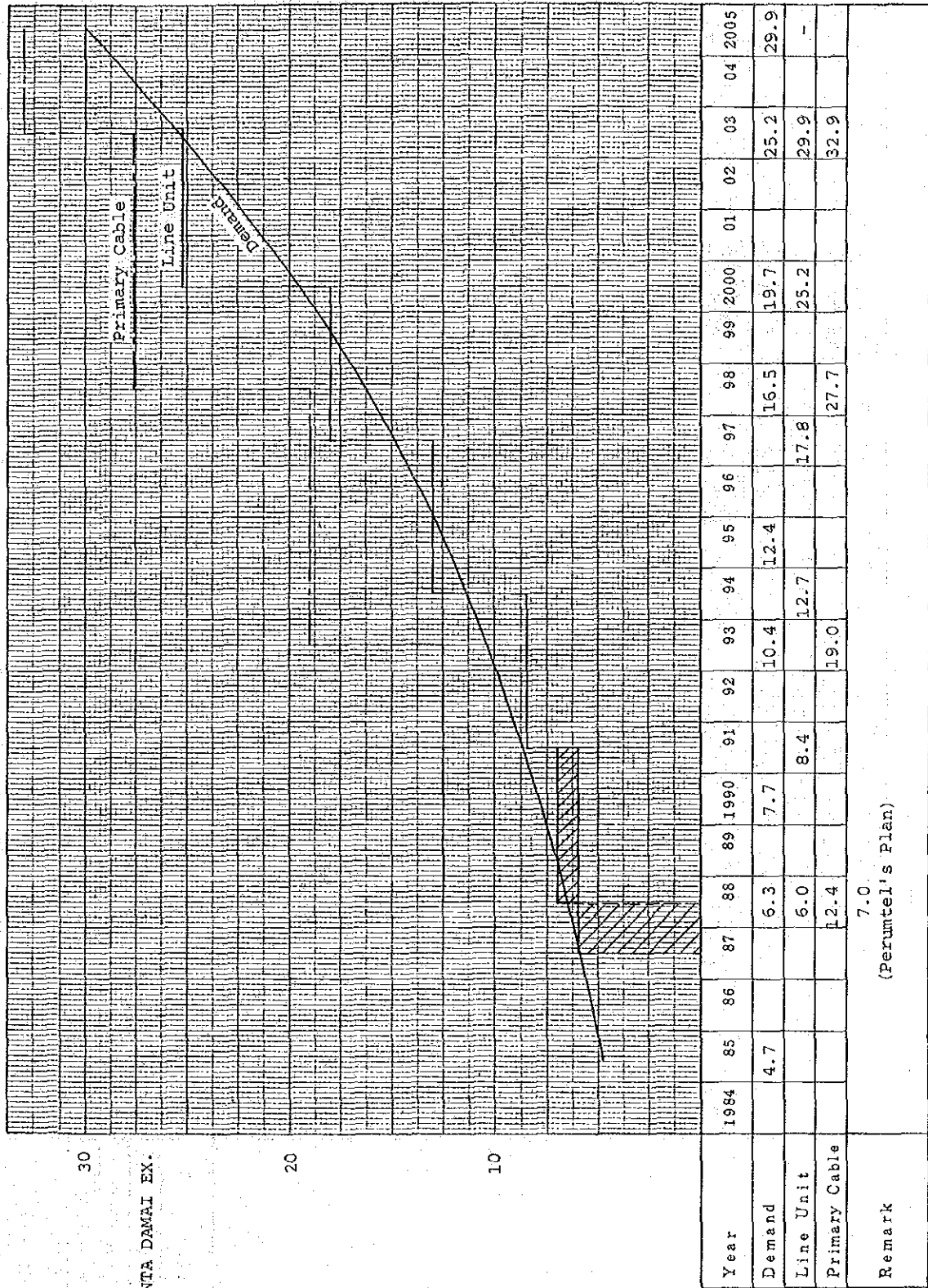


Figure AN-3-7 Installation Target of Cinta Damai Exchange

