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UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANISATION

**A FEASIBILITY STUDY OF PLANNING, ESTABLISHMENT
AND OPERATION OF AN INDUSTRIAL FREE ZONE
IN MONROVIA, LIBERIA.**

VOLUME I

DRAFT FINAL REPORT

FEBRUARY 1975

Sir Alexander Gibb & Partners
Standard House,
London Street,
Reading, England

FS 384 A

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANISATION

A FEASIBILITY STUDY OF PLANNING, ESTABLISHMENT
AND OPERATION OF AN INDUSTRIAL FREE ZONE
IN MONROVIA, LIBERIA.

S/F FREE ZONE
C/F LIBERIA

pp. 133
+ App.

VOLUME I

DRAFT FINAL REPORT

FEBRUARY 1975

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Standard House,
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Reading, England

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February, 1975

Dear Sirs,

UNIDO CONTRACT NO. 74/33
INDUSTRIAL FREE ZONE IN MONROVIA

We have pleasure in submitting our Draft Final Report for a Feasibility Study of Planning, Establishment and Operation of an Industrial Free Zone (IFZ) in Monrovia, Liberia.

The work carried out takes account, as required by the contract, of Engineering Aspects, Economic Aspects and the Overall Plan for the Implementation of the Project. The main attention has been focussed on site identification, the related infrastructure requirements, the plan for the layout and organisation of the IFZ, and the selection of suitable industries. We would strongly recommend the carrying out of feasibility studies on an industry by industry basis as a second stage of the project.

The Report consists of two volumes. Volume One contains the results of the investigation set out in ten chapters preceded by a summary, together with seven appendices. Volume Two contains a description of the operation of IFZs in three developing countries, Singapore, the Philippines and Taiwan, provided by the local offices of Coopers & Lybrand Ltd. In addition there is a summary of information obtained during discussions at the Shannon Free Airport Development Company with the Managers of Planning and Research and other Divisions.

The team responsible for executing this work was drawn from our own staff and that of Coopers & Lybrand Ltd.

We should like to acknowledge the very valuable assistance received from Dr. L.E. Lukacs your Senior Industrial Adviser in Liberia, Mr. Arvind Bam the Resident Representative of UNDP in Monrovia, and from officials of the Ministries and Organisations listed in Appendix B. Their help was much appreciated by our team.

Yours faithfully,
For SIR ALEXANDER GIBB & PARTNERS

A handwritten signature in cursive script, appearing to read "W. C. Green", with a horizontal line underneath.

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Drawing Number 7482/1 - Proposed Site Layout - is contained in a pocket at the end of this Volume.

REPORT SUMMARY

Chapter 1 - Introduction

The terms of reference and method of study are outlined. The definition and advantages of an Industrial Free Zone (IFZ) are stated, although the term implies the use of imported raw materials it is proposed to incorporate an element of local raw material usage into the Liberian IFZ.

The terms of reference limit the study to the Monrovia Free Port Area but alternative locations have been given some consideration.

Chapter 2 - Economic Background

The land area of Liberia is 43,000 square miles, with a population of 1.5 million having a literacy rate of 25 percent. The GDP in 1973 was \$422.3 million, an increase of 26.5 percent over 1970, the share of manufacturing industry in GDP has not increased significantly. The balance of trade in 1973 at \$130.5 million was favourable, but this will probably be reduced in 1974. The major trading partners are Western Europe (particularly the EEC) and U.S.A.

The Liberian Government has an enthusiastic attitude towards industrialisation which the investment code is already designed to encourage and to attract foreign investment. An important element is the financial freedom due to the use of the U.S. dollar as currency.

Only in Monrovia is there any significant pool of industrial labour. Educational levels are low and there is a lack of qualified technical and skilled labour, however these difficulties exist in many comparable countries, and can be overcome by training programmes, which should be an important feature of the project.

Liberia is very advantageously placed geographically for trade with North America, Western Europe and the west coast of Africa.

Chapter 3 - Choice of Site

Consideration has been given to four possible locations, namely the Port of Buchanan, Roberts International Airport (RIA), the Monrovia Industrial Park, and the Free Port of Monrovia. The Free Port is judged

to be the most suitable, but parallel development at RIA, either concurrently or later, could be advantageous.

The IFZ would create at least 5,000 jobs, but it is considered that Monrovia could supply adequate labour, and there should be no serious housing or transportation problems.

Both the Free Port of Monrovia and the RIA, if current improvement plans are implemented, should be capable of absorbing the additional traffic likely to be generated by the IFZ.

The North Beach site is the preferred location within the Free Port. An area of about 80 acres could be developed in two stages to accommodate about 70 industrial plots of 1 acre each. This scale of development is considered to be of the right order for an IFZ in Liberia. Subsequent enlargement by reclamation in the harbour area would be possible.

The selected site is fortunately placed with regard to the provision of the necessary infrastructure, particularly for water supply, power supply and sewage disposal. Telecommunications are not good at the moment, but improvements are planned. Part of the site would need to be raised in level to provide drainage falls.

Chapter 4 - Site Development and Costs

The site is generally flat with few topographical features. Available surveys and site investigations, while adequate for a feasibility study, would require to be supplemented for the design stage.

Four alternatives have been considered for access between the general cargo wharf and the IFZ; a route using an improved existing road through the iron-ore concessionaires working areas is preferred initially.

The proposed site layout is shown on Drawing No. 7482/1 (enclosed in a pocket at the end of this Volume). Development is proposed in two stages. Stage 1 comprising 42 one-acre plots would avoid using the existing Port Authority housing area, which is within the total area envisaged for the IFZ, and Stage 2 comprising 29 one-acre plots would involve removing these houses.

The infrastructure is described in detail, including the administration and services area, and the factory layout. It is proposed that the IFZ Authority would co-ordinate the provision of lorry transport, but not supply its own vehicles.

Estimates are made of the capital cost of infrastructure, amounting to a total of approximately \$6.0 million (\$3.8 million in Stage 1 and \$2.2 million in Stage 2). In order to attract entrepreneurs the provision of standard factories, which would be let or sold to prospective clients, is considered essential. Investment in standard factories at the rate of \$2.0 million per year is therefore proposed. Operating costs are estimated at \$31,000 in Year 1, increasing to \$350,000 in Year 4 onwards.

A construction programme for infrastructure is developed with construction starting in January 1977.

Chapter 5 - Finance and Revenue

A phased expenditure stream is projected related to development of all 71 one-acre plots, together with 43 standard factories, it is assumed that the remaining 28 plots would be developed privately. Total capital expenditure of \$31.84 million would be spent over 15 years, comprising \$5.889 million for site establishment costs (infrastructure), \$0.151 million for unit establishment costs (commercial buildings) and \$25.8 million for unit establishment costs (standard factories)

Discounted cash flow analysis using a 10 percent discount rate has been used to determine economic rentals, amounting to \$40 per square metre of factory area per year for a standard factory plus \$8.5 per square metre of plot area per year for infrastructure. These figures are high and it is likely that some form of subsidy will be necessary to attract tenants.

Suggestions are made as to the means of financing the project - it would appear advisable for the Government to seek loans in this respect - and the benefits of the project are described. However the scope of the study has not made it possible to quantify these benefits.

Chapter 6 - Selection of Suitable Industries

Suitable industries are selected bearing in mind the criteria outlined in the terms of reference. Two types of industry have been considered:

- (i) those having relevance to other industries in Liberia,
- (ii) those having no specific local rationale.

An indicative list of preferred industries is shown in Table 6.6.

Chapter 7 - Incentive Legislation

The existing incentive code is generous, but has not been successful in attracting new investment to Liberia. The additional incentives required are considered to be

- (i) infrastructural advantages - in this respect the proposed site is particularly attractive,
- (ii) administrative simplicity - an independent government corporation will be required to ensure efficient operation,
- (iii) fiscal and financial - only relatively minor changes need to be made to the existing incentive code.

Chapter 8 - Customs Procedures

Although legislation was enacted in 1956 instituting Monrovia as a Free Port, in practice this has not been implemented and the customs authorities still retain great powers within the Port.

Neither the National Port Authority nor the customs authorities are satisfied with the present situation and it is recommended that from the administrative point of view the best solution would be to extend the Free Port concept to cover the whole port area including the IFZ site. Transport of goods between the general cargo wharf and the IFZ could then be undertaken without the involvement of customs, although free zone checking procedures would be necessary, and these are described.

Chapter 9 - Organization and Management

It is considered that an independent public corporation is the most effective structure for an IFZ Authority. A suggested organisation structure is proposed, under the direction of a general manager, three assistant managers would be responsible respectively for an administrative division, a planning and promotion division and a technical division.

The objectives, powers and responsibilities of the IFZ Authority must be laid down in an Act passed by the Government of Liberia an indication is given of the general clauses which would need to be covered by this Act.

Chapter 10 - Overall Development Programme

The first stage in the overall development programme would be the formation of an Industrial Free Zone Development Committee (IFZDC) whose principal task would be to draft the legislation required to establish and promote the IFZ Authority. The IFZDC's responsibilities would be transferred to the Authority when this has been established.

An initial budget allocation will be necessary from local resources, but international assistance and foreign investment will probably be required for implementation. The IFZDC could play a major role in securing such financial backing.

Following the creation of the Authority the appointment of a general manager, staff selection, training programmes and the drawing up of internal regulations and procedures could be put in hand. The implementation programme could then be initiated, together with the necessary promotional campaign, in depth studies of possible industries and labour recruitment and training, leading to the selection of the first tenants and operation of the IFZ.

A tentative time scale is suggested which envisages occupation of the first factory and effective commencement of IFZ operations by mid 1978.

CHAPTER 1

INTRODUCTION

1.1 Terms of Reference

The following documents refer to the tasks to be carried out by the Contractor, and the relevant sections are reproduced in Appendix A:

1. Contract No. 74/33 entered into between the United Nations Industrial Development Organisation (UNIDO) and Sir Alexander Gibb & Partners.
2. The terms of reference attached as Appendix 1 to the "Request for Proposal" issued by UNIDO dated 27th June 1974.
3. The proposal submitted by Sir Alexander Gibb & Partners dated August 1974.
4. The "Special Industries Services Project Data Sheet" produced jointly by UNIDO and the United Nations Development Programme (UNDP) which was presented to the field study team on arrival in Monrovia.

It should be noted that the Project Data Sheet indicates that industries identified for the Industrial Free Zone (IFZ) should be chosen so as to minimise harmful competition with existing export industries, and we have given this consideration due attention.

In addition to the requirements outlined in the Contract we have felt it of value to include some consideration of the following relevant issues:

- (a) As described in our Proposal dated 1st August 1974 we have carried out case studies of selected free zones in other parts of the world. The results of these studies are given in Volume 2 of this Report.
- (b) Possible alternative sites outside Monrovia.

- (c) Implications of the negotiations with the European Economic Community (EEC) and of the Mano River Union agreement between Liberia and Sierra Leone, which may well influence the types of industries which should be encouraged for the IFZ.

1.2 Method of Study

(a) Work in Project Area

The project area team, consisting of an industrial civil engineer and an industrial economist, visited Liberia from 28th October to 26th November 1974. During this period discussions were held with many Government and other organisations and visits were made to the Free Port, Roberts International Airport, The Industrial Estate and utility installations. At the end of the period a position paper was prepared at the request of the UNIDO Senior Industrial Adviser giving the preliminary views of the project area team.

(b) Visits to Neighbouring Countries

An economist visited Abidjan (Ivory Coast) and Dakar (Senegal) during the period 13th to 21st November 1974, having first spent a short time in Monrovia in order to familiarise himself with local conditions. Information was obtained regarding the progress made in setting up industrial free zones at these two locations. No other neighbouring countries appear to have any advanced plans for such a development at the present time.

(c) Study of Existing Zones

Information was obtained regarding the operation of existing industrial free zones or export processing zones in the following locations:

Kaohsiung Export Processing Zone, Taiwan

Bataan Export Processing Zone, Philippines

Jurong Industrial Estate, Singapore

In addition, the project area team had the benefit of discussions in Ireland during January 1975 with the Shannon Free Zone Development Company.

1.3 Definition of an Industrial Free Zone

The following definition of an IFZ is given in a UNIDO paper published in 1971 and entitled - 'Industrial Free Zones as Incentives to Promote Export Oriented Industries'.

'An IFZ generally permits the importation of the means of production and equipment, raw material requirements and components free of duty and without customs control, provided that these goods as well as the semi-manufactured or finished goods therefrom do not cross the border limit of the free zone into the customs territory. This action of waiving the otherwise collectable customs revenues and various tax revenues by the Government is done in consideration of the fact that the host country may secure merits and advantages in other visible and invisible forms through the Industrial Free Zone'.

Our investigations have proceeded along lines indicated by the above definition but an additional element should be added. We believe, and we are supported in this by both the Liberian Government and the UNIDO Senior Industrial Advisor in Monrovia, that efforts should be made to incorporate local raw materials into the processes carried out in the IFZ. Similarly some limited transfer of IFZ products to the Liberian market (and to Sierra Leone in accordance with the Mano River Union agreement) should be permissible. Clearly appropriate customs control would be applied at the IFZ gates where special advantages would cease, and the impact of IFZ competition on the local market would need to be carefully considered and appropriate safeguards introduced. Given that Liberian industrial development policy places considerable emphasis on the utilisation of local raw materials we feel that this objective should be considered in formulating IFZ policy. In Chapter 6, therefore, we have given particular attention to those industries which could use local materials.

We consider that the virtual isolation of the IFZ from the Liberian economy would not be the most effective means of promoting general industrial development, and indicate in Chapter 6 how the relationship between the IFZ and the remainder of the Liberian industrial economy could be mutually beneficial.

1.4 Advantages of an Industrial Free Zone

A number of papers have been published describing the possible advantages for a developing country in establishing an IFZ. These include the following examples:

- (i) Industrial Free Zone as Incentives to Promote Export-Oriental Industries. UNIDO 1971.
- (ii) Free Trade Zones. Andrew W. Weil. International Handbook of Management.
- (iii) Various reports on the zones in Taiwan, Philippines, Panama and Singapore, produced by the zone authorities, United Nations experts and the local offices of the Consultants.

Possible roles for an IFZ can be summarised thus.

- (a) It can play a role in the long term industrial development of a country by giving a particular impetus to manufacturing industry which is normally slow to develop in countries with limited population and low per capita income.
- (b) It can provide a substantial number of unskilled and semi-skilled jobs to employ an available pool of urban labour.
- (c) Exports can be fostered in order to increase foreign exchange earnings.
- (d) There can be educational advantages both in terms of labour skills and in the transfer of the techniques of modern industry.

- (e) Investment funds can be attracted from both overseas and domestic sources.
- (f) An effective development of the essential infrastructure for industry can take place. Once established an IFZ can be expected to play the role of a development pole, around which supporting industries will be established.

