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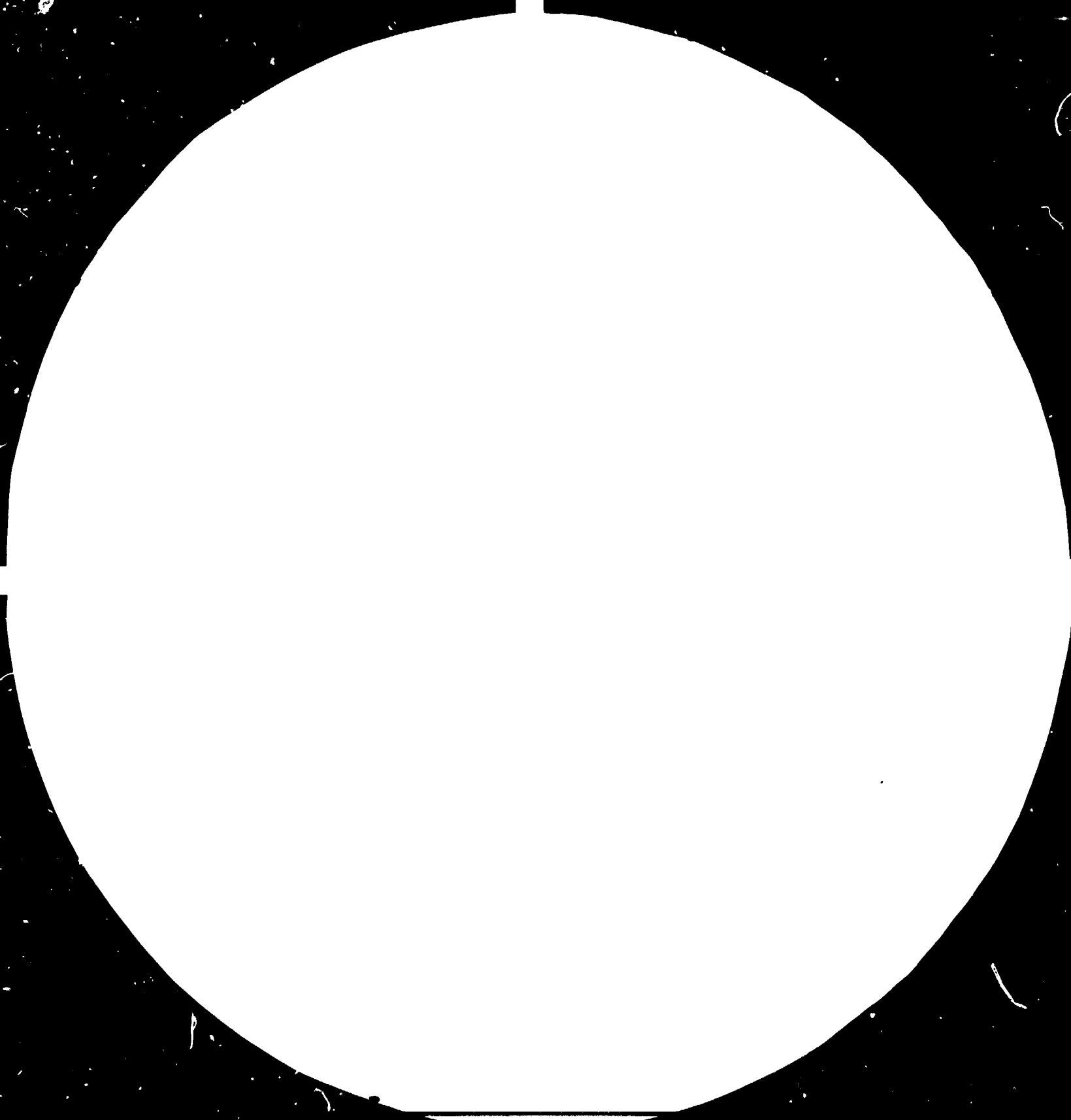
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OCTOBER
26th, 1984.

T E R M I N A L R E P O R T

ASSISTANCE TO SMALL-SCALE INDUSTRIES.

KENYA INDUSTRIAL ESTATES LIMITED.

DP/ KEN/77/006. (Phase I)

K E N Y A

Prepared for the Government of Kenya by the UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION executing Agency for
the United Nations Development Programme.

J.C. Fortune, Architect/Project Co-ordinator
Advisor for Design and Construction of
Industrial Estates.

United Nations Industrial Development Organization
Vienna.

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NOTE: This Report has not been cleared with the United Nations
Development Organization which does not, therefore,
necessarily share the views presented.

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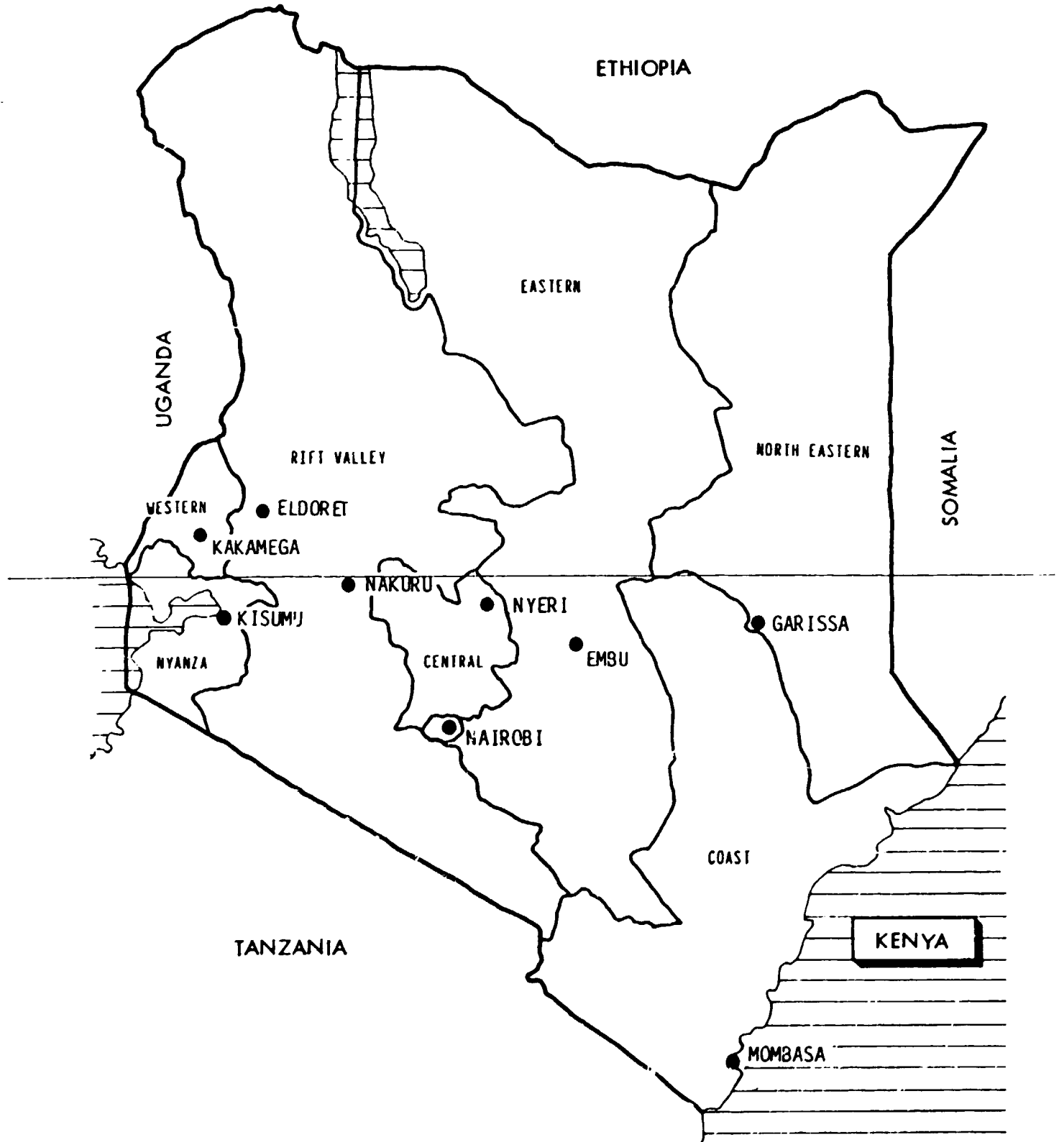
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ABBREVIATIONS

KIE.	Kenya Industrial Estates Limited.
I.E.	Industrial Estate.
RIDC.	Rural Industrial Development Center.
IPA.	Industrial Promotion Area.
G.O.K.	Government of Kenya.
ICDC.	Industrial and Commercial Development Corporation.
K.F.W.	Kreditanstalt Fuer Wederhaugbau (W.Germany).
G.T.Z.	Deutsche Gesellschaft fuer Technische Zusammenarbeit m.b.h.
S.I.D.A.	Swedish International Development Agency.
DANIDA.	Danish International Development Agency.
E.E.C.	European Economic Community.
NORAD.	Norwegian Agency for Development.
JICA.	Japan International Cooperation Agency.
IBRD.	International Bank for Reconstruction and Development.
MIDP.	Machakos Integrated Development Programme.
UNDP.	United Nations Development Programme.
UNIDO.	United Nations Industrial Development Organization.
TSC.	Technical Service Center.
CFW.	Common Facility Workshop.
PDU.	Product Development Unit.
SEP.	Special Energy Programme.

Note: In July 1983 One U.S. Dollar was equivalent to
13.10 Kenya Shillings.

At mid-1978, at the beginning of this Project,
the value of the Kenya currency has averaged
K.Shs. 7.40 to the U.S. Dollar.



GENERALS.

The Project under UNDP/UNIDO code name KEN/77/006 is the first phase of the assistance given to KIE from mid-1978 until mid-1983. During this period the expertise offered was channelled through four different areas for which an Architect and a Financial Advisor were based in Nairobi. At the same time a Mechanical Engineer and an Industrial Economist were both assigned to KIE Eldoret station.

Originally this Project was designed for a period of 3 years, but after proper Tripartite Agreement and budget revisions the first phase was extended from July 1981 until June 1983.

Subsequently and mainly due to financial restrictions imposed upon the UNDP this programme has been restructured and the operations were able to proceed, under Project Number KEN/81/017 (Phase 2), from July 1983 until December 1984, with two experts, the Architect and the Economist.

This terminal report is the summary of activities, findings, achievements and recommendations with regard to Phase 1 only, thus covering the period from 1978 until 1983 as requested.

The terminal report for Phase 2, to be issued separately, should be regarded as complementary to the present one.

ABSTRACT.

UNIDO PROJECT NO. KEN/77/006.

TITLE : Assistance to Small-scale Industries.
Kenya Industrial Estates Limited (KIE).

OBJECTIVE.

The immediate objective of the Project is to assist the Kenya Government in its efforts to develop small-scale industries in rural areas by providing expertise in the design and construction

of industrial estates, RIDC's and IPA's; in the financial management sector and in the field development programme at Eldoret and surrounding regions.

The long-term objective is to gradually decentralize management and operations.

The programme of construction should mainly be regarded as the subject of this report.

DURATION OF THE PROJECT.

From mid-1978 until mid-1985.

CONCLUSION.

KIE has become over the years a fully-fledged parastatal organization, and to some extent a lending and banking institution which has been directed to become financially self-sufficient in the future.

The building programme, in line with the KIE operational plan, has been a significant activity into which an important amount of funds have been channelled for the construction of new estates all around the country.

With regard to the process of the operations the best approach was felt to build on a very economical basis by providing the strict minimum, yet within both security and safety and especially in accordance with current building codes and regulations.

It has not all the time been possible to combine these strict requirements altogether. However, satisfactory solutions, in many cases, have emerged in the course of the exercise despite several constraints.

BACKGROUND AND INTRODUCTION.

Since independence serious efforts have been made by the Kenya Government to increase the share of the African population in industrial and commercial sectors of the economy.

The ICDC, in the past, was entrusted with the implementation of the Government policy. The programme of industrial estates started in 1965 and in 1967, the KIE was created with the specific mandate for building, developing and managing small-scale industrial estates to be located in suitable urban and rural areas all over the country. The KIE became autonomous in 1972. An up-to-date organization chart is indicated in Appendix 1.