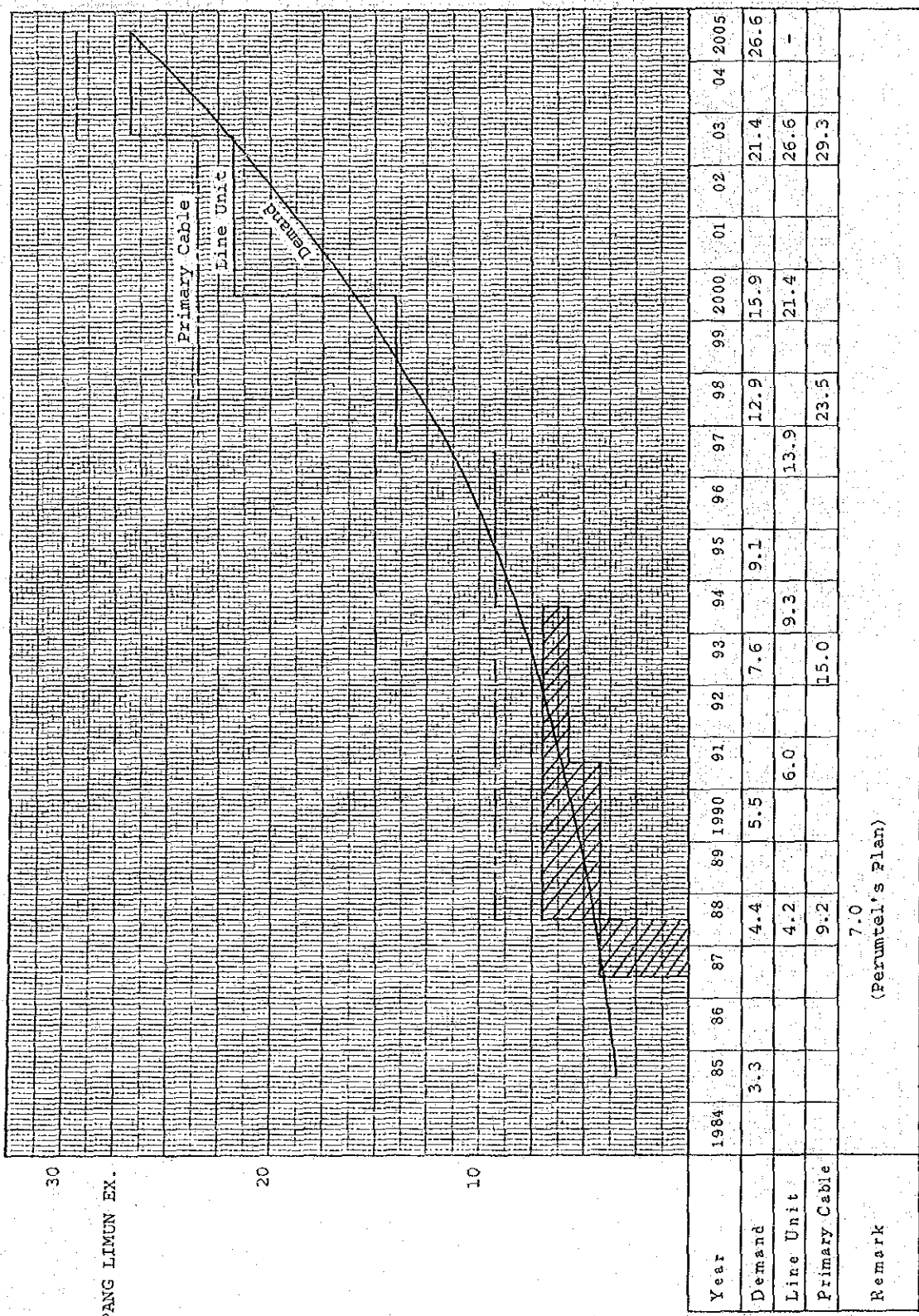


Figure AN-3-8 Installation Target of Simbang Limun Exchange