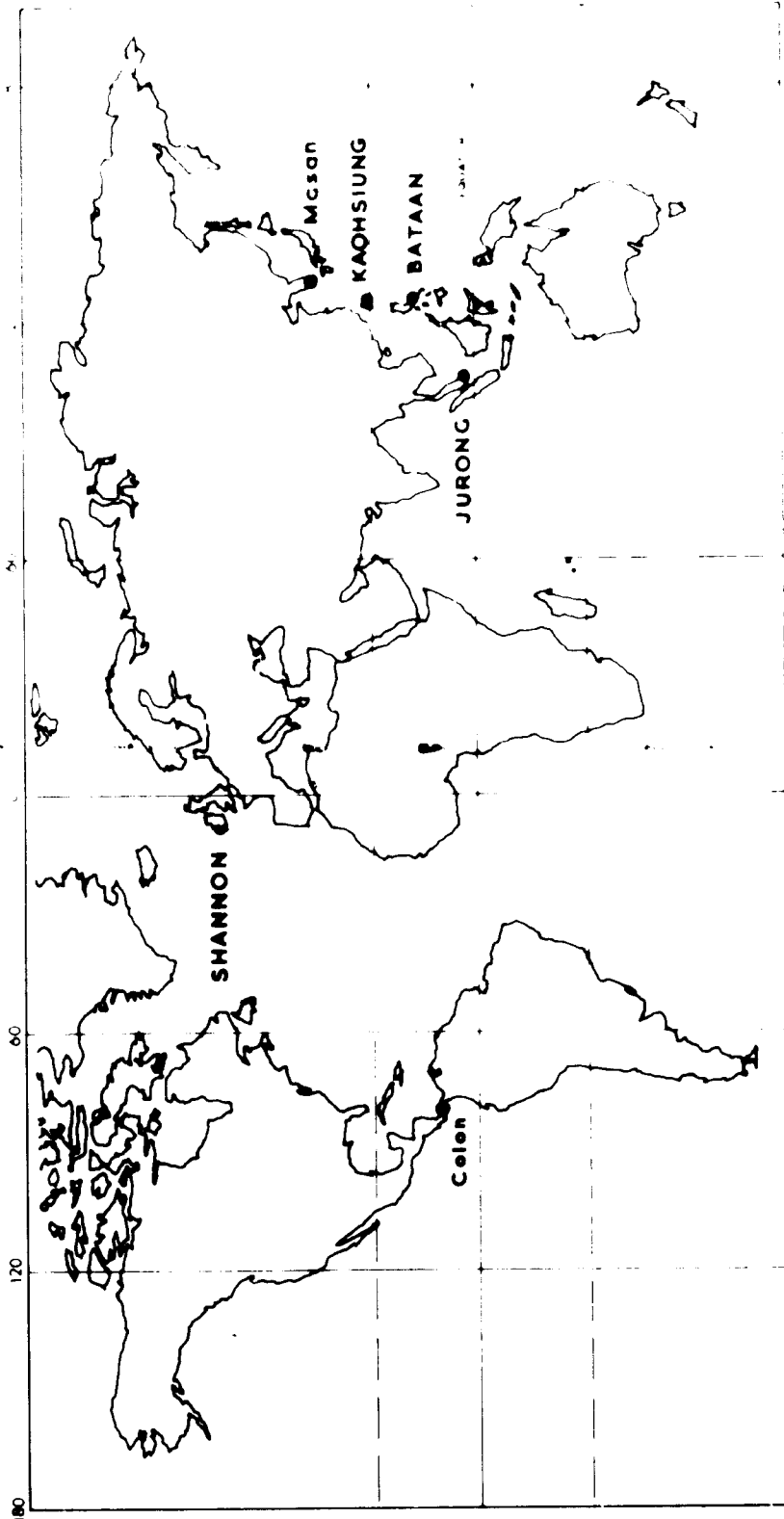
A considerable number of countries have accepted the arguments in favour of industrial free zones. Although these vary in detail they follow the same broad principles of operation. In Asia particularly the industrial free zone is now a well established means of assisting industrial development. Figure No. 1 shows the locations of some leading industrial free zones which have already been established and indicates those zones which have been given detailed study in the preparation of this Report.

In the case of Monrovia we feel that all the arguments quoted above in favour of establishing an IFZ are valid. In particular the availability of a large pool of local labour and the opportunity to carry through a purposeful programme of site development are especially important.

1.5 Previous Studies

The establishment of an IFZ in Liberia has been under consideration for several years, and received special impetus following the visit of a Taiwanese Technical Assistance Mission led by Mr. M.T. Wu in October 1973. Their report, entitled 'A Feasibility Study in the Establishment of an Export Processing Zone in the Republic of Liberia' made a number of recommendations and these are summarised below:

- (a) Liberia is a very suitable location for the establishment of an IFZ.
- (b) The IFZ should have an area of about 60 acres with at least 50 factories offering employment for up to 10,000 persons.
- (c) Legislation and a suitable administrative framework should be drawn up as soon as possible.



LOCATION OF MAJOR INDUSTRIAL FREE ZONES
(Zones named in capitals are the subject of case studies included in Volume 2 of this Report.)

FIGURE No. 1

(d) The most suitable location for the IFZ is the North Beach area of the Free Port of Monrovia.

The Taiwanese mission drew attention to the importance they attached to the availability and quality of local labour, but did not investigate this aspect in detail.

Essentially a positive verdict was given to the establishment of an IFZ in Monrovia. In the course of our study we have re-assessed the findings of the Taiwanese mission and followed up a number of the issues raised. In one key area, however, we have fully supported their view and believe that the North Beach site offers significant advantages over other possibilities both in Monrovia and elsewhere in Liberia.

The findings of the Taiwanese Mission were welcomed by the Ministry of Commerce, Industry and Transportation in its 1973 Annual Report. The Report stresses the complementary nature of the IFZ and Industrial Park projects and suggests that a Commission be established to develop the IFZ scheme up to its actual implementation. The objectives of the IFZ include overcoming the limitations imposed by the smallness of the local market and increasing trade with other African countries. The Report further states that plans are under way to earmark about sixty acres of land in the Free Port area for the establishment of an IFZ.

It should be noted, in this context, that the terms of reference limited our study to a consideration of the Free Port Area. We have, however, investigated the possible role of an IFZ at Roberts International Airport (RIA) and present our views on this in Chapter 3. We have also considered the Industrial Park as a possible site. We have not investigated the potential of the Port of Buchanan as an IFZ location but would tend to support the Taiwanese Mission in their view that, at this time at least, the IFZ project should be located in Monrovia itself.

CHAPTER 2

ECONOMIC BACKGROUND

2.1 Location and Population

Liberia is located on the west coast of the African continent and is bounded by Sierra Leone, the Republic of Guinea and the Ivory Coast (see Figure No. 2). The land area is 43,000 square miles, the coastline is 350 miles long and the country extends about 200 miles into the interior.

The location is very advantageous for trade with North America, Western Europe and the west coast of Africa. All major shipping routes between Europe and the Far East and Australia must pass close to its shores, and vessels trading along the West African coast normally call at Monrovia as one of the major ports of the area. Figure No. 3 illustrates Liberia's advantageous geographical location.

The present population of Liberia is estimated at 1.5 million and the literacy rate is about 25 percent. About 72 percent of the population are outside the monetary economy, relying on subsistence agriculture.

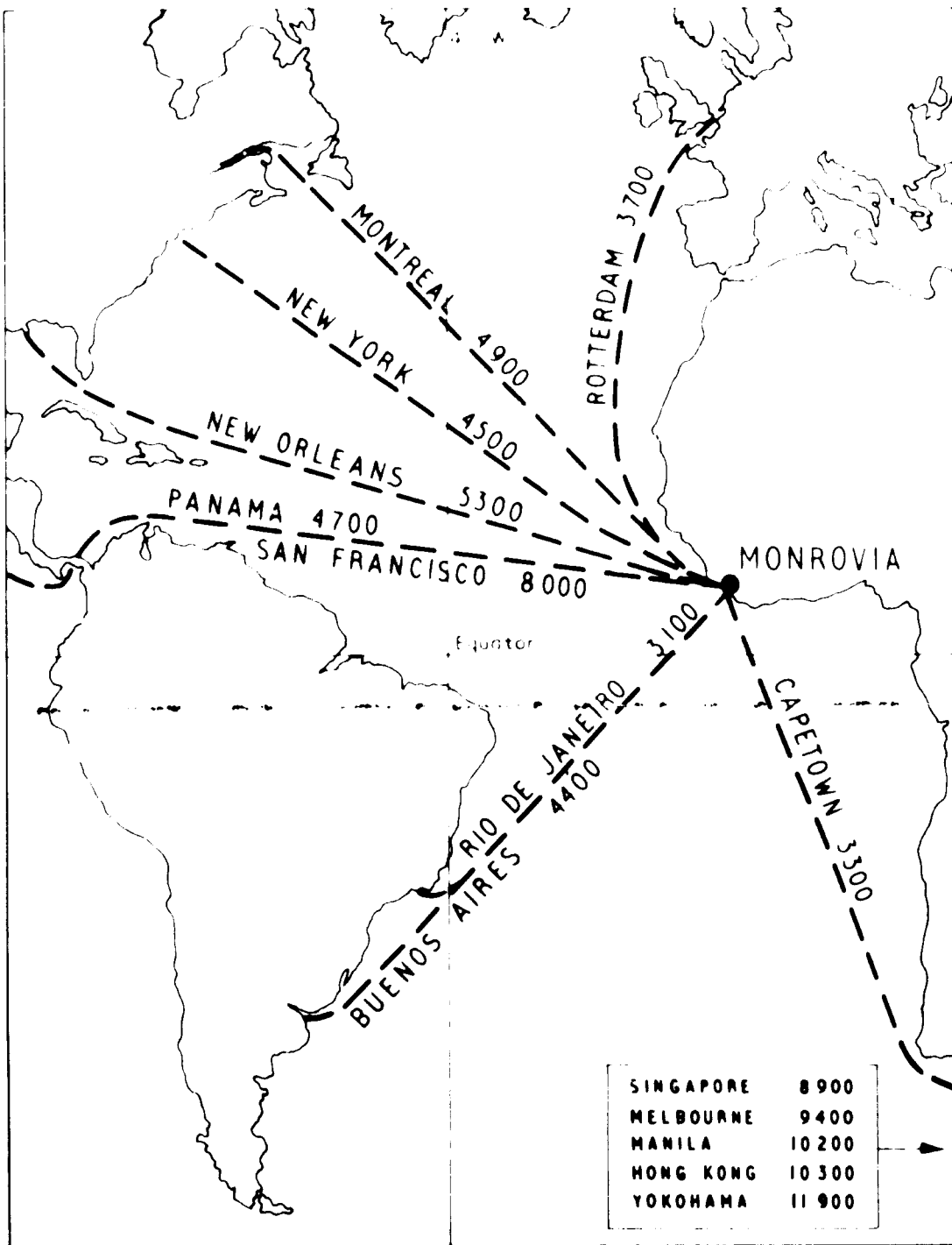
2.2 National Income

In 1973 the Gross Domestic Product (GDP) at factor cost for Liberia was valued at \$ m.422.3. This figure represented a growth of 10.5% over 1972. Since 1970 GDP (at current prices) has increased by 26.5%. The industrial origins of GDP, shown in Table 2.1, indicate why the development of manufacturing industry has been given a high priority in medium term development plans. Even with the aid of a fairly generous Investment Incentive Code and the provision of an Industrial Park, the share of manufacturing industry in GDP has not increased significantly in recent years.



LIBERIA IN RELATION TO OTHER AFRICAN COUNTRIES

FIGURE No. 2



SHIPPING ROUTES FROM MONROVIA
(DISTANCES IN MILES)

FIGURE No.3

TABLE 2.1
GDP AT FACTOR COST BY INDUSTRIAL ORIGIN

<u>Activity</u>	<u>1970</u> <u>%</u>	<u>1971</u> <u>%</u>	<u>1972</u> <u>%</u>	<u>1973*</u> <u>%</u>
Agriculture, Forestry and Fishing	12.1	11.4	10.1	
Mining and Quarrying	35.2	36.6	37.5	
Manufacturing	4.1	4.4	4.4	
Electricity and Water	1.7	1.6	1.9	
Construction	5.6	4.3	4.4	
Wholesale and Retail Trade, Hotels and Restaurants	14.4	14.5	14.7	
Transport, Storage and Communications	8.7	8.9	8.2	
Finance, Insurance, Real Estate, Business Services	7.5	7.4	7.4	
Community, Social and Personal Services	3.7	3.3	3.4	
Producers of Government Service	6.9	7.6	8.0	
	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	

Source: Economic Survey of Liberia, 1973

* Detailed figures for 1973 were not available at the time of writing.

2.3 Foreign Trade

International trade is the predominant element in the national economy of Liberia. Most necessities of life for the urban population are imported and these are paid for by means of large out-flows of such basic materials as iron ore, diamonds and rubber. The burden of repaying large foreign loans also rests on the export sector. This section summarises the current trading position of the country.

Table 2.2 shows the value of external trade and the balance of trade, which in 1973 showed a particularly healthy balance of \$ m. 130.5. However, indications for 1974 are that the balance will

be substantially reduced, and the need to maintain a positive trade balance is a major reason for putting forward the proposal to establish an IFZ.

TABLE 2.2

VALUE OF EXTERNAL TRADE AND THE BALANCE
OF TRADE 1968 - 1973 (\$m.)

Year	Total Trade	Exports		Total	Annual Percent Increase	Imports		Balance of Trade
		Domestic	Re-Exports			Value	Annual Percent Increase	
1968	307.9	192.7	6.7	199.4	n.a.	108.5	- 13.3	90.9
1969	347.5	227.5	5.3	232.8	16.7	114.7	5.7	118.1
1970	385.6	230.1	5.8	235.9	1.3	149.7	30.5	86.2
1971	409.0	239.6	7.0	246.6	4.5	162.4	8.5	84.2
1972	448.5	263.7	6.1	269.8	9.4	178.7	10.4	91.1
1973	517.5	318.5	5.5	324.0	20.1	193.5	8.3	130.5

Source. Economic Survey of Liberia 1973

Table 2.3 shows the trading position of Liberia in relation to her major trading partners. Both exports and imports are dominated by flows to and from Western Europe and particularly the EEC. North America is an important trading partner, particularly as the origin of imports.

Remarkably little trade is carried on between Liberia and other African states. This is an area of potential development and efforts are now being made to develop intra-African commerce, the Mano River Union with Sierra Leone being an example. Clearly, any part which the IFZ can play in this development should be encouraged.

TABLE 2.3

EXPORTS AND IMPORTS WITH MAJOR TRADING PARTNERS

	<u>\$ million</u>			
	<u>1972</u>		<u>1973</u>	
	<u>Exports</u>	<u>Imports</u>	<u>Exports</u>	<u>Imports</u>
Africa	3.8	3.4	3.6	4.3
Europe	193.4	82.8	234.8	92.2
of which EEC	(157.7)	(41.6)	(226.1)	(70.3)
Asia	19.6	36.4	18.5	39.5
North and South America	52.9	55.6	67.1	57.2
of which USA	(50.5)	(54.2)	(65.1)	(53.8)
Other Regions	0.1	0.5	*	0.3
All regions	<u>269.8</u>	<u>178.7</u>	<u>324.0</u>	<u>193.5</u>

* Less than \$ m 0.1

Source. Economic Survey of Liberia 1973

(a) Imports

The main items imported by Liberia are food, manufactured goods and machinery and transport equipment. The last category is the most important and accounted for 35.6% of the total value in 1973. Table 2.4 gives a summary of the major items.