It must be noted that until 1967 there was almost no African who owned a manufacturing enterprise.

Technical and financial assistance were given by a number of countries, i.e. Norway, Sweden, Denmark, Japan, the Federal Republic of Germany, Finland. The European Economic Community and the World Bank have also contributed in sponsoring the KIE programme as well.

As a result of the financial help from these donors and from the Government, industrial estates were built and operating in various parts of the country, i.e., Nairobi, Mombasa, Nakuru, Kisumu and Eldoret. Meanwhile the stations at Machakos, Nyeri, Kakamega and Embu were provided with smaller units of workshop clusters which were designated as Rural Industrial Development Centers (RIDC's). See Map in Appendix 2.

Another component of the building programme was introduced later by implementing the construction of Industrial Promotion Areas (IPA's) considered more suitable for the remote areas, i.e., Kabarnet, Taveta, Karatina, etc.

The construction of these estates was part of the expansion programme of the KIE as suggested by the five-year operational plan.

Prior to this assistance programme no work has been carried out with KIE by UNIDO or any other UN Agency (with the exception of a feasibility study by the World Bank in 1977).

The request for UNIDO assistance followed the granting of a credit by the World Bank to the Government of Kenya / KIE. Experts were required to cater for the demands and preconditions set by the World Bank for the disbursement of the loan and in addition expertise was required to assist KIE with the increase in work load brought about by ten years of operations and continuous expansion.

OFFICIAL ARRANGEMENT AND CONTRIBUTIONS.

Assistance was requested in 1977 by the Kenya Government and KIE for an initial period of three years. The Project was approved and signed on 6 June 1978, and subsequently extended.

UNDP contributions were consequently revised and raised up to a total of slightly over USD.1,300,000 from the original 3-year budget line of USD. 750,000. The following table shows the total contribution related to manpower and funds, as per successive mandatory revisions ;

<u>Experts Man/Month.</u>	<u>Year.</u>	<u>US Dollars.</u>
17.8	1978	92,877.
40.1	1979	216,697.
45.4	1980	275,299.
48.0	1981	306,013.
45.0	1982	295,870.
12.0	1983	118,900.
208.3	-	1,305,656.

The expenditure in real terms was however in the amount of USD.1,295,354 as per project delivery report (PDR) in Appendix 3.

The GOK and KIE provided personnel services, premises, equipment, supplies and maintenance for the project vehicles as required. The contributions from the Government were initially estimated at K.Shs. 1,426,800.00.

PROJECT OBJECTIVES.

The immediate objective is to strengthen the KIE for carrying out its tasks given to it by the Government in the construction and management of industrial estates, RIDC's and IPA's.

Specifically the project will provide :-

- a) expertise to the KIE head office in Nairobi in the financial management sector and
- b) specialists to assist KIE in their field programme for developing industrial estates, rural industrial development centers and industrial promotion areas countrywide.

To a greater extent the long range objective of the project is to assist KIE in its effort to develop small-scale industry in the rural areas by de-centralizing industrial operations and management, by creating employment opportunities in rural areas and finally by generating self-reliance and more equal income distribution from the geographical and social point of view.

In order to assist the Government to meet these objectives the IBRD would provide available funds for this programme through a loan.

As a pre-condition for the disbursement of the loan the World Bank has requested that necessary technical assistance be given to KIE so as to supplement the loan.

The international staff participating in this programme is listed in Appendix 4.

TRAINING / FELLOWSHIPS.

After overcoming some difficulties in the early stages of the project, the KIE has appointed national counterparts to whom formal on-the-job training was provided throughout the four areas of assistance.

In Appendix 5 the position of the counterpart staff is shown with respect to the different experts attending the project.

Due to regrettable misunderstanding regarding the utilization of funds the fellowship programme has been delayed during the first years of activities. However, after reaching a satisfactory agreement between UNIDO and KIE the programme started in 1982.

It was also agreed that a more flexible approach to the use of funds, i.e. overseas as well as local training should be followed in the future.

A number of candidates were eligible to attend overseas courses in a variety of disciplines, i.e. Energy Resources Consultation and Development, Financial Management, Stock control and Warehouse Technique etc., as detailed in Appendix 6.

It should also be mentioned that since early 1981 a training programme has been carried out by the ILO at KIE.

SUBCONTRACTING.

No subcontracting was undertaken during this reporting period.

JOB DESCRIPTIONS.

1. ARCHITECT AND PROJECT CO-ORDINATOR
Plan, design, co-ordinate and supervise the construction process of different small-scale Industrial Centers in selected locations throughout the country as directed by KIE policy and priorities.

2. FINANCIAL ADVISOR
Analyse the present financial management of KIE and suggest necessary changes in order to improve the system to cope with the increased and more complex workload. The financial management of KIE should have the standard required by the World Bank.

3. INDUSTRIAL / MECHANICAL ENGINEER

Assisting in the establishment and operation of small-scale industries.

Provide industrial extension services on a regular basis to entrepreneurs and help in case of difficulties.

4. INDUSTRIAL ECONOMIST

Analyse the market situation in the area as well as in the country for identification of potential viable projects to be set up in the industrial estate and other KIE projects in the Eldoret region.

Note: The works of the Financial Advisor and the Industrial Economist were separately covered by their respective Terminal Reports dated December 1982 and October 1984. The Mechanical Engineer had mostly been involved in the implementation of KIE projects in the Eldoret area from a practical engineering point of view.

ACTIVITIES AND OUTPUTS.

As per job description the activities of the Architect were mainly concentrated on planning, designing, tendering and supervising the advancement of construction works throughout the country.

A great deal of time has also been spent on liaising and co-ordinating the preliminary works with other consultants commissioned by KIE so as to ensure, as much as possible, standard specifications and common requirements.

A schematic map in Appendix 7 gives a clear picture of existing KIE estates, as at 1978 and the extent of construction of new ones. Details of some design works as built are given in Appendix 8.

ACHIEVEMENTS OF IMMEDIATE OBJECTIVES.

Between 1978 and mid-1983 site works have started according to KIE plan of expansion and have been finalized at the following stations :- Malindi, Voi, Karatina, Kabarnet, Nyeri, Eldoret Phase 2, Meru, Bungoma, Siaya and Homa Bay; Karatina, Kabarnet, Tala and Siaya were designed at KIE.

The total area built during the above period has reached 19,600 m² inclusive of 16,600 m² of rentable sheds on top of which some 49,500 m² of rentable sheds were already owned by KIE before 1978. See Appendix 7.

Construction of Common Facility Workshops within the new estates amounted to 1,371 m² during the same period.

These achievements were made possible by significant contributions, in terms of funds, from the Government and from a number of bi-lateral agencies, i.e., SIDA, DANIDA, JICA, GTZ, KFW, NORAD, together with EEC and the IBRD as previously mentioned. (See Appendix 10).

UTILIZATION OF PROJECT RESULTS.

Out of 130 units of workshops built between 1978-1983, 80 were occupied at the end of this reporting period. The percentage of occupancy is therefore in the range of 61.5% as compared to 83% for the period pre-1978. (See Appendix 7).

Economic difficulties due to acute recession has had a direct impact on small-scale industrial sector. As a result not all the selected entrepreneurs were in a position to raise their contributions before starting implementation.

In the occupied sheds the most common line of activities in the rural areas is orientated towards, carpentry, dry cleaning, bakery, concrete blocks, water storage tanks, door and window steel frames, garage workshops, furniture, tailoring, wire nails, saw milling, posho milling, printing, etc. More sophisticated manufacturing units are usually located in Nairobi and other large centers.

FINDINGS.

To a great extent one major concern has always been in connection with the construction cost involved in the establishment of a small-scale industrial estate.

The cheapest cost was obtained at stations where infrastructure was kept to a minimum in view of the fact that on / or near the site the municipal water line, sewerage and drainage were already existing. This was the case at both Karatina and Meru, where the power line was practically on site.

In other places where such services are some distance away and must therefore be provided at the client expense, it was obvious that the cost would not be the same as per the previously mentioned projects.

As an example, a 50KV generator set with capacity for both 3-phase and single phase had to be delivered and installed at such remote areas as Taveta and Kitui at a cost of K.Shs. 350,000.00. At the time of tendering, a year earlier, this item alone was estimated to be half the above cost.

It must be said that inflation has not had an encouraging trend during these years under review either. Besides, the consultancy fees for the design of simple sheds were contributing to an increase of some 13% over and above the construction contract cost.

Finally, the remoteness factor has its own negative impact on the final cost of a project.

RECOMMENDATIONS.

General recommendations made regarding design / construction of workshops were subject to a number of discussions and particularly in early 1982 with a KIE committee, headed by the Architect, which was appointed to look into ways and means of reducing construction costs. The following have been subject to implementation :-

1. Current modular size of the typical 50m² of workshop to be reduced to 40m². This would allow more flexibility in the design of the structural components and would also reduce the number of trusses to a more simple rafter-truss system. Consequently fewer concrete columns were needed.
2. Sliding doors to be changed into pivoted doors.
3. Heavy gauge (24) of the metal roofing to be replaced by a lighter gauge (26).
4. Tarmac surfacing on all roads to be changed into murrum surfact (compacted clay).
5. Wall partitions at all workshops to be built with sheet metal instead of concrete block walling, this would allow more flexibility for inward expansion.

Note: (The above recommendations were put into effect at Nunguni and Kibwezi with significant savings).

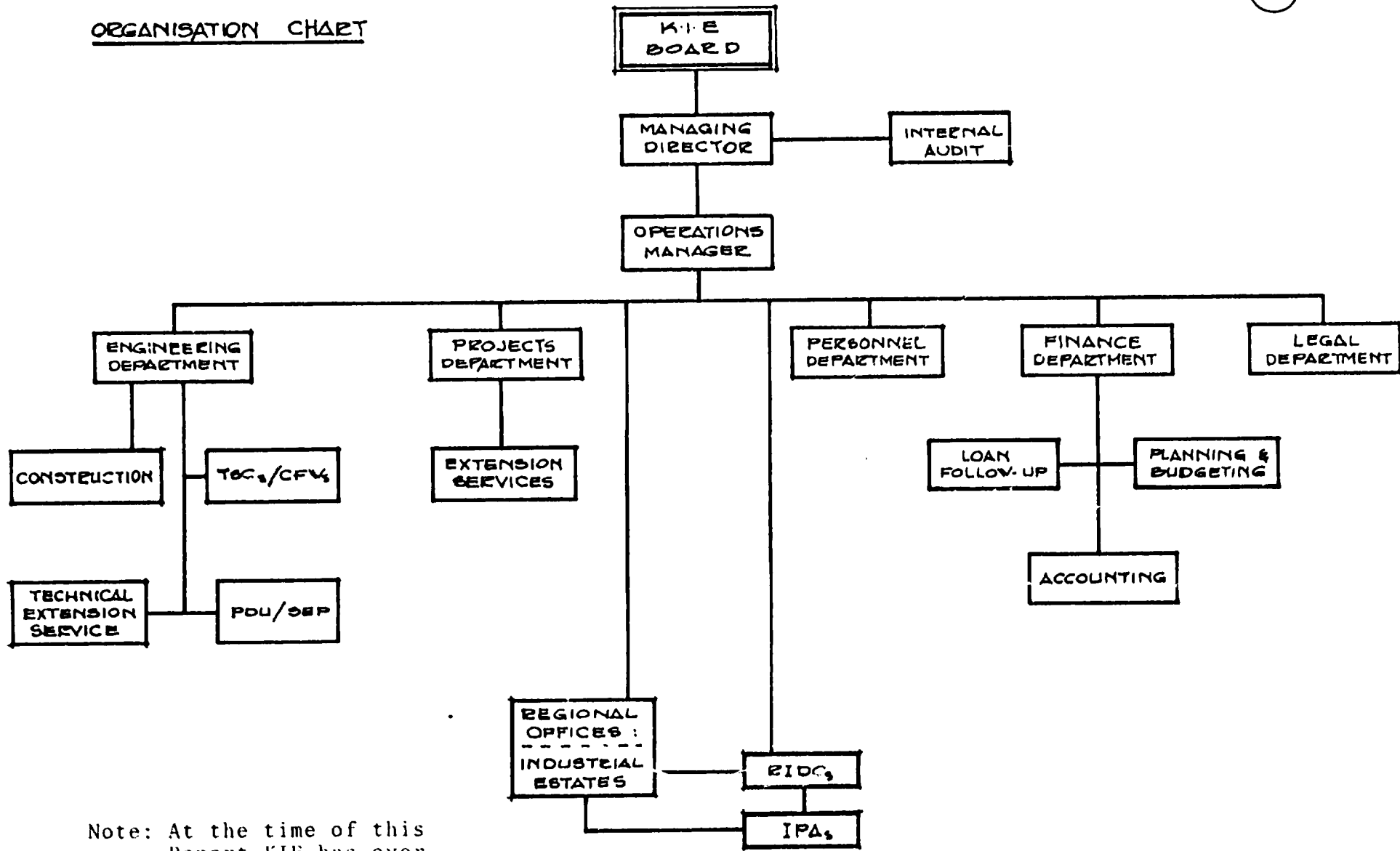
6. Another line of recommendation was for using an all-steel structure with external metal cladding. This has been developed at Busia by the FINNIDA Architect. The solution, although practical in terms of quick erection is not viable in the coastal region due to it being a high corrosion area. Besides, the heat transmission and radiation within the workshops is high, unless the height of the roof is significantly raised, thus rendering this unit as being less economical. Efforts are proceeding to bring about proper improvement.
7. Reducing gradually the commissioning of private consultants and at the same time increasing the self-capability of the engineering / building department which, in the long-term objectives, would be fully in charge of the maintenance of the estates.