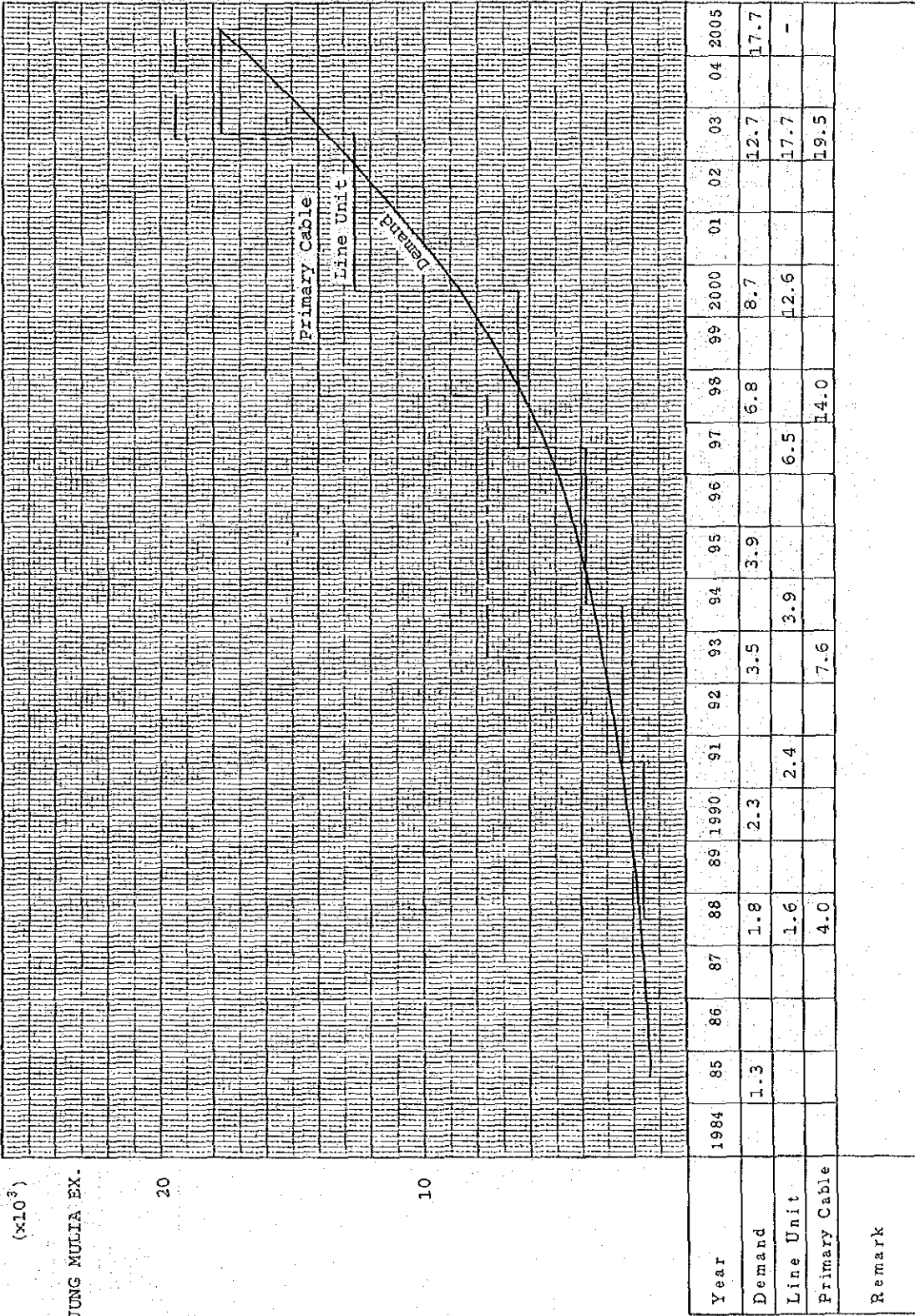


Figure AN-3-9 Installation Target of Tanjung Mulia Exchange