TABLE 2.4

*
IMPORTS BY MAJOR SITC GROUPINGS 1971 - 1973 (\$m)

	<u>1971</u>	<u>1972</u>	<u>1973</u>
Food and live animals	24.4	25.5	30.2
Beverages and tobacco	4.5	3.8	4.1
Crude materials (excluding fuel)	1.7	1.7	1.6
Mineral fuels and lubricants	11.8	12.0	14.7
Animal, vegetable oils and fats	0.9	1.1	1.2
Chemicals	11.5	9.9	12.8
Manufactured goods	35.2	40.6	39.0
Machinery and transport equipment	54.2	63.4	68.8
Miscellaneous manufactured articles	15.4	18.3	18.6
Other commodities	2.8	2.4	2.4
Total imports	<u>162.4</u>	<u>178.7</u>	<u>193.4</u>

Source. External Trade of Liberia. Imports 1973

* Standard International Trade Classification

(b) Exports

In 1973 over 60% of Liberia's exports (by value) were accounted for by iron ore. Other important export products were rubber (13%) and diamonds (15%). Exports other than raw materials are virtually non-existent and account for less than 2% of the total value. Table 2.5 gives a summary of export statistics for the years 1968 to 1973.

2.4 Industrial Development

The Liberian Government has an enthusiastic attitude towards industrialisation. A publication issued by the Ministry of Commerce, Industry and Transportation entitled "A Three Year Plan for the Development of Industry in Liberia" sets out present Government objectives which may be summarised as follows:

TABLE 2.5
QUANTITY AND VALUE OF EXPORTS BY MAJOR COMMODITIES 1968 - 1973. QUANTITY IN MILLION UNITS, VALUE IN \$m.

Commodity	Unit of Quantity	1968		1969		1970		1971		1972		1973	
		Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Iron Ore	long tons	18.9	118.3	20.3	137.1	23.3	150.7	20.9	160.6	22.6	162.1	25.2	196.7
Rubber	lb.	142.6	25.6	144.7	30.8	183.9	36.2	186.5	32.5	182.7	29.0	188.4	42.9
Diamonds	carats	0.8	39.4	0.8	45.7	0.8	27.0	0.7	28.2	0.9	31.7	0.8	49.3
Palm kernels	lb.	26.6	1.9	25.7	1.5	29.2	0.2	36.7	2.2	9.7	0.5	2.2	7.2
Coffee	lb.	10.3	2.9	9.4	2.5	10.9	3.3	12.2	4.0	12.3	4.6	15.1	5.1
Cocoa	lb.	5.0	1.3	4.2	1.6	3.6	1.0	6.1	1.3	7.0	1.5	5.3	1.9
Logs and lumber*	cu.ft.	1.2	1.5	5.3	6.9	5.1	5.8	7.9	8.0	0.1	8.2	0.1	16.6
Other domestic exports		-	1.8	-	1.4	-	3.2	-	2.8	-	6.1	-	5.8
Re-exports		-	6.7	-	5.3	-	5.8	-	7.0	-	6.1	-	5.5
All commodities		-	199.4	210.4	232.8	-	235.9	-	246.6	-	269.8	-	324.0

* Note: Unit of quantity for logs and lumber 1972 - 1973 is "thousand board feet

Source: Economic Survey of Liberia 1973

- economic and financial self-reliance through mobilisation of domestic resources, with foreign assistance when necessary.
- balanced regional development with co-ordinated urban and rural development.
- improvement of the quality of the Liberian labour force through education and encouragement of local entrepreneurship
- re-affirmation of the Open Door Policy which is designed to attract foreign investment and to ensure that the investment climate is as favourable as possible.

These objectives are achieved in a number of ways including the Investment Incentive Code, which, in its amended form, is described in Chapter 7 below. Another important element is the financial freedom which foreign investors enjoy as a result of Liberia's use of the US dollar as currency. This ensures complete negotiability of revenues earned in Liberia and represents an advantage which is not readily available in other developing countries.

Although statistical evidence is not consistent it is clear that economic activity in the manufacturing sector has been increasing. In 1970 the manufacturing sector's contribution to GDP was valued at \$ m. 13.8 which had increased to \$ m. 16.7 by 1972.

However, this growth of output appears not to have been matched by a similar increase in employment. In fact data from the Quarterly Establishment Survey conducted by the Ministry of Planning and Economic Affairs, covering 96 establishments, actually suggest that employment in manufacturing had declined from 2108 in 1970 to 1866 in 1972 - a drop of 11.5 percent, although in view of the small numbers involved and the inherent difficulties of data collection, these estimates may not be completely reliable.

Table 2.6 shows the latest full listing of industrial establishments available in Liberia.

TABLE 2.6

INDUSTRIES ALREADY ESTABLISHED IN LIBERIA

	<u>Number of Establishments</u>	<u>Total Employment</u>	<u>Average Employment</u>
Mining and quarrying	14	3,926	637.6
Food, drink and tobacco	53	2,171	41.0
Made-up textile goods	1	103	103
Knitting Mills	1	n. a.	n. a.
Wearing apparel	14	184	13.1
Footwear	1	112	112
Sawmills	19	1,496	78.7
Furniture and fixtures	19	302	15.9
Printing, publishing and allied	15	261	17.4
Basic industrial chemicals	5	246	49.2
Fertiliser and pesticides	1	75	75
Paints, varnishes and lacquers	1	35	35
Soaps, perfumes, toilet preparations	4	144	36.0
Miscellaneous chemical products	2	41	20.5
Petroleum refineries	1	276	276
Plastic products	1	27	27
Pottery, china and earthenware	1	9	9
Cement manufacture	1	88	88
Non-metallic mineral products	23	433	18.6
Metal furniture and fixtures	2	40	20
Structural metal products	1	n. a.	n. a.
Miscellaneous manufacturing	7	207	29.6
	<u>187</u>	<u>15,176</u>	<u>81.2</u>

Source: Industrial Directory; Bureau of Industrial Administration and Resource Development.

It can be seen that the scale of operations revealed is quite small. Average employment in the manufacturing industry (excluding mining and quarrying) is only 36.1 persons per establishment. It is not likely therefore that, even where IFZ industries duplicate those already established in Liberia, the scale of operation or level of technology will be similar.

The majority of industrial establishments are located in Monrovia with the emphasis of development in the area of the Free Port and the Industrial Park. Figure No. 4 shows the current distribution of industry in Monrovia.

2.5 Labour and Employment

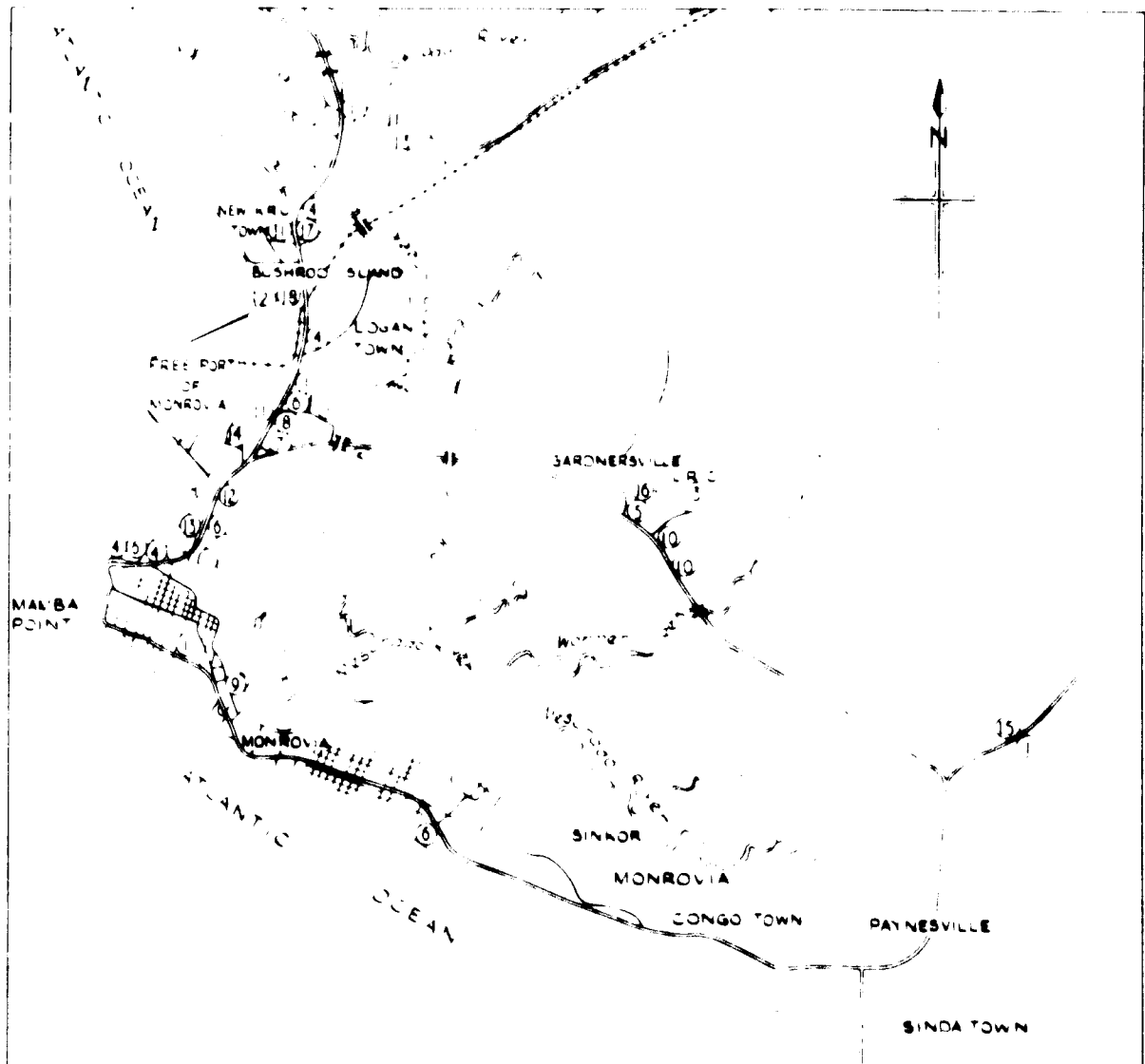
Although Liberia's population is only about 1.5 million it is growing at a rate of about 3% per year, and is supplemented by substantial immigration from surrounding countries. The fact that 42% of the population is under 15 years of age indicates the prospect of a dramatic expansion of the labour force in the next few years.

Only in Monrovia is there a substantial pool of organised industrial labour. The total population of the city in 1973 was estimated to be 155,000, of which about 101,000 are over the age of 14 years. The employment characteristics of this group are summarised in Table 2.7.

TABLE 2.7
MONROVIA LABOUR FORCE 1974 ('000's)

<u>Sex</u>	<u>Not in the Labour Force</u>	<u>Labour Force</u>	<u>Employed</u>	<u>Unemployed</u>	<u>Unemployment Rate (%)</u>
Male	16	39	32	7	16.3
Female	31	15	12	3	21.9
Total	47	54	44	10	17.9

Source. Indicative Manpower Plan of the Republic of Liberia Manpower Planning Division, Ministry of Planning and Economic Affairs.



LEGEND

- | | |
|--|---|
| 1 BOTTLING BREWERY AND DISTILLERY INDUSTRY | 10 BISCUIT, PASTRIES AND MATCHES INDUSTRY |
| 2 FISHING INDUSTRY MESU FISH | 11 BLEACH AND CHEMICAL INDUSTRY |
| 3 OIL REFINERY L.R.C | 12 VASELINE PRODUCT INDUSTRY |
| 4 FURNITURE INDUSTRY | 13 SUIT CASE INDUSTRY |
| 5 SHOE AND BATTERY INDUSTRY | 14 TYRE RETREADING INDUSTRY (U.S.T.C) |
| 6 TILE AND BLOCK INDUSTRY | 15 PAINT INDUSTRY (PARKER PAINT) |
| 7 CEMENT INDUSTRY | 16 PLASTIC INDUSTRY METALOPLASTICA |
| 8 TOBACCO INDUSTRY | 17 METAL INDUSTRY (GIRAUDI) |
| 9 CLOTHES HANGER INDUSTRY | 18 GARMENT FACTORY |

PRINCIPAL INDUSTRIAL ESTABLISHMENTS IN MONROVIA.

FIGURE No. 4

The industrial distribution of the labour force is, as might be expected, strongly weighted towards commercial and public sector employment. 28% of workers are engaged in wholesale and retail trade, 27% are employed directly by the Government of Liberia and only 5% are occupied in manufacturing industry.

A relatively low level of educational attainment is recorded by the labour force. One third has no formal education and over 70% had achieved less than 12th grade level.

So far as earnings of employed persons are concerned, the labour force survey carried out by the Ministry of Planning and Economic Affairs Manpower Planning Division revealed that 34% earned less than \$60 per month, 31% earned between \$60 and \$125 per month and 27% earned over \$125. No response was received from the remaining 0%.

Table 2.8 shows the average earnings in Liberia in 1973 by sector.

TABLE 2.8

AVERAGE MONTHLY WAGES IN LIBERIA 1973

	<u>Earnings in \$ US.</u>
Agriculture	39
Mining	99
Construction	96
Services	133
Government	85
Manufacturing *	75-175

* Estimate based on individual interviews November 1974

Source: Ministry of Planning and Economic Affairs and Ministry of Labour, Youth and Sports.

A further comment on levels of income in Monrovia can be made utilising data on income per household presented by the Manpower Planning Division. Almost 20% of households reported a total income of under \$20 per month. The median household income was found to be \$65 per month with only 11% of households reporting incomes in excess of \$300 per month.

Apart from the lack of sufficient jobs the labour force survey referred to above found that the lack of properly qualified technical and skilled labour was a major problem. Additionally employers reported that there is a high labour turnover rate and that close supervision is necessary to ensure good work standards.

Clearly these problems will increase the difficulty of persuading potential investors of the advantages of setting up in Liberia. However, we do not feel that these difficulties should be exaggerated as they exist in many comparable countries. Attention should however be paid to developing a more stable and skilled labour force and arranging for the necessary educational and training programmes. We make a suggestion to this end in Chapter 7.

2.6 Economic Projections

GDP is expected to grow at 5% per annum over the period to 1980 with per capita income increasing at 3.5% per annum over the same period.

The balance of trade is forecast to move progressively against Liberia with exports growing at 3.3% per annum and imports at 8.5% per annum. However, these forecasts do not allow for a marked worsening in the balance of trade which is believed to have occurred during 1974. Table 2.9 shows the balance of trade forecasts which have recently been prepared by the Ministry of Planning and Economic Affairs, who commented as follows: "The strategy, therefore, for the plan period should be to raise exports and reduce imports. All activities and projects to this end would be worthwhile and desirable".

TABLE 2.9

TOTAL EXPORTS AND IMPORTS AND BALANCE OF TRADE 1974-1980 (\$m.)