8. Through discussions with different review-missions suggestions were made as to scale-down the construction programme. Such recommendations were given serious consideration and to that effect plans have been designed in order to focus attention on training needs to be orientated toward staff development and entrepreneurship development.
9. Finally, due to difficulties encountered in retaining properly trained counterparts and technical staff, steps should be taken to create incentives in order to ensure longer terms of service within KIE.

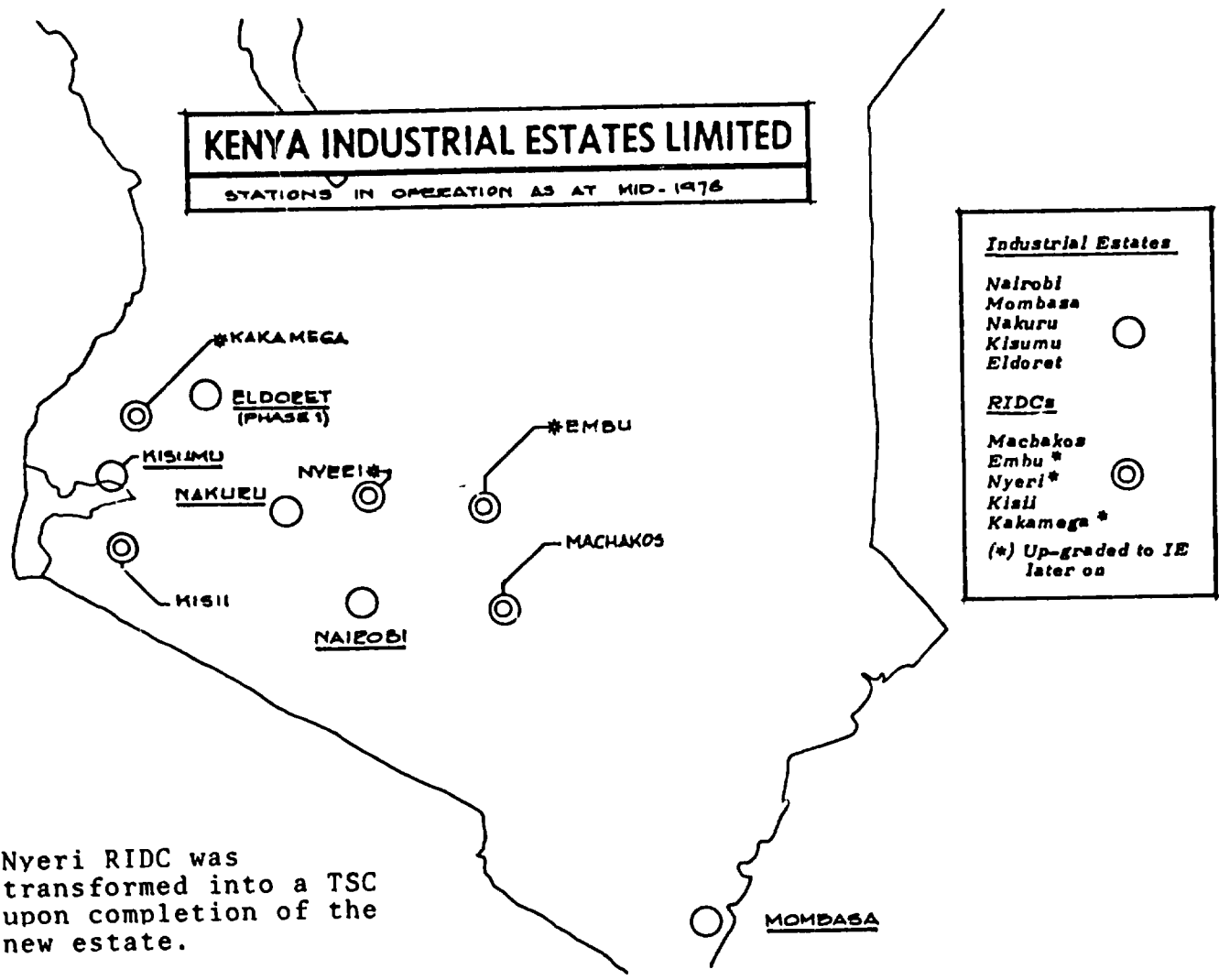
L I S T O F A P P E N D I C E S

- Appendix 1. Organization Chart of KIE.
- Appendix 2. KIE stations in 1978.
- Appendix 3. Project Expenditure (PDR).
- Appendix 4. List of International Staff.
- Appendix 5. National Counterpart Staff.
- Appendix 6. Fellowship Posts.
- Appendix 7. Map of New Stations and Survey
 of Areas Built.
- Appendix 8. Design Works(8/1 thro' 8/8), as built.
- Appendix 9. General Construction Specifications.
- Appendix 10. Funds for Construction (Chart).
- Appendix 11. Work Programme (Bar Chart).
- Appendix 12. Inventory of Equipment (Project Vehicles).

ORGANISATION CHART



Note: At the time of this Report KIE has over 350 employees.



RUN-DATE: 1984-09-18

UMAPDR1/"UNDP"

UNIDO - PROJECT DELIVERY REPORT AS AT 1984-08-31

PROJECT CODE: DP/KEN/77/006

UMAPDR1- SPECIAL PROJECT DELIVERY REPORT FOR UNDP
(INCLUDES ALL UNDP MAIN FUNDS, TRUST FUNDS, & GOV. CASH)PROJECT TITLE: ASSISTANCE TO SMALL SCALE INDUSTRIES, KENYA INDUSTRIAL ESTATES
LIMITEDPROJECT REVISION M
PROJECT STATUS C - OPER.COMP
PPCSA CODES 313L

BU-LI	DESCRIPT.	TOT. ALLOTMENT	CURR YR PHASING		CURR YR DISB.		BAL. CURR YR OBL.		EXPENDITURES CY	
		DOLLARS	M/M	DOLLARS	M/M	DOLLARS	M/M	DOLLARS	M/M	DOLLARS
11-01		262,097	0.0	0	0.0	0	0.0	0	0.0	0
11-02		314,234	0.0	0	0.0	0	0.0	0	0.0	0
11-03		287,122	0.0	0	0.0	0	0.0	0	0.0	0
11-04		292,813	0.0	0	0.0	0	0.0	0	0.0	0
11-99	INTEPERT	1,156,200	0.0	0	0.0	0	0.0	0	0.0	0
15-00		27,346	0.0	526	0.0	0	0.0	0	0.0	526
15-01		0	0.0	0	0.0	526	0.0	0	0.0	526
15-99	TRAVEL	27,346	0.0	526	0.0	526	0.0	0	0.0	526
16-00		8,207	0.0	0	0.0	0	0.0	0	0.0	0
16-32		0	0.0	0	0.0	13	0.0	0	0.0	13
16-99	OTHERPERS	8,207	0.0	0	0.0	13	0.0	0	0.0	13
19-99	PERSONNEL	1,191,819	0.0	526	0.0	539	0.0	0	0.0	539
31-00		57,988	0.0	0	0.0	0	0.0	0	0.0	0
31-12		0	0.0	0	0.0	535-	0.0	0	0.0	535-
31-99	FELLOWS	57,988	0.0	0	0.0	535-	0.0	0	0.0	535-
32-00		5,933	0.0	0	0.0	0	0.0	0	0.0	0
39-99	TRAINING	63,921	0.0	0	0.0	535-	0.0	0	0.0	535-
42-00		22,184	0.0	0	0.0	0	0.0	0	0.0	0
49-99	EQUIPMENT	22,184	0.0	0	0.0	0	0.0	0	0.0	0
51-00		17,430	0.0	341	0.0	0	0.0	0	0.0	0
51-10		0	0.0	0	0.0	155	0.0	0	0.0	155
51-11		0	0.0	0	0.0	114	0.0	0	0.0	114
51-40		0	0.0	0	0.0	72	0.0	0	0.0	72
51-99	SUNDRIES	17,430	0.0	341	0.0	341	0.0	0	0.0	341
59-99	MISCELAN	17,430	0.0	341	0.0	341	0.0	0	0.0	341
99-99	PROJ TOTAL	1,295,354	0.0	867	0.0	345	0.0	0	0.0	345

LIST OF INTERNATIONAL STAFF.

		<u>Arrival / Departure</u>
1.	<u>Mr. R.J. Bowen-Ashwin.</u> Project Co-ordinator and Financial Management Specialist. (U.K.)	April 1978/April 1979. (Nairobi).
2.	<u>Mr. J.F. Booth.</u> Mechanical Engineer. (U.K.)	Sept. 1978/Sept.1982. (Eldoret).
3.	<u>Mr. E. Sirak. (*)</u> Industrial Economist. (Ethiopia).	October 1978/June 1983. (Eldoret).
4.	<u>Mr. J.C. Fortune.</u> (*) Architect. Project Co-ordinator upon departure of 1 above. (U.S.A.)	October 1978/June 1983. (Nairobi).
5.	<u>Mr. P.D. Coote.</u> Financial Advisor. (Australia).	March 1980/Dec.1982. (Nairobi).

Note: (*) Activities carried out by both experts on Phase 2 also.

NATIONAL COUNTERPART STAFF.

(as per period of co-operation with UNIDO team).