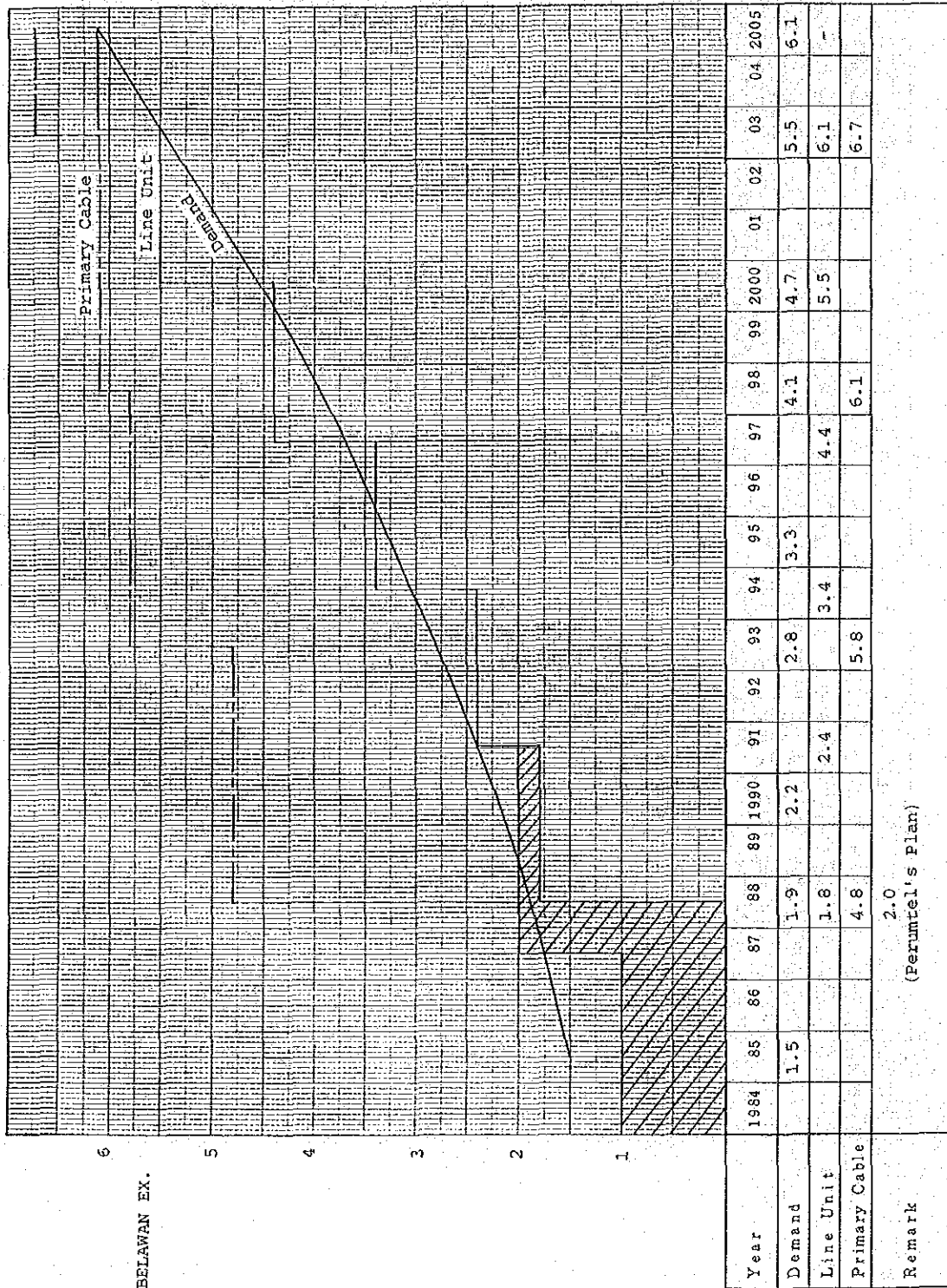


Figure AN-3-10 Installation Target of Belawan Exchange

(x10³)

LABUHAN EX.