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
Exports	347.3	331.9	349.2	364.9	383.6	400.4	418.1
Imports	236.6	258.8	281.8	306.3	332.3	361.7	393.1
Balance	110.7	73.1	67.1	58.6	50.6	38.6	25.0

Source Ministry of Planning and Economic Affairs

With regard to the future labour force and employment situation in Liberia, the Indicative Manpower Plan suggests that 270,000 extra workers will join the labour force during the decade ending 1982. Unemployment, in the medium growth projection, may be as high as 16% by 1983. Clearly the burden of employing a rapidly growing urban population will fall on the industries of Monrovia. This requires both a continued expansion of established enterprises and, more significantly, a marked increase in the number of industrial units. The proposed IFZ could play a fundamental role in this respect.

CHAPTER 3

CHOICE OF SITE

3.1 General Considerations

The terms of reference specify that the objective was to carry out a feasibility study for the establishment of an IFZ in the project area of Monrovia. However, it became evident at an early stage of the field team's visit to Liberia that sites outside Monrovia had some local support. These sites and the Monrovia Industrial Park have therefore been considered as alternative or supplementary locations to the Free Port site previously referred to.

Figure No. 5 shows the locations of all the sites considered, which are four in number as follows

- The Port of Buchanan
- Roberts International Airport
- The Monrovia Industrial Park
- The Free Port Site in Monrovia

The relative advantages and disadvantages of the first three sites in relation to the Free Port site in Monrovia are discussed below.

(a) The Port of Buchanan

We consider that the establishment of an IFZ at the Port of Buchanan is unlikely to be as successful as a similar venture at the Free Port of Monrovia for the following reasons.

- (i) no adequate labour force is available.
- (ii) basic utilities are unlikely to be adequate or readily capable of expansion
- (iii) port facilities and shipping services are inferior.
- (iv) the Port of Buchanan lacks amenities such as good hotels, and back-up facilities such as banking and other services which would be likely to attract entrepreneurs.

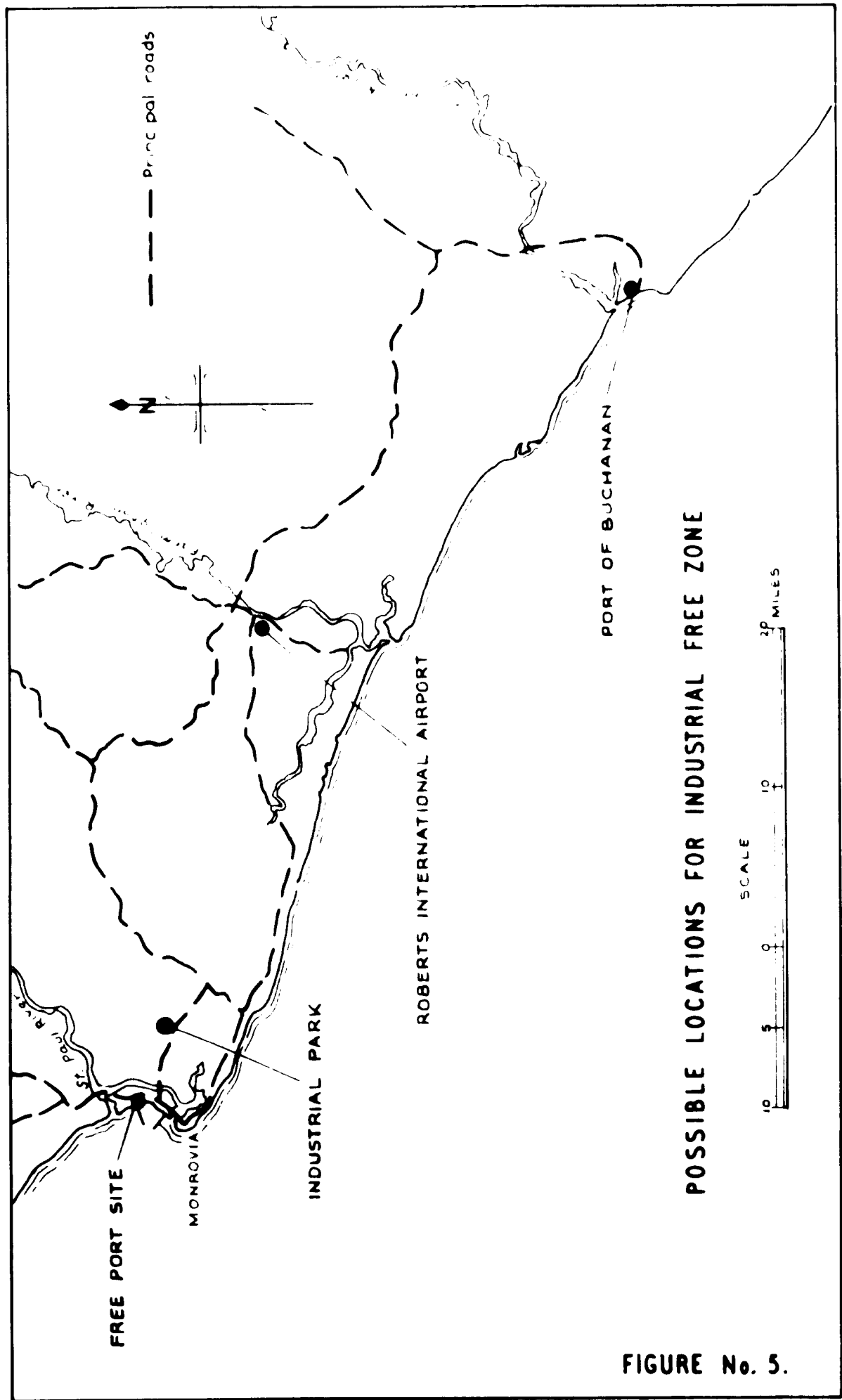


FIGURE No. 5.

The only advantage offered by the Port of Buchanan would be if the Liberian Government, as a matter of policy, decided that a greater degree of dispersal of industry throughout Liberia was desirable.

The Taiwanese mission headed by Mr. Wu ranked the Port of Buchanan as the least favourable of the sites studied, and we feel that this assessment is realistic.

(b) Roberts International Airport (RIA)

The RIA has enjoyed some growth of cargo movements over the past three years. Between 1971 and 1973 an 11.1 percent growth of total cargo traffic was recorded as shown in Table 3.1.

TABLE 3.1
INTERNATIONAL AIR CARGO AT R.I.A. 1971-1973

	<u>Thousand Kilogrammes</u>		
	<u>1971</u>	<u>1972</u>	<u>1973</u>
Loaded	295.9	315.0	465.8
Unloaded	1,449.9	1,260.3	1,473.6
Total	<u>1,745.8</u>	<u>1,576.3</u>	<u>1,939.4</u>

Source: Economic Survey of Liberia 1973

The proposals for establishing an IFZ at RIA arose some 3 years ago during the production by Pan American World Airways of a Master Plan for the airport, when an area of about 30 acres of land was set aside for industrial use and a commercial area for warehousing and service facilities was defined.

Since that time no further progress has been made although the RIA management still supports the idea. They are fully aware of the fact that such a zone would be primarily of interest to specialised industries whose materials and products would have a high value/weight ratio.

The proposed site for the IFZ is near to the terminal area and adjacent to the Farmington River. Advantage could therefore be taken of regular air services to North America, Europe and elsewhere (300 aircraft movements per month), or sea freight could be utilised via the Free Port of Monrovia which can be reached either by road or by lighter. However, this would involve additional transport costs compared with an IFZ established at the Free Port itself.

The RIA is less well placed than the Free Port site with regard to the following:

- (i) the labour force is limited in proximity to the airport and special housing would be required.
- (ii) the water supply is at present inadequate and would be costly to supplement.
- (iii) the power supply is less reliable and would also be costly to supplement.

Of the established export processing and industrial free zones a distinction can be drawn between those which are sea port, and those which are airport, based. Table 3.2 shows the main facts about the geographical location of such zones, which are taken from our own case studies and the publication 'Free Trade Zones' by Andrew W. Weil.

This table shows that although airports are often within easy reach, as would be the case with an IFZ located at the Free Port site in Monrovia, many of the principle existing zones are located either at or within a short distance of a sea port. The ideal solution could be one in which the IFZ is favourably located in relation to existing infrastructure and the availability of labour, and has access to both sea port and airport facilities. As shown later in this Report this would be the case with an IFZ situated in the Free Port of Monrovia.

TABLE 3.2

LOCATION OF EXISTING IFZ'S AND EPZ'S
IN RELATION TO PORTS AND AIRPORTS

(Distances in Miles)

<u>Zone</u>	<u>Airport</u>	<u>Sea Port</u>
Antwerp, Belgium	40	on site
Bermuda	15	11
Curacao	8	on site
Grand Bahama	10	on site
Colon, Panama	50	1
Mayaguez, Puerto Rico	3.5	4.5
Shannon, Eire	on site	10
Koahsiung, Taiwan	4	on site
Nantze, Taiwan	16	12.5
Taichung, Taiwan	10 ⁽¹⁾	110
Bataan, Philippines	100 ⁽²⁾	on site
Jurong, Singapore	17	on site

Source: Consultants Case Studies, "Free Trade Zones" by A.W. Weil

(1) Distance to local airport, international airport is 110 miles away

(2) Airport planned 12 miles from the zone

The conclusion is that the desire of RIA to develop an IFZ is not an alternative to the preferred scheme at the Free Port, although a parallel development, either concurrently or at a later stage, could well be advantageous and add to the attractions of investment in the main zone. However, in our view it is important to ensure that the RIA proposal does not have adverse repercussions which could divert effort away from the main task of establishing an IFZ at the Free Port of Monrovia.

Having had the benefit of discussions with the Airport Manager we consider that the present facilities and installations at the airport are capable of absorbing any additional air freight traffic generated by the establishment of an IFZ at the Free Port of Monrovia, at least in the early years. The situation would however need to be

reviewed from time to time, but future changes at the airport could, in our view, be part of its normal commercial development.

(c) Industrial Park, Monrovia

Perhaps the most attractive alternative to the Free Port site is the extensive area of land located on either side of the Paynesville Freeway. This area, the Industrial Park, is relatively undeveloped at the present time, despite the fact that it has been designated for industrial development for the past 10 years.

The Industrial Park is now under the direct control of the Liberian Development Corporation (LDC) and detailed plans are in progress for further development and management. In particular the Freeway, which at present is unsurfaced and in a poor condition, is being surfaced. At present the Park has several limitations which may be summarised as follows:

- (i) there is no piped water system and only well water is available for individual use, a supplementary source is not readily at hand,
- (ii) there are no telephones available and this omission may not be rectified for several years,
- (iii) the Park offers few of the services which would be essential for the effective establishment of an IFZ, plots are poorly organised and lack service roads, there are no pre-constructed factories available and there is little evidence of planned management,
- (iv) LDC have not as yet established a formal management structure, there is no system to process applications, and there is no service or administrative centre in the Park,
- (v) rental levels are about to be increased to assist the planned development programme, in future a flat rental scale of \$980 per acre will apply in place of the current scale of \$800 for a single acre declining to \$400 per acre for 3 or more acres; the new rate is scheduled to increase over time to take account of inflation,

(vi) transport under bond would be necessary between an IFZ in the Park and the port, and this would have to cross a particularly congested section of United Nations Drive.

For these and other reasons discussed below we conclude that although the Industrial Park is adequate in size to absorb the IFZ (it comprises a total area of about 1,115 acres, of which about 300 are in use) it is inferior to the Free Port site. From the point of view of industrial development policy we consider that the Industrial Park and an IFZ established in the Free Port should be seen as complementary facilities. As we demonstrate in Chapter 6, the types of industries which LDC wishes to attract to the Industrial Park, which are generally unsophisticated and designed to supply a relatively limited local market, are not identical with those which should be selected for the IFZ.

It is clearly to Liberia's advantage to try to tailor the development of the two industrial areas so that the demands for part-processed and semi-manufactured products generated by the IFZ can be met by products manufactured in the Industrial Park. This joint relationship could prove highly beneficial to both projects and exploit the linkage effects of investment in the IFZ.

3.2 Relationship to Monrovia

We have indicated in Section 3.1 that in our view the most suitable site for the IFZ is within the Free Port of Monrovia. The area is approximately 3 miles from the commercial and administrative centre of Monrovia and the establishment of an IFZ would depend upon the existing supply of labour and transportation and in turn would be an important element in future plans for the town.

(a) Labour Supply

The total population of Monrovia was estimated at 155,000 in 1973 with a labour force of 54,000 of which only 2,307 were employed in industries of the type which might be attracted by an IFZ. It is anticipated that the IFZ would employ at least 5,000 persons and would substantially increase employment in the more sophisticated manufacturing sector.

A level of unemployment of 16 percent has been forecast for 1983 and clearly there should be no shortage of unskilled labour if the IFZ is to be situated in the Free Port of Monrovia. This is borne out by the present trend for industrial development to take place along the United Nations Drive towards the north and past the Free Port area, and was confirmed by the Ministry of Labour, Youth and Sport.

An examination of existing population distribution in Monrovia shows that settlements have been developed along this road and high population density areas are to be found in New Kru town, Logan town and Clara town, all of which are to be found within a few miles of the North Beach area site. Should labour be forthcoming from these areas, there is likely to be no increase in the congestion which occurs between the commercial centre of Monrovia and the entrance to the Free Port. To this extent the siting of the IFZ in the Free Port is a favourable factor. It is possible that the managerial cadre would live in the better residential areas such as Sinkor which is on the other side of the town from the Free Port.

Because of the very small manufacturing sector, the number of skilled, experienced workers is limited in Monrovia. A low level of educational attainment is recorded by the labour force and it is expected that training will have to be provided by the firms establishing themselves in the Free Zone.

(b) Housing

Discussions with the Ministry of Labour, Youth and Sport indicated that housing should be no problem. The labour pool in Monrovia itself is within easy transport distance by bus, and a major project is in hand by the National Housing Authority which could be of direct relevance as it is situated at Gardnersville on the Paynesville Freeway within 4 miles of the IFZ site. A total area of 112 acres has been delineated for this project of which about 50 percent is at present swamp. Its main objective is to relocate people from Westpoint, but in practice this is proving difficult and employees of the Liberian Refining Company and other industries in the Industrial Park

are moving into the houses already constructed - 22 units of 2 bedrooms and 36 units of 3 bedrooms. It is possible that employees from the IFZ who would be better paid than most other locally employed workers would use this housing. The next phase envisages the construction of 176 dwellings, with an ultimate development of 697 houses together with schools, shopping centres and other facilities.

(c) Transport

With regard to the transportation of labour, this is at present provided chiefly by privately owned buses, although organisations such as the Free Port and the Liberian Refining Company have their own buses. We would expect this system to continue when the IFZ develops, with most IFZ companies arranging for the transport of their employees. We do not consider that the IFZ organisation itself need be concerned with the transportation of labour.

Transportation of goods and raw materials within and outside the IFZ is discussed later in this Report.

