

### 1 3.9 資金調達

全所要資金の30%は資本(Equity)、70%は借入れとする。(融資条件等は現時点では未定のため、計算上の前提条件である。)

単位 Rp1000

	BRPP	
	Foreian	Local
資本	—	3,309,130
長期借入金	7,552,174	169,130

### 1 3.1 0 長期借入れ金の金利

#### 1 3.1 0.1 長期借入れ金の利率

利率は、 a. Foreign 12%  
b. Local 16%

(融資条件等は、現時点では未定のため計算上の前提条件である。なお I. R. R. O. I. にほとんど影響をあたえない。)

#### 1 3.1 0.2 年度別長期借入れ金の金利

長期借入れ金の金利は Table 13-10-1 に示す。

### 1 3.1 1 長期借入れ金の返済方法

#### 1 3.1 1.1 2年据置き10年間(年1回)均等返済とする。

#### 1 3.1 1.2 返済計画

返済計画を Table 13-10-1 に示す。

Table 13-10-1 Repayment Schedule of Foreign Loan and Interest

Year	(1965)		(1966)		- 1 -		(1967)		Total		Interest paid	Remarks
	Balance at the beginning of the period	Amount of repayment	Balance at the beginning of the period	Amount of repayment	Balance at the beginning of the period	Amount of repayment	Balance at the beginning of the period	Amount of repayment	Balance at the beginning of the period	Amount of repayment		
-2	2,395,651	-									217,478	Precondition 1. Loan shall be executed at the beginning of the period (Jan. 1st). 2. Repayment of principal and interest shall be executed at the termend (Dec. 31st). 3. Payment of interest shall be post paid. 4. Interest rate shall be 1.2% yearly. 5. Equal annual repayment a period of 10 years after 2 years grace.
-1	2,177,830	217,821	5,095,653	-							494,936	
1	1,960,047	217,783	4,652,390	60,870	60,870						880,122	
2	1,742,264	217,783	4,169,151	463,239	5,370	5,370	55,300	6,653,307	6,653,307	5,996,715	794,396	
3	1,524,481	217,783	3,705,912	463,239	5,330	5,330	49,770	5,966,733	6,460,532	5,240,163	716,004	
4	1,306,698	217,783	3,242,673	463,239	5,330	5,330	44,240	5,240,163	6,460,532	4,393,611	633,622	
5	1,088,915	217,783	2,779,434	463,239	5,330	5,330	38,710	4,393,611	6,460,532	3,507,039	531,233	
6	871,132	217,783	2,316,195	463,239	5,330	5,330	33,180	3,507,039	6,460,532	2,620,507	468,848	
7	653,349	217,783	1,852,956	463,239	5,330	5,330	27,650	2,620,507	6,460,532	1,733,935	346,461	
8	435,566	217,783	1,389,717	463,239	5,330	5,330	22,120	1,733,935	6,460,532	847,403	304,074	
9	217,783	217,783	926,478	463,239	5,330	5,330	16,590	847,403	6,460,532	1,447,403	221,687	
10	0	217,783	463,239	463,239	5,330	5,330	11,060	474,299	6,460,532	474,299	139,304	
11			0	463,239	5,330	5,330	5,570	474,299	6,460,532	468,769	36,917	
12				0	5,330	5,330	0	5,330	5,330	0	663	
Total	2,395,651	2,395,651	5,095,653	5,095,653	60,870	60,870	0	7,532,174	7,532,174	0	6,343,769	

## 13.12 償却方法

### 13.12.1 償却年度

償却年数は

- a. 機械設備 10年
- b. 土木建築 30年
- c. 車輛 5年

### 13.12.2 定額法で残存簿価は零とする。

### 13.12.3 償却金額

年間償却金額はTable 13-12-1に示す。

## 13.13 法人税

法人税は利益課税のみで次の通り課税する。(単位Rp1000)

- 利益 ≤ Rp10,000 : 利益の15%
- Rp10,000 < 利益 ≤ Rp40,000 : 利益の25%
- 40,000 < 利益 : 利益の35%

**Table 13-12-1 Depreciation Expenses**

- (1) Depreciation shall be made by the fixed installment method.
- (2) No residual book value shall be left (Total amount shall be depreciated.)
- (3) Working capital and spare parts shall not be depreciated.
- (4) Installation expense and fundation of the equipment shall be depreciated the machineries and the equipments.
- (5) Annual depreciation amount

Items	Amount to be depreciated	Depreciation years	Annual depreciation amount
	1000 Rp	year	100 Rp/year
Equipment	6,814,683	10	681,468
Civil and building	46,522	30	1,551
Others	2,930,011	10	293,001
<b>Total</b>	<b>9,791,216</b>	<b>10.03</b>	<b>976,020</b>

$$\text{Depreciation period} = \frac{9,791,216}{976,020} = 10.03 \text{ years}$$

$$\text{Annual depreciation amount} = \frac{9,791,216 \times 1,000 \text{ Rp}}{10 \text{ years}} = 979,122,000 \text{ Rp}$$

The depreciation amount for building and civil works usually spread out over a period of 30 years.

On this basis the actual depreciation of the mill should be 976,020,000 Rp.

For practical reason, however, in our instance, calculation of depreciation is made on the assumed basis of 10 years.

Thus assumed, the depreciation charges are 9,791,216,000 Rp as indicated above.

### 13.14 年度別損益計算書

以上を総括して年度別損益計算書を作成した。

これをTable 13-14-1に示した。

### 13.15 銘柄別・抄紙機別損益分岐点

低成長経済下では操業度を低下させて、どこで収支均衡するかは大事な意義をもっている。

銘柄別・抄紙機別の損益分岐点をTable 13-15-1に示した。

### 13.16 I.R.R.O.I.の算定

プロジェクト投下資金に対する収益性の算定である。

すなわち全投下資金は自己資金にて賄われるものとしてその収益性を算定するものである。したがって算定された値には借入条件及び自己資本金等のプロジェクトに存在する固有の条件は反映されていない。なお、この値は税引後利益ベースにつき求められる。

I.R.R.O.I.はTable 13-16-1及びTable 13-16-2に示す。

### 13.17 感度分析

#### 13.17.1 売 価

I.R.R.O.I.について売価を5%増減させた場合をTable 13-17-1～Table 13-17-4及びFig 13-17-1に示した。

Table 13-14-1 Annual Statement of Profit and Loss

Items	Present	(1985) -2	(1986) -1	(1987) 1	(1988) 2	(1989) 3	(1990) 4	(1991) 5	(1992) 6	(1993) 7	(1994) 8	(1995) 9	(1996) 10	Remarks
Sales														
(0% )	(11,791.0)	(11,791.0)	(9,826.0)	(13,004.0)	(13,750.0)	(14,245.0)	(14,245.0)	(14,245.0)	(14,245.0)	(14,245.0)	(14,245.0)	(14,245.0)	(14,245.0)	
Production cost	6,786,550	6,786,550	5,657,125	9,012,354	9,992,194	10,645,408	10,645,408	10,645,408	10,645,408	10,645,408	10,645,408	10,645,408	10,645,408	
Variable cost	4,297,182	4,297,182	3,580,985	4,742,778	5,216,967	5,533,093	5,533,093	5,533,093	5,533,093	5,533,093	5,533,093	5,533,093	5,533,093	
Perennial expenses	1,018,934	1,018,934	1,018,934	1,018,934	1,018,934	1,018,934	1,018,934	1,018,934	1,018,934	1,018,934	1,018,934	1,018,934	1,018,934	
Depreciation (current)	548,430	548,430	548,430	548,430	548,430	548,430	548,430	548,430	548,430	548,430	548,430	548,430	548,430	
Depreciation (new)	0	0	0	979,122	979,122	979,122	979,122	979,122	979,122	979,122	979,122	979,122	979,122	
Other fixed cost	918,572	918,572	918,572	918,572	918,572	918,572	918,572	918,572	918,572	918,572	918,572	918,572	918,572	
Total	6,786,550	6,786,550	6,066,941	8,207,856	8,682,045	8,994,171	8,743,032	8,449,741	8,449,741	8,449,741	8,449,741	8,449,741	8,449,741	
Operating income	5,412	5,412	409,816	804,302	1,310,063	1,647,237	1,901,476	2,195,667	2,195,667	2,195,667	2,195,667	2,195,667	2,195,667	
Selling expenses	248,419	248,419	248,419	248,419	248,419	248,419	248,419	248,419	248,419	248,419	248,419	248,419	248,419	
Administrative expenses	777,951	777,951	777,951	777,951	777,951	777,951	777,951	777,951	777,951	777,951	777,951	777,951	777,951	
Total	1,026,370	1,026,370	1,026,370	1,026,370	1,026,370	1,026,370	1,026,370	1,026,370	1,026,370	1,026,370	1,026,370	1,026,370	1,026,370	
Total cost	7,809,508	7,809,508	7,093,311	9,234,226	9,708,415	10,024,541	9,770,302	9,476,111	9,476,111	9,476,111	9,476,111	9,476,111	9,476,111	
Interest payable														
Current (Longterm loan)	110,695	110,695	110,695	110,695	110,695	110,695	110,695	110,695	110,695	110,695	110,695	110,695	110,695	
(Shortterm loan)	202,410	202,410	202,410	202,410	202,410	202,410	202,410	202,410	202,410	202,410	202,410	202,410	202,410	
New (Longterm loan)	0	0	0	880,122	798,396	716,004	633,622	551,235	468,848	386,461	304,074	221,687	139,304	
(Shortterm loan)	0	0	0	6,244	0	0	0	0	0	0	0	0	0	
Total	313,105	313,105	313,105	1,199,871	1,117,401	1,029,109	946,727	864,340	781,933	699,366	617,179	534,792	452,409	
Profit before tax	-1,334,063	-1,334,063	-1,749,291	-1,421,539	-827,808	-408,242	-71,621	304,957	317,344	469,733	582,118	634,505	716,888	
Corporation tax	0	0	0	0	0	0	0	101,735	130,376	159,466	188,241	217,077	245,911	
Profit after tax	-1,334,063	-1,334,063	-1,749,291	-1,421,539	-827,808	-408,242	-71,621	203,222	286,968	310,267	393,877	417,428	470,977	
Loss repayment	-745,633	-745,633	-1,200,861	106,013	699,744	1,119,310	1,201,692	1,182,344	1,235,896	1,249,447	1,242,999	1,296,560	1,450,099	
	34,900	681,040	646,532	646,532	646,532	646,532	646,532	646,532	646,532	646,532	646,532	646,532	646,532	

**Table 13-15-1 Break-even Point for Every Kind of Paper**

Kinds	Present					
	Daily production	Operation profit	Fixed cost	Break even point	Ratio of operation	
	¢/day	RP/kg	Thousand RP/day	¢/day	%	
HVS	45g	27.76	182.87	11,688	68.99	219
HVS	55g	31.00	255.11	11,688	43.85	149
HVS	65g	36.64	297.90	11,688	33.33	146
HVO	65g	36.54	173.22	11,658	64.81	175
HVSO	85g	33.87	244.63	11,688	45.33	134
CS	75g	34.58	219.64	11,688	50.41	146
Sub total		34.18	211.30	11,688	52.48	154
Oil Proof Paper	45g					
Blue Paper Envelope	45g					
Form Paper	65g					
Sub total						
Total		34.18	211.30	11,688	52.48	154

Improved					Remarks	
Daily production	Operation profit	Fixed cost	Break even point	Ratio of operation		
¢/day	RP/kg	Thousand RP/day	¢/day	%		
35	263.81	14,565	53.76	154	(1) Annual fixed cost (Present) 1000 Rp Fixed expenses 1,014,954 Depreciation 548,436 Other fixed cost 918,572 Selling expenses 243,419 Administrative expenses 772,951 Interest payable 313,965 Total 3,869,871 (1000 Rp) (1000 Rp) $3,869,871 \div 342 (\text{days}) = 11,688$	
41	347.83	14,565	41.70	102		
50	274.75	14,565	52.79	176		
50	230.54	14,565	62.14	136		
50	299.45	14,565	48.44	97		
50	234.63	14,565	61.83	138		
44.75	291.12	14,565	49.82	111		
16	356.96	14,565	41.83	254		
25	450.36	14,565	29.77	83		
50	763.18	14,565	19.81	34		
31.33	481.14	14,565	29.29	61		
41.65	358.89	14,565	45.42	97		(2) Annual fixed cost after improved (Average for 19 years) 1000 Rp Fixed expenses 1,014,954 Depreciation 1,233,870 Other fixed cost 918,572 Selling expenses 243,419 Administrative expenses 772,951 Interest payable 313,965 Total 4,365,871 (1,000 Rp) (1,000 Rp) $4,365,871 \div 342 (\text{days}) = 14,565$

Table 13-16-1 Internal Earning Rate Statement of Profit & Loss  
 Profit & Loss Statement for Internal Rate of Return on Investment (I.R.R.O.I.)

Unit: 1,000 Rp-

	Present	(1985) -2	(1986) -1	(1987) 1	(1988) 2	(1989) 3	(1990) 4	(1991-1996) 5-10	Remarks
Sales	6,788,550			9,012,158	9,992,108	10,645,408	10,645,408	10,645,408	
Variable cost	4,297,182			4,742,778	5,216,967	5,533,093	5,533,093	5,533,093	
Fixed cost	2,963,896			2,963,896	2,963,896	2,963,896	2,963,896	2,963,896	
Depreciation (current)	548,430			548,430	548,430	548,430	294,191	0	
Depreciation (new)	0			838,696	838,696	838,696	838,696	838,696	
Total	7,809,508			9,093,800	9,567,989	9,884,115	9,659,876	9,355,685	
Operating income	-1,020,958			-81,642	424,119	761,293	1,015,532	1,309,723	
Interest payable (current)	313,105			313,105	313,105	313,105	313,105	313,105	
Profit before tax	-1,334,063			-394,747	111,014	448,188	702,427	996,618	
Corporation tax	0			0	33,855	151,866	240,849	343,816	
Profit after tax	-1,334,063			-394,747	77,159	296,322	461,578	652,802	
Investment amount	0	-2,660,868	-6,669,566	-295,740					
Production outback loss due to construction	0	0	-415,228	0					
Depreciation (current)				548,430	548,430	548,430	294,191	0	
Depreciation (new)				838,696	838,696	838,696	838,696	838,696	
Profit				-394,747	77,159	296,322	461,578	652,802	
Current profit				1,334,063	1,334,063	1,334,063	1,334,063	1,334,063	
New flow		-2,660,868	-7,084,794	2,030,702	2,798,348	3,017,511	2,928,528	2,825,561	



Table 13-16-2 Internal Rate of Return on Investment (I.R.R.O.I.)

Unit: 1000 Rp

Year	Net flow	22%		24%	
		Discount coefficient	Current value	Discount coefficient	Current value
-2	- 2,660,868	0.820	- 2,181,912	0.806	- 2,144,660
-1	- 7,084,794	0.672	- 4,760,982	0.650	- 4,605,116
1	2,030,702	0.551	1,118,917	0.524	1,064,088
2	2,798,348	0.451	1,262,055	0.423	1,183,701
3	3,017,511	0.370	1,116,479	0.341	1,028,971
4	2,928,528	0.303	887,344	0.275	805,345
5~10	2,825,561	0.955	2,698,411	0.831	2,348,041
Total			140,312		- 319,630

$$\text{I.R.R.O.I.} = 22\% + 2\% \times \frac{140,312}{140,312 + 319,630} = 22.61\%$$

$$\text{Payout period} = \frac{10,041,402}{2,825,561} = 3.55 \text{ years}$$

Table 13-17-1 Sensitivity Analysis (Variation of +5% base selling price)  
Profit and Loss Statement for I.R.R.O.I.

Unit: 1,000 Rp

	Present	(1985) -2	(1986) -1	(1987) 1	(1988) 2	(1989) 3	(1990) 4	(1991-1996) 5-10	Remarks
Sales	6,788,550			9,462,766	10,491,713	11,177,678	11,177,678	11,177,678	
Variable cost	4,297,182			4,742,778	5,216,967	5,533,093	5,533,093	5,533,093	
Fixed cost	2,963,896			2,963,896	2,963,896	2,963,896	2,963,896	2,963,896	
Depreciation (current)	548,430			548,430	548,430	548,430	548,430	0	
Depreciation (new)	0			838,696	838,696	838,696	838,696	838,696	
Total	7,809,508			9,093,800	9,567,989	9,884,115	9,629,876	9,335,685	
Operating income	-1,020,958			368,966	923,724	1,293,563	1,547,802	1,841,993	
Interest payable (current)	313,105			313,105	313,105	313,105	313,105	313,105	
Profit before tax	-1,334,063			55,861	610,619	980,458	1,234,697	1,528,888	
Corporation tax	0			14,551	208,717	338,160	427,144	530,111	
Profit after tax	-1,334,063			41,310	401,902	642,298	807,553	998,777	
Investment amount	0	-2,660,868	-6,669,566	-295,740					
Production cutback low due to construction	0	0	-415,228	0					
Depreciation (current)				548,430	548,430	548,430	294,191	0	
Depreciation (now)				838,696	838,696	838,696	838,696	838,696	
Profit				41,310	401,902	642,298	807,553	998,777	
Current profit				1,334,063	1,334,063	1,334,063	1,334,063	1,334,063	
Net Flow		-2,660,868	-7,084,794	2,466,759	3,123,091	3,363,487	3,274,503	3,171,536	

Table 13-17-2 Sensitivity Analysis (Variation of +5% base selling price)  
I.R.R.O.I.