10

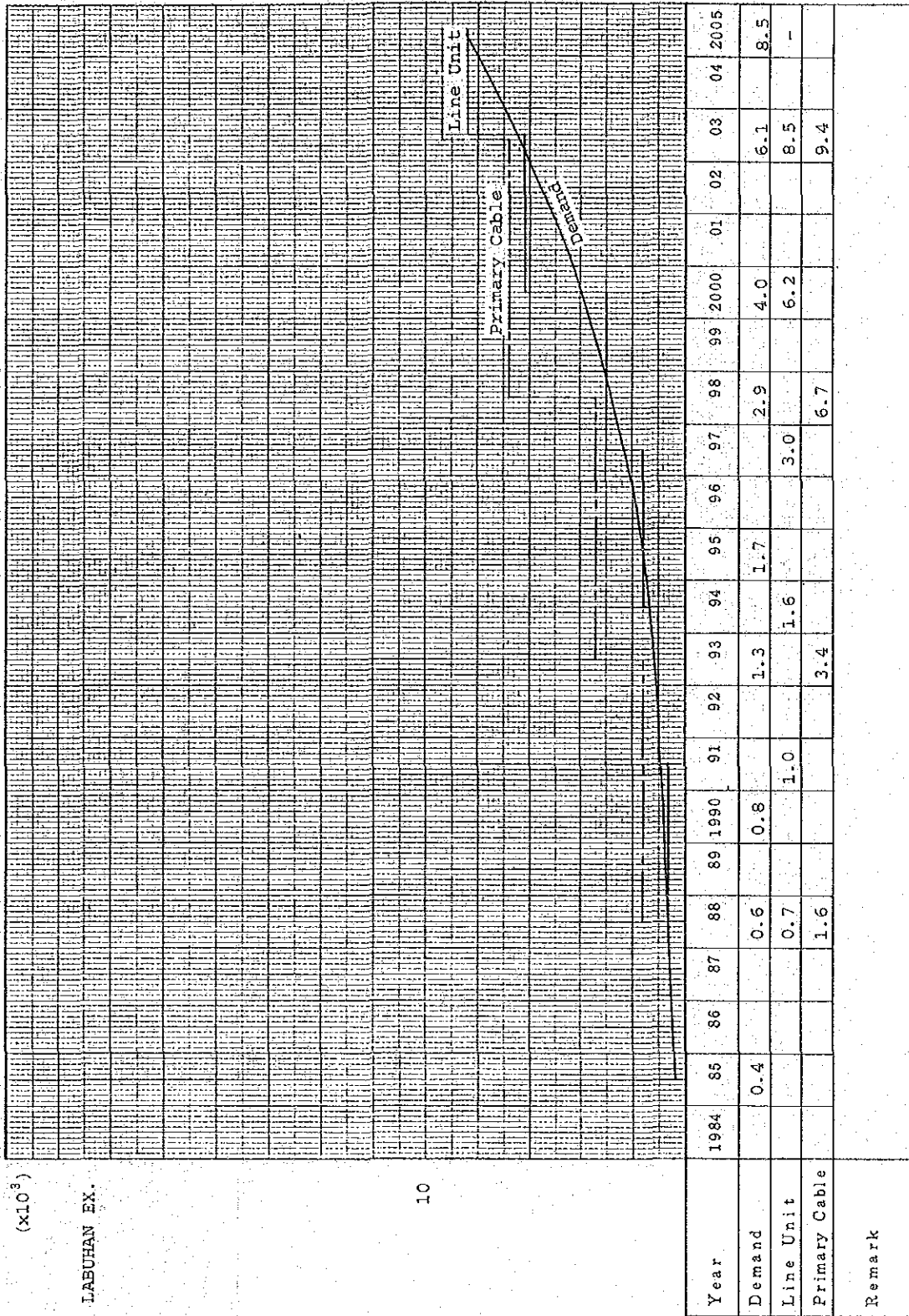


Figure AN-3-11 Installation Target of Labuhan Exchange

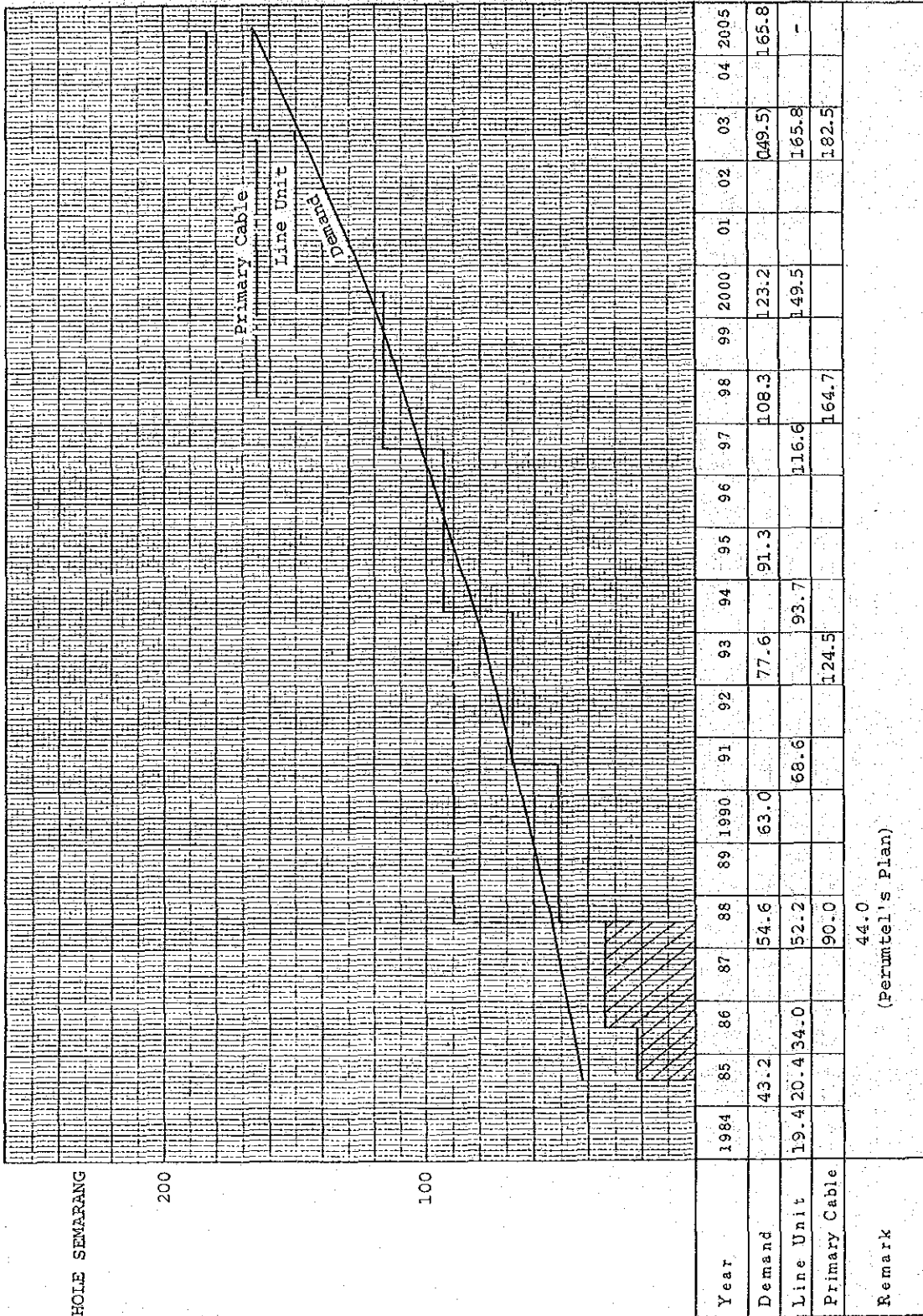