3.3. The Free Port of Monrovia

(a) Layout

Figure No. 6 shows the layout of the Free Port of Monrovia. It is bounded by United Nations Drive on the eastern side (the principal road from Monrovia to the north) and by the northern and southern breakwaters. The land area is approximately 450 acres and consists of several important sectors:

- (i) At the southern end. Liberian Refinery Company crude oil discharging berth, oil tank farm, commercial area and port offices. Over twenty export and import companies occupy covered and open storage space on ground leased from the Port.
- (ii) Central area: General cargo wharf and warehouses. At the present time the general cargo wharf is 1950 feet long and 36 feet wide with nine transit warehouses of varying size providing 135,250 square feet of covered

KEY

- PRINCIPAL ROADS
- MINERAL RAILWAYS
- - - - POWER LINES
- · · · FENCES
- ■ ■ ■ IRON-ORE STOCKPILES

THERMAL
POWER STATION

MELORADO

NORTH BEACH
(PROPOSED SITE
OF IFZ)

NORTH BREAKWATER

20 FEET

BONG MINE

DREDGED TO 40 FEET (1965)

38 FEET

CRUDE
OIL TANKS

NATIONAL
IRON ORE CO

SOUTH BREAKWATER

LIBERIA
MINING CO

OIL JETTY

30 FEET

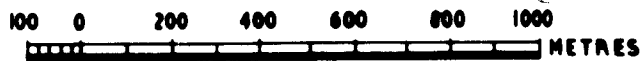
GENERAL CARGO WHARF

ADMINISTRATIVE
OFFICES

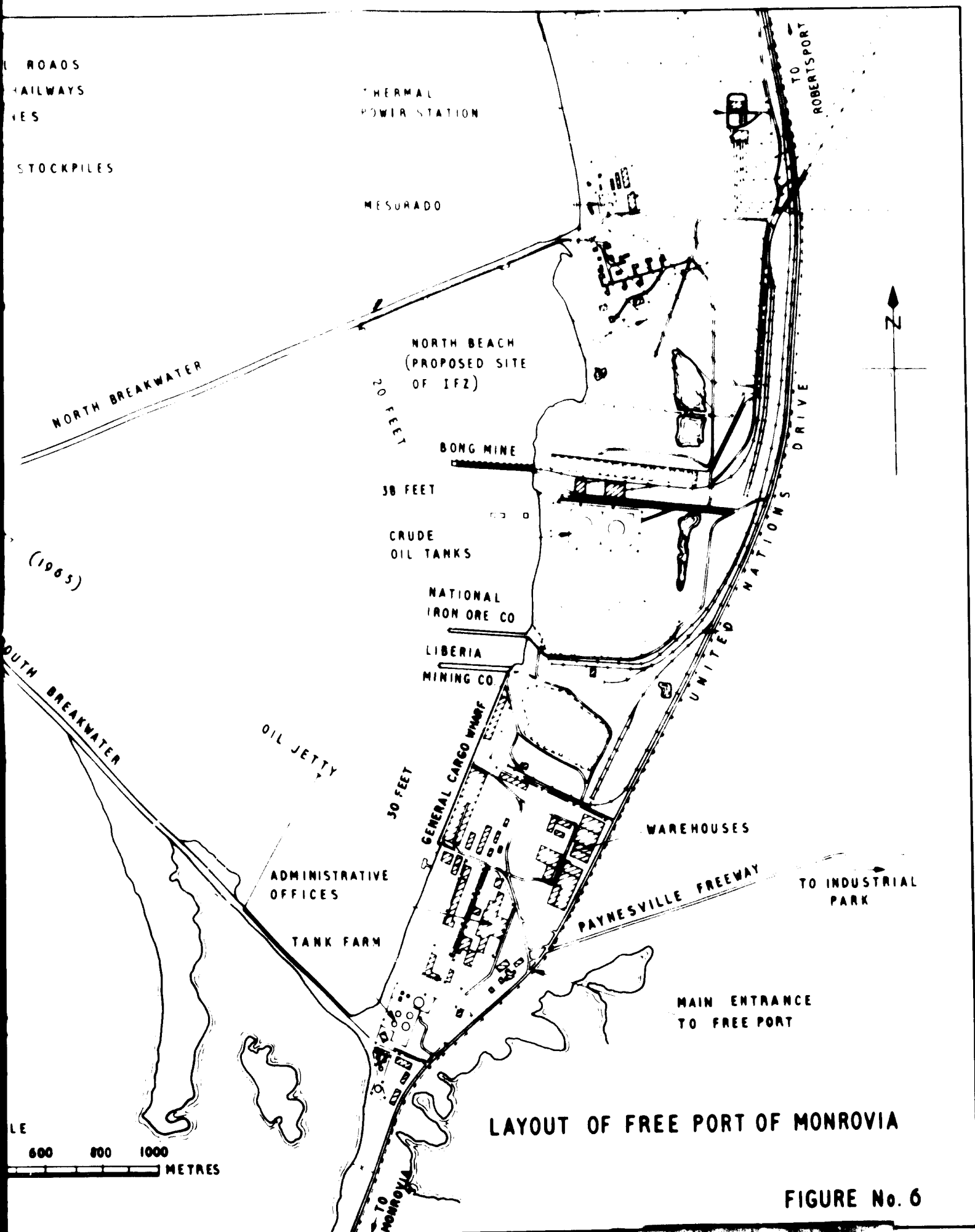
TANK FARM

LAYOUT OF

SCALE



TO
MONROVIA



storage space. Four small sheds and two open sheds provide a further 47,000 square feet of semi-covered storage, and ample open storage space is available. The wharf has a concrete deck and a depth alongside of 30 feet at mean low water. All cargo is discharged and loaded by ships gear, although a 50 ton capacity steam crane is available at one berth only for heavy lifts. Four mobile cranes are available with capacities from 5 to 25 tons but these are not suitable for ship discharge. A sufficient amount of cargo handling equipment is available such as tractors trailers and fork-lift trucks ranging from 3 to 25 tons capacity.

- (iii) Iron-ore installations: three iron-ore concessionaires (Bong Mining Company, National Iron Ore Company and Liberia Mining Company) each operate piers for off-loading iron-ore in bulk. The ore is brought into the port at its northern end by rail and off-loaded on to stockpiles to await shipment. The Liberia Mining Company will be phasing out its operations over the next few years, but it is possible that they will be replaced by further developments elsewhere.
- (iv) Northern area: to the north of the iron-ore installations is an area of about 80 acres of undeveloped land. Part of this area was low-lying and swampy and has recently been reclaimed, and the north-western part is occupied by a number of bungalows owned by the National Port Authority (NPA) and by a club. This is the area referred to previously in this Report as the 'North Beach Site', the proposed area for the IFZ.
- (v) At the northern end: Mesurado fishing terminal. A pier with its own dredged channel and turning basin is used by fishing vessels to discharge cargo into cold storage. The pier is situated on the northern break-water with the cold storage facility at its inshore end.

(b) Port Utilisation

The Free Port of Monrovia handles approximately 51 percent of the total seaborne traffic to and from Liberia. In 1973 a total of 1,729 vessels called at the port including 19 tankers, 1,040 main line (general cargo) vessels and 207 ore carriers. Comparisons with NPA data for earlier years would suggest that this total effectively makes good a drop in utilisation recorded in 1972.

In terms of cargo throughput the port has remained fairly static for the last four published years. The total cargo flow in 1973 was only 4.2 percent higher than in 1970, with lower totals recorded in both 1971 and 1972. Table 3.3 shows the most recently available data.

TABLE 3.3

FREE PORT OF MONROVIA . TRAFFIC BY TYPE OF CARGO
('000 long tons)

	<u>1968</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>
Iron-ore	9,996	9,924	12,092	10,867	11,145	12,516
Bulk Petroleum Products	216	292	437	511	600	488
General Cargo	475	55	421	723	185	404
Other Cargo (1)	65	-	244	310	625	336
Total	<u>10,752</u>	<u>10,271</u>	<u>13,194</u>	<u>12,411</u>	<u>12,555</u>	<u>13,744</u>

(1) Includes items not separately identified.

Source: Economic Survey of Liberia 1973

General cargo shows considerable variation from year to year with 1971 producing a peak and 1969 a low while 1973 shows a small reduction from 1968. In terms of number of calls general cargo vessels are a substantial proportion of the total, but in terms of weight of cargo the proportion is quite low. General cargo exports are very small and, for the past two years, have not been recorded as such in NPA reports.

For imports, data for 1973 indicate that each calling vessel off-loaded on average about 448 revenue tons* of general cargo including trans-shipment cargo.

(c) Planned Improvements to the Free Port

Development of the Free Port was being studied during the field team's visit by the Netherlands Engineering Consultants (NEDECO) under a World Bank project, and it is understood that they will make a number of specific recommendations for future improvements to the existing facilities, which may include the following

- (i) A 600 feet extension at the southern end of the existing general cargo wharf, for which work would hopefully start in the near future.
- (ii) A further 40,000 square feet of warehousing.
- (iii) In the longer term an additional general cargo wharf could be provided by reclaiming an area beyond the existing south breakwater.
- (iv) Ultimately expansion of the whole port could take place in a northerly direction, possibly linked with reclamation to the west of the North Beach area.

NEDECO do not appear to be in favour of additional general cargo wharfage in the North Beach area as this would necessitate a considerable amount of dredging.

With the improvements noted above we understand that NEDECO expect the total capacity for general cargo to increase to 482,000 tons per year by 1983, and to 800,000 tons per year by 1993.

(d) Relationship of the IFZ to the Free Port

Our discussions with the Free Port management, NEDECO and individual port users lead us to believe that the current level of

* A revenue ton is used for assessing charges and is defined by NPA as the greater of the actual weight of the cargo and the volume of cargo equated at 40 cubic feet to one ton, volume being calculated from overall dimensions of the smallest possible cuboid.

utilisation, whilst quite high, does not approach the maximum capacity for general cargo. Any present limitations are in respect of the handling of bulk cargoes. Normally operations in the general cargo wharf are only carried on during daylight hours and the tonnage handled could be increased by:

- (i) more efficient operation (e.g. berthing spaces are not fully utilised at present)
- (ii) greater cargo throughput from a similar, or reduced, number of vessels resulting from increased Liberian cargoes on individual vessels.
- (iii) nightworking - this would require increased security.

The Operations Manager suggested that up to 20 percent additional general cargo could be handled by these means without major new investment.

Taking these factors and the improvements planned by NEDECO into account we consider that the Free Port of Monrovia will be capable of absorbing the additional traffic likely to be generated by the IFZ.

3.4 Alternative Sites Within the Free Port

During the field team's visit suggestions were made for locating the IFZ at two other sites within the Free Port area.

(a) An Area to be Reclaimed Near the South Breakwater

This is the area referred to in Section 3.3 (c) above which may be included in NEDECO's recommendations as suitable for future development in the longer term by reclamation. We understand that some dredging operations must be carried out in the harbour area within the next few years, and material obtained from this dredging could be used for reclamation. However, this work is likely to be costly (of the order of \$10 million) and the timing uncertain. As an existing

undeveloped area is available we consider that schemes involving reclamation should be viewed as long term developments.

(b) Between the National Iron Ore Company's stock pile and the Bong Mine there is an area that is little used except for two crude oil tanks. If these could be re-located an area of about 30 acres could be made available for development. In our view this area, although closer to the general cargo wharf, is too small for an initial IFZ development and has no potential for future expansion. It should therefore be reserved for possible future developments in bulk mineral handling.

3.5 Adequacy of Preferred Site

An early question to be considered was whether the proposed site was adequate in size, as existing export processing zones and industrial free zones vary considerably in area. The scale of the development must, in our view, be related at least initially to the size of the labour force likely to be available, and indeed to the size of Monrovia and of Liberia itself. An area of 80 acres - the ultimate development possible on the proposed site without reclamation, could accommodate up to about 70 factory plots of 1 acre each, and could be expected to employ 5,000 to 7,000 people. Bearing in mind that in 1972 the number of persons employed in the manufacturing industry in the whole of Liberia (including mining) was just over 15,000, and that the present number of persons employed in relevant manufacturing industry in the Monrovia area is little over 2,000, we take the view that a fairly modest initial development is most appropriate.

On this basis the area of the proposed site seems to be of the right order. While the slow development of the Industrial Park is not necessarily indicative of the rate of development that can be expected in the Industrial Free Zone, we doubt whether in practice it will be possible to attract new industries at a rate exceeding 5 or 6 per year. Thus the proposed site is capable of absorbing developments

that can be expected over a ten year period, and again we believe this to be of the right order taking into account experience at other zones.

3.6 Availability of Infrastructure

The proposed site for the IFZ is fortunately placed with regard to the provision of essential services. Figure No. 7 shows the source of supplies of water and power and the means of sewage disposal.

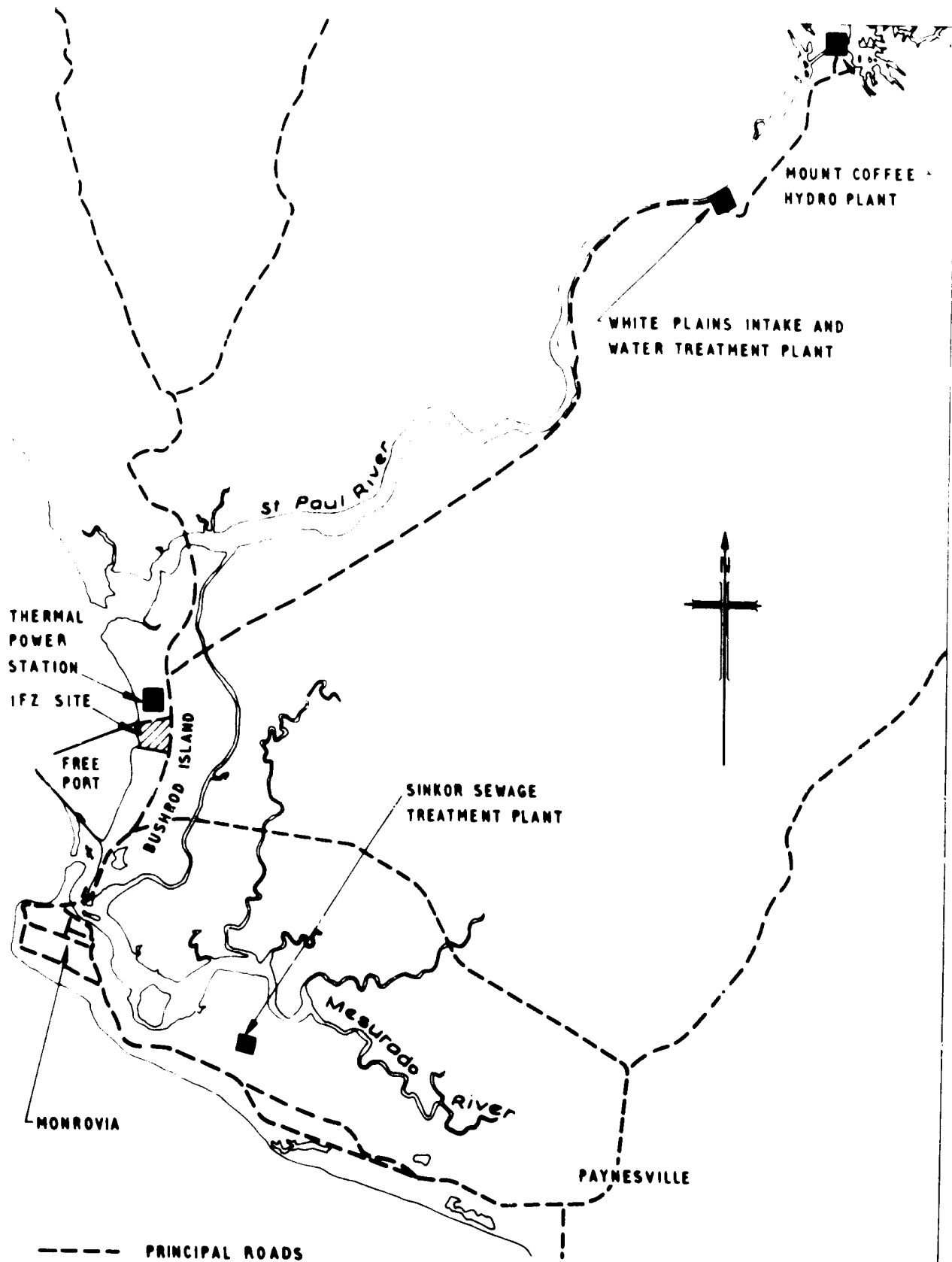
(a) Water Supply

The water supply for the city of Monrovia is drawn from the White Plains intake on the St. Paul River about 12 miles from its mouth and immediately downstream from the Mount Coffee hydro-electric plant. Treatment to potable standards is undertaken nearby, and treated water is pumped to Monrovia through two pipelines.