Unit: 1000 Rp

Year	Net flow	25%		27%	
		Discount coefficient	Current value	Discount coefficient	Current value
-2	- 2,660,868	0.800	- 2,128,694	0.787	- 2,094,103
-1	- 7,084,794	0.640	- 4,534,268	0.620	- 4,392,572
1	2,466,759	0.512	1,262,981	0.488	1,203,778
2	3,123,091	0.410	1,280,467	0.384	1,199,267
3	3,363,487	0.328	1,103,224	0.302	1,015,773
4	3,274,503	0.262	857,920	0.238	779,332
5 ~ 10	3,171,536	0.774	2,454,769	0.670	2,124,929
Total			296,399		- 163,596

$$\text{I.R.R.O.I.} = 25\% + 2\% \times \frac{296,399}{296,399 + 163,596} = 26.29\%$$

$$\text{Payout period} = \frac{10,041,402}{3,171,536} = 3.17 \text{ years}$$

Table 13-17-3. Sensitivity Analysis (Variation of -5% base selling price)

Profit and Loss Statement for I.R.R.O.I.

Unit: 1,000 Rp.

	Present	(1985) - 2	(1986) - 1	(1987) 1	(1988) 2	(1989) 3	(1990) 4	(1991 ~ 1996) 5 ~ 10	Remarks
Sales	6,788,550			8,561,550	9,492,503	10,113,138	10,113,138	10,113,138	
Variable cost	4,297,182			4,742,778	5,216,967	5,533,093	5,533,093	5,533,093	
Fixed cost	2,963,896			2,963,896	2,963,896	2,963,896	2,963,896	2,963,896	
Depreciation (current)	548,430			548,430	548,430	548,430	294,191	0	
Depreciation (new)	0			838,696	838,696	838,696	838,696	838,696	
Total	7,809,508			9,093,800	9,567,989	9,884,115	9,629,876	9,335,685	
Operating income	- 1,020,958			- 532,250	- 75,486	229,023	483,262	777,453	
Interest payable (current)	313,105			313,105	313,105	313,105	313,105	313,105	
Profit before tax	- 1,334,063			- 845,355	- 388,591	- 84,082	170,157	464,348	
Corporation tax	0			0	0	0	54,555	157,521	
Profit after tax	- 1,334,063			- 845,355	- 388,591	- 84,082	115,602	306,827	
Investment amount	0	- 2,660,868		- 295,740					
Production outback low due to construction	0	0	- 415,228	0					
Depreciation (current)				548,430	548,430	548,430	294,191	0	
Depreciation (new)				838,696	838,696	838,696	838,696	838,696	
Profit				- 845,355	- 388,591	- 84,082	115,602	306,827	
Current profit				1,334,063	1,334,063	1,334,063	1,334,063	1,334,063	
New flow		- 2,660,868	- 7,084,794	1,580,094	2,332,598	2,637,107	2,582,552	2,479,586	

Table 13-17-4 Sensitivity Analysis (Variation of -5% base selling price)

I.R.R.O.I.

Unit: 1000 Rp

Year	Net flow	18%		20%	
		Discount coefficient	Current value	Discount coefficient	Current value
-2	- 2,660,868	0.847	- 2,253,755	0.833	- 2,216,503
-1	- 7,084,794	0.718	- 5,086,882	0.694	- 4,916,847
1	1,580,094	0.609	962,277	0.579	914,874
2	2,332,598	0.516	1,203,621	0.482	1,124,312
3	2,637,107	0.437	1,152,416	0.402	1,060,117
4	2,582,552	0.370	955,544	0.335	865,155
5 ~ 10	2,479,586	1.296	3,213,543	1.133	2,809,371
Total			146,764		- 359,521

$$\text{I.R.R.O.I.} = 18\% + 2\% \times \frac{146,764}{146,764 + 359,521} = 18.58\%$$

$$\text{Payout period} = \frac{10,041,402}{2,479,586} = 4.05 \text{ years}$$

Table 13-17-5 Sensitivity Analysis (Variation of +5% base investment cost)  
 Profit and Loss Statement for I.R.R.O.I.

Unit: 1,000 Rp

	Present	(1985) -2	(1986) -1	(1987) 1	(1988) 2	(1989) 3	(1990) 4	(1991 ~ 1996) 5 ~ 10	Remarks
Sales	6,788,550			9,012,158	9,992,108	10,645,408	10,645,408	10,645,408	
Variable cost	4,297,182			4,742,778	5,216,967	5,533,093	5,533,093	5,533,093	
Fixed cost	2,963,896			2,963,896	2,963,896	2,963,896	2,963,896	2,963,896	
Depreciation (current)	548,430			548,430	548,430	548,430	294,191	0	
Depreciation (new)	0			880,631	880,631	880,631	880,631	880,631	
Total	7,809,508			9,135,735	9,699,924	9,926,050	9,671,811	9,377,620	
Operating income	-1,020,958			-123,577	382,184	719,358	973,597	1,267,788	
Interest payable (current)	313,105			313,105	313,105	313,105	313,105	313,105	
Profit before tax	-1,334,063			-436,682	69,079	406,253	660,492	954,683	
Corporation tax	0			0	19,178	137,189	226,172	329,139	
Profit after tax	-1,334,063			-436,682	49,901	269,064	434,320	625,544	
Investment amount		-2,793,911		-210,527					
Production cutback/low due to construction		0	-7,003,044	0					
Depreciation (current)				548,430	548,430	548,430	294,191	0	
Depreciation (new)				880,631	880,631	880,631	880,631	880,631	
Profit				-436,682	49,901	269,064	434,320	625,544	
Current profit				1,334,063	1,334,063	1,334,063	1,334,063	1,334,063	
New flow		-2,793,911	-7,418,272	2,015,915	2,813,025	3,032,188	2,943,205	2,840,238	

Table 13-17-6 Sensitivity Analysis (Variation of +5% base investment cost)  
I.R.R.O.I.

Unit: 1,000 Rp

Year	Net flow	20%		22%	
		Discount coefficient	Current value	Discount coefficient	Current value
-2	- 2,793,911	0.833	- 2,327,328	0.820	- 2,291,007
-1	- 7,418,272	0.694	- 5,148,281	0.672	- 4,985,079
1	2,015,915	0.579	1,167,215	0.551	1,110,769
2	2,813,025	0.482	1,355,878	0.451	1,268,674
3	3,032,188	0.402	1,218,940	0.370	1,121,910
4	2,943,205	0.335	985,974	0.303	891,791
5~10	2,840,238	1.133	3,217,990	0.955	2,712,427
Total			470,388		- 170,515

$$\text{I.R.R.O.I.} = 20\% + 2\% \times \frac{470,388}{470,388 + 170,515} = 21.47\%$$

$$\text{Payout period} = \frac{10,522,710}{2,840,238} = 3.70 \text{ years}$$

Table 13-17.7 Sensitivity Analysis (Variation of -5% base investment cost)  
Profit and Loss Statement for I.R.R.:O.I.

Unit: 1,000 Rp

	Present	(1985) - 2	(1986) - 1	(1987) 1	(1988) 2	(1989) 3	(1990) 4	(1991 ~ 1996) 5 ~ 10	Remarks
Sales	6,788,550			9,012,158	9,992,108	10,645,408	10,645,408	10,645,408	
Variable cost	4,297,182			4,742,778	5,216,967	5,533,093	5,533,093	5,533,093	
Fixed cost	2,963,896			2,963,896	2,963,896	2,963,896	2,963,896	2,963,896	
Depreciation (current)	548,430			548,430	548,430	548,430	548,430	548,430	
Depreciation (new)	0			796,761	796,761	796,761	796,761	796,761	
Total	7,809,508			9,051,865	9,526,054	9,842,190	9,842,190	9,842,190	
Operating income	- 1,020,958			- 39,707	466,054	803,228	1,057,467	1,351,658	
Interest payable (current)	313,105			313,105	313,105	313,105	313,105	313,105	
Profit before tax	- 1,334,063			- 352,812	152,949	490,123	744,362	1,038,553	
Corporation tax	0			0	48,532	166,543	255,527	358,494	
Profit after tax	- 1,334,063			- 352,812	104,417	323,580	488,835	680,059	
Investment amount		- 2,527,825		- 240,953					
Production outback loss due to construction		0	- 6,336,088	0					
Depreciation (current)				548,430	548,430	548,430	294,191	0	
Depreciation (new)				796,761	796,761	796,761	796,761	796,761	
Profit				- 352,812	104,417	323,580	488,835	680,059	
Current profit				1,334,063	1,334,063	1,334,063	1,334,063	1,334,063	
New flow		- 2,527,825	- 6,751,316	2,045,489	2,783,671	3,002,334	2,913,850	2,810,883	



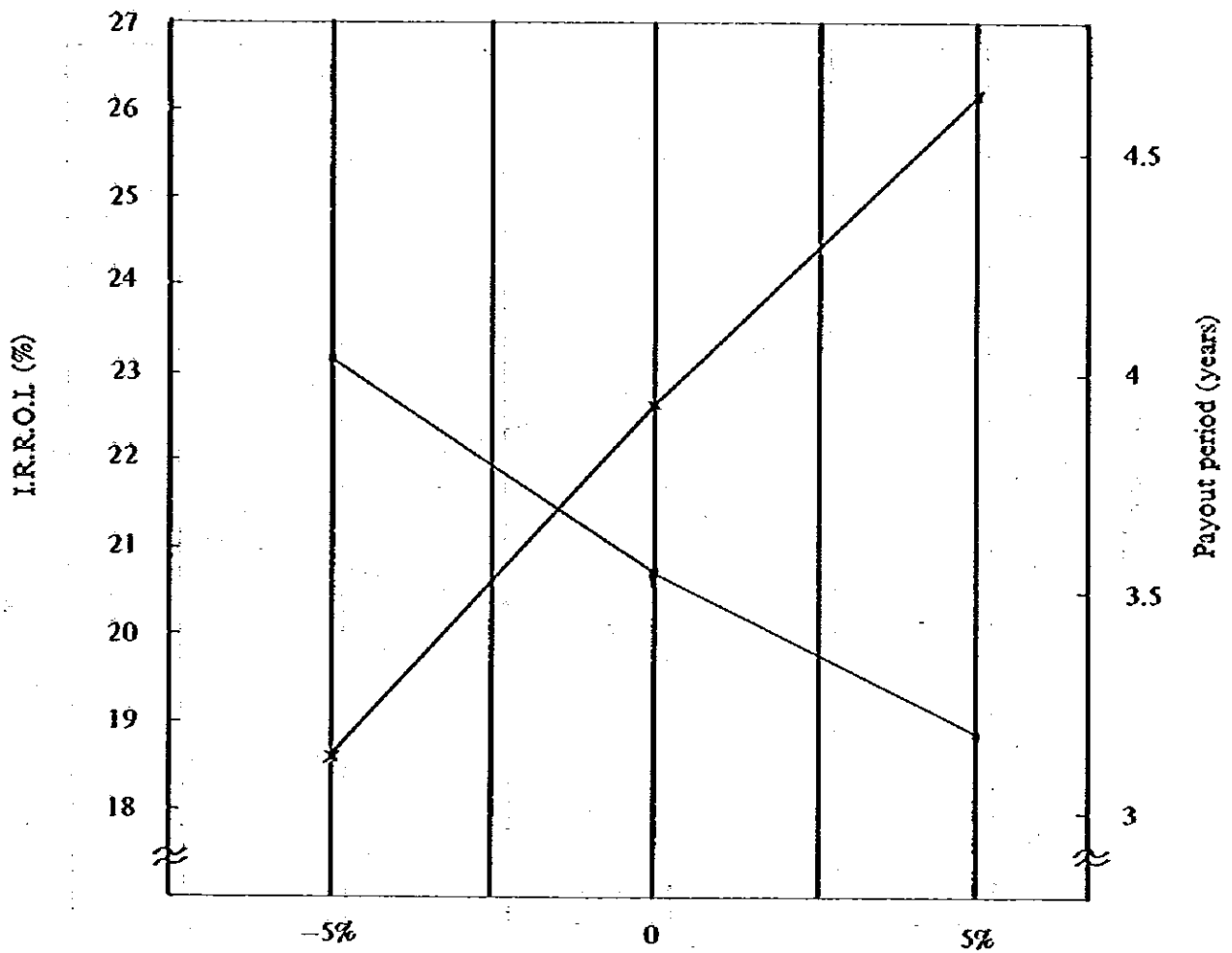
Table 13-17-8 Sensitivity Analysis (Variation of -5% base investment cost)  
I.R.R.O.I.

Unit: 1,000 Rp

Year	Net flow	22%		24%	
		Discount coefficient	Current value	Discount coefficient	Current value
- 2	- 2,527,825	0.820	- 2,072,817	0.806	- 2,037,427
- 1	- 6,751,316	0.672	- 4,536,884	0.650	- 4,388,355
1	2,045,489	0.551	1,127,064	0.524	1,071,836
2	2,783,671	0.451	1,255,436	0.423	1,177,493
3	3,002,834	0.370	1,111,049	0.341	1,023,966
4	2,913,850	0.303	882,897	0.275	801,309
5 ~ 10	2,810,883	0.955	2,684,393	0.831	2,335,844
Total			451,138		- 15,334

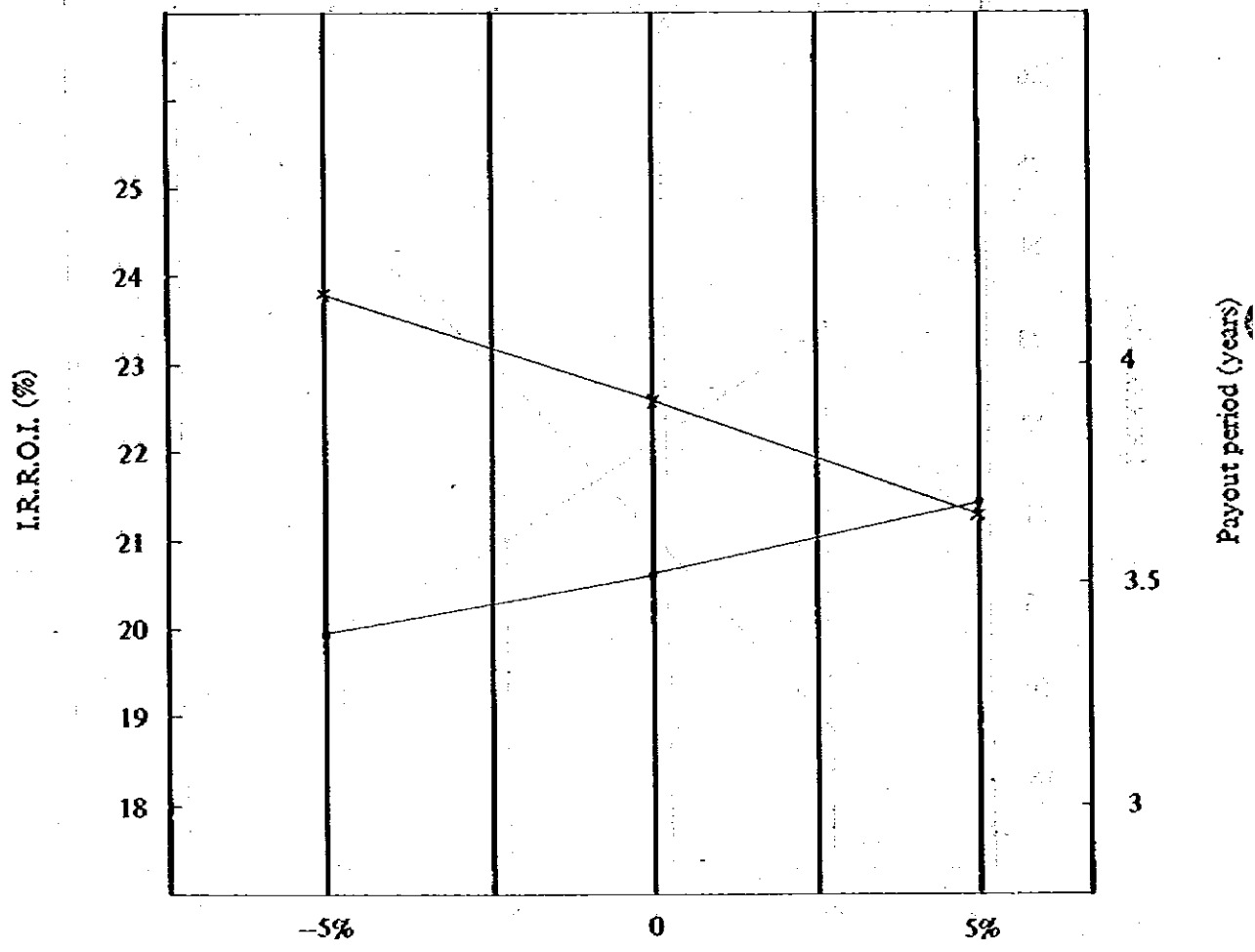
$$\text{I.R.R.O.I.} = 22\% + 2\% \times \frac{451,138}{451,138 + 15,334} = 23.93\%$$

$$\text{Payout period} = \frac{9,560,094}{2,810,883} = 3.40 \text{ year}$$



	-5%	0	5%
I.R.R.O.I.	18.58	22.61	26.29
Payout period	4.05	3.55	3.17

Fig. 13-17-1 I.R.R.O.I. & Payout Period vs. Variation of Selling Price



	-5%	0	5%
I.R.R.O.I.	23.93	22.61	21.47
Payout period	3.40	3.55	3.70

Fig. 13-17-2 I.R.R.O.I. & Payout Period vs. Investment Cost

### 13.17.2 総投下資金

I.R.R.O.I.について、総投下資金を5%増減させた場合を、Table 13-17-5～Table 13-17-8及びFig 13-17-2に示した。

### 13.18 財務指標

本財務分析で算定される財務指標は下記の通り、これらを一括してTable 13-18-1に示した。

#### (1) Aft Tax Profit-To-Sales Rev (PCT)

売上高純利益率 (%)

$$\frac{\text{税引後純利益}}{\text{売上高}} \times 100$$

#### (2) Bfr Tax Profit-To-Investment (PCT)

税引前投資利益率 (%)

$$\frac{\text{税引前純利益}}{\text{総投資額}} \times 100$$

#### (3) Debt Service Ratio

借入金返済能力

$$\frac{\text{減価償却費} + \text{支払(長期)利息} + \text{税引後純利益}}{\text{長期借入金の返済額} + \text{支払(長期)利息}}$$