Figure AN-3-12 Installation Target of Semarang Area

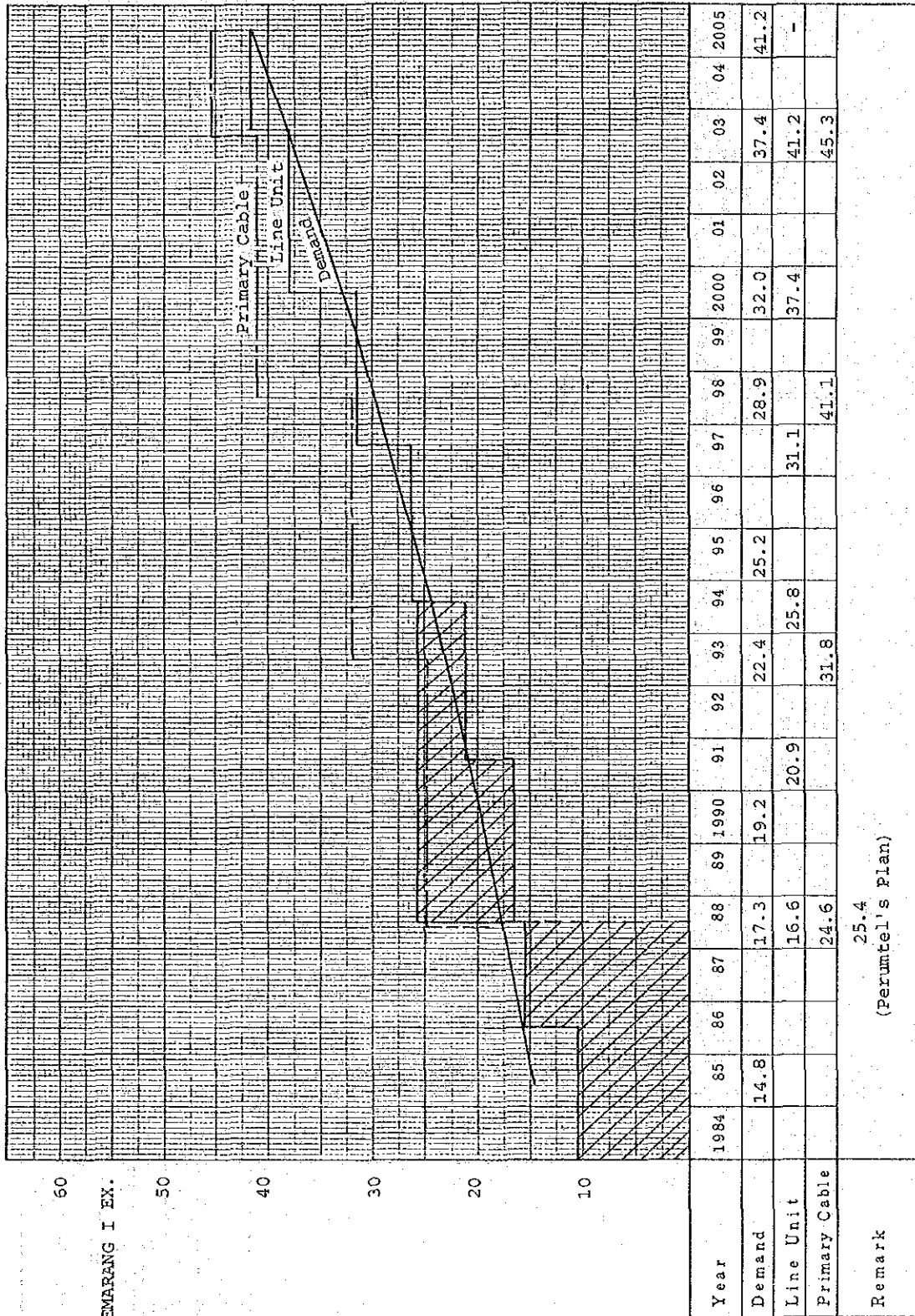


Figure AN-3-13 Installation Target