- (i) A 16 inch diameter pipeline follows a route near to the south bank of the river until it meets United Nations Drive. The route then follows the Drive into Monrovia, passing close to the North Beach site at a distance of about 12 miles from the Intake. The maximum capacity of this pipeline is 1.5 million U.S. gallons per day (mgd), the average supply at present being about 1 mgd.
- (ii) A 36 inch diameter pipeline follows a route via Paynesville into Monrovia.

Using both pipelines it is possible to deliver about 16 mgd to Monrovia although at present the average supply is about 10 mgd. The river source is completely reliable for this quantity, although salinity problems have occurred due to the intrusion of sea water at times of low flow when the Mount Coffee hydro-electric plant is not generating. However, steps are being taken to overcome this problem.

In discussion with the Public Utilities Authority it was stated that no difficulty was foreseen in supplying the quantity of water likely to be required by the IFZ which, as is explained in Chapter 4, might reach an average of about 0.4 mgd after 10 years of development.



AVAILABILITY OF INFRASTRUCTURE

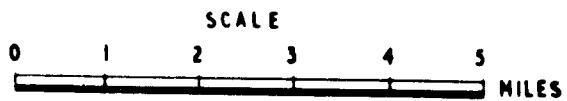


FIGURE No. 7

(b) Power Supply

The Public Utilities Authority's thermal power station is adjacent to the proposed IFZ site, on its northern side, and the supply is integrated with that from the Mount Coffee hydro-electric plant.

At present the thermal plant consists of six diesel units with a combined output of 13 MW, and four gas turbines with a combined output of 68 MW. However, a World Bank mission is currently appraising the installation of an additional 30 to 50 MW of steam power in the early 1980's. The new site would probably be alongside the present thermal plant, but this has not yet been decided.

The Mount Coffee hydro-electric plant comprises four 17 MW units, but there are considerable difficulties during the dry season when output can be reduced to 1 machine. Although studies have been done it does not seem to be feasible to improve this situation by additional storage. A twin 25 MW transmission line follows the 16 inch diameter pipeline route into Monrovia, but only one line is commissioned at the present time. Dump power is provided by a single 25 MW to the Bong Mine during the wet season.

The present maximum demand for power in the Monrovia area is 52 MW, and is increasing at a rate of about 7 percent per year.

In discussion with the Public Utilities Authority it was stated that no difficulty was foreseen in supplying the quantity of power likely to be required by the IFZ which, as is explained in Chapter 4, might be 5 MW soon after commencement and reach 20 MW after 10 years of development.

(c) Sewage Disposal

Two sewers pass along United Nations Drive adjacent to the site; a 24 inch diameter interceptor gravity main collects raw sewage and delivers it to a pumping station from which it is conveyed to a treatment plant in Sinkor via a 12 inch diameter pumped main.

The treatment plant is of conventional type and has a capacity of 8 mgd, there is adequate room for expansion but none is planned at the present time.

In discussion with the Public Utilities Authority it was stated that the system had spare capacity and could absorb the quantity of effluent (related to the water supply) likely to be produced by the IFZ. It will however be necessary to set minimum quality standards, with each industrial unit providing its own preliminary treatment (if necessary) to meet them.

(.) Surface Water Drainage

As discussed in Chapter 4, part of the proposed site will need to be raised in level in order to provide drainage falls, but existing drainage lines are nearby and there is no difficulty in disposing of surface water.

(e) Solid Waste Disposal

Although the Monrovia Commonwealth District are responsible for the collection of solid waste in the city of Monrovia their capacity is inadequate at present to take on additional tasks. The Free Port disposes of solid waste by contract with a private firm, and we consider that this would be the best method of operation in the IFZ, with each industrial unit responsible for the disposal of its own solid waste.

(f) Telecommunications

The present telephone and telex system is inadequate both in the commercial centre of Monrovia and, more particularly, in the area of the proposed IFZ and the Industrial Park. However, a US AID financed scheme is currently being implemented which includes a 100-pair telephone extension through the IFZ area towards the Public Utilities Authority's thermal station and the Mesurado factory. Further extensions are planned for about 1980, together with a telephone exchange on Bushrod Island (the local name for the Free Port/Industrial Park area). The IFZ authority will need to work closely with Liberia Telecommunications in order to ensure the provision of adequate telephone and telex communications, as this will be a vital ingredient to the operation of the IFZ. However, the proposed site is as well placed as any other in Monrovia in this respect.

CHAPTER 4

SITE DEVELOPMENT AND COSTS

4.1 Site Description

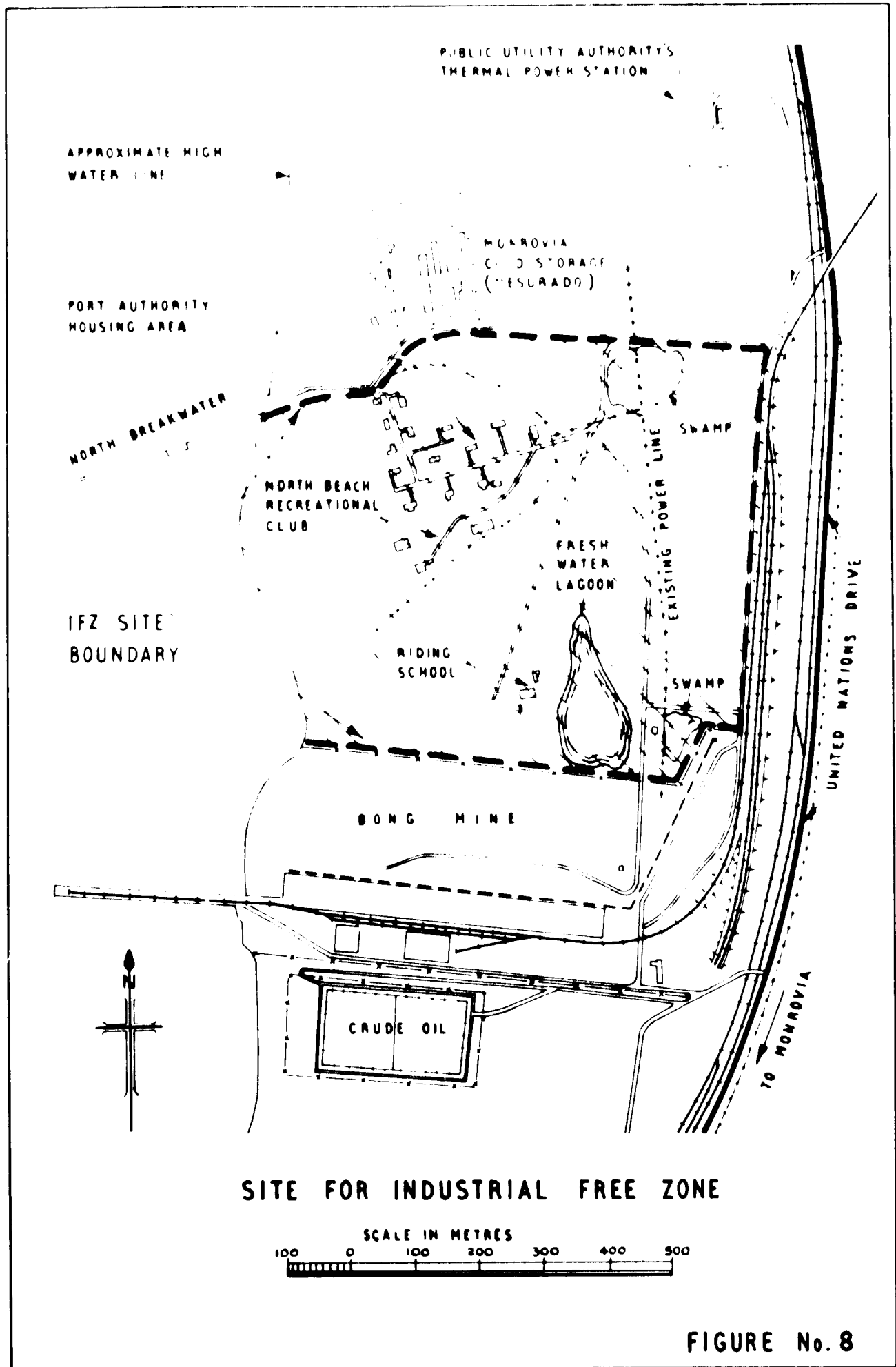
The total area available for development without reclamation in the proposed North Beach area is 33 hectares (34 acres), comprising a flat, low lying, sandy site extending for a width of about 300 metres from the harbour shore line. It is bounded on the north by a public road giving access to the north breakwater, on the east by a boundary fence at the foot of the railway embankment leading to the Bong Mine, and on the north by the Bong Mine boundary fence (see Figure No. 5).

There are few topographical features as the ground level does not exceed about 4 metres above mean sea level. However there are drainage ditches on all three land boundaries, parts of which will need to be realigned in order to develop the site to its fullest potential and a fresh water lagoon (formerly used as a water supply for the port) extends into the southern end of the site for a distance of about 250 metres, having a maximum width of 100 metres on the southern boundary. This lagoon and two small areas of swampy ground will need to be filled in. Up to a few years ago a more extensive fresh water lagoon occupied the eastern part of the site, but this has been reclaimed using sand dredged from the harbour.

As mentioned in Chapter 3, an area of about 25 acres of the north-western part of the site is at present occupied by 14 bungalows owned by the Port Authority and a club building and swimming pool. Apart from this the rest of the area is used only for recreation - a riding school and football pitch.

The northern access road is surfaced, but other roads within the site are rough tracks only and do not affect the planning of the site layout. A 12.5 kV transmission line feeding the port area crosses the site and will have to be realigned.

Vegetation is sparse or non-existent over most of the site except for the residential area, which has been planted, and round the fresh water lagoon.



4.2 Surveys and Subsurface Conditions

A recent survey of the site carried out by Stanley Consultants (scale 1:1,000) was made available to the field team. This survey, although adequate for a feasibility study, gives only sparse information regarding site levels, and a more detailed survey will be necessary for the preparation of final designs.

Subsurface information is limited to tests described in a report by Raymond Concrete Pile relating to a study of proposed harbour locations carried out in 1944. Borings taken along the shore of Bushrod Island showed up to 20 feet depth of medium or coarse grey sand overlying sandy clay. Rock was found in only one borehole at a depth of about 40 feet. The report concluded that the sand would provide a good foundation for piers and warehouses. Our own observations agree with this conclusion, and we believe the site to be very suitable for light industrial buildings and single storey office blocks. However, we would recommend that limited subsurface investigations should be undertaken at the same time that a more detailed topographical survey is made, and a more thorough investigation would need to be done for individual buildings in order to determine the bearing capacity of the ground for foundation design.

The ground-water table is likely to be high, and this factor will have to be taken into account. However, we consider that spread footings would be suitable for most buildings likely to be constructed for the IFZ, and only heavy structures or multi-storey buildings are likely to require the use of piling.

4.3 Access to Site

At present access is limited to that provided by the road near the northern boundary of the site which leads from United Nations Drive, over two railway level crossings, to the northern breakwater. This road is used by the Mesurado fishing company and by people living in Port Authority housing or using the club or other recreational facilities. We propose that this road should be retained when it will also provide a link for vehicles and personnel between the IFZ and Monrovia and other parts of Liberia.

With regard to the transport of goods between the IFZ and the general cargo wharf, we have considered the following four possibilities which are illustrated on Figure No. 9.

Route A Vehicles would leave the Free Port at the existing main gate, travel along United Nations Drive and enter the IFZ by the northern access road, involving leaving and re-entering customs control.

Route B Goods would be shipped by lighter from the general cargo wharf to a jetty constructed at the IFZ and then by road to individual factories.

Route C Vehicles would keep within the Free Port boundary, using an improved road taking a somewhat circuitous route through the iron-ore concessionaires working areas.

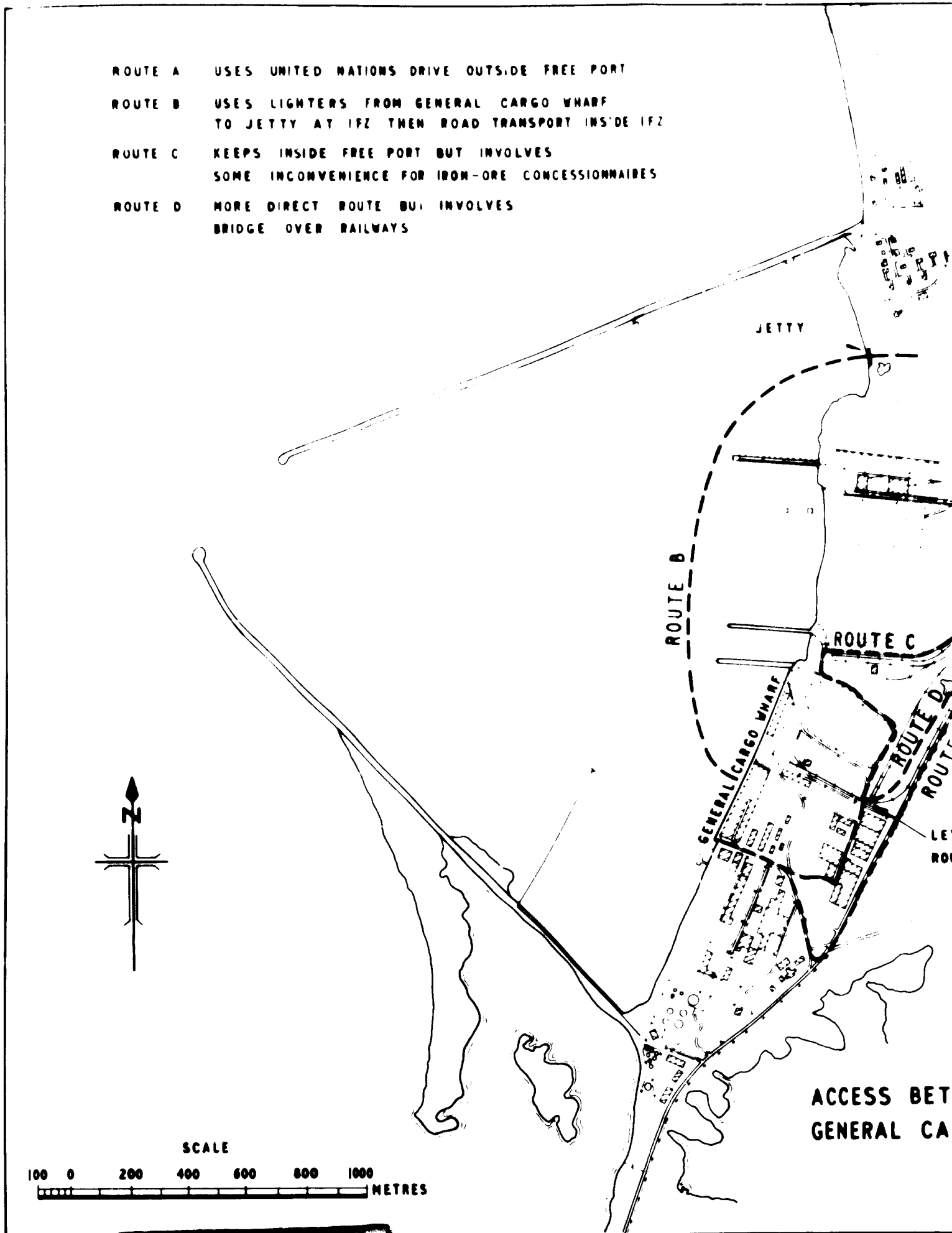
Route D Vehicles would again keep within the Free Port boundary, but follow a more direct route than Route C. However, this would involve crossing three rail tracks which are on a high embankment.