**Table 13-18-1 Financial Indicators**

Year	Ratio of after tax to sales	Ratio of profit before tax	Debt service ratio
	%	%	%
1. (1987)	- 15.8	- 12.9	65.6
2. (1988)	- 8.3	- 7.5	100.8
3. (1989)	- 3.8	- 3.7	128.6
4. (1990)	- 0.7	- 0.6	136.0
5. (1991)	1.9	2.8	136.8
6. (1992)	2.4	3.5	143.4
7. (1993)	2.9	4.3	150.9
8. (1994)	3.4	5.0	159.6
9. (1995)	3.9	5.8	169.7
10. (1996)	4.4	6.5	181.5

If debt service ratio will be over 100%, loan payment could be expected to be paid.

## 第14章 経済評価



## 第14章 経済評価

1) 工場の操業は現在欠損であり、この欠損額は拡大傾向にある。現在の筆記、印刷用紙のみと生産販売していたのでは、将来ともこの欠損状態からの税出は困難である。

本リノベーション計画を実施することにより、1991年以降は黒字となり、地域開発への貢献と雇用の確保が出来る。

2) 今回拡販される製品は、いずれも現在インドネシアでは生産されていない製品であり、これが生産販売されることは技術力の向上になる。





## Appendix



## Appendix 1 Itinerary

February 1984

26 (Sun.)	9-persons	Lv. NRT - Av. JKT	9-persons (Messrs. Kano, Masuda, K. Suzuki, Nakayama, Shibata, Sakai)
27 (Mon.)	9-persons		Visit to Embassy of Japan, JICA and JETRO
28 (Tue.)	9-persons		Visit to DCBCI, Victory Offset Prima, Gama Cipta Offset Daisei and Toppan Printing Indonesia
29 (Wed.)	2-persons	Lv. JKT - Av. BRPP	2-persons (Messrs. Omachi, Fujii)
	7-persons		Visit to DCBCI, IPTA, RUMAYASA, JP

March 1984

1 (Thu.)	5-persons 1-person 2-persons 1-person Team A Team B Team C Team D Teams A and C Team B	Lv. JKT - Av. PPM Lv. JKT - Av. BRPP	5-persons (Messrs. Kano, K. Suzuki, Nakayama, Shibata, Sakai) 1-person (Mr. Y. Suzuki) 2-persons (Messrs. Omachi, Fujii) Study in BRPP 1-person (Mr. Masuda) Visit to MAC A Team (Messrs. Kano, K. Suzuki) Study in PPM B Team (Messrs. Y. Suzuki, Omachi, Fujii) Study in BRPP C Team (Messrs. Nakayama, Shibata) Study in PPM D Team (Mr. Masuda) Visit to Dainippon Cicakarya Printing and Toppan, Indonesia Study in PPM Study in BRPP
2 (Fri.)	Team D Teams A and C Team B		Market Study in JKT Study of Documents Study of Documents
3 (Sat.)	Team D Teams A, C and D Team B	Lv. JKT - Av. PPM	Study in PPM Study in BRPP
4 (Sun.)	Team A Team B Team C Team D	Lv. PPM - Av. BRPP	Study in BRPP Study in PPM
5 (Mon.)	Teams A and B Team C Team D Teams A and B Team C Team D	Lv. PPM - Av. JKT	Visit to Saatchi Daya and Karya Nusantara, Study in PPM Study in BRPP Study in PPM Visit to Peruri Percetakan Vany, Perdayanand & Percetakan and Kargano Study in BRPP Study in PPM Visit to Daisei
6 (Tue.)	Team A Team B Team C Team D		
7 (Wed.)	Teams A and B Team C Team D Teams A and B Team C Team D		
8 (Thu.)	Teams A and B Team C Team D		

9 (Fri.)	Teams A and B Team C Team D		Study in BRPP Study in PPM Visit to Central Statistic Bureau 1-person (Mr. Yamagishi) Study in BRPP Study in PPM
10 (Sat.)	Teams A and B Team C Team D and Mr. Yamagishi	Lv. NRT - Av. JKT  Lv. JKT - Av. DPS	Study in BRPP Study in PPM Study in BRPP
11 (Sun.)	Teams A and B Team C Team D and Mr. Yamagishi	Lv. DPS - Av. BRPP	Team New A (Messrs. Kano, K. Suzuki, Yamagishi) Study in BRPP
12 (Mon.)	Teams New A, B and D Team C		Study in PPM Study in BRPP
13 (Tue.)	Teams New A, B and D Team C		Study in PPM Final Meeting with BRPP Study in PPM
14 (Wed.)	Teams New A and B Team C	Lv. BRPP - Av. Surabaya	Final Meeting with BRPP Final Meeting with BRPP
15 (Thu.)	Teams New A and B Team C Team D	Lv. BRPP - Av. DPS	Final Meeting with BRPP Study in PPM Visit to Sentral Cemilang, Panda Puji Bangun, Areka Keteca, C-V Nusantara Bima Trading, Hasan Ryonngag, Ubenasi, NAC
16 (Fri.)	Team New A Team B Team C Team D	Lv. DPS - Av. PPM Lv. DPS - Via JKT - For NRT	Study in PPM Visit Bantol, Gedong Batu Study in PPM
17 (Sat.)	Team New A Team B Team C Team D	Av. NRT	Team B (Messrs. Y. Suzuki, Onachi, Fujii) Study in PPM Study of Documents Study in PPM Study in PPM
18 (Sun.)	Team New A Team C Team D		Study in PPM Visit to Djarum, Jambal, Boyorono Study in PPM
19 (Tue.)	Teams New A and C Team D	Lv. Surabaya - Av. Semarang	Final Meeting with PPM Visit to JETRO
20 (Tue.)	Teams New A and C Team D	Lv. Semarang - Av. JKT	
21 (Wed.)	Teams New A and C Team D		

22 (Thu.)	3-persons 3-persons Team D 4-persons 3-persons 4-persons 3-persons	Iv. PPM - Av. JKT	3-persons (Messrs. Kano, Nakayama, K. Suzuki) Final Meeting with PPM 3-persons (Messrs. Shibata, Sakai, Yamagishi) Final Meeting with PPM Study of Documents 4-persons (Messrs. Kano, Nakayama, K. Suzuki, Masuda) Final Meeting with DCDCI, BRPP and PPM Study in PPM Final Meeting with DCDCI, BRPP and PPM Study in PPM
23 (Fri.)	7-persons	Iv. PPM - Av. JKT	7-persons (Messrs. Kano, Nakayama, K. Suzuki, Masuda, Shibata, Sakai, Yamagishi) OCF
24 (Sat.)	7-persons	Iv. JKT - For NRT Av. NRT	Visit to DCDCI, Embassy of Japan, JICA and JETRO
25 (Sun.)	7-persons		
26 (Mon.)	7-persons		
27 (Tue.)	7-persons		

## Appendix 2 Members of JICA Study Team

Mr. Tadao Kano : Team Leader  
Mr. Yasuharu Masuda : Marketing  
Mr. Kazuma Suzuki : Finance  
Mr. Tadahiko Yamagiwa : Electric and Instrument

### In Charge of Basuki Rachmat

Mr. Yasuhiko Suzuki : Chief and Machinery Equipment  
Mr. Hideo Omachi : Pulping  
Mr. Tsunetoyo Fujii : Paper Manufacturing

### In Charge of Padalarang

Mr. Heihachiro Nakayama : Chief and Machinery Equipment  
Mr. Yoshihito Shibata : Pulping  
Mr. Kazuo Sakai : Paper Manufacturing

**Appendix 3 Members of the Counter Team in  
the Directorate General of Basic  
Chemical Industries Ministry of  
Industry**

**DGBCI**

**Mr. Bintaldjemur**

**Mr. H. Mansur**

**Mr. P. Munaf**

**Mr. Soekirto**

**Mr. Soepranyoto**

**Mr. Sagaf**

**Mr. Syafii**

**Director of Programming DGBCI**

**Sub Director Pulp, Paper and Rubber**

**Sub Director Pulp, Paper and Rubber**

**Sub Director Pulp, Paper and Rubber**

**Dir. Gen's staff**

**IPPA**

**Mr. Kahar**



**Appendix 4 : Members of the Cooperation Team in  
the Basuki Rachmat Pulp and Paper Mill**

<b>Mr. Murtedjo Kadarisman</b>	<b>: Team Leader</b> <b>Production/Technical Director</b>
<b>Mrs. Dawamhuri</b>	<b>: Secretary</b> <b>Production Division III</b>
<b>Mr. Muslich</b>	<b>: Production Department</b>
<b>Mr. Eddy Sunyoto</b>	<b>: Maintenance Department</b>
<b>Mr. Siswandi</b>	<b>: Logistic Department</b>
<b>Mr. Priyadi</b>	<b>: Accounting Department</b>
<b>Mr. Kadariaman</b>	<b>: Maintenance Division I</b>
<b>Mr. Dawamhuri</b>	<b>: Production Division I</b>
<b>Mr. Nulyadi</b>	<b>: Instrument Section</b>
<b>Mr. Heru Budiyanto</b>	<b>: Electrical Section</b>

**Appendix 5 : Members of the Cooperation Team in  
the Padalarang Pulp and Paper Mill**

Mr. Soetamat	: Plant Manager
Mr. Suparmat	: Assistant Plant Manager
Mr. Wahyu Harun	: Administration Manager
Mr. Affandi	: Accounting Manager
Mr. Asikin. A.H.	: Engineering Manager
Mr. Suparman AL.	: Production Manager
Mr. A. Syamsudin	: Maintenance Manager
Mr. U. Gunawan	: Electric & Instrument Manager
Mr. Hartoyo. S.	: Plant Technical Staff
Mr. Yayan. S.	: Pulp Plant Section Chief
Mr. A. Sukendar	: Paper M/C Unit I Section Chief
Mr. Swarno	: Finishing Unit I Section Chief
Mr. Hadras. H.	: Paper M/C Unit II Section Chief
Mr. Iyus. Y.	: Laboratory Section Chief
Mr. H. Yusuf WK.	: Domestic Purchasing Section Chief

**Appendix 6 List of Machineries and Equipments**

**6-1 Renovation for Plant Equipments**

<b>Equipment</b>	<b>Specification</b>	<b>Q'ty</b>
<b>A. Wood preparation</b>		
A-1 Chip screen	1830W x 3660L x 3.7kW	1
A-2 Chip conveyor	450W belt x 100m machine length with 11kW geared motor	1
A-3 Chip conveyor	500W belt x 15m machine length with 1.5kW geared motor	2
A-4 Chip silo	Mild steel	
1) Chip silos	4mW x 6mL x 7.5mH, 180m <sup>3</sup>	2
2) Screw conveyors	400 dia. x 8mL x 1pc x 3.7kW	1
	400 dia. x 4mL x 2 pcs x 2.2kW	2
3) Oil units	For rake drive x 7.5kW	2
<b>B. Cooking</b>		
B-1 Around WL tank	BL pump (1.5m <sup>3</sup> x 25m x 11kW) with LICA, FIQ, FICQ	1
B-2 Around BL heater	BL pump (5.0m <sup>3</sup> x 25m x 30kW) with TIC, FI	2
B-3 Blow tank with Agi.	5250 dia. x 150m <sup>3</sup> , mild steel	1
<b>C. Washing</b>		
C-1 Blow tank pump	Pump 1.1m <sup>3</sup> x 20m x 11kW with CRC and FICQ as 2 sets	1
C-2 Washers	2500mm dia. x 2000L x 5.5kW mild steel/stainless	3
C-3 BL storage tank with LICA	6m dia. x 7.2mH, 200m <sup>3</sup> mild steel	1
C-4 Washer shower pump	0.6m <sup>3</sup> x 40m x 15kW	1

Equipment	Specification	Q'ty
<b>D. Bleaching</b>		
D-1 Shower pipe for filter	50A SUS pipe with shower nozzle	5
D-2 Modification of Ca-Hypo storage pit	To be separated by concrete	1
D-3 Around W.W. tank	Piping for new mill water pipe line with LC and settling tank accept pipeline with LC	2
<b>E. Stock preparation</b>		
E-1 Double disc refiner	20 type x 220kW	2
E-2 Replacement of pumps	Item 701: 0.715m <sup>3</sup> → 1.2m <sup>3</sup> x 30m Item 706: 0.715m <sup>3</sup> → 1.5m <sup>3</sup> x 15m Item 709-1, 709-2: → 1.5m <sup>3</sup> x 15m	4
E-3 Installed freeness tester	New one	1
<b>F. Paper machine</b>		
F-1 Approach flow system	New fan pump with DC motor and basic weight valve	1
F-2 Replacement of flow box	High class air cushion type	1
F-3 Wire part improvement	Wire roll drive, hydro foils	1
F-4 Replacement of press part	High nip press. type with suc. pick up roll	1
F-5 Improvement of dryer drainage system	Change drainage siphons. Installed central control panel	1
F-6 Reel improvement	Modification of primary arm device	1
F-7 Sectional drive improvement	Modification of drive control, thyristor control instead of existing mechanical control type	1
<b>G. Finishing equipment</b>		
G-1 Cutter machine replacement	Double rotary cutter as max. 100m/min of speed	1

Equipment	Specification	Q'ty
<b>H. Finishing equipment</b> <b>H-1 Rewinder replacement</b>	Shaftless type as 1200m/min of speed	<b>1</b>
<b>I. Finishing plant</b> <b>I-1 Installed super-calender</b>	12 stage rolls, max. 700m/min of speed	<b>1</b>
<b>J. Recovery boiler</b> <b>J-1 Dust discharge device replacement</b>	Spade type conveyor instead of existing bagga type conveyor	<b>1</b>

6-2 Spare Parts List for Existing Plant

6-2-1 For machineries and equipments

Name of Parts	Specification	Q'ty	Equipment
1. Steam trap	50A, 10kg/cm <sup>2</sup>	2	BL heater
2. Tubes	SUS304	300	BL heater
3. Blow pipes	STB	1	Digester
4. Impeller	Pulp & BL pumps	5	Digester sect.
5. Screen plate	SUS304	1	Vib. screen
6. Wire cloth	2300W x 6600L	3	Washer
7. Screen plate	Bypte, SUS304	1	Cowan screen
8. Wire cloth	1300W x 8200L	5	Bleaching
9. Single mixer	Complete (SUS316L)	1	Hypo tower
10. Single mixer	Complete (SUS304)	1	Alkali tower
11. Centri-cleaner	Complete without nozzle	30	Bleaching
12. Pumps	Complete without motor (SUS304)	3	Centri-cleaner feed pump
13. Dozing pumps	Complete	4	Chemical plant
14. Dandy roll	Complete	2	Wire part
15. Wire roll	Complete	2	Wire part
16. Canvas roll	Complete	5	Dry part
17. Doctor blade	Stainless & others	20	Press. calender
18. Basket	2mm dia. hole (SUS)	3	Select. screen
19. High press. shower pump	80kg/cm <sup>2</sup> x 180l/min complete	1	For cleaning at paper machine
20. Boiler tubes	STB	1	N/B and R/B
21. Spare parts	Diesel engine	1	NIigata Model L-8
22. Universal milling machine	Complete	1	Workshop