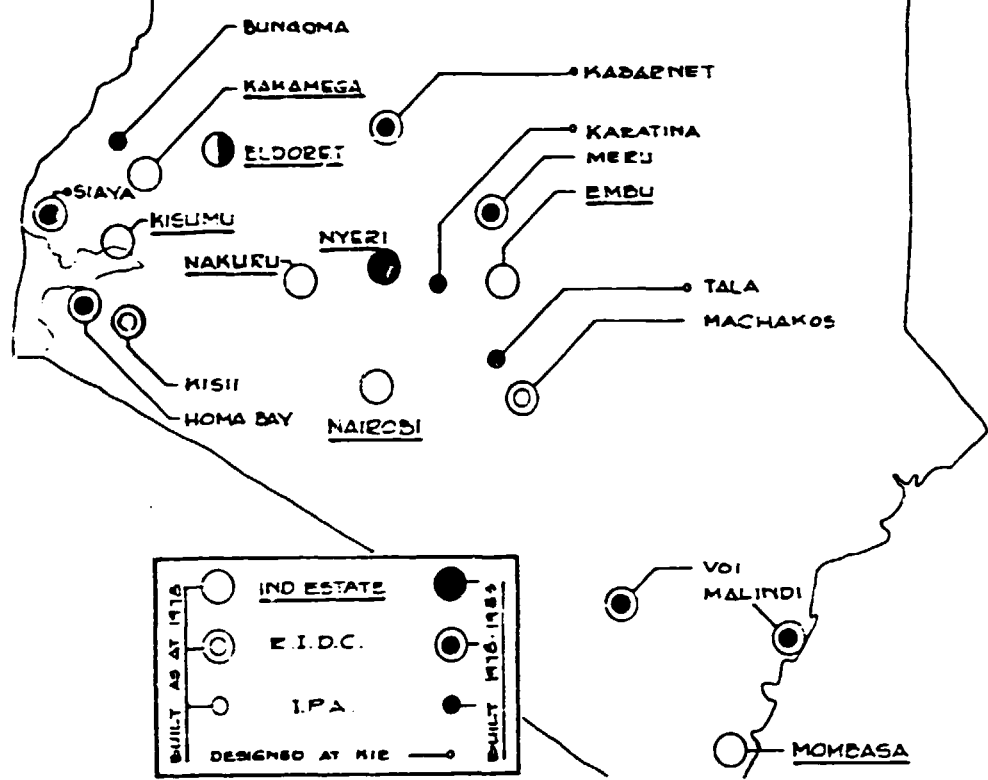
<u>Expert / (Station).</u>	<u>Counterpart.</u>
<u>J.C. FORTUNEY.</u> Architect / Project Co-ordinator. (Nairobi).	- <u>S. SHYAMALA.</u> Architect. From 10/1980 until 2/1982. - <u>N.I. WAGACHA.</u> Civil Engineer. From 7/1983 to date. (Note *).
<u>P.D. COOTE.</u> Financial Advisor. (Nairobi).	- <u>J.A. CHEPKWONY.</u> Assistant Chief Accountant (Operations). From 3/1980 to 12/1982. - <u>J.R.R. NJIRU.</u> Assistant Chief Accountant (Credit Control). From 3/1980 to 12/1982.
<u>J.F. BOOTH.</u> Mec.Engineer. (Eldoret).	- <u>R. ALUCHIO.</u> Mec.Engineer. Regional Manager. From 10/1978 until 8/1981. Transferred to Nairobi Head Office as Assistant Chief Engineer, to date. - <u>D.K. CHERUIYOT.</u> Mec.Engineer. From 10/1980 until 10/1983. Transferred to RIDC Kabarnet as Manager.
<u>E. SIRAK.</u> Industrial Economist. (Eldoret).	- <u>A.B.O. OYAYA.</u> Statistical Clerk. From 2/1980 until 9/1982. Transferred to Machakos, then to Kitui RIDC as Manager. - <u>D. OPIYO.</u> Mec.Engineer. From 10/1982 until 1/1983. Transferred to Kisumu, then to Kisii RIDC as Manager. - <u>G.R.C. MUCHURI.</u> Project Economist. From 12/1980 to 10/1983. - <u>J.O. OBEIRO.</u> Proj. Engineer. From 7/1983 to date.

NOTE: (*) Mr. Wagecha was recruited in October 1980. He also worked through June 1983 together with the FINNIDA Architect assigned to KIE from 5/1981 to 6/1983.

FELLOWSHIP POSTS / COURSES ATTENDED. 1982 - 1983.

POST NO.	FELLOWSHIP POST	DURATION (MOS)	NAME OF FELLOW AND COUNTRY OF STUDY	STARTED (MO/YR)		COMPLETED (MO/YR)	
				SCHED.	ACTUAL (EST.)	SCHED.	ACTUAL (EST.)
1	Personnel Officer Course : Human Resources Management and Development.	1.5	M.M. MALINDA. Tanzania.	2/82	2/82	3/83	3/83
2	Mechanical Engineer Course : Energy Resources Consultation and Development.	2.0	Y. I. DIAB. Ireland.	10/82	10/82	11/82	11/82
3	Assistant Chief Accountant (Operations) Course : Financial Management.	1.5	J. A. CHEPKWONY. Tanzania.	3/83	3/83	4/83	4/83
4	Mechanical Engineer Course : Seminar on Investment Workshop.	0.5	D. W. NGII. Japan.	5/83	5/83	6/83	6/83
5	Storekeeper Course : Stock Control and Warehouse Techniques.	0.5	G. K. GITAU. Tanzania.	5/83	5/83	6/83	6/83
6	Project Economist Course : Small Industry and Entrepreneur Management.	2.	J. M. RUHIU. Ireland.	6/83	6/83	8/83	8/83
	Total m/m : KEN'77/006 as at 30.6.1983.	8.					

KENYA INDUSTRIAL ESTATES LIMITED



- Stations as at mid-1983
- Industrial Estates (8)
- Nairobi
 - Mombasa
 - Nakuru
 - Kisumu
 - Eldoret
 - Kakamega
 - Embu
 - Nyeri
- IDCs (8)
- Maiindi
 - Machakos
 - Meru
 - Kabarnet
 - Siaya
 - Kisii
 - Homa Bay
- IPAs (3)
- Tala
 - Karatina
 - Bungoma

BUILT AS AT 1983	IND ESTATE	E.I.D.C.	IP.A.	DESIGNED AT KIE
●	●	●	●	—
○	○	○	○	—

		STATION AT:		No of workshops	No occupied	AREA OF WORKSHOP ONLY (m ²)	AREA OF T S C OR CFW ONLY (m ²)	TOTAL AREA OF ESTATE (m ²)	REMARKS	
										RENTABLE
CONSTRUCTION PROGRAMME	1967-1977	1	NAIROBI	59	53	16754	● 760	19845	Canteen 737m ² off 233m ²	
		2	MOMBASA	20	11	8820	● 300	9770	Canteen 350m ² off 300 "	
		3	NAKURU	25	18	10191	● 370	10976	Canteen 125m ² off 290 "	
		4	KISUMU	22	18	5376	● 304	6397	Inc. Canteen 304 "	
		5	EMBU	8	8	685	● 300	1265	Office 280 "	
		6	MACHAKOS	13	13	1145	● 300	1725	" 280 "	
		7	KISII	11	6	916	● 320	1506	" 270 "	
		8	KAKAMEGA I	9	9	675	● 210	1205	" 270 "	
		9	NYERI I	-	-	-	● 320	620	" 270 "	
		10	ELDORET I ●●●	13	13	4912	● 396	5668	" 360 "	
		A	Total			49474	3580	58977		
CONSTRUCTION PROGRAMME	1978-1982	1	MALINDI	8	6	600	● 210	970	Completed Jun 79	
		2	NYERI II	24	3	6750	-	7136	" Sep 81	
		3	● KARATINA	20	20	929	● -	1076	" Oct 81	
		4	● TALA	9	7	364	● 104	560	" Jan 82	
		5	● KABARNET	10	4	518	-	625	" Nov 81	
		6	● SIAYA	10	5	807	● 250	1231	" Feb 82	
		7	VOI	10	7	800	● 260	1213	" Mar 81	
		8	ELDORET II ●●●	12	5	3450	● -	3450	Ph I-II = 9118m ² ●●	
		9	HOMA BAY	11	11	1026	● 297	1460	Completed 83	
		10	MERU	11	8	1100	● 250	1490	Completed Jan 81	
		11	BUNGOMA	5	4	300	-	385	" Aug 82	
		B	total			16644	1371	19596		
Notes		<ul style="list-style-type: none"> ● Projects designed at KIE ●● Total area of estates shown includes office blocks, canteens, external toilet blocks and workshops 								

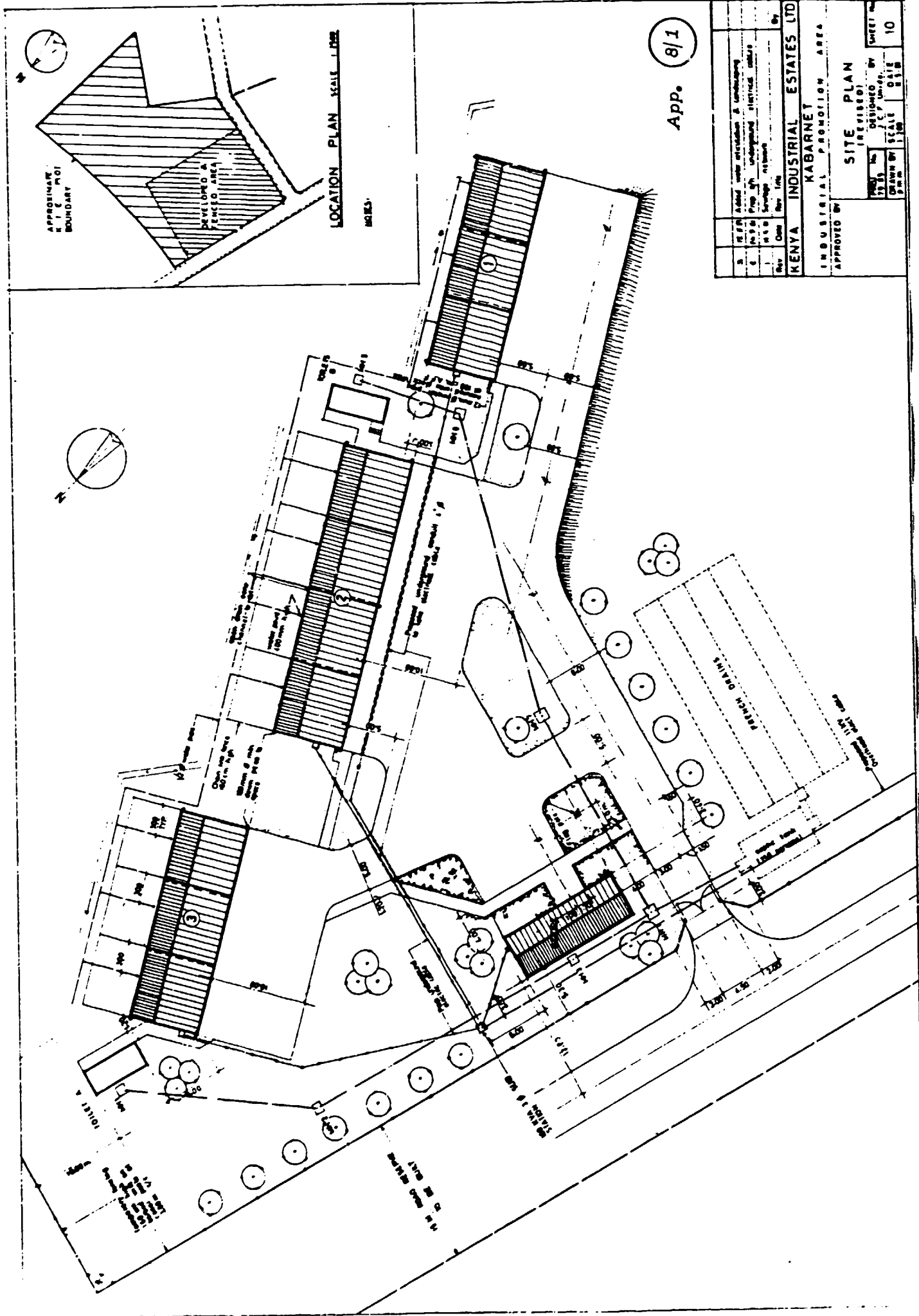
(from 8/1 thro' 8/8).

DESIGN WORKS AS BUILT.

		<u>Tot. Flr. area (m²)*</u>
8.1	Kabarnet	625
8.2	Siaya	1230
8.3	Kericho.	875
8.4	Tala	525
8.5	Karatina	1170
8.6	Workshop Type C.	150 **
8.7	Regional Office at Siaya	120
8.8	Common Facility Workshop (TSC).. .. .	200

Notes: (*) The total area is inclusive of workshops, office block etc. See detailed breakdown in Appendix 7.

(**) The typical module C is based on 3 units Type A (50m² each) or one Workshop Type A and one Workshop Type B (100m²) depending on the combination required.