We have rejected Route A for two reasons

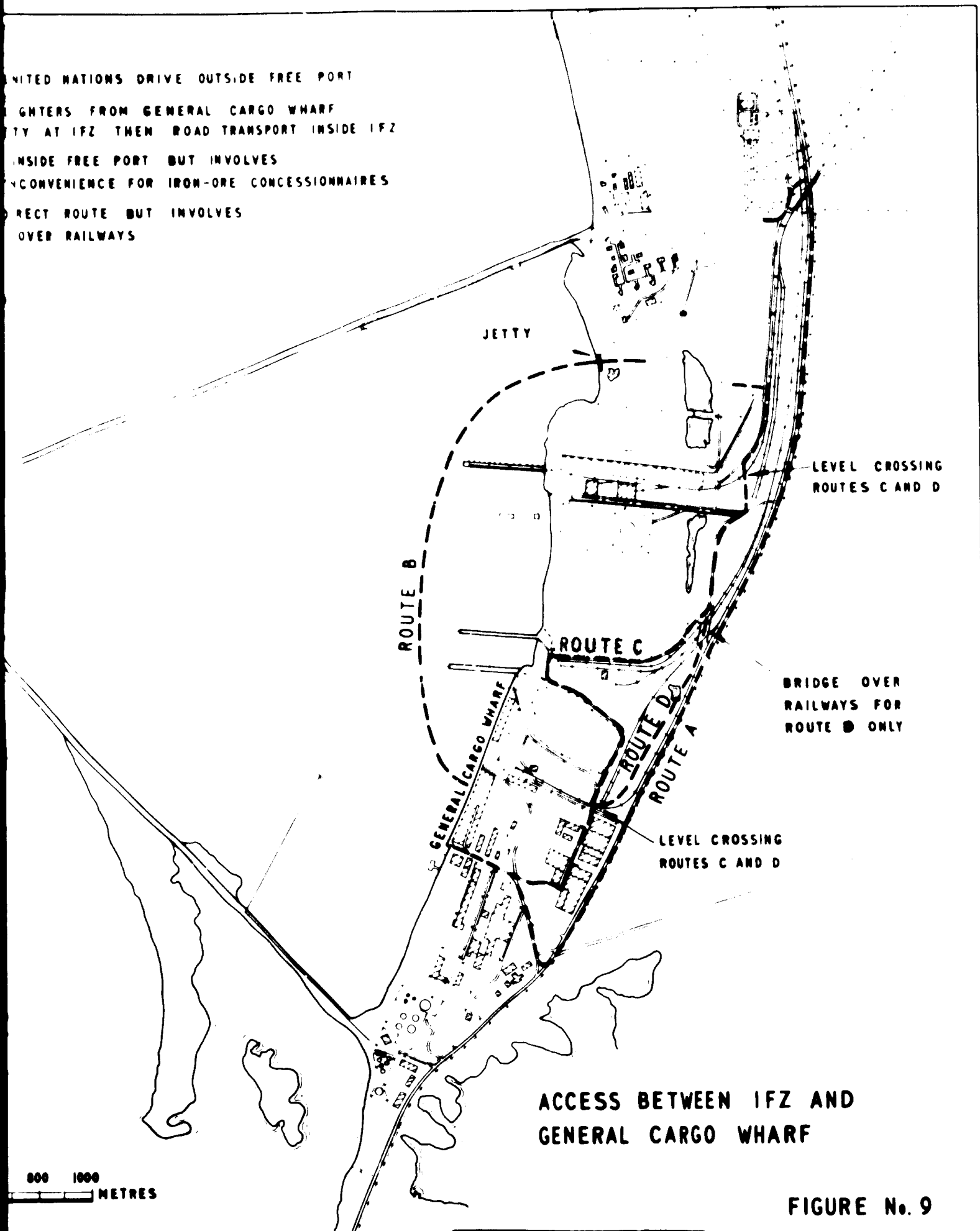
- (i) It would necessitate additional control procedures; the possibility of avoiding these is, in our view, one of the principal advantages of the proposed site.
- (ii) United Nations Drive is a two-lane road in a poor state of repair, and is subject to considerable congestion at the present time even without the additional traffic that would be generated by the IFZ. Plans are being prepared to improve the road in 1977 to dual two-lane standard, but this will be costly and, although the World Bank is investigating the proposal, the source of finance is not clear at present.

We have also rejected Route B following discussions with the Port Operations Manager. Off-loading directly from a ship to lighter is not practicable, so that double-handling would be required and the use of lighters would thus reduce the capacity of the wharf. As some land transport would in any case be required within the IFZ a lighterage

- ROUTE A USES UNITED NATIONS DRIVE OUTSIDE FREE PORT
- ROUTE B USES LIGHTERS FROM GENERAL CARGO WHARF TO JETTY AT IFZ THEN ROAD TRANSPORT INSIDE IFZ
- ROUTE C KEEPS INSIDE FREE PORT BUT INVOLVES SOME INCONVENIENCE FOR IRON-ORE CONCESSIONNAIRES
- ROUTE D MORE DIRECT ROUTE BUT INVOLVES BRIDGE OVER RAILWAYS



UNITED NATIONS DRIVE OUTSIDE FREE PORT
 LIGHTERS FROM GENERAL CARGO WHARF
 TRUCKS AT IFZ THEN ROAD TRANSPORT INSIDE IFZ
 INSIDE FREE PORT BUT INVOLVES
 INCONVENIENCE FOR IRON-ORE CONCESSIONNAIRES
 DIRECT ROUTE BUT INVOLVES
 CROSSING OVER RAILWAYS



ACCESS BETWEEN IFZ AND
 GENERAL CARGO WHARF

FIGURE No. 9

scheme would also be more costly. Finally the construction of a jetty at the IFZ would constrain the development of the port along the lines proposed by NEDECO and discussed in Chapter 3.

We estimate that the construction of the approach embankments and bridge over the railways required for Route D would cost approximately \$800,000, (the alternative of an underpass below the embankment would be more expensive because of the high ground-water table). Allowing for the shorter length of road to be improved Route D would still be approximately \$750,000 more expensive than Route C. While the use of Route C would undoubtedly cause some inconvenience to the iron-ore concessionaires, in discussion the Port Civil Engineer stated that any problems could be overcome.

We have therefore concluded that Route C would be the most appropriate access route at least in the early years of development of the IFZ. At a later stage, should difficulties occur with increasing vehicle movements, Route D could be given further consideration. However, we have not allowed for this possibility in our cost estimates.

4.4 Proposed Site Layout

The dictates of topography and economic services has resulted in the simple grid layout illustrated on Drawing Number 7482/1 (enclosed in a pocket at the back of this Volume). Not counting the possible reclamation area to the west of the site the layout provides seventy one rectangular plots of about one acre each. Thirty nine of these plots are aligned with their long dimension east to west and thirty two north to south. This allows for a fairly equal choice in the orientation of factory buildings and a variable treatment of roofs, windows etc. to minimise the direct entry of sunlight into the production areas.

The spacing of the road system is determined largely by the size of industrial plots. Although this will obviously vary from industry to industry, experience at Shannon and elsewhere has led us to believe that a basic plot size of about 80 m x 50 m (giving a plot area of about one acre) would be most suitable for the size of development likely to be attracted from overseas to Monrovia. While this

decision determines the road layout, which will be a fixed factor once the initial infrastructure has been constructed, there will be considerable flexibility within the basic layout for varying the plot sizes. However, as shown on Drawing Number 7482/1, a layout based on very nearly equal sized plots has been used to estimate the cost of the infrastructure.

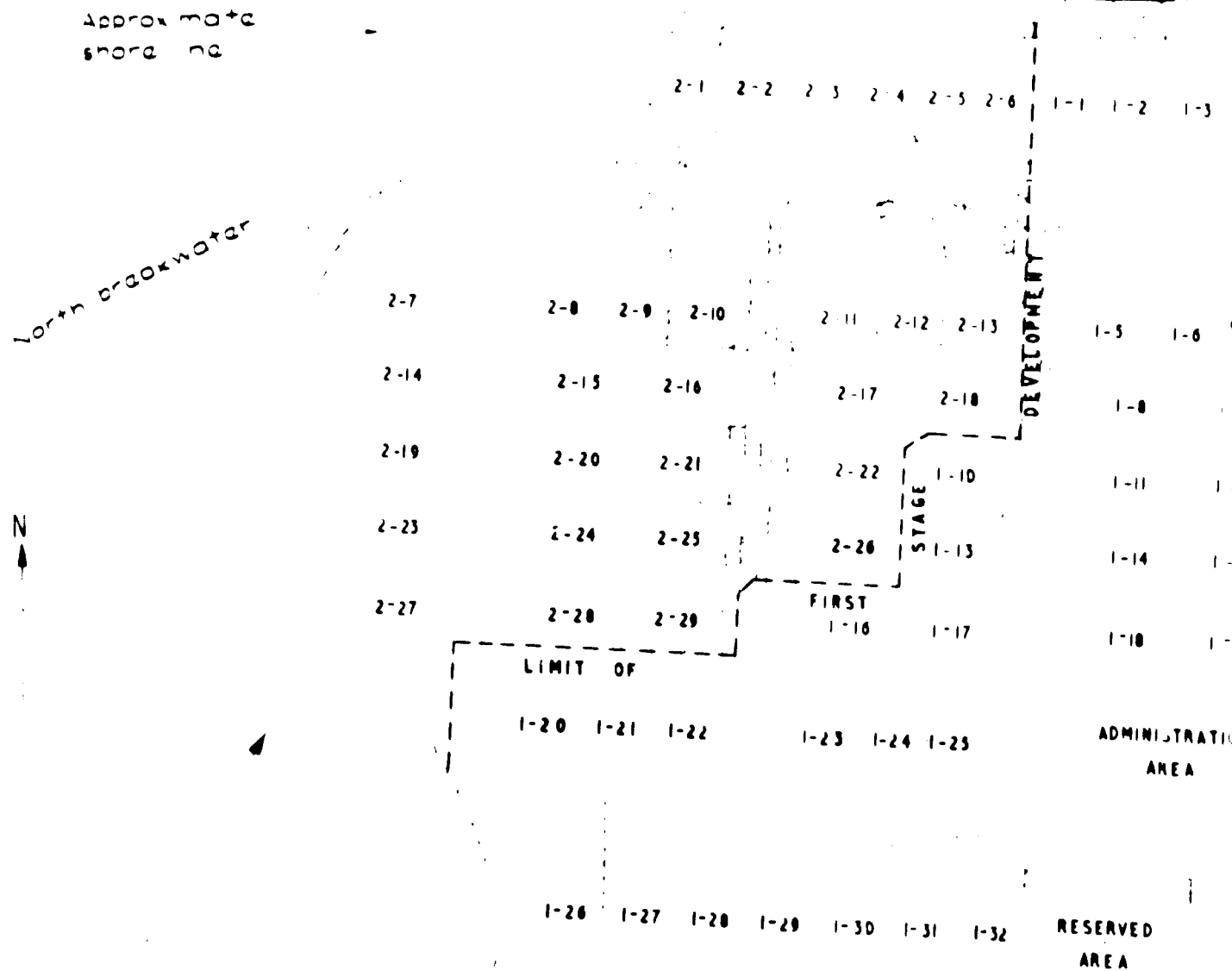
Two external access roads are provided. At the northern end of the site the existing access road between the United Nations Drive and the north breakwater will be improved to form a route between the IFZ and Monrovia. This will be used principally by workers employed in the zone, and for local raw materials entering the zone. A customs control point will be necessary. Access to and from the general cargo wharf will be provided at the southern end, as described in Section 4.3. A less sophisticated control point will be necessary here.

The south-east corner of the site, near to the entrance from the Free Port, has been reserved for an administration and services area, while the adjoining land that will be formed from the filling in of the existing fresh-water lagoon will be reserved principally as a car park and transport area. The facilities are described in more detail later in this Chapter.

4.5 Stages of Development

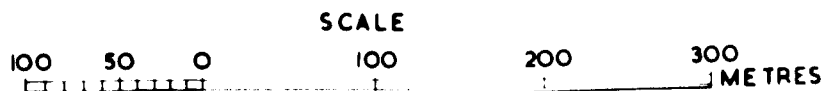
The existing housing and recreational area in the north-western part of the site, which is at present fenced-off from the rest of the area, represents a considerable amenity which it would be desirable to retain for as long as possible. We therefore propose a two-stage development as shown on Figure No. 10. Stage 1 would include 42 industrial plots and the initial development of the administration and services area. In our view, based on experience at other free zones, this first stage would probably be adequate for a period of at least seven years of development. Stage 2 would include a further 29 industrial plots, and the completion of the administration and services area, and should be adequate for a further period of at least four years of development.