6-2-2 For instrument section

Name of Parts	Tag No.	Q'ty	Equipment
1. Transmitter	2LI-1, 2	2	LI of BL & CL tank
	2LC-12	1	LC of drain tank
2. Complete	2LI-3	2	LI of blow tank
3. Indicator	2LIC-4	1	LIC of hot water tank
4. Transmitter and recorder	2PR-7, 8	2	PR of digester
5. Orifice plate and transmitter	2FR-9	1	Steam flow at digester
6. Thermocouple	2TR-10	5	Cooking
7. Instrument panel	-	1	For cooking
8. Indicator and annunciator	309LICA-1, 2, 3	3	LICA of BL tanks
9. Recorder	309FR-2	1	FR of hot water line
	309TR-1	1	TR of No. 1 BL tank
10. LIA complete	309-LIA	1	LIA of UKP stock chest
11. TR complete	309-TR	1	TR of BL pipe for Eva.
12. CRC complete	501-CRC	1	UKP stock chest outlet
13. FRC complete without valve	520FRC-1	1	FRC of bleaching
14. LIA complete	520-LIA-1	4	No. 1 - No. 4 tower
15. Indicator	520-FI-1, 3, 8, 9		
	621-FI-1, 2	2	Chemical line
16. LIA complete	621-LIA	1	
17. Indicator	520FI-7	1	Hot water tank
18. Thermocouple	520TRC1 - 4	4	Single mixer
19. FR and CRC complete	714FR, CRC	1	Bleaching refiner chest outlet
20. CRC complete	702CRC	1	Bleached stock chest outlet
21. LIA complete	LIA	2	Bleached stock chest

Name of Parts	Tag No.	Q'ty	Equipment
22. LC complete	702LC	1	White water tank LC
23. PI and TI complete	PI, TI	1	Steam to heat Exch. bleach
24. FRC complete	FRC	1	Bleached stock chest
25. Instrument panel	-	1	For cooking
26. Solenoid valve and air regulator sets		3	Control desk for stone refiner
27. Transmitter and controller	850LIC-6	1	White water tank
28. Transmitter	850AFG-3	1	Wire guider
29. Microswitch	-	5	Canvas guider
30. Diaphragm	-	6	Canvas guider
31. FIQ complete	FIQ	1	Steam for paper machine
32. Transmitter and C valve	916LIC-1	1	B.L effect No. 1
33. Transmitter and controller	916LIC-3, -4	2	B.L effect No. 3 and No. 4
34. Recorder of temp. with 6 pen and thermocouples	-TR	1	For evaporator
35. Sarino meter complete	916SIA	1	For evaporator
36. Transmitter and C valve	10FRC-4	1	Hot water recaust.
37. Controller with recorder	10TRC-5	1	Hot water
38. Thermocouple	10TR-8	6	For Temp. recorder recaust.
39. Purge sets	10LR-6, -7	3	G.L tank and W.L tank
40. Thermocouple	976-TI	4	For recovery boiler.
41. Recorder	1124-TRC	1	Dearator tank
42. Piping and wiring sets	-	1	General



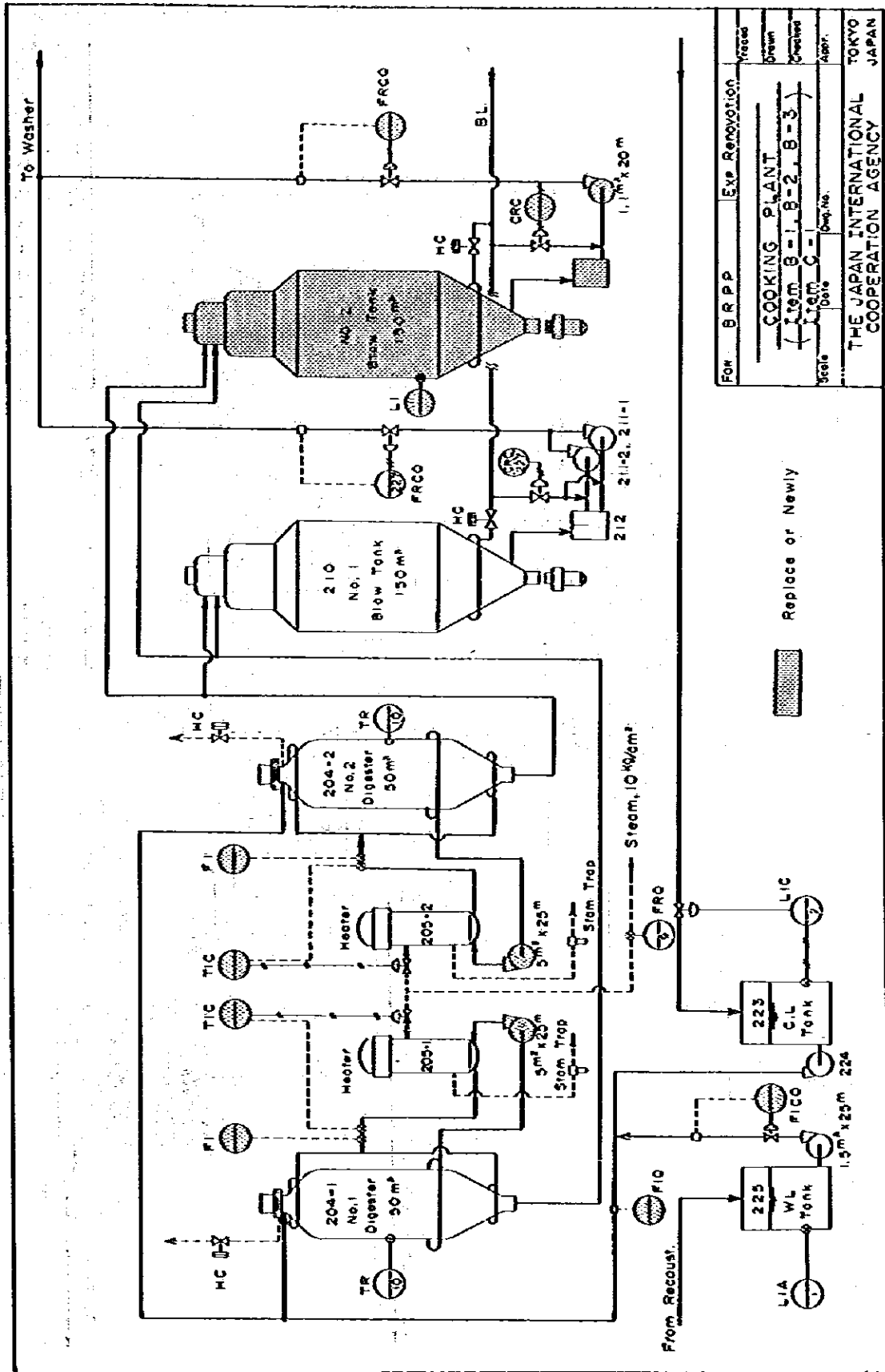
Name of Parts	Tag No.	Q'ty	Equipment
43. Portable recorder	-	1	
44. Transducer	-	1	
45. Pressure gauge	-	2	
46. Test chaine	-	1	For belt scale
47. Multimeter	-	2	
48. Portable manometer	-	1	
49. Tools	-	1	For instrument

6-2-3 For electric section

Name of Parts	Specification	Q'ty	Equipment
1. Electrical hoist (3 ton)	Complete	1	For P. machine
2. Oil circuit breaker	Complete 7.2kV 600A, 150MVA	1	For sectional
3. High tension conductor	Complete 6.9kV 200A	1	For chipper and fun pump
4. Low tension switch	Complete 90, 55, 37kW	3	Vacuum pump Hydra pulper, others
5. Invertor	Complete unit	1	For pulp pump to head box, P. machine
6. Induction motor	75kW 8P to 15kW 2P	8	General
7. D.C. motor	75kW to 2.2kW	5	For sectional drive
8. Motor control box	Complete	1	Behind wire part/P. machine
9. Air conditioner	Complete	2	For section
10. Power cable and terminal	Complete	1	General
11. Portable recorder	2 pen, with accessory	1	General
12. Oil tester	0 - 50kV	1	For isolation test
13. Vibration meter	-	1	Bearing check
14. Synroscope	50MHz 2 ways	1	For D.C. motor drive
15. Strobe scope	0 - 20000 r.p.m.	1	General
16. Digital counter	5 windows preset	1	General

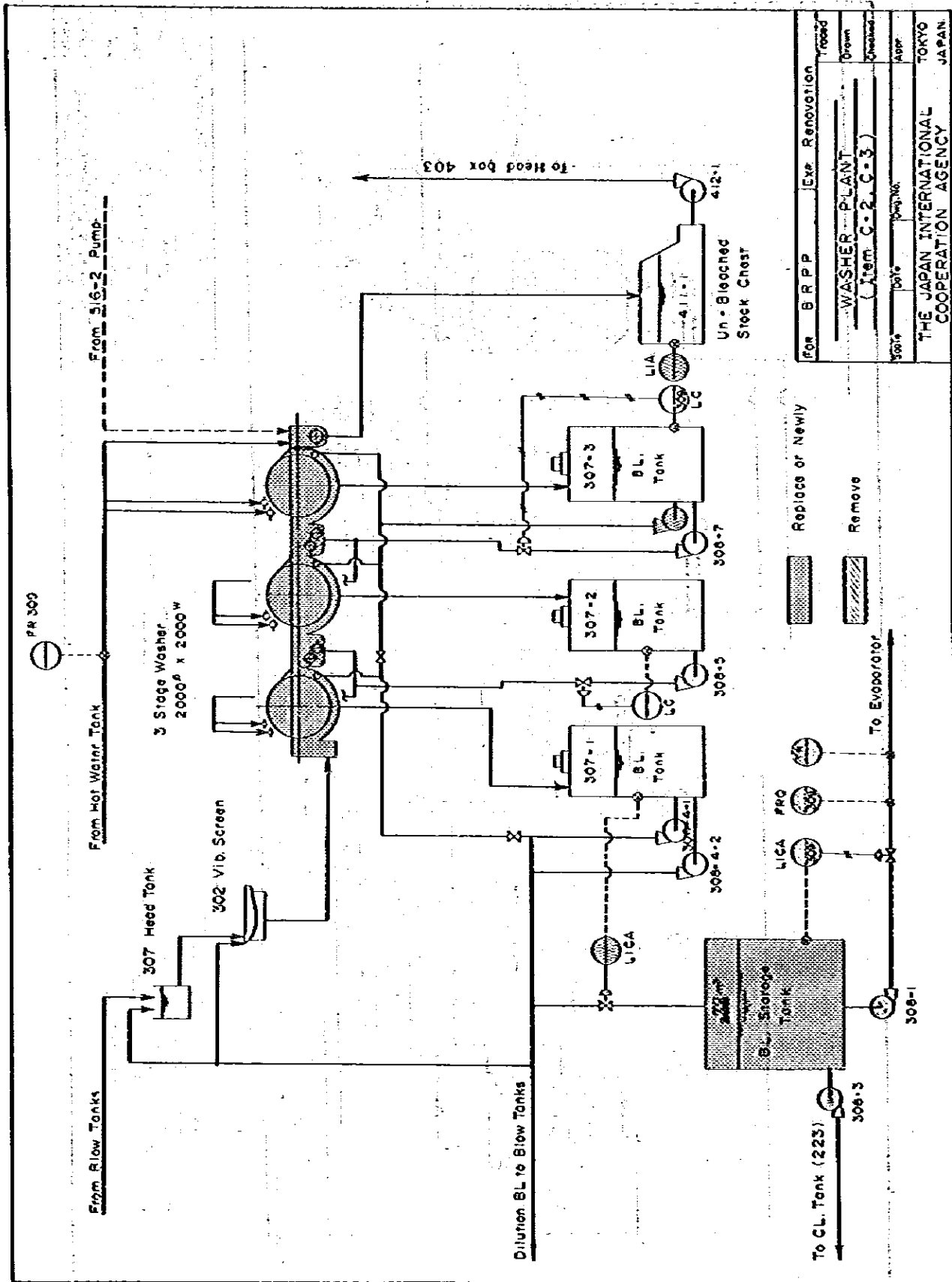


Appendix 7

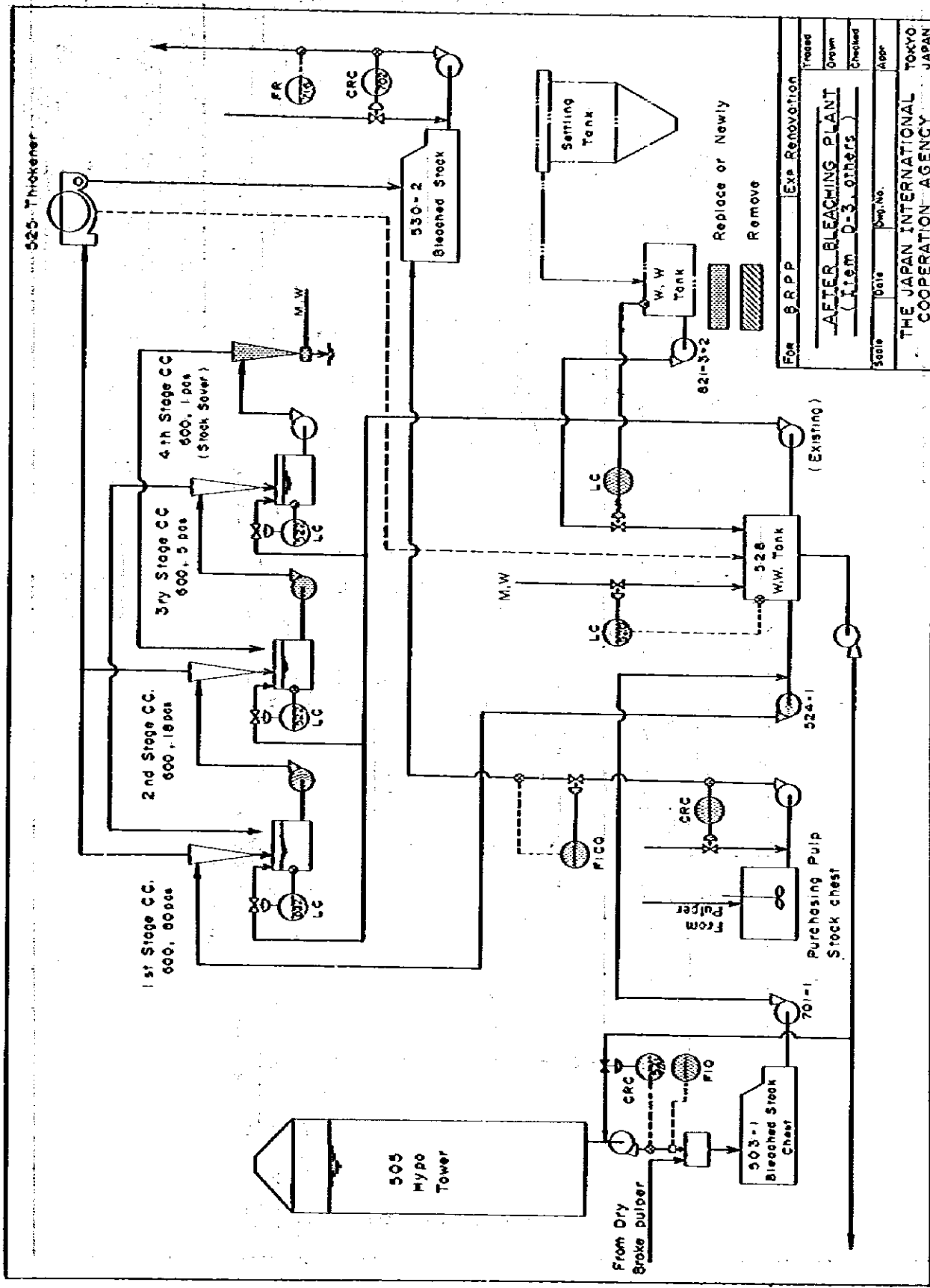


For	B R P P	Exp. Renovation	Yves
Drawn	COOKING PLANT		
Checked	(Item B-1, B-2, B-3)		
Scale	Date	Dep. No.	APPT.
THE JAPAN INTERNATIONAL COOPERATION AGENCY			TOKYO JAPAN