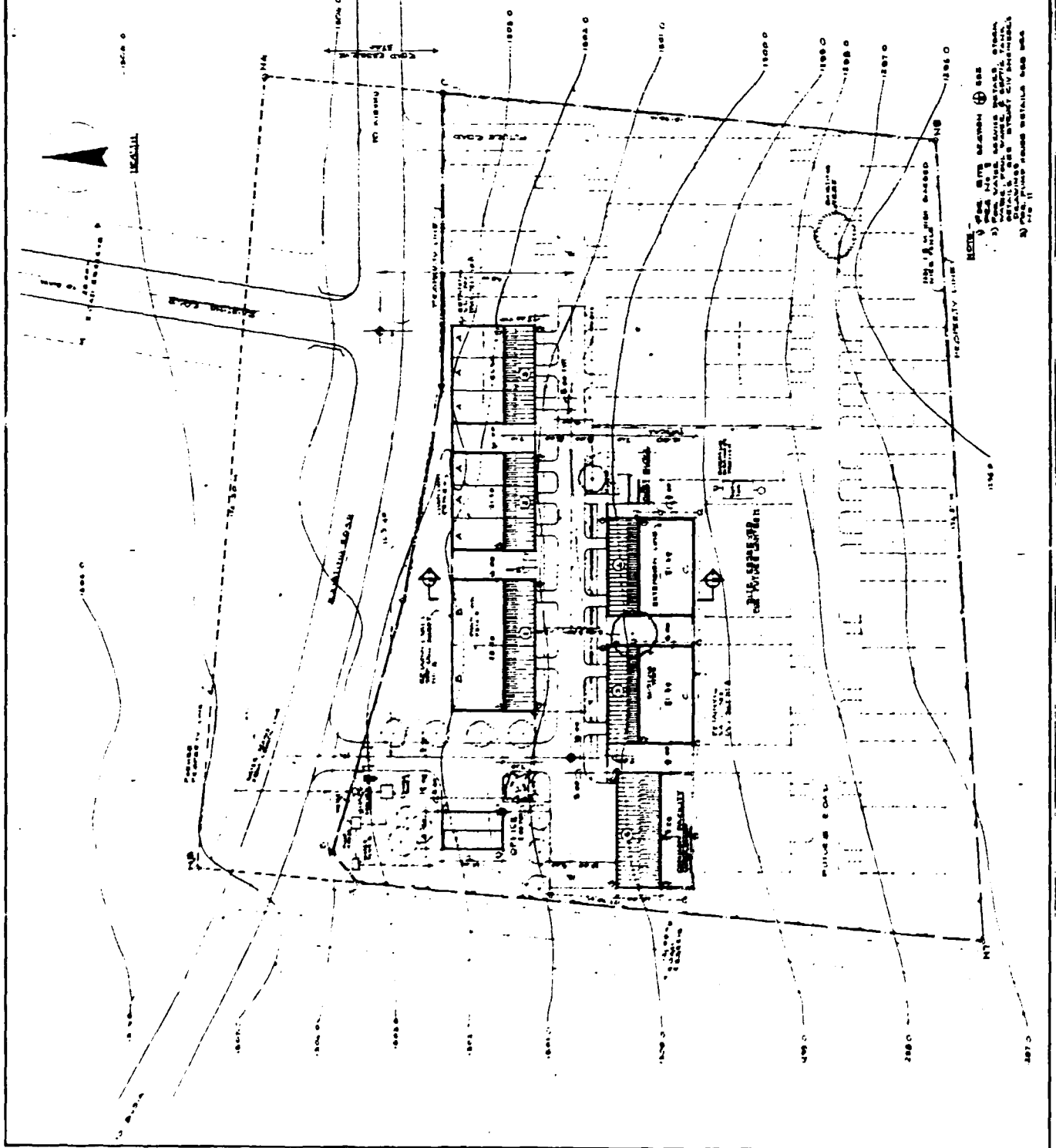
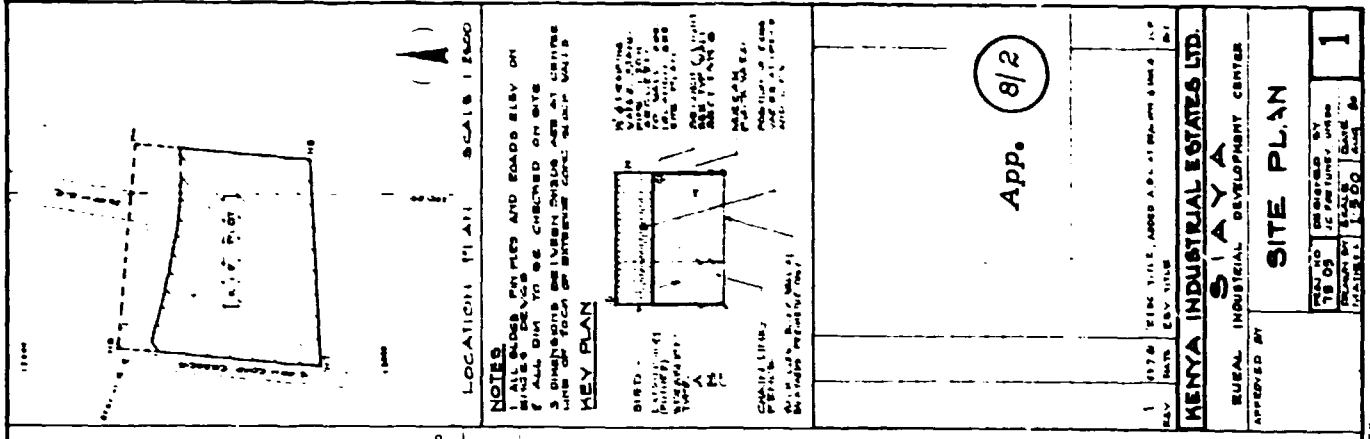


App. 8/1

1	Address	Industrial Estate, Nairobi
2	Client	Kenya Industrial Estates Ltd
3	Prop. No.	10
4	Scale	1:1000
5	Date	1/1/68
6	Drawn by	J.M.S.
7	Checked by	J.M.S.
8	Approved by	J.M.S.
9	Project No.	10
10	Sheet No.	10

KENYA INDUSTRIAL ESTATES LTD
KABARNET
 INDUSTRIAL PROMOTION AREA
 APPROVED BY

SITE PLAN
 PREPARED BY
 DESIGNED BY
 DRAWN BY
 SCALE
 DATE



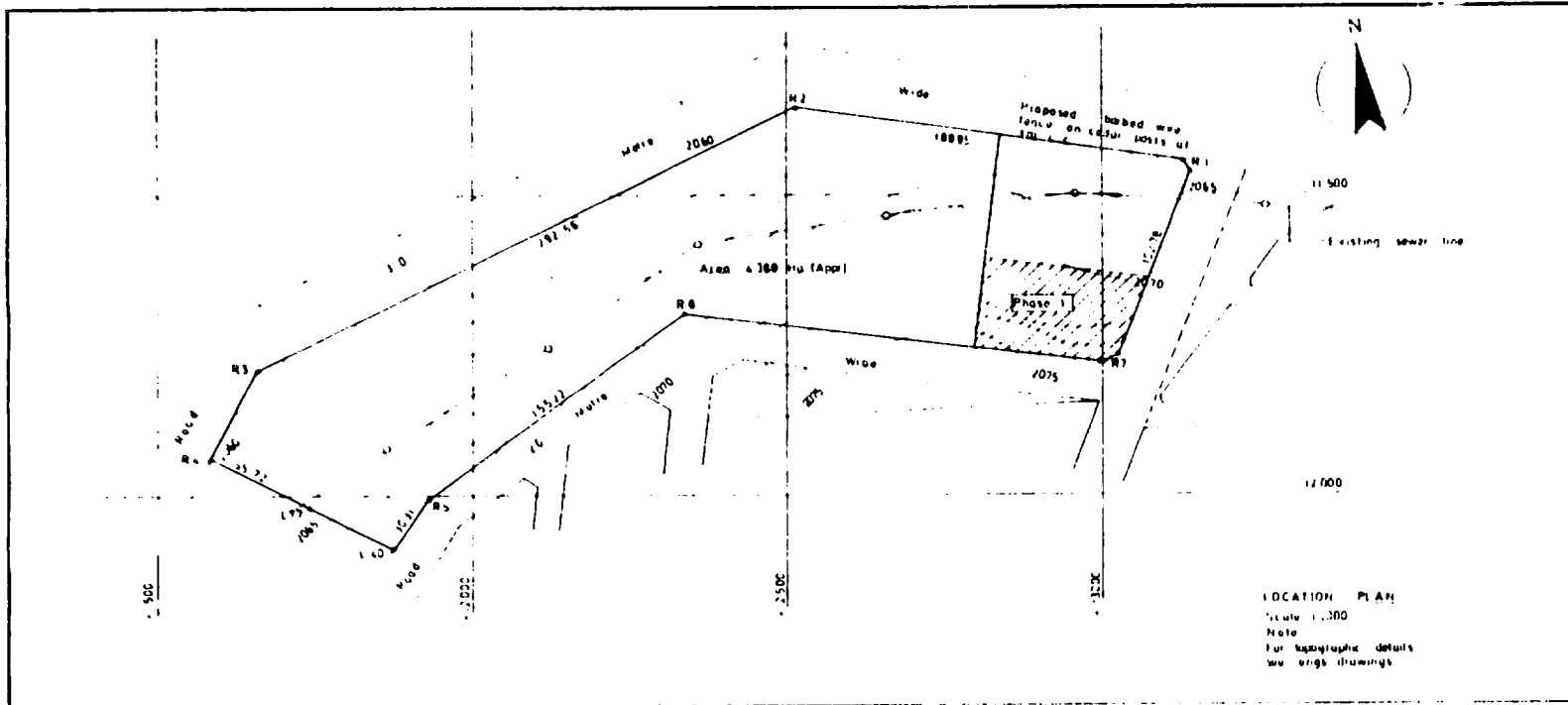
App. 8/2

MENYA INDUSTRIAL STATES LTD.
 RURAL INDUSTRIAL DEVELOPMENT CENTER

APPROVED BY

DATE

DATE	DESIGNED BY	SCALE	SHEET NO.
18/11/50	J. J. J. J.	1:2000	1

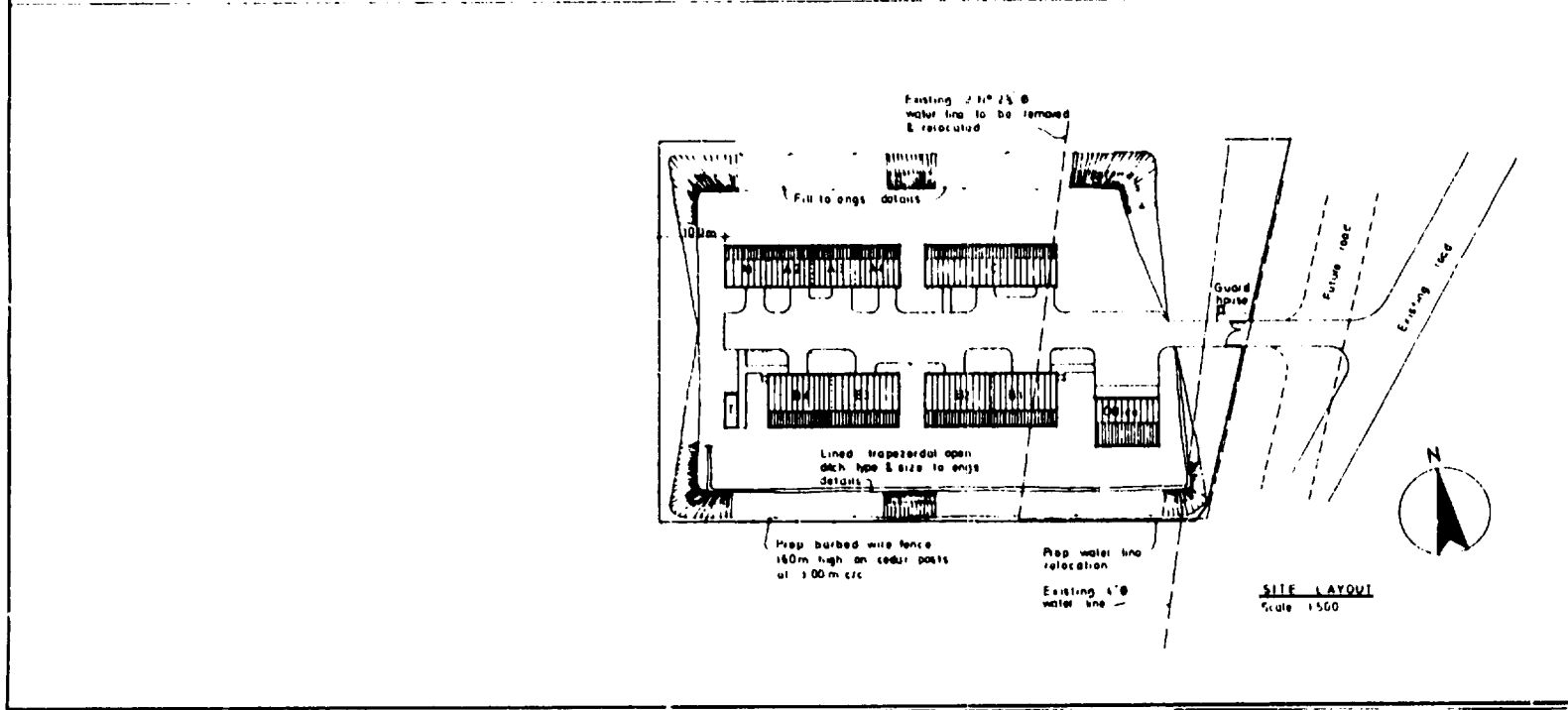


LIST OF ARCHITECTURAL DRAWINGS

TITLE	DRAWING SHEET NO
Cover sheet	
Location plan	1
Site plan	2
Workshop type A	3
Workshop type B	4
Workshop type C	5
Office block (Plant)	6
Office block (Sec & Mechanical)	7
Site cross section, gate house & east tower	8
Roof elevations workshops only	9
Wall sections	10
Floor schedule	11
Window schedule	12
Miscellaneous details	13
Miscellaneous details	14