of Semarang I Exchange

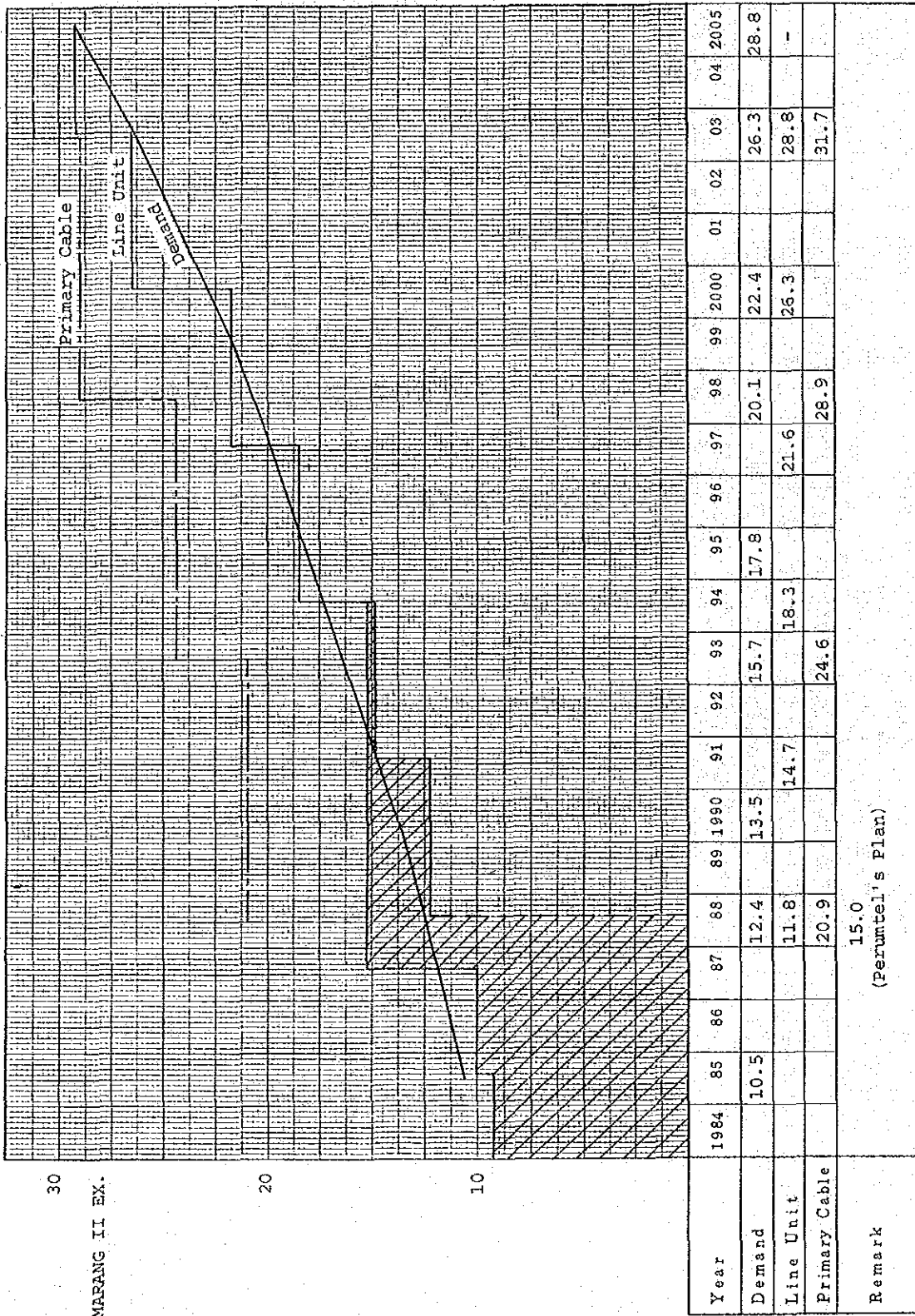


Figure AN-3-14 Installation Target of Semarang II Exchange

GENUK EX.