Replace or Newly

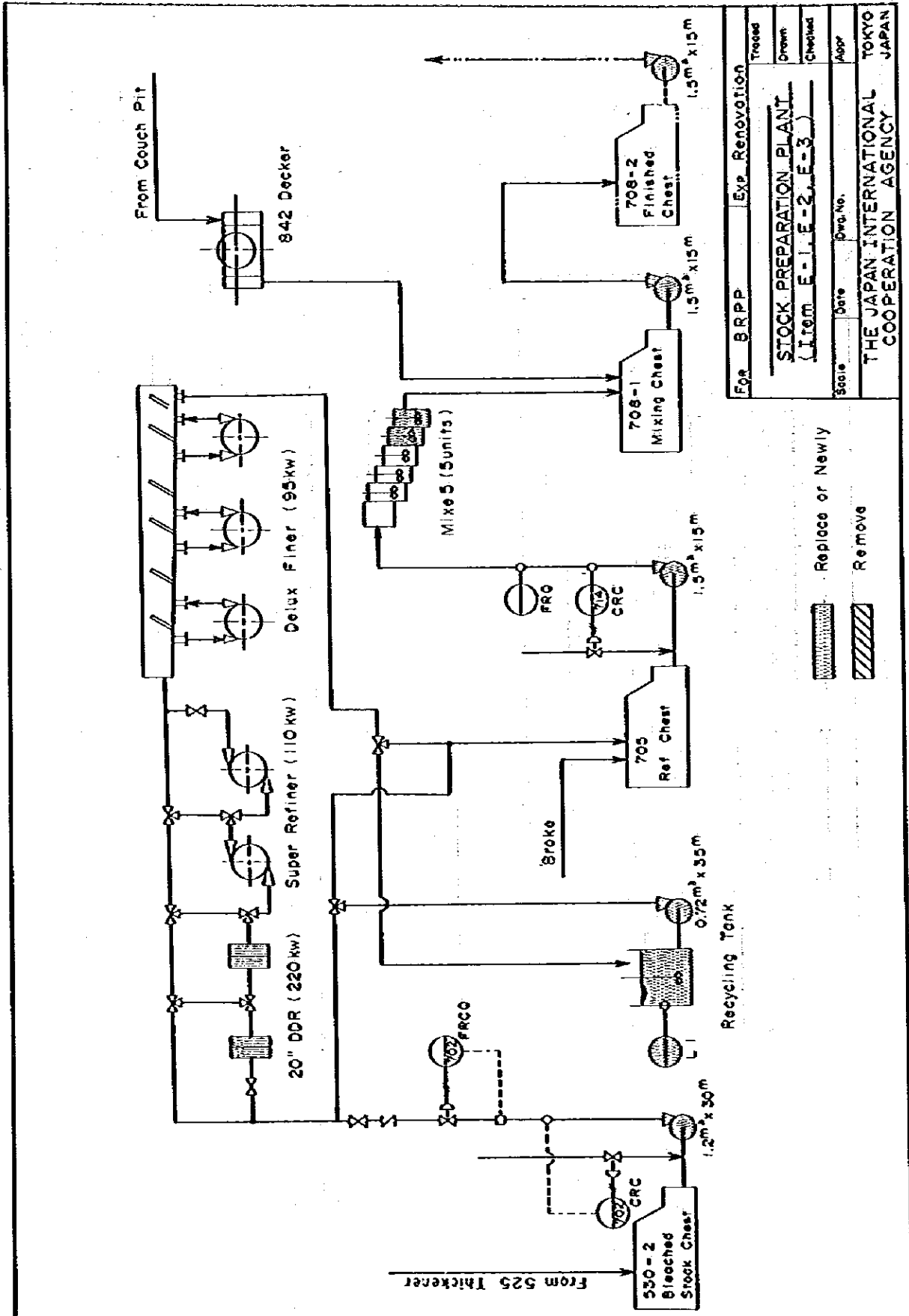


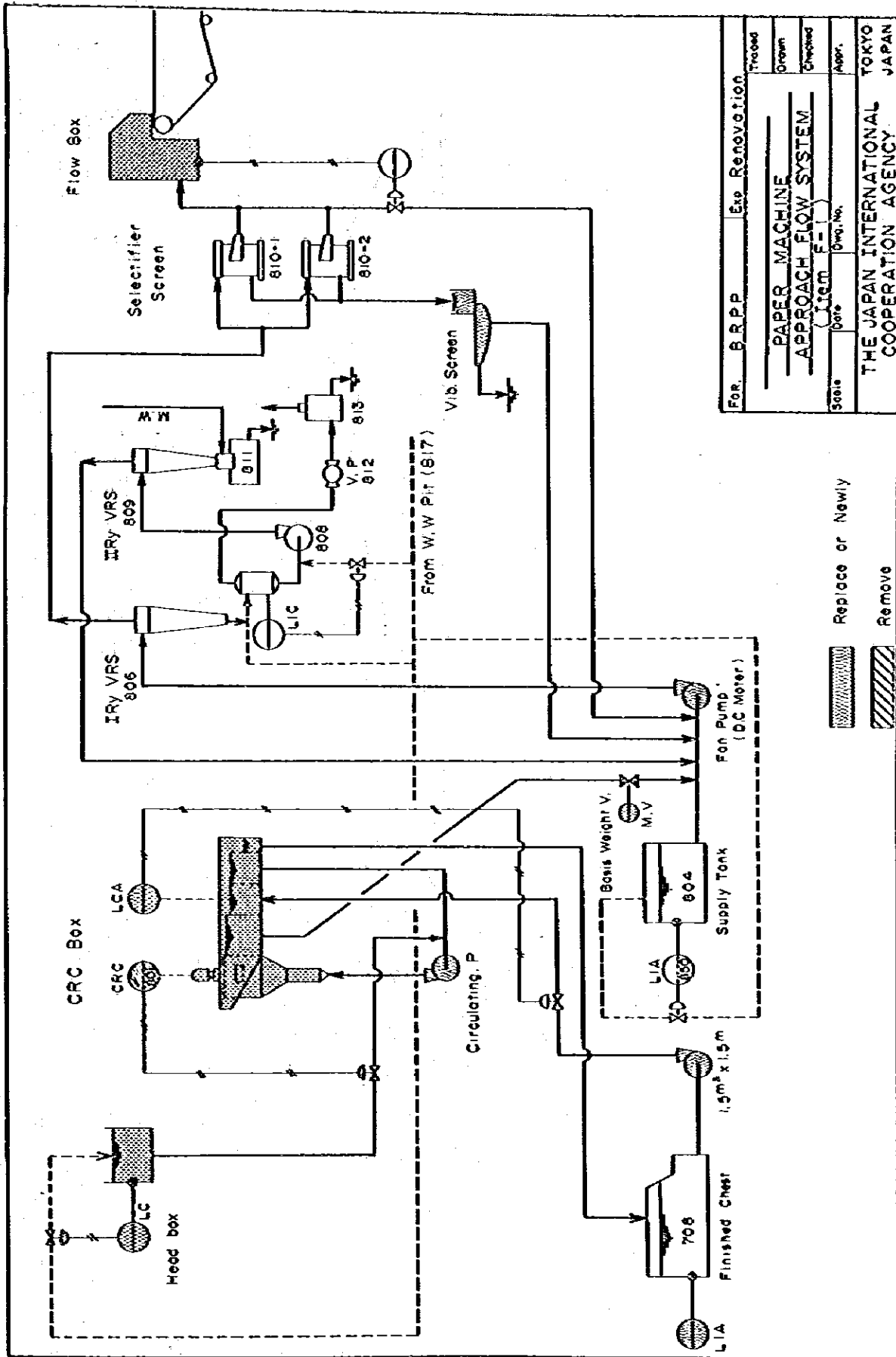
FOR BRPP	Exe Renovation	Trace
WASHER PLANT		Drawn
(Item C-2, C-3)		Checked
3094	3094	Appr.
THE JAPAN INTERNATIONAL COOPERATION AGENCY		
TOKYO JAPAN		





For	6 R P P	Exa Renovation
Traced		
Drawn	AFTER BLEACHING PLANT (Item 0-3 others)	
Checked		
Appr		
Scale	Date	Dep. No.

THE JAPAN INTERNATIONAL  
COOPERATION AGENCY  
TOKYO  
JAPAN



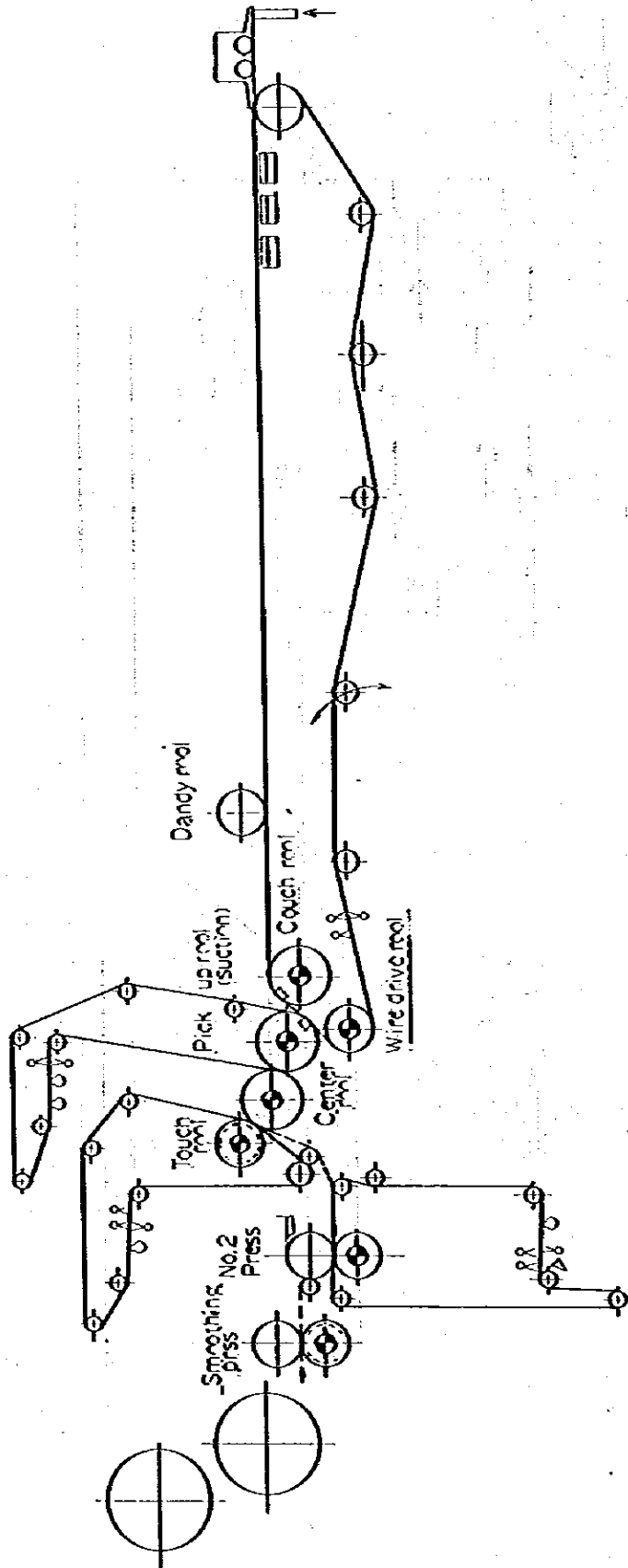


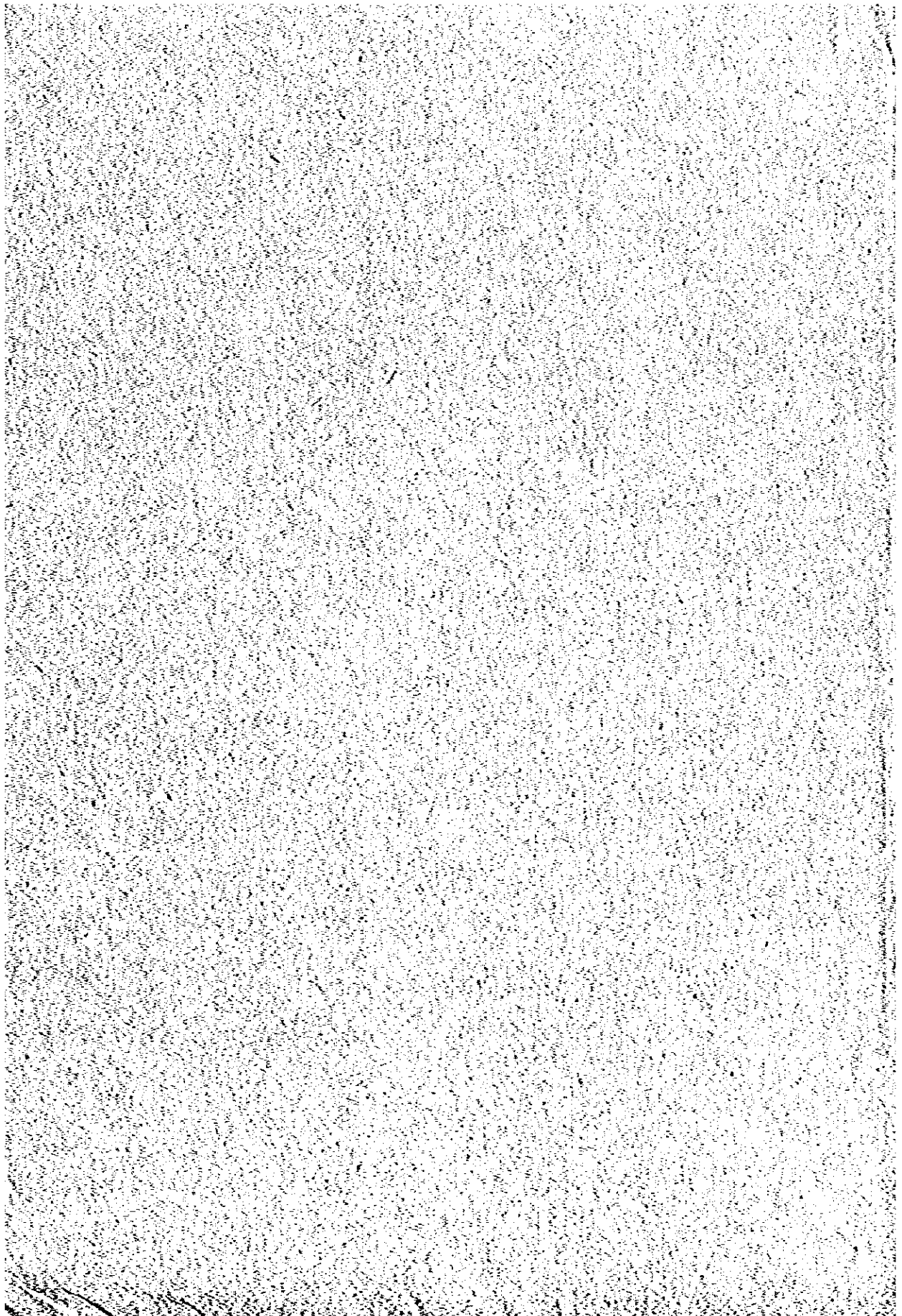
For. B R P P	Exp. Renovation	Traced
PAPER MACHINE		Drawn
APPROACH FLOW SYSTEM		Checked
(JICM F-1)		Appr.
Scale	Date	Dwg. No.
THE JAPAN INTERNATIONAL COOPERATION AGENCY		TOKYO JAPAN