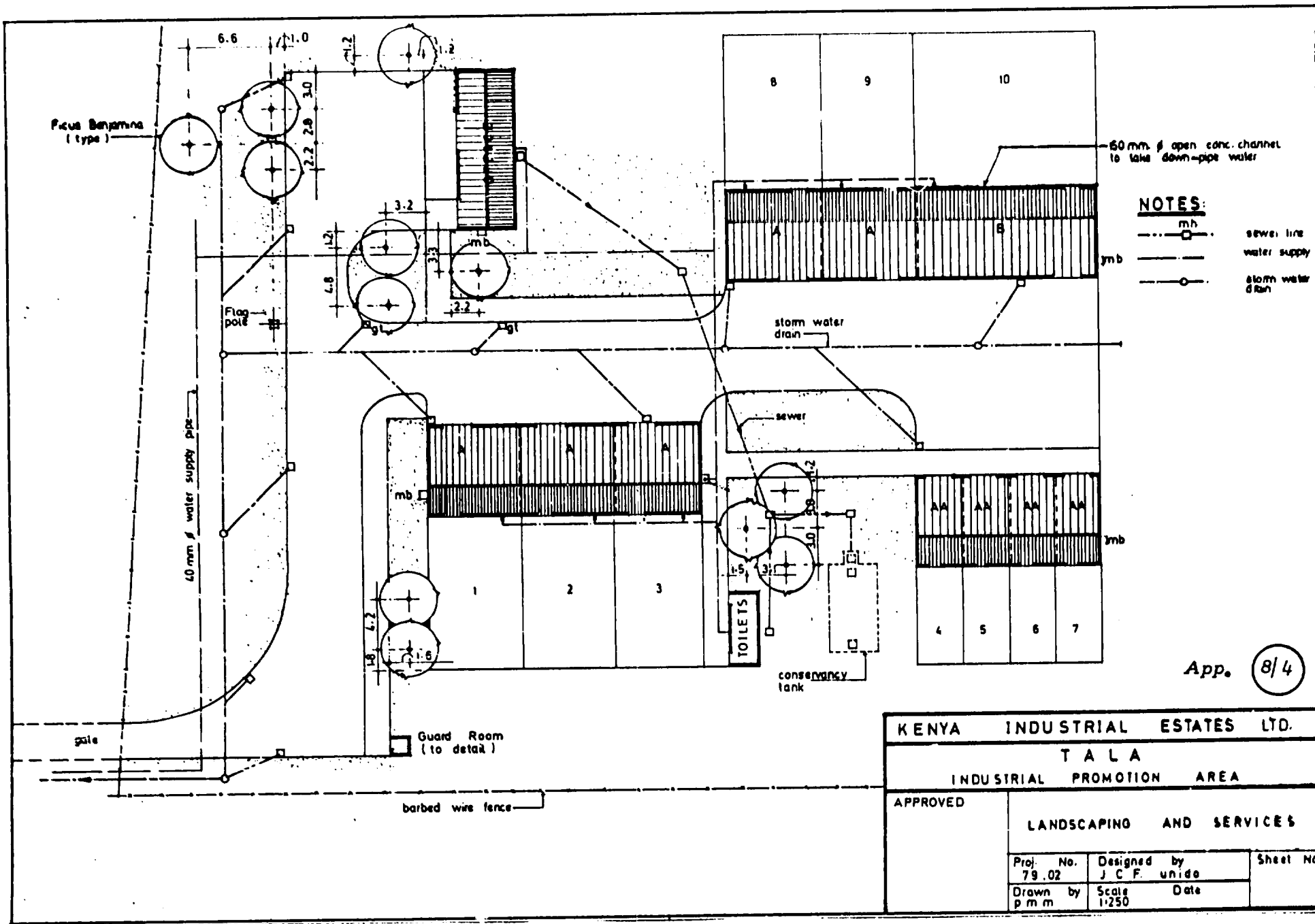
APPROXIMATE AREA OF BUILDINGS (sq meters)

Workshop type A	380
Workshop type B	400
Workshop type C	157
Office block	97
External toilets	14
Total	874 m²



App. (8/3)

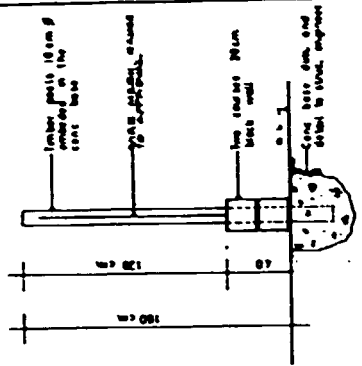
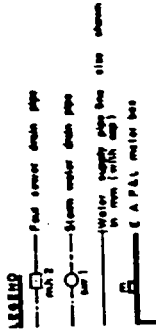
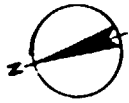
No.	Date	Rev.	Title	By
KENYA INDUSTRIAL ESTATES LTD				
KERICHO				
RURAL INDUSTRIAL DEVELOPMENT CENTER				
Approved by				
LOCATION AND SITE PLANS				
Proj. No	3811	Designed by	J.C.P.	Sheet No
Drawn by	SA	Scale	1:500	1
CHK	AA	Date	19/11/77	



- NOTES:**
- sewer line
 - water supply
 - storm water drain

App. (8/4)

KENYA INDUSTRIAL ESTATES LTD.			
T A L A			
INDUSTRIAL PROMOTION AREA			
APPROVED	LANDSCAPING AND SERVICES		
	Proj. No. 79.02	Designed by J C F. unido	Sheet No
	Drawn by p m m	Scale 1:250	



8/5

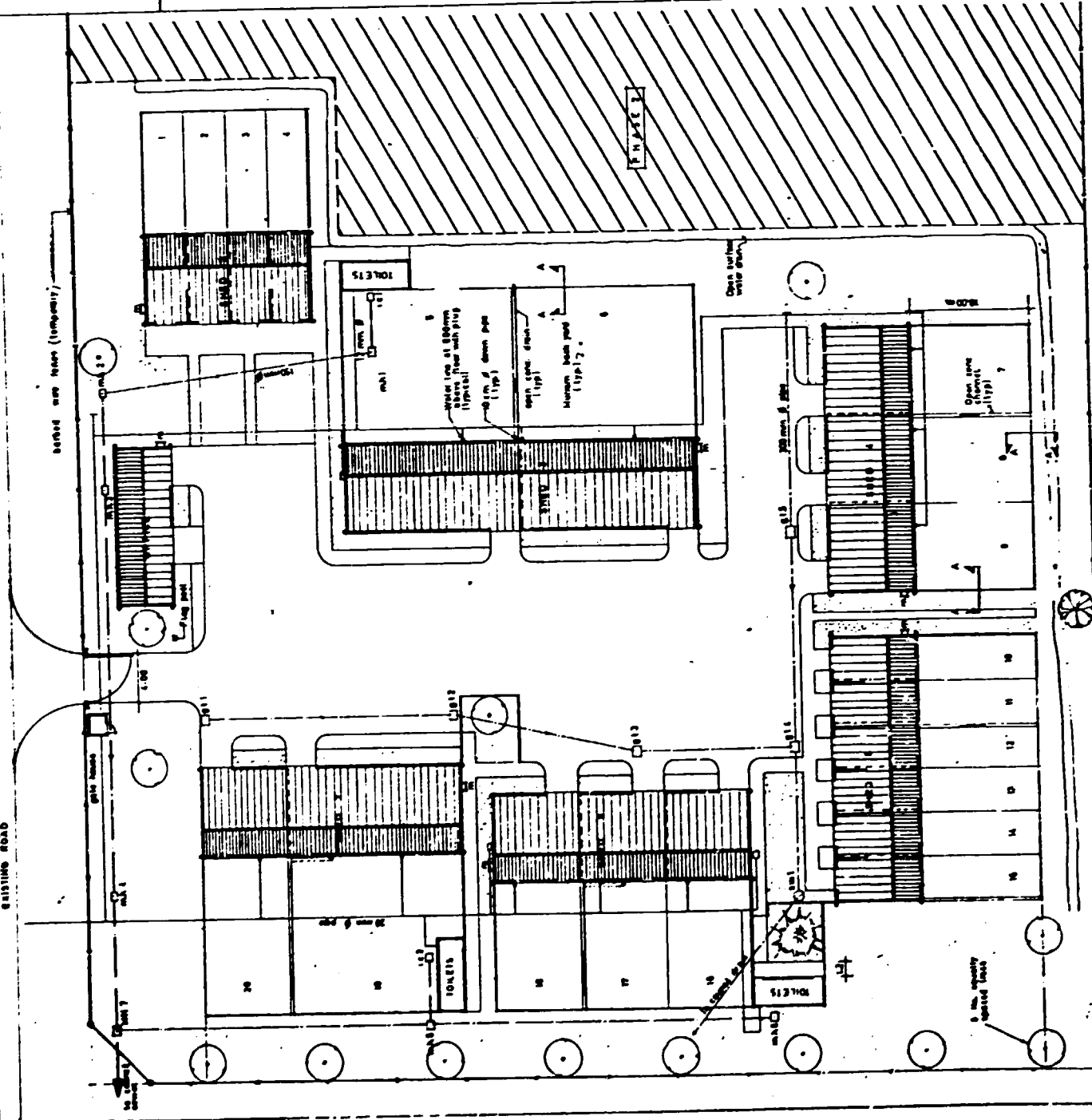
App.