KEY 1-1 TO 1-42 ARE PLOTS INCLUDED IN STAGE 1 DEVELOPMENT
 2-1 TO 2-29 ARE PLOTS INCLUDED IN STAGE 2 DEVELOPMENT



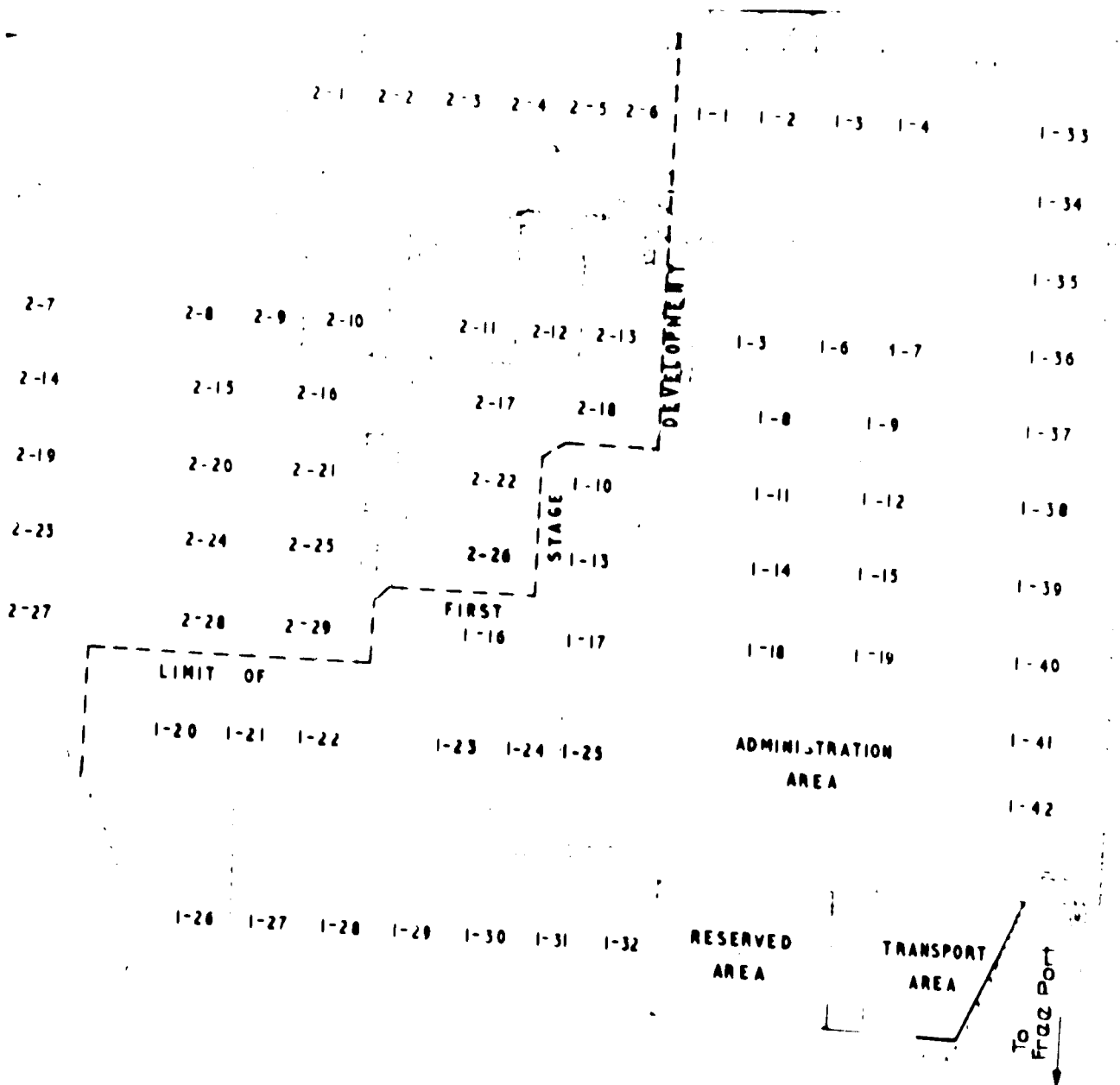
POSSIBLE FUTURE DEVELOPMENT ON RECLAIMED LAND

STAGES OF DEVELOPMENT



1-42 ARE PLOTS INCLUDED IN STAGE 1 DEVELOPMENT
 2-29 ARE PLOTS INCLUDED IN STAGE 2 DEVELOPMENT

10-1-1955
 10-1-1955
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DEVELOPMENT AND

STAGES OF DEVELOPMENT

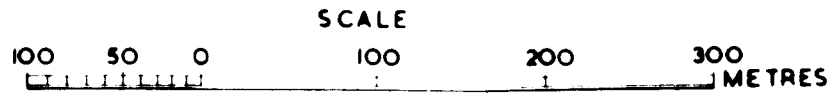


FIGURE No. 10

Thus Stages 1 and 2 should be adequate for over 10 years of development. Further expansion would probably be by means of reclamation in the harbour area, and the layout we have proposed would be suitable for such an expansion. However, in view of the many uncertainties inherent in such a time scale we have not attempted to estimate the cost of development beyond Stage 2.

4.6 Infrastructure

(a) Roads and Surface Water Drainage

The road design has been considered in conjunction with the requirements for surface water drainage. These are severe in view of the considerable rainfall likely to be experienced. Table 4.1 shows the record of a storm that occurred on 5th July 1955 (information supplied by Director of Meteorology):

TABLE 4.1

RAINFALL INTENSITIES DURING STORM OF 5TH JULY 1955

<u>Time from Commencement of Storm</u>	<u>Total Rainfall (Inches)</u>
5 minutes	0.20
10 minutes	0.35
15 minutes	0.65
30 minutes	1.40
1 hour	2.70
2 hours	4.25
24 hours	14.10

While this is an exceptional storm it is likely that short duration rainfall intensities of similar magnitude may well occur quite frequently during the wet season. We have therefore based the design of the surface water drainage system on a rainfall intensity of 2 inches per hour, and have assumed that 60 percent of this precipitation would be collected by the drainage system, the remaining 40 percent being absorbed by non-surfaced areas.

Preliminary calculations showed that a piped drainage system would be uneconomic, and we have therefore proposed un-kerbed site roads draining laterally into open ditches. ARMCO type corrugated steel culverts would be used at road crossings. A typical cross-section of the road and open ditch is shown in Figure No. 11.

For the roads we propose a 7.3 m (24 feet) wide carriageway with a 5 cm thick bituminous surfacing on stabilised laterite. A 1.5 m wide shoulder of compacted laterite would be provided on either side of the road, adjacent to a 6 m wide drainage ditch having sides sloping at 1 vertically to 2.5 horizontally. A 2 m in-situ concrete or pitched invert is provided in order to ease maintenance problems due to the growth of vegetation. A 2 m wide footpath is provided on the far side of the drainage ditch, the plot boundary fence being located 1.5 m beyond the foot path. The total road reserve is 30 metres. Services such as water supply will be installed below non-surfaced areas as far as possible.

In order to prevent the sea from backing up into the drainage ditches we propose that the lowest invert level at the outfall end of the ditches should be 1.5 m above mean sea level. The drainage ditch inverts will slope upwards from the outfalls at 1:2000. Road levels will be 2.7 m above mean sea level near the existing shore line, and will also slope up at 1:2000 parallel to the drainage ditches. Thus the site will need to be between 2.7 m and 3.1 m above mean sea level in order to provide drainage falls. The ground level of some of the site, particularly on the eastern side, is at present below the required level, and some in-filling and re-grading will thus be necessary. Figure No. 12 shows a plan of our proposals.

(b) Water Supply

Although, as explained in Chapter 3, an assured water supply is available within easy reach of the site, it would not be possible to establish water intensive industries without special arrangements. Such industries would include heavy industries, not normally associated with industrial free zones, and the following industries which are rather more likely contenders:

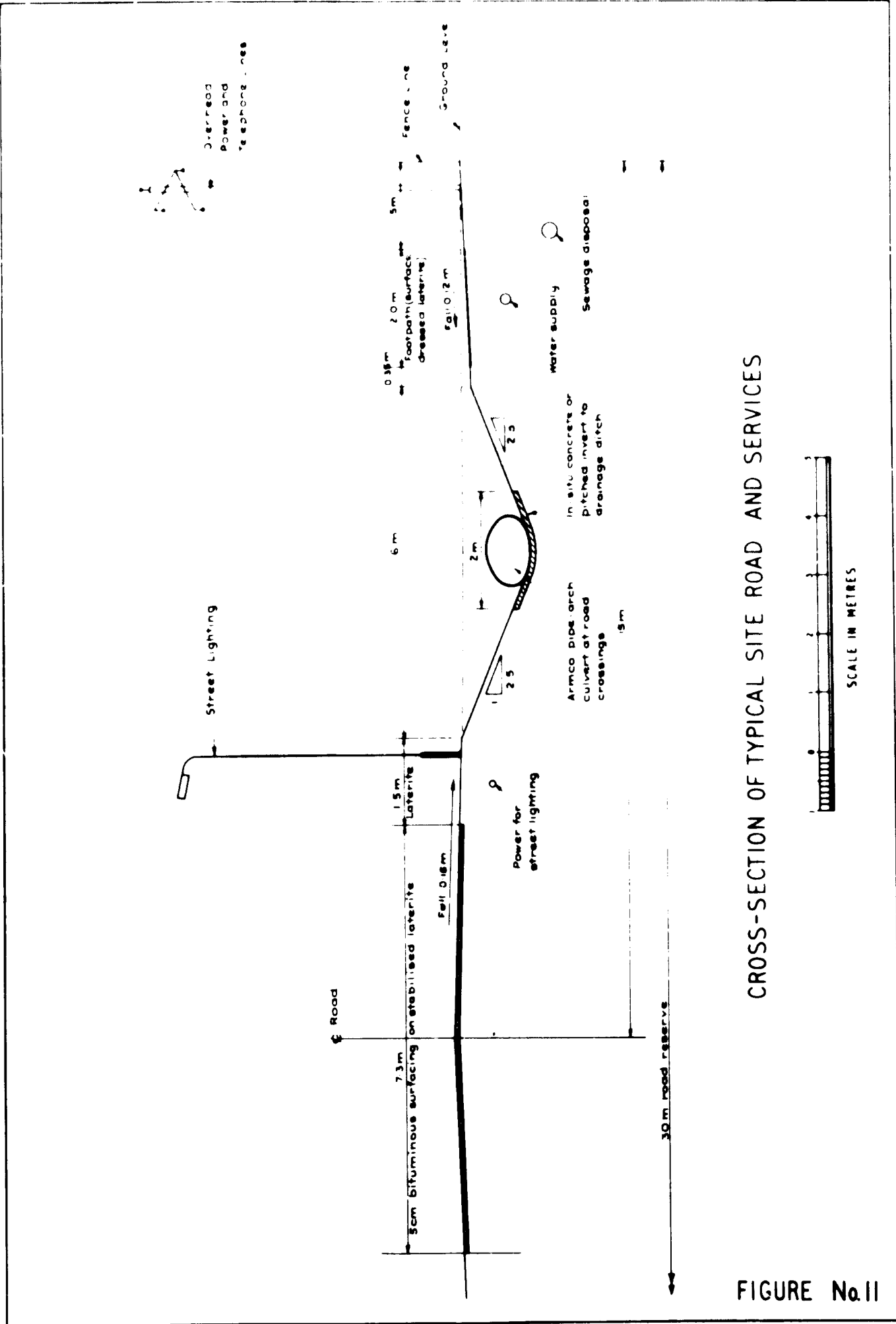
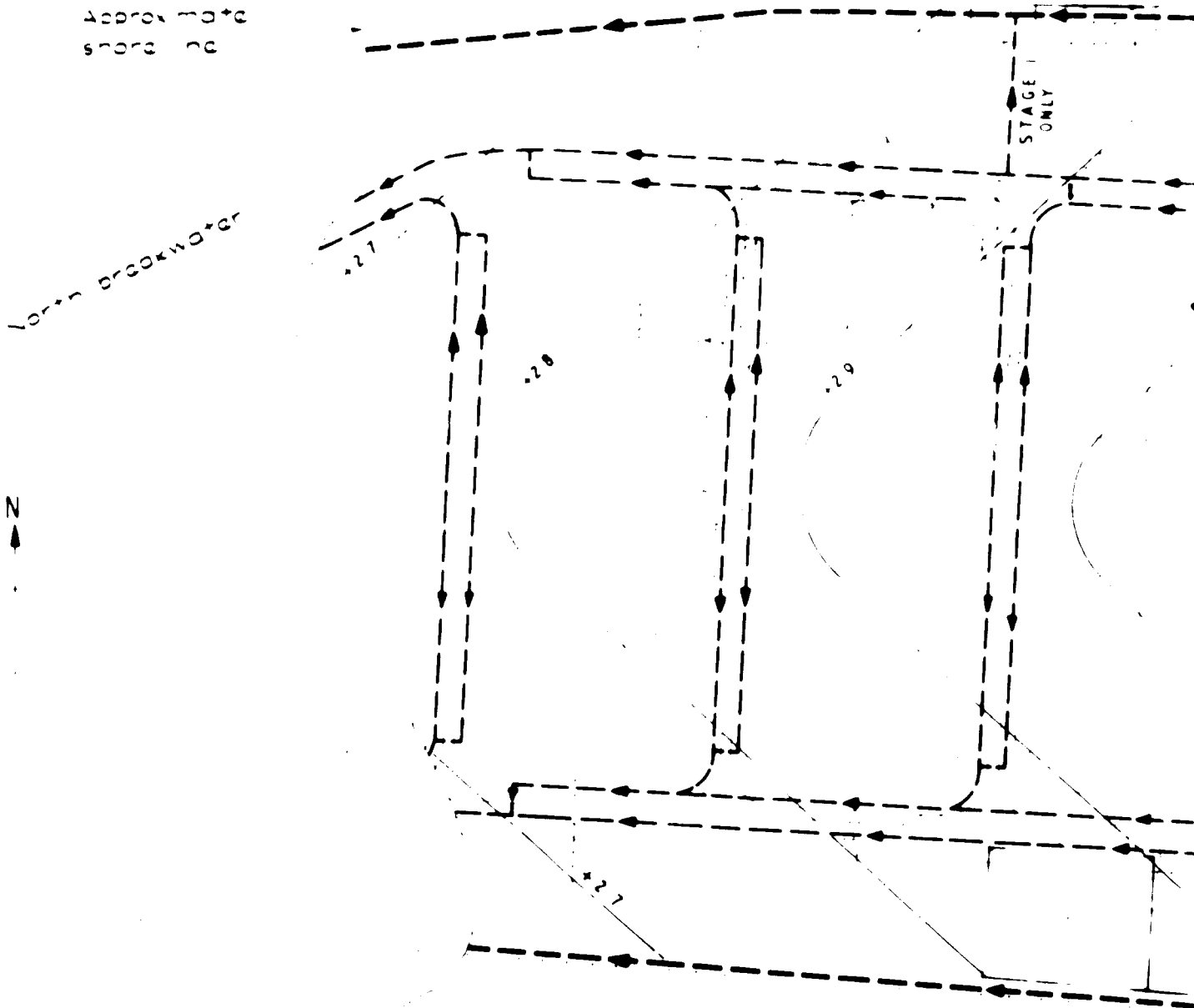


FIGURE No. II

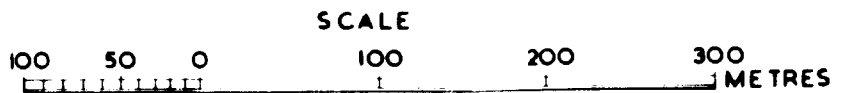
KEY

- FINISHED SURFACE CONTOURS (METRES ABOVE MEAN SEA LEVEL)
- MAJOR BOUNDARY DRAINAGE DITCHES REALIGNED AS NECESSARY
- ROADSIDE DRAINAGE DITCHES CULVERTED AT ROAD CROSSINGS

Approximate
shore line



SURFACE WATER DRAINAGE