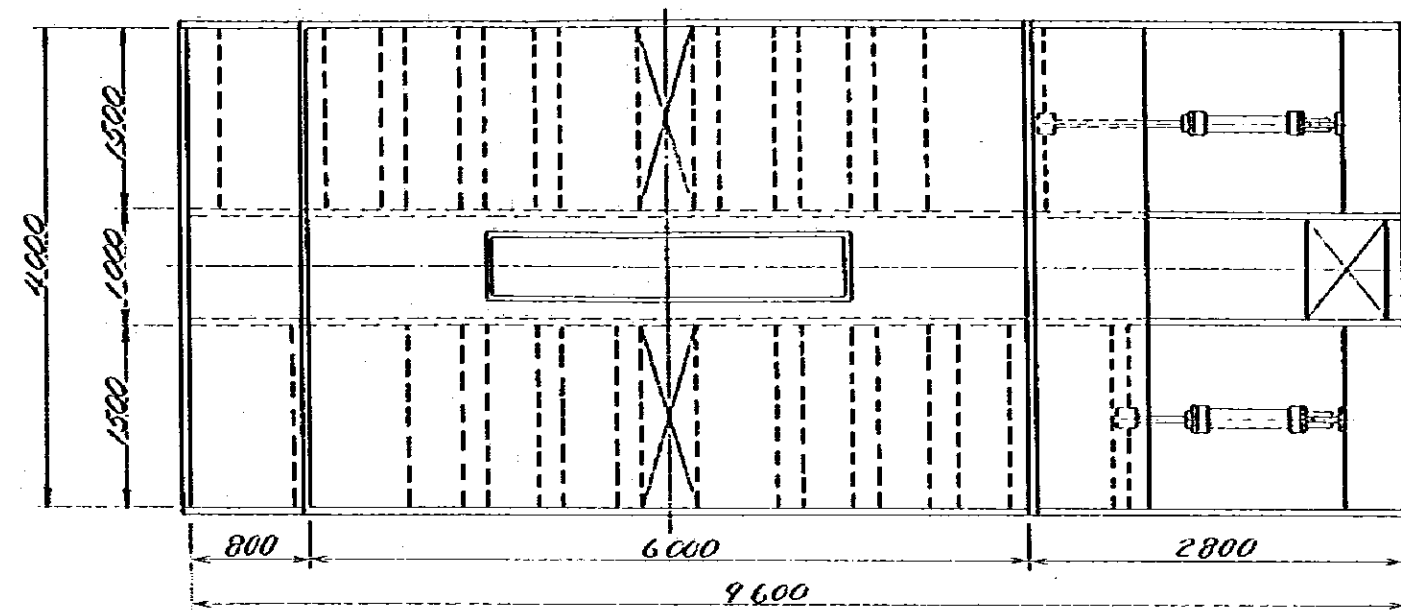
 Replace or Newly  
 Remove



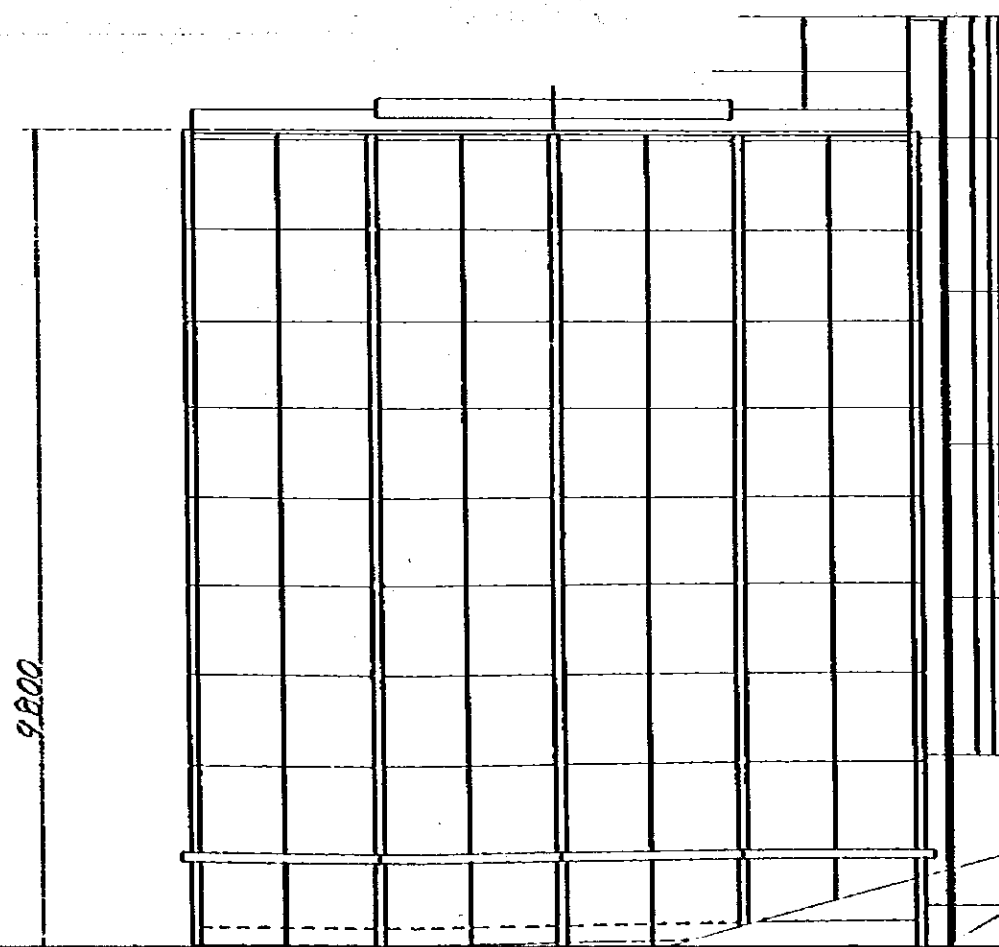
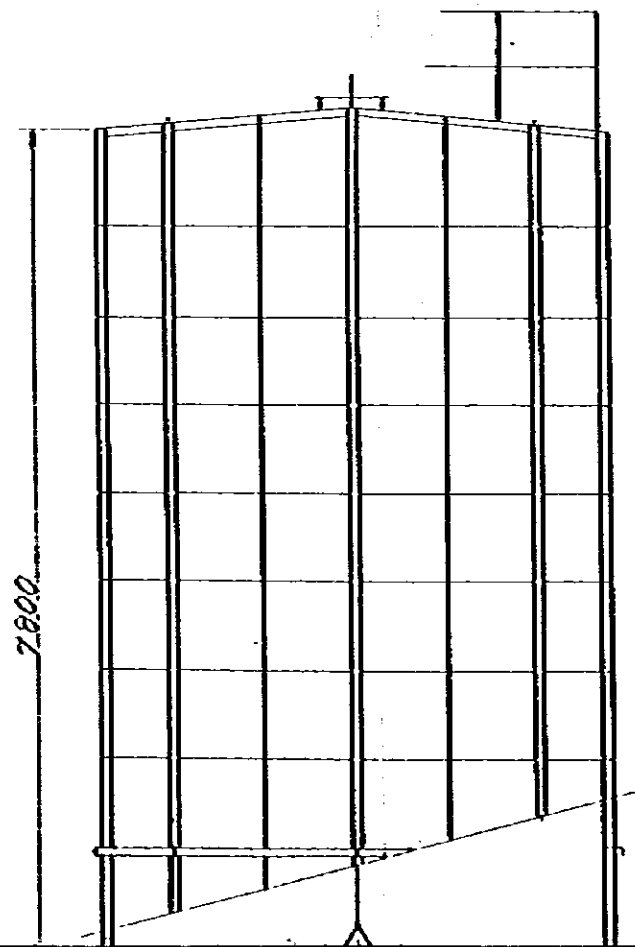
Renovation Plan. Reference Side View







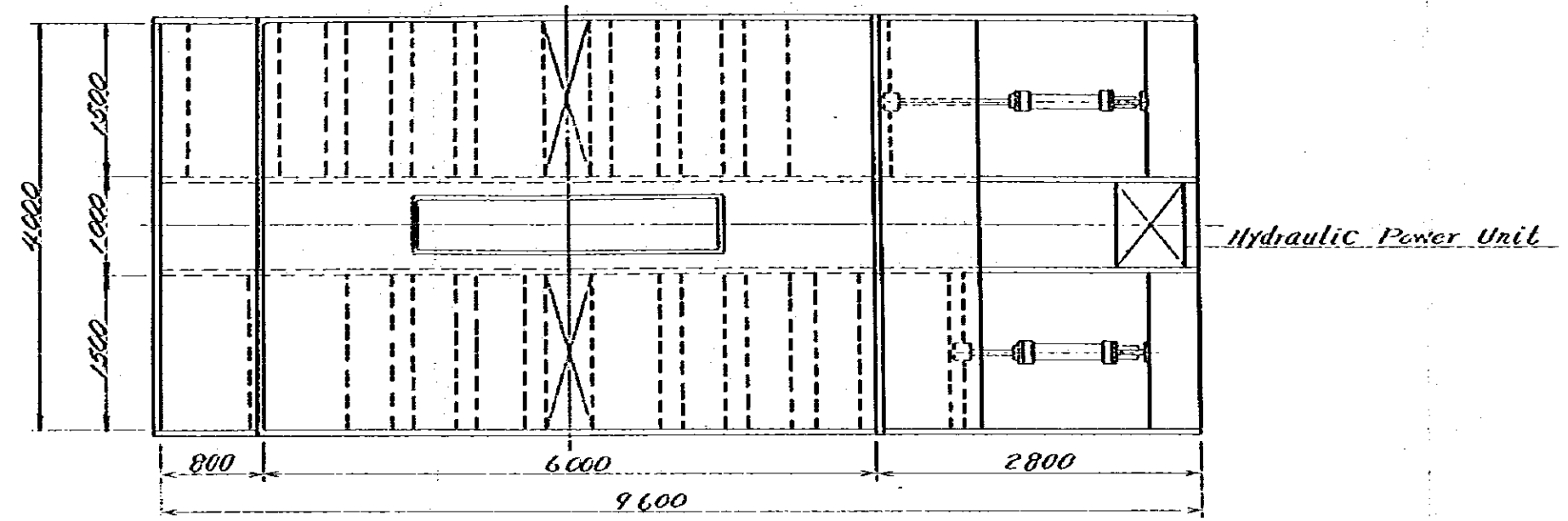
Hydraulic Power U



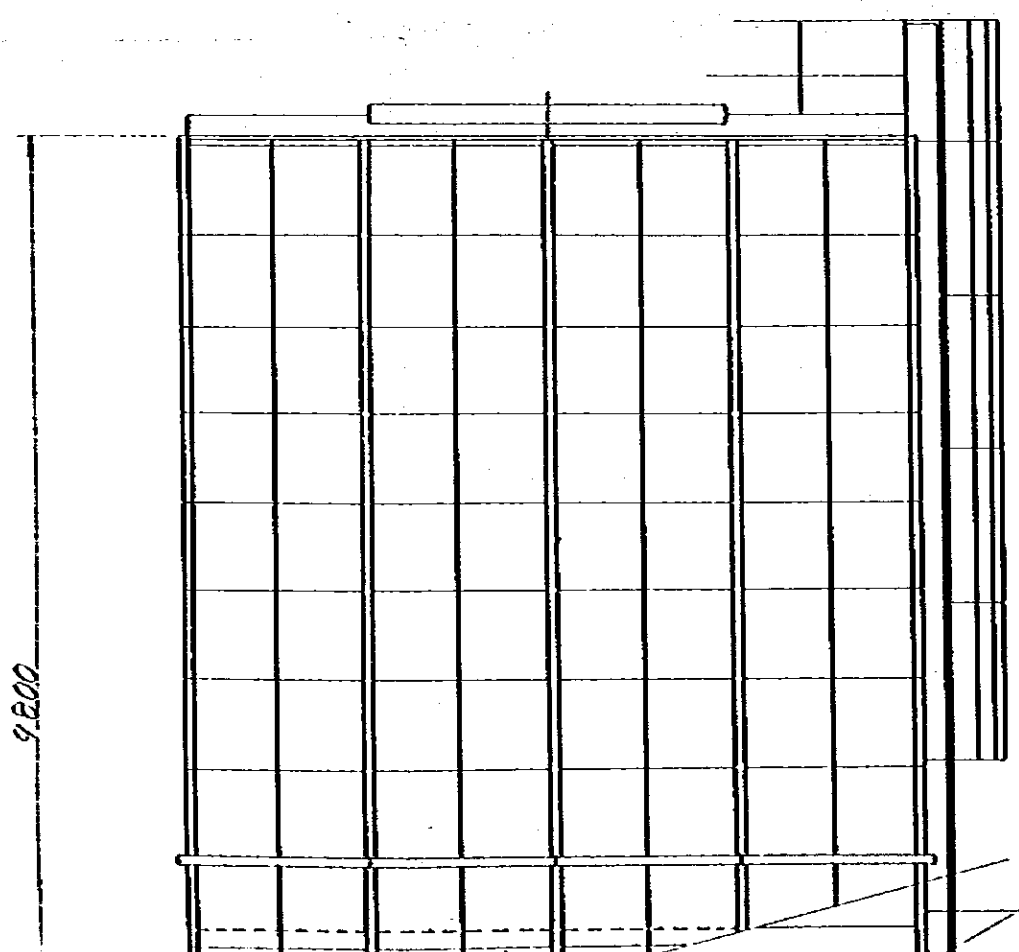
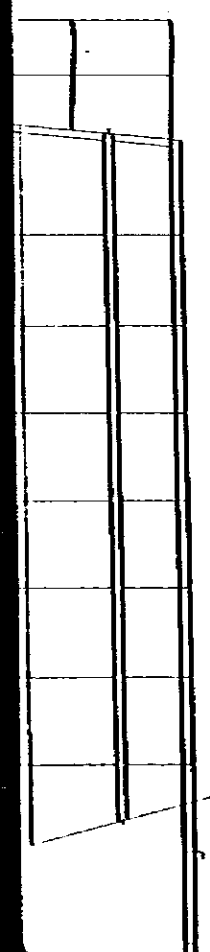
Storge Capacity
Discharge System
Screw Feeder

Reciprocating Rake Feeder

7.5kW Hydraulic



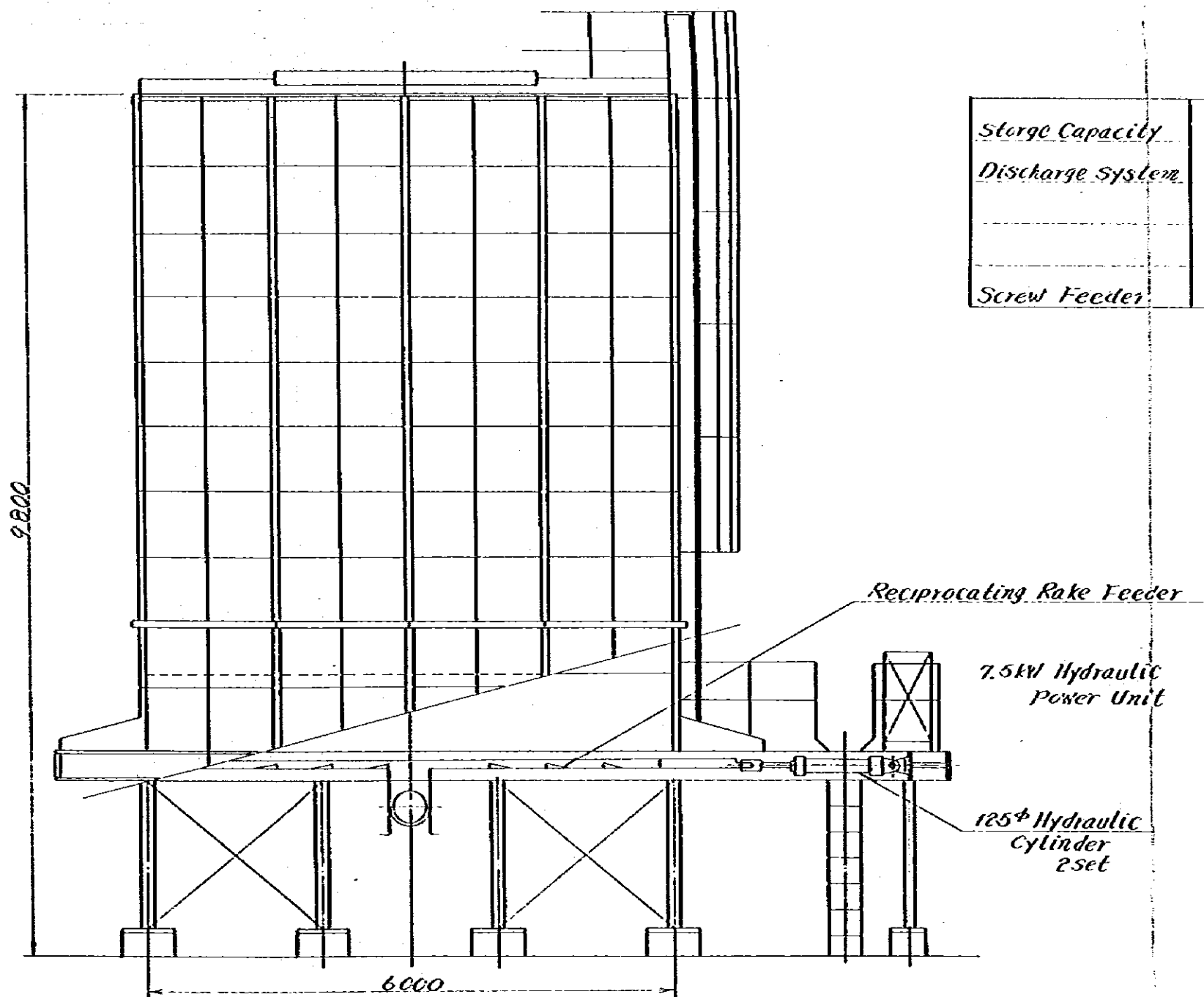
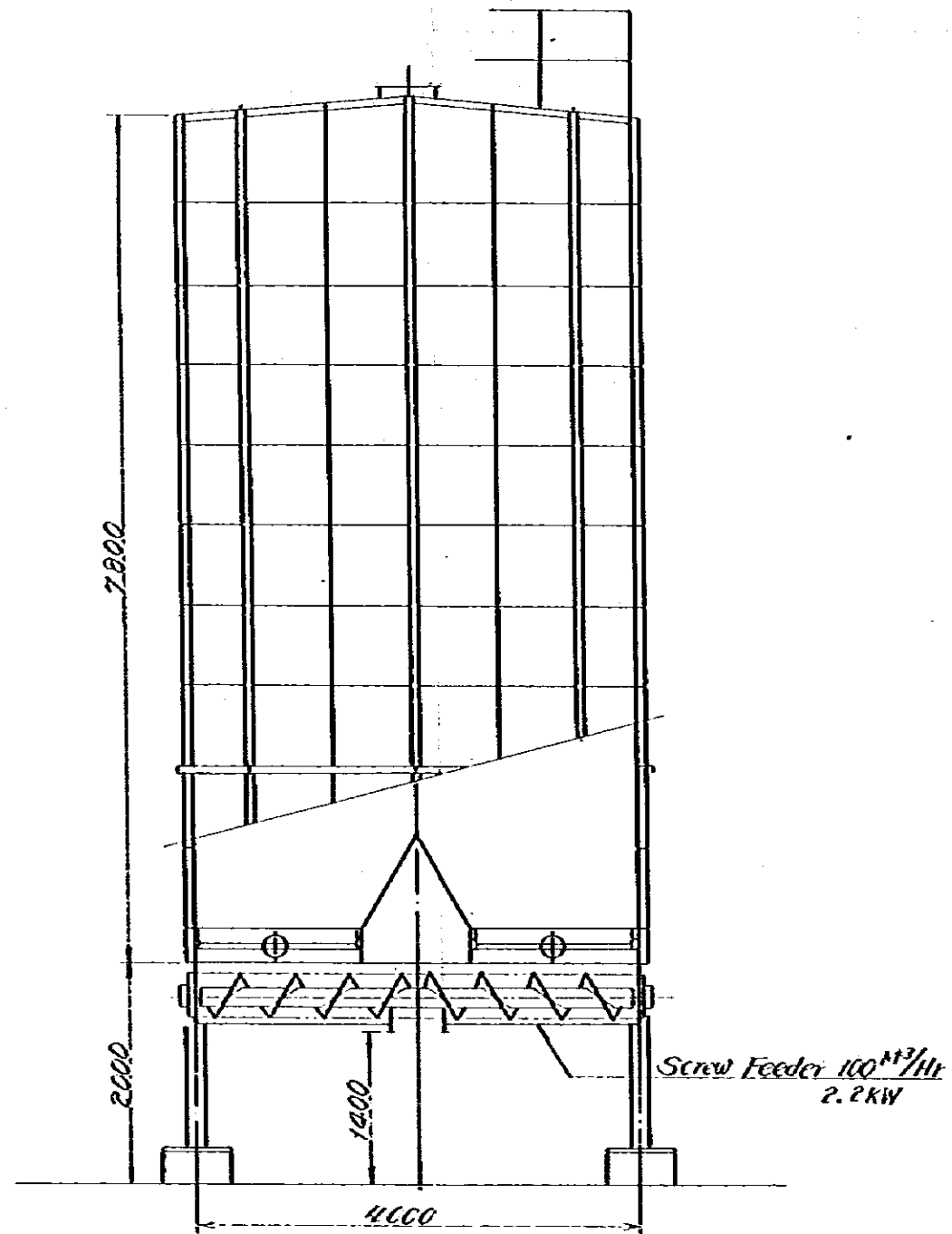
Hydraulic Power Unit