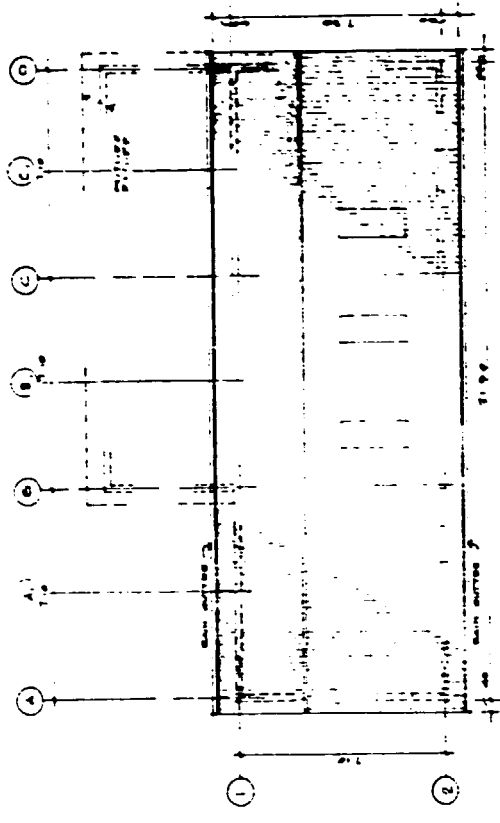
NO.	DATE	REV.	BY

MENYA INDUSTRIAL ESTATES LTD.
KARATINA
INDUSTRIAL PROMOTION AREA
LANDSCAPING AND SERVICES

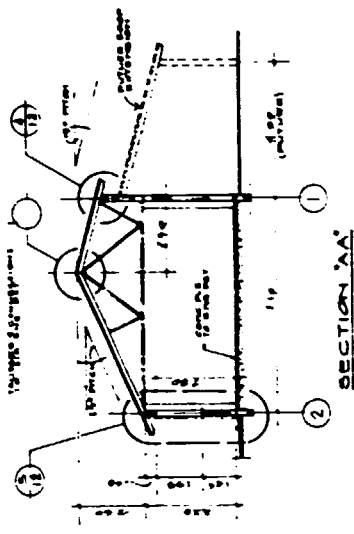
DESIGNED BY: J.C.M.
DRAWN BY: J.C.M.
SCALE: AS SHOWN
P.N.N. 1:500

DATE: 13 OCT 1961

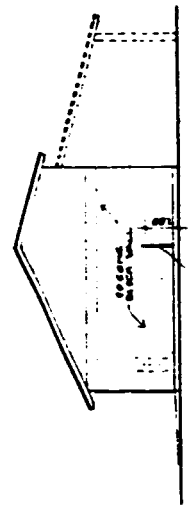




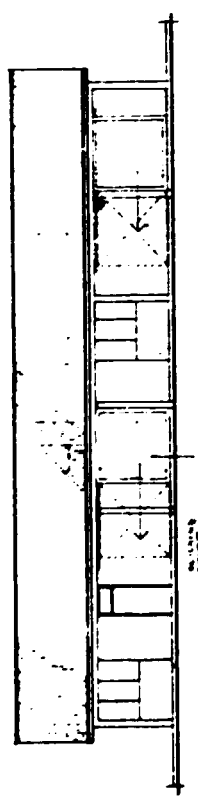
ROOF PLAN
 SHOWING
 TRUSS SYSTEM
 AND
 WALL SIZES



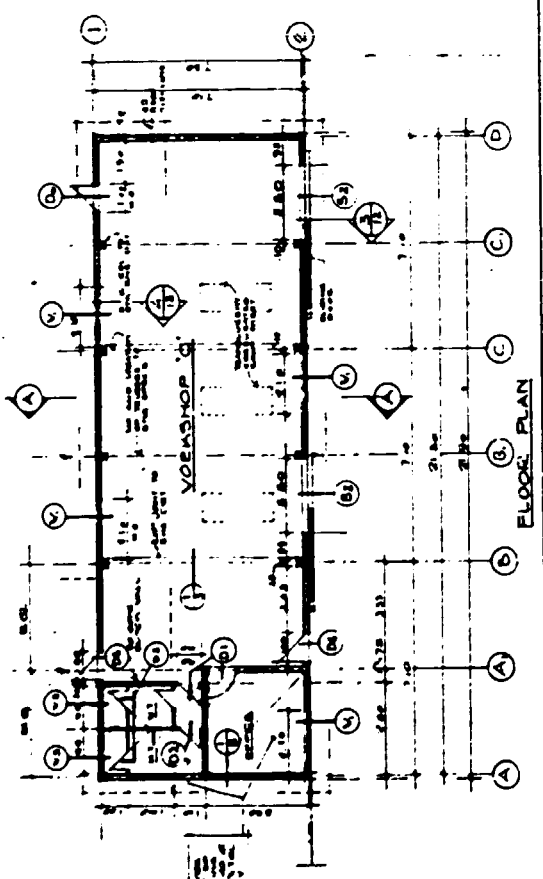
SECTION AA
 TRUSS SYSTEM
 ROOF RISE
 ROOF SLOPE



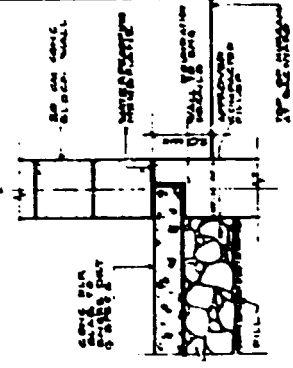
SIDE ELEVATION
 SHOWING
 ROOF PROFILE
 AND
 WALL HEIGHT



FRONT ELEVATION
 SHOWING
 DOOR AND
 WINDOW

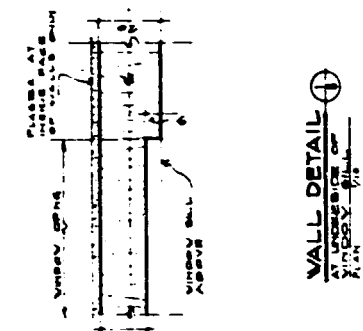
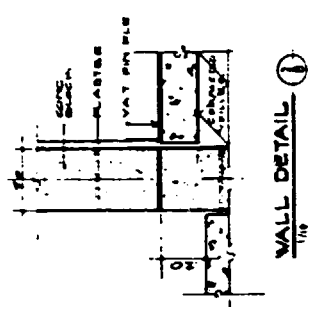
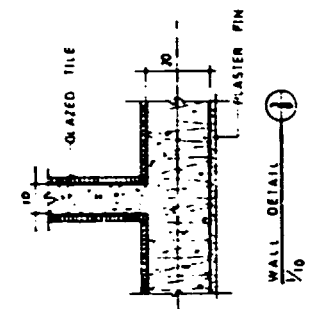
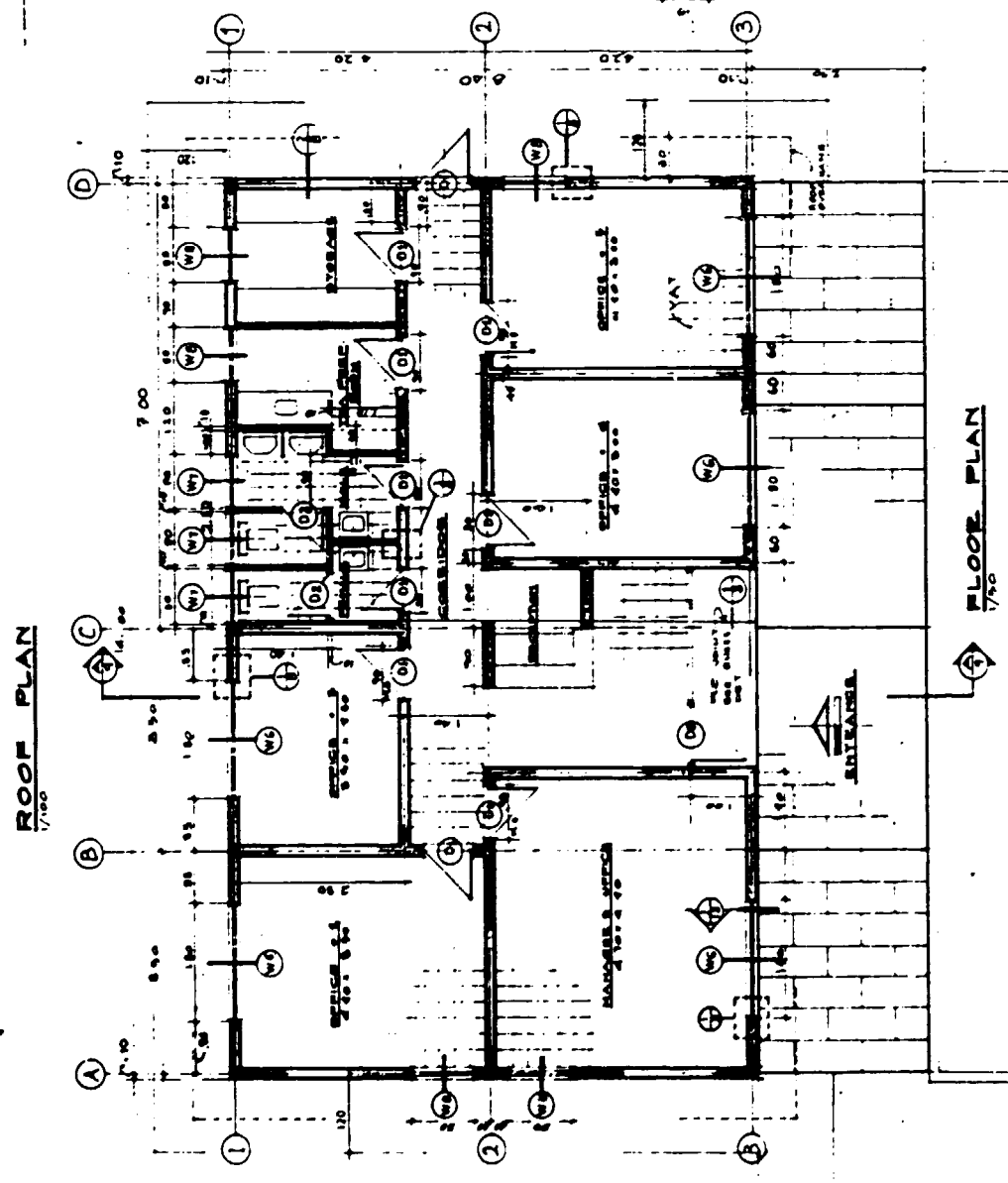
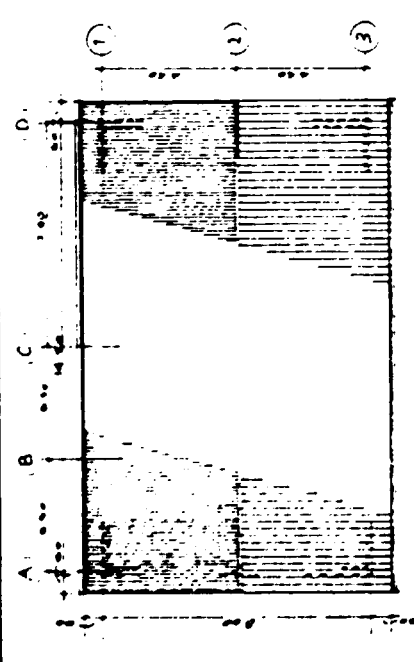


FLOOR PLAN
 SHOWING
 INTERNAL
 LAYOUT
 AND
 DIMENSIONS

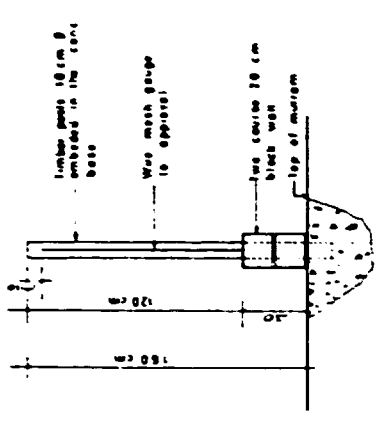
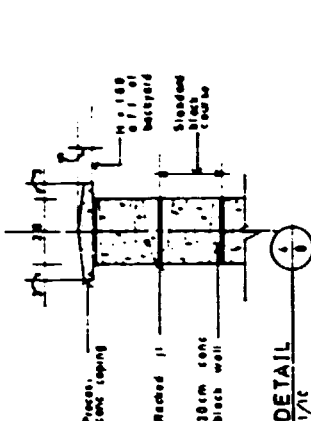


WALL DETAIL
 BRICK WALL
 CONCRETE
 INSULATION

APP. 8/6	
KENYA INDUSTRIAL ESTATES LTD.	
RURAL INDUSTRIAL DEVELOPMENT CENTER	
TYPICAL WORKSHOP TYPE 'C'	
DATE	1/1960
SCALE	1/4" = 1'-0"
NO.	5