20

10

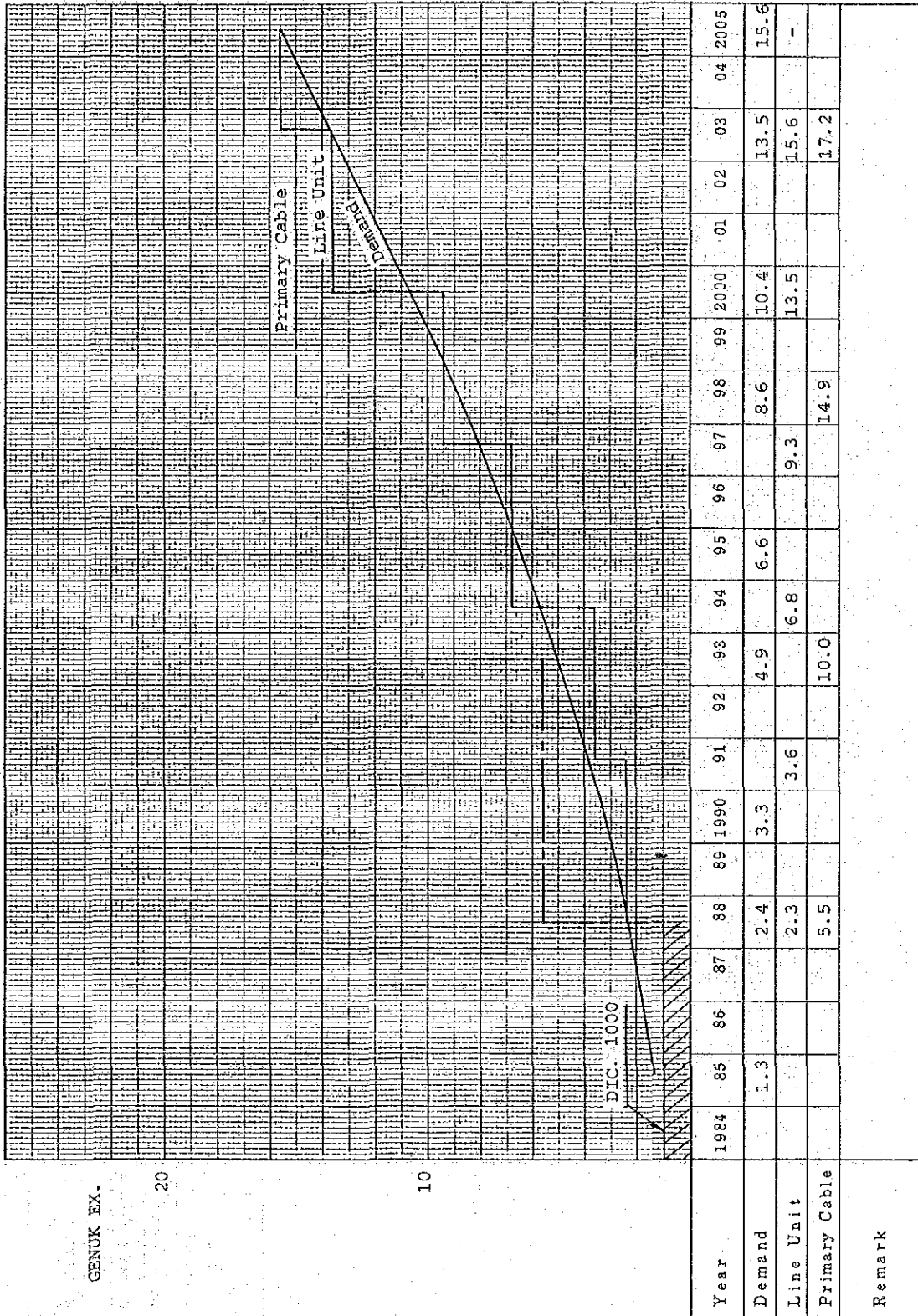


Figure AN-3-15 Installation Target of Genuk Exchange