Storage Capacity	150 <sup>M<sup>3</sup></sup>
Discharge System	Hydraulic Power Drive
	Reciprocating Rake Feeder
	Motor : 7.5 KW
Screw Feeder	Capacity : 100 <sup>M<sup>3</sup></sup> /Hr Motor : 2.2 KW

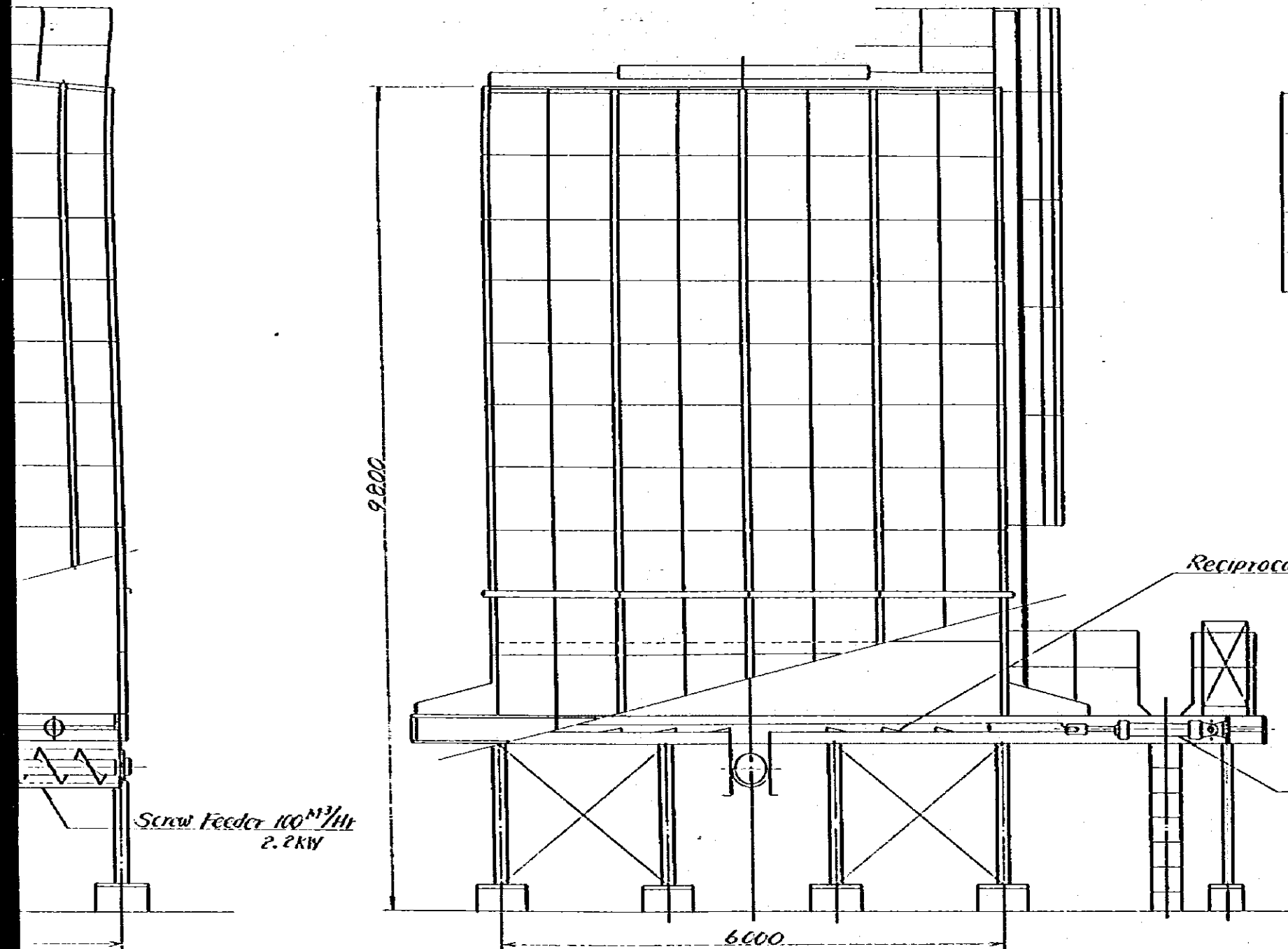
Reciprocating Rake Feeder

7.5KW Hydraulic



Storage Capacity
Discharge System
Screw Feeder

APPROV  
CHIEF  
CHECK  
DRAWN  
H



Storage Capacity	150 <sup>M³</sup>
Discharge System	Hydraulic Power Drive
	Reciprocating Rake Feeder
	Motor : 7.5KW
Screw Feeder	Capacity : 100 <sup>M³</sup> /Hr Motor : 2.2KW

Screw Feeder 100<sup>M³</sup>/Hr  
2.2KW

Reciprocating Rake Feeder

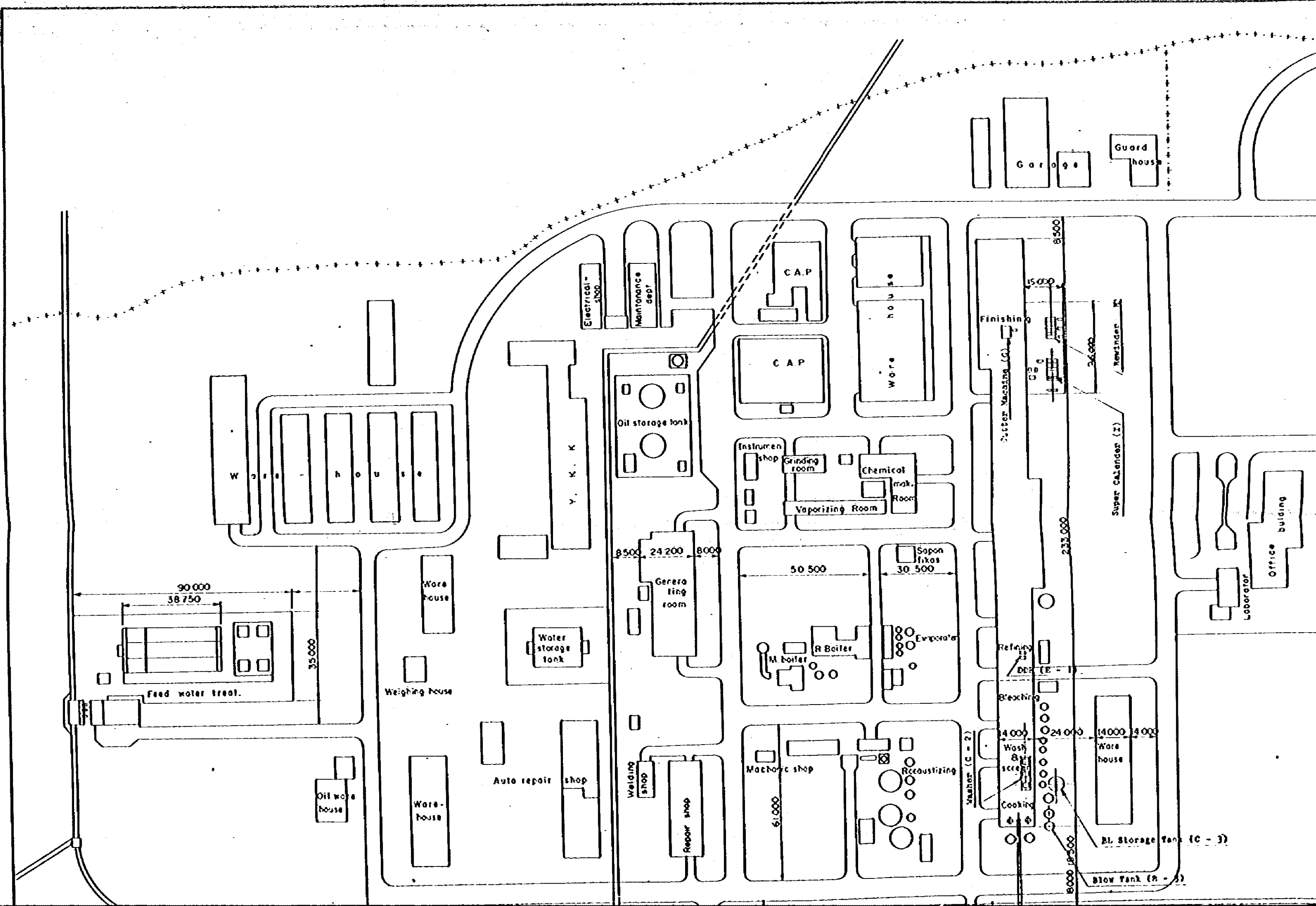
7.5KW Hydraulic  
Power Unit

125<sup>φ</sup> Hydraulic  
Cylinder  
2set

6000

9000

APPROVED			QUANT	SCALE
CHIEF				
CHECKED		Wood Chip Storage and Discharge System	DRAWING NO.	
DRAWN				
HONSHU PAPER CO. LTD			DATE	



Ware house

Garage

Guard house

C.A.P.

Wore house

Electrical shop

Maintenance dept

Oil storage tank

Instrument shop

Grinding room

Chemical mk. Room

Vaporizing Room

Finishing

Butter Macating (C)

Super Calender (I)

Super Calender (II)

Revolving

Laborator

Office building

90 000

38 750

35 000

Feed water treat.

Ware House

Weighing house

Water storage tank

8 500

24 200

8 000

General room

50 500

30 500

Sapon fixas

Evaporator

R Boiler

M. boiler

Auto repair shop

Welding shop

Repair shop

61 000

Machyc shop

Recoastizing

Washer (C - 2)

4 000

24 000

14 000

14 000

Wash & screen

Cooking

Ware house

Bl. Storage tank (C - 3)

Blow Tank (A - 3)

Oil ware house

Ware-house

Welding shop

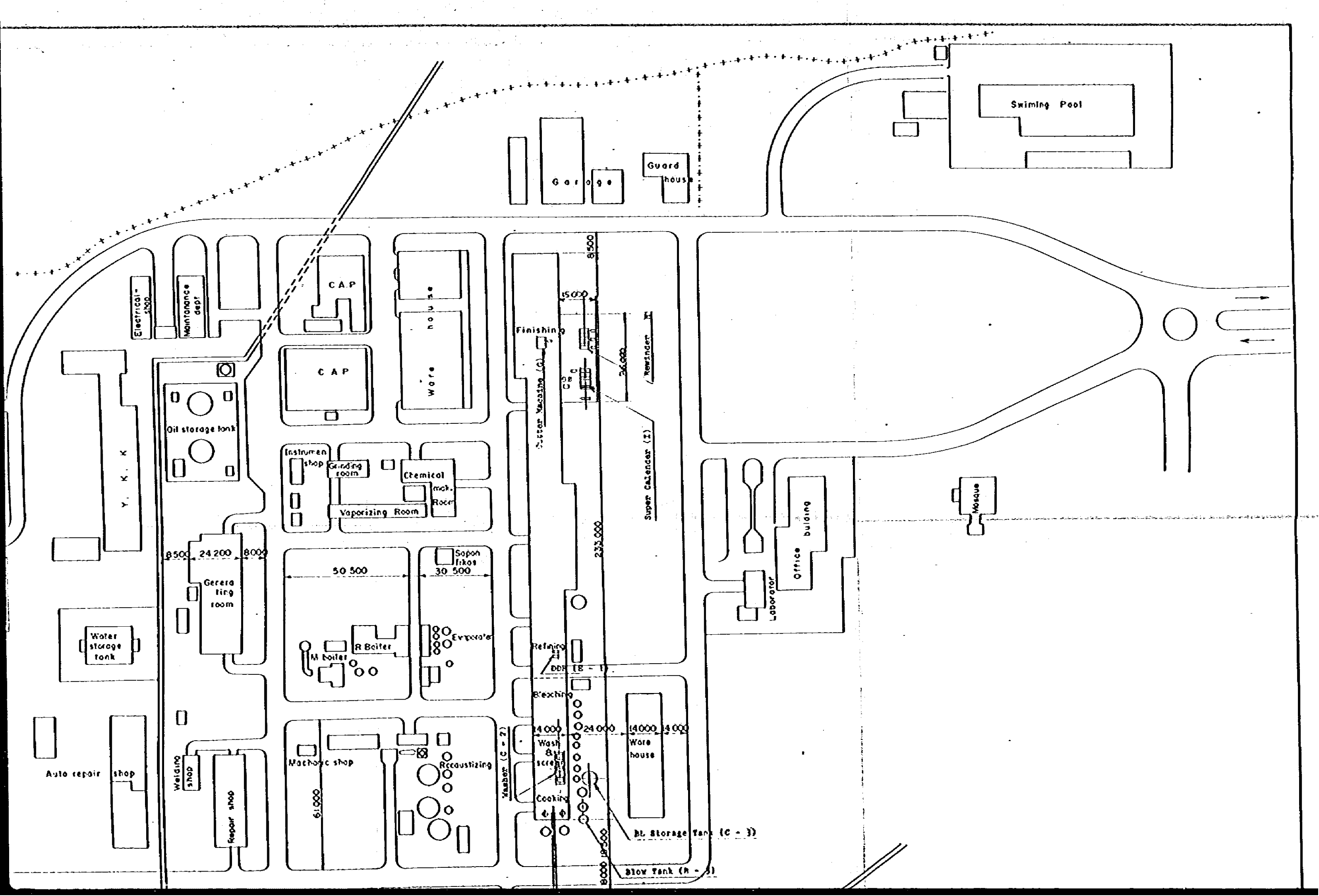
Repair shop

Washer (C - 2)

Ware house

Bl. Storage tank (C - 3)

Blow Tank (A - 3)



Swimming Pool

Guard house

Garage

C.A.P.