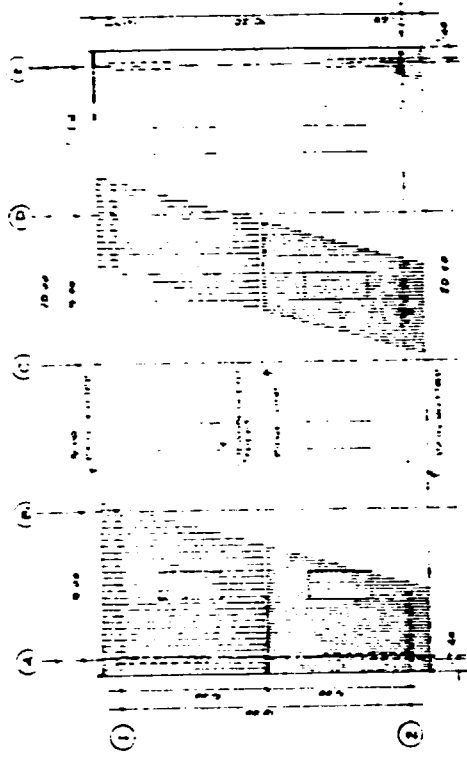
- NOTES**
- 1 ONLY INTERNAL FACE OF PERIMETER WALL TO BE PLASTERED
 - 2 GLAZED TILE AT TOILETS TO BE 120 CM HIGH OVER FIN FLOOR LEVEL
 - 3 ALL SECURITY BARS TO BE MOUNTED AT INSIDE FACE OF WALLS



DETAIL 3
1/10

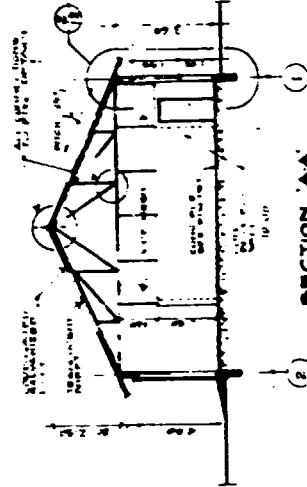
App. 8/7

DESIGNED BY	REVISED BY	BY
KENYA INDUSTRIAL ESTATES LTD.		
RURAL INDUSTRIAL DEVELOPMENT CENTER		
S I A Y A		
OFFICE BLOCK		
REGISTERED BY	REGISTERED NO.	DATE
15.81.111	UR/100	
SCALE	DATE	
1:50		8
APP. BY	DATE	
UCP	10.10.1960	

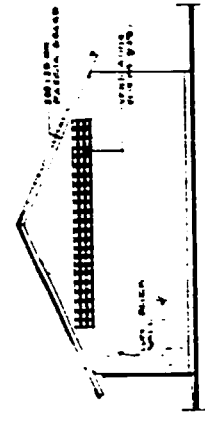


FRONT ELEVATION

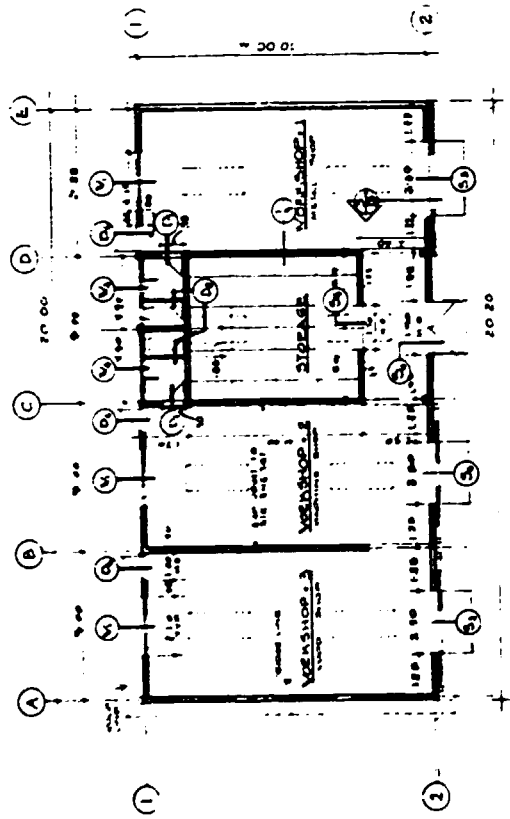
ROOF PLAN



SECTION AA
NOTE: ALL DIMENSIONS SHOWN ARE TO BE TAKEN TO THE CENTRE OF THE MEMBER UNLESS OTHERWISE SPECIFIED.



SIDE ELEVATION



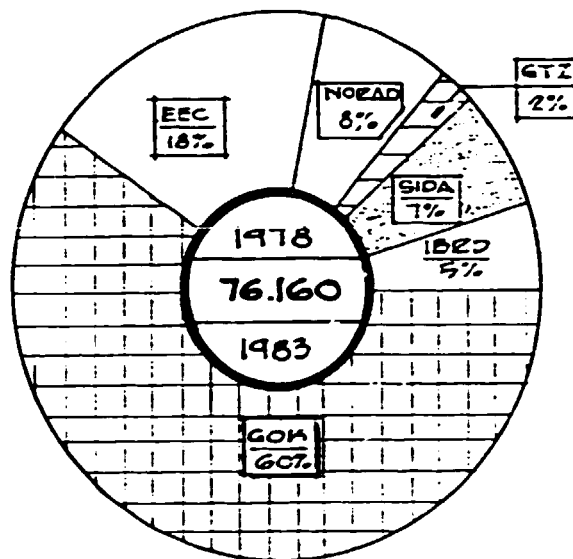
FLOOR PLAN

App. 8/8

KENYA INDUSTRIAL ESTATES LTD.		COMMON FACILITY WORKSHOP	
RURAL INDUSTRIAL DEVELOPMENT CENTER		KERICHO	
DESIGNED BY	DATE	APPROVED BY	DATE
BY	19 11 66	BY	11 11 66
PROJECT NO.	11100	PROJECT NO.	11100
NO. OF SHEETS	7	NO. OF SHEETS	7

GENERAL CONSTRUCTION SPECIFICATIONS.WORKSHOPS:

- FLOOR. 10cm thick concrete with one layer of wire mesh reinforcement.
Above concrete slab on approved compacted filler 30cm thick minimum.
- WALL. All walls with 20 x 20 x 40 cm concrete block.
Partitions between workshops : 26 ga GCI on timber frame.
External partitions could also be of galvanized sheet metal profile depending on climatic conditions in the area.
- CONCRETE. Beams and columns: 1.2.4. with steel reinforcement as per engineering details.
- CEILING. Exposed steel or wood structure. Celotex ceiling at office and toilet areas only.
- ROOF. Corrugated galvanized iron sheets 26 gauge.
Asbestos roofing recommended in coastal regions.
- OPENINGS. Double pivoted wooden doors at front entrance of sheds. Single pivoted door at back walls. Steel doors preferable but more costly.
Louvred glass windows with security bars or louvered concrete blocks at front elevation as required.
- FINISHES. Cement screed at workshops and office. Terrazzo floor at toilets.
Plastered inside face of walls at office only, if any.
Toilets to have glazed tile partitions at 120cm above finish floor.
Both exterior and interior workshop walls not to be plastered.
Horizontal joints to be raked and vertical joints to be flush.
All wooden trusses to be treated wood.
Steel trusses to receive anti-rust prime coat before final painting coats.
Galvanized roof to be painted.
All doors and windows painted according to specifications.
- FENCING. Barbed wire mounted on timber posts.
- ELECTRICAL. 3-phase at all workshops. Single phase at office and/or where required for illumination or other uses.
- LANDSCAPING. Recommended generally to enhance the general outlook of the estate. A pleasant environment has a positive bearing on efficiency and output.
- DRAINAGE. Open rain water trenches usually more economical.
Estate roads and foundations of buildings to be kept dry by providing adequate drainage.

FUNDS FOR CONSTRUCTION WORKS.

<u>DONORS</u>	<u>KShs x 000</u>
EEC	13,660
NORAD	6,000
GTZ	1,600
SIDA*	5,460
JBRD	4,160
<u>Sub-Total:</u>	<u>30,880</u>
GOK	45,280
<u>TOTAL:</u>	<u>76,160(**)</u>

Remarks.

- (*) Contributions from SIDA and JICA for projects other than industrial estates are as follows :-
 SIDA : Housing units (Nyanza Province) KSh.4,600,000
 JICA : Forging Plant at Nyeri. KSh.2,126,000
- (**) It should be noted that the total amount shown was not entirely disbursed by KIE during this reporting period. Follow-up of many other projects has taken place during Phase 1 as shown on Work Programme in Appendix 11.
- (***) A detailed survey regarding both origin of funds and construction costs was carried out during Phase 2 as part of a "Graphic Summary of KIE Operations" covering the period from inception until 1983. Above chart is part of the summary referred to.

WORK PROGRAMME AND CONSTRUCTION SCHEDULE

(SUBJECT TO REVISION)

App. (11)

LEGEND :

- CONST. TIME
- DELAYS
- TENDRE OF'NGS

PROJECT	TYPE	COVD AREA M ²	NO. WORKS No.	TENDR DATE	WORKS START TO	1983												1984												REMARKS :		
						1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12			
1	NUNGUNI	IFA	483	10	AUG.82	OCT.82	[CONST. TIME BAR]																								SPONSORED BY E.E.C.	DO VMS. CONTACT TIME PLUS 16 VMS. DELAY. PROJ. COMPLETED SEP. 1983.
2	TAVETA	"	445	6	"	NOV.82	[CONST. TIME BAR]																									PRACTICAL COMPL. NOV. 1983
3	KIBVEZI	"	617	10	DEC.82	MAR.83	[CONST. TIME BAR]																									ON-GOING CONST. SITE WORKS
4	KITUI	EIOC	643	6	DEC.82	MAR.83	[CONST. TIME BAR]																									SITE WORKS TO BE COMPLETED FEB. 1984.
5	S. HAMUD	IFA	471	10	MAR.81	JUL.81	[CONST. TIME BAR]																									WORKS COMPLETED NOV. 1983.
A. TOT. AREA :		2709																														
6	MVEA FIBRO FACTORY	FABRIQUES	457	-	-	MAY 82	[CONST. TIME BAR]																								NO PROGRESS	
7	MACHINERY ROOFING TILES		685	-	-	OCT.82	[CONST. TIME BAR]																								PROJ. COMPLETED NOV. 83 MACHINES BEING INSTALLED	
8	MITALS TANNERY		600	-	-	JUL.82	[CONST. TIME BAR]																								do.	
B. TOT. AREA :		1660																														
9	KEICHIO	EIOC	874	9	SEP. 80	-													[ESTIMATED CONST. TIME BAR]												CONST. WORKS SHOULD START IN 1984 PENDING HIS DECISION.	
10	KEEOKA	IFA	880	8	-	-													[ESTIMATED CONST. TIME BAR]												PROJ. SIMILAR IN DESIGN TO THAT OF BUSIA. DDQs TO BE FINALIZED.	
11	BUSIA	"	492	7	SEP. 80	-													[ESTIMATED CONST. TIME BAR]												SAME AS FIBRO KEICHIO	
12	NYEEI FOUNDRY	FAC.	160	-	MAY 83	JUN. 83	[CONST. TIME BAR]																								PROJ. SPONSORED BY JICA FINALIZED IN OCT. 83	
C. TOT. AREA :		2816																														
TOTAL NO. COVD. AREA		7185																														
				BOTH DR. DEAPTSMEN REIGNED.																										REV. 30 CHART DEC. 1983.		

EQUIPMENT PROVIDED BY UNIDO.

(Vehicles only).

<u>Description.</u>	<u>Remarks.</u>
- Peugeot 504 Saloon. Reg.No. 40 UN 424K.	Delivered to the Eldoret team in 1979. Purchasing Cost : U.S.D. 8,250.
- Suzuki 4WD / LJ80. Reg.No. 40 UN 463K.	Delivered to project at end of April 1981 and handed over to UNDP upon departure of Financial Advisor in December 1982. Car is on loan to KEN/82/004 IBRD Project. Purchasing Cost : U.S.D. 7,302.
- Peugeot 305 Saloon. Reg.No. 40 UN 489K.	Delivered at end of November 1981. Purchasing cost : U.S.D. 7,260.
- Peugeot 504 s/w. Reg.No. 40 UN 191K.	Delivered to project from ILO in October 1980 at km reading 99,000. Vehicle in poor condition, frequently taken to workshop, 1975 model, handed back to UNDP in July 1981 and subsequently transferred to ILO/SIDA/KEN79/01 Project. Purchasing cost : U.S.D. 9,549.