Ware house

C.A.P.

Oil storage tank

Y. K. K.

Finishing

Super Machine (C-1)

Super Calender (I)

Super Calender (II)

Instrument shop

Grinding room

Chemical mch. Room

Vaporizing Room

General room

Water storage tank

50 500

30 500

Sapon flask

Evaporator

M boiler

R Boiler

Refining

DDP

Breaching

Wash & screen

Cooking

Ware house

Bl. Storage Tank (C-3)

Slow Tank (R-3)

Mosque

Office building

Laboratory

Auto repair shop

Welding shop

Repair shop

Machanic shop

Recasting

8 500

24 200

8 000

8 500

15 000

26 000

235 000

14 000

24 000

14 000

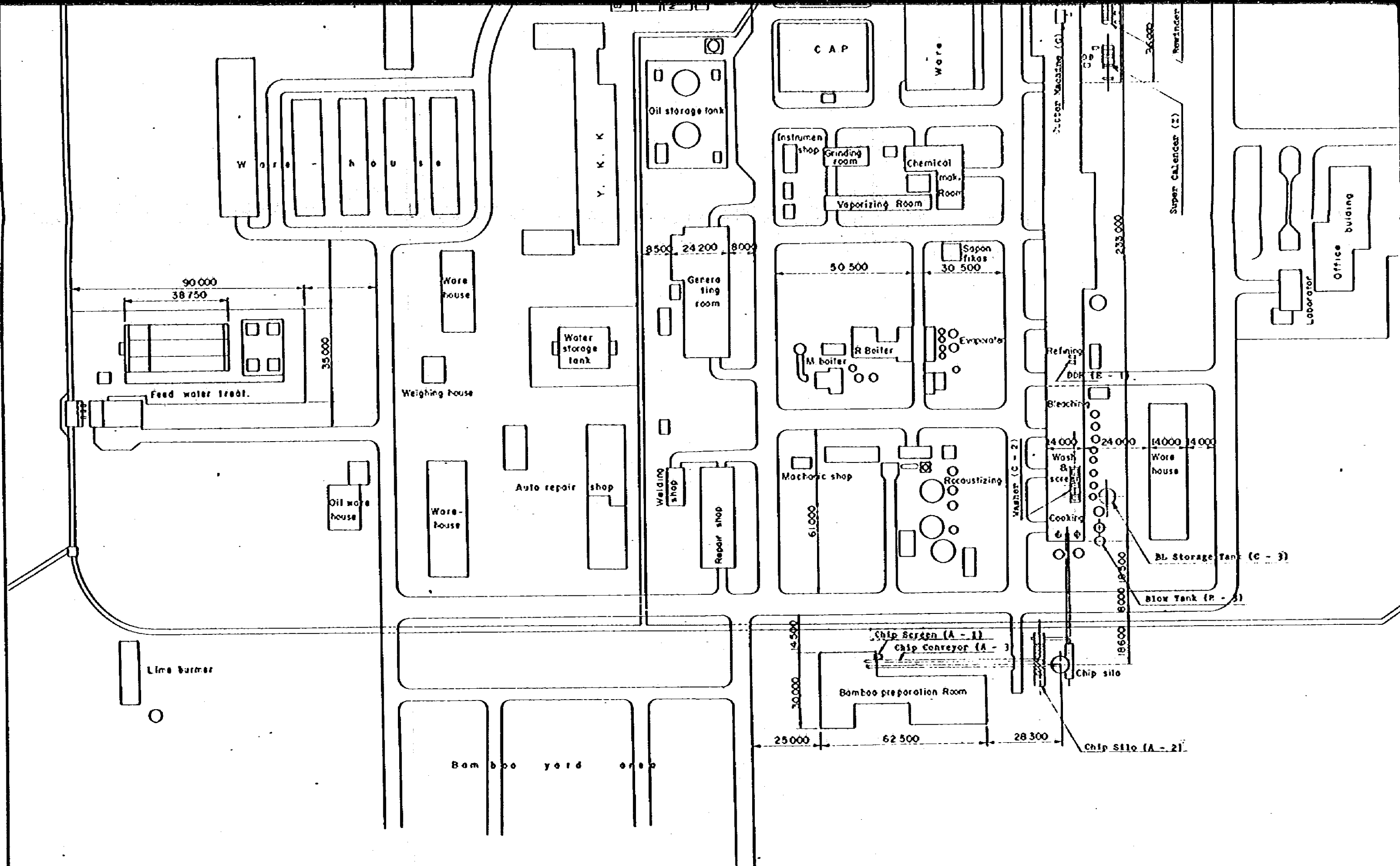
14 000

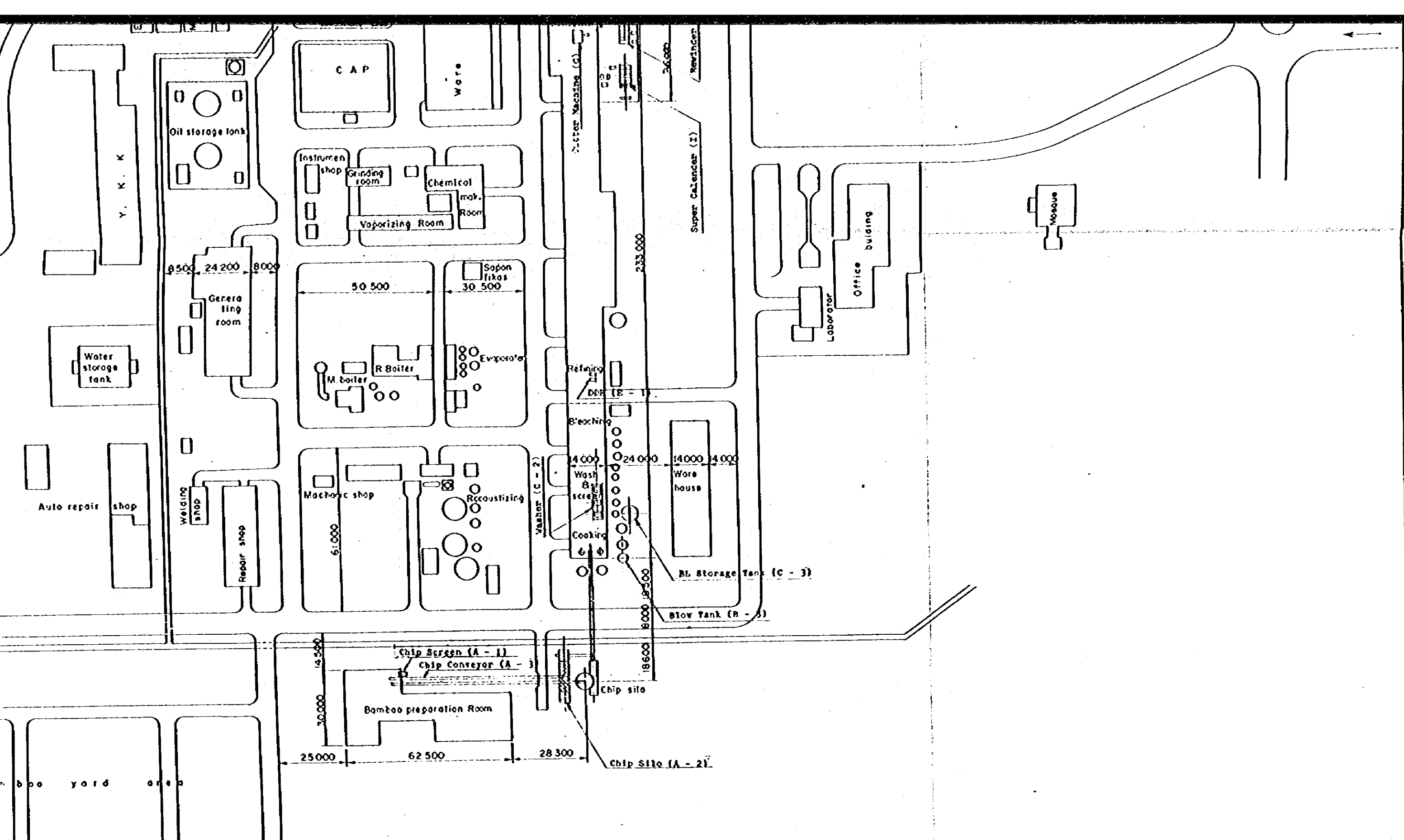
8 000

18 500

61 000

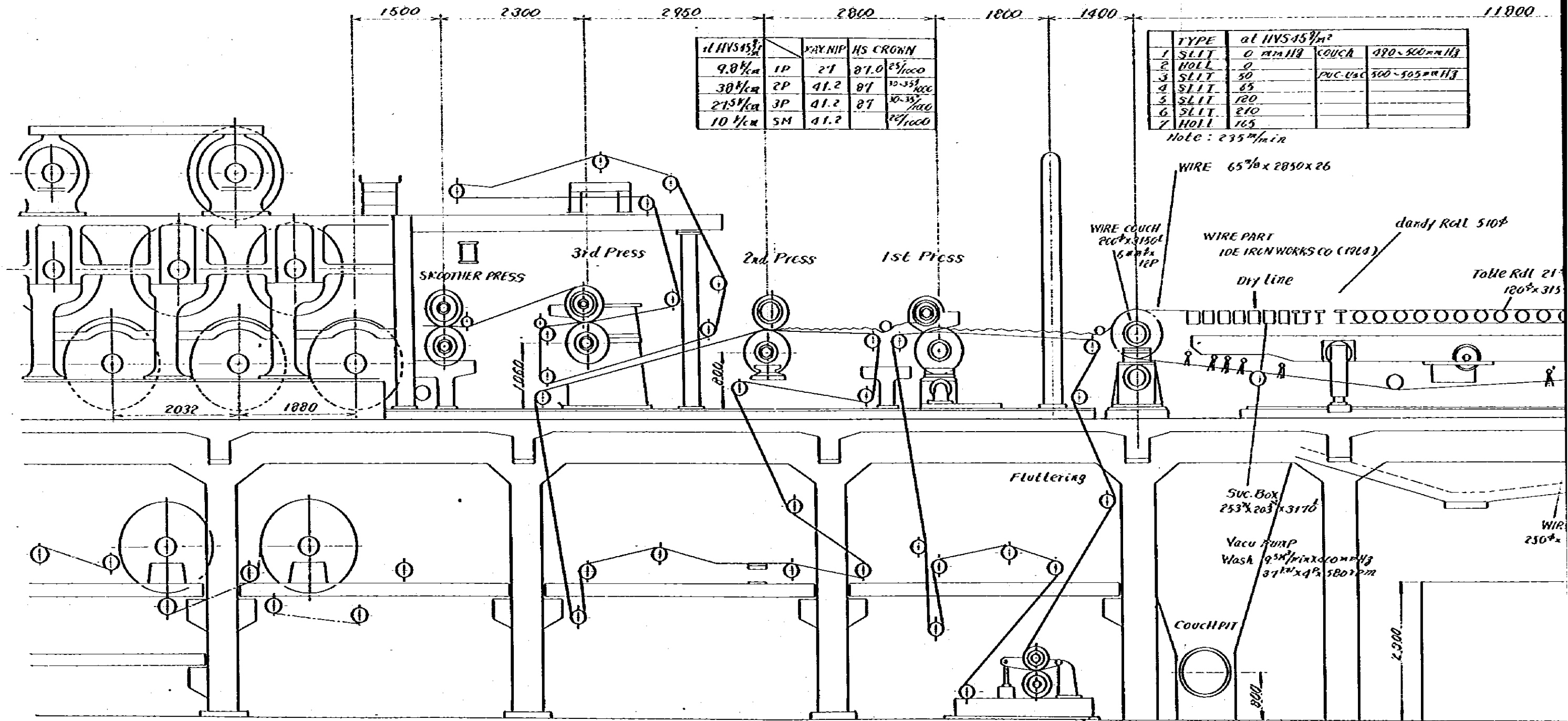




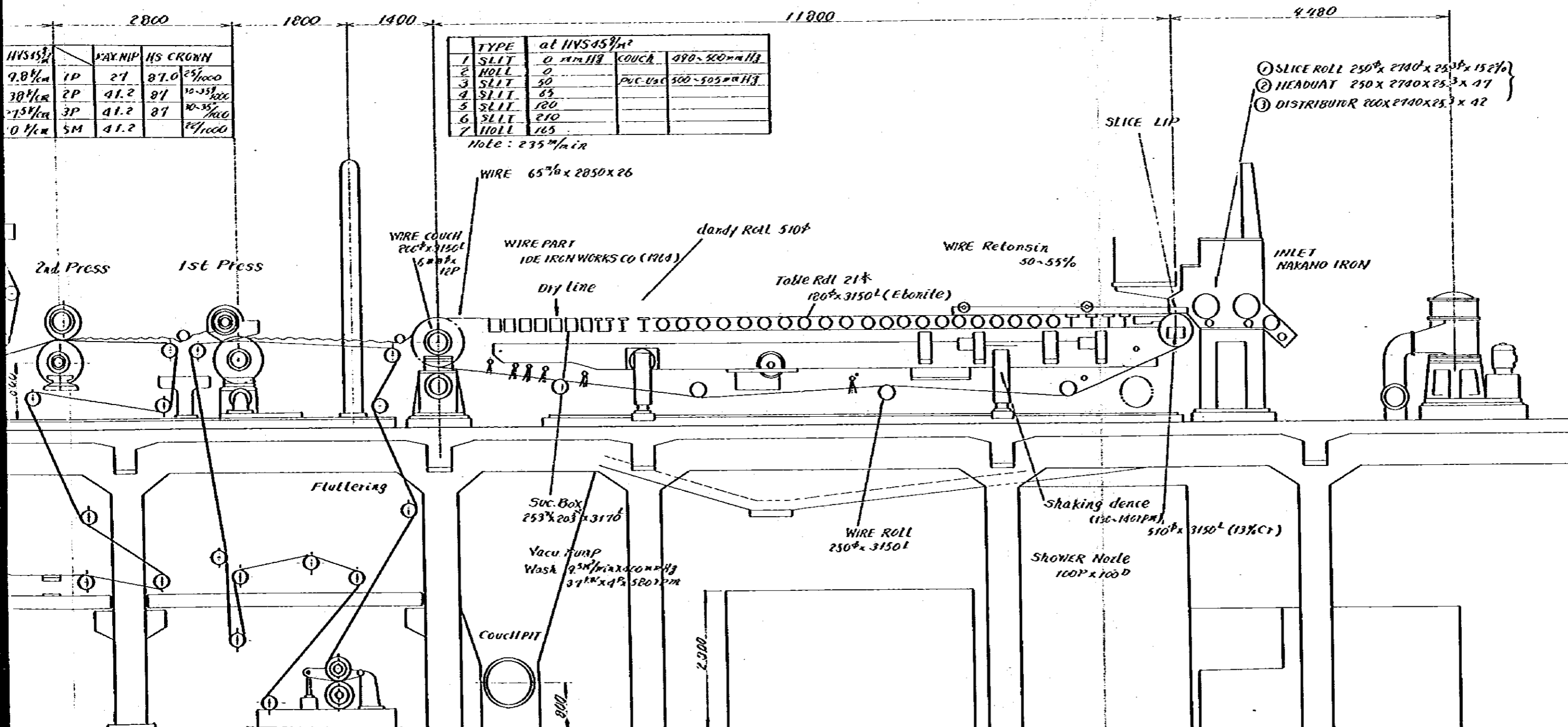


FOR RENOVATION Exp				Traced
<b>LAYOUT OF</b>				Drawn
<b>BASUKI RACHMAT</b>				Checked
<b>PULP &amp; PAPER MILL</b>				Appr.
Scale	Date	Org. No.		
	Aug '64			
JAPAN INTERNATIONAL COOPERATION AGENCY			TOKYO JAPAN	

# Existing Side View



# Existing Side View



HVS 45%	MAX NIP	HS CROWN
9.8 1/2 cm	1P 27	87.0 25/1000
38 1/2 cm	2P 41.2	87 10-35/1000
75 1/2 cm	3P 41.2	87 10-35/1000
10 1/2 cm	5M 41.2	25/1000

TYPE	at HVS 45%	
1 SLIT	0 mm Hg	COUCH 490-500 mm Hg
2 ROLL	0	
3 SLIT	50	PVC. UAC 500-505 mm Hg
4 SLIT	85	
5 SLIT	120	
6 SLIT	210	
7 ROLL	165	

Note: 275 m/min

- ① SLICE ROLL 250φ x 2740 x 25φ x 152%
- ② HEADUAT 250 x 2740 x 25φ x 47
- ③ DISTRIBUTOR 200 x 2740 x 25φ x 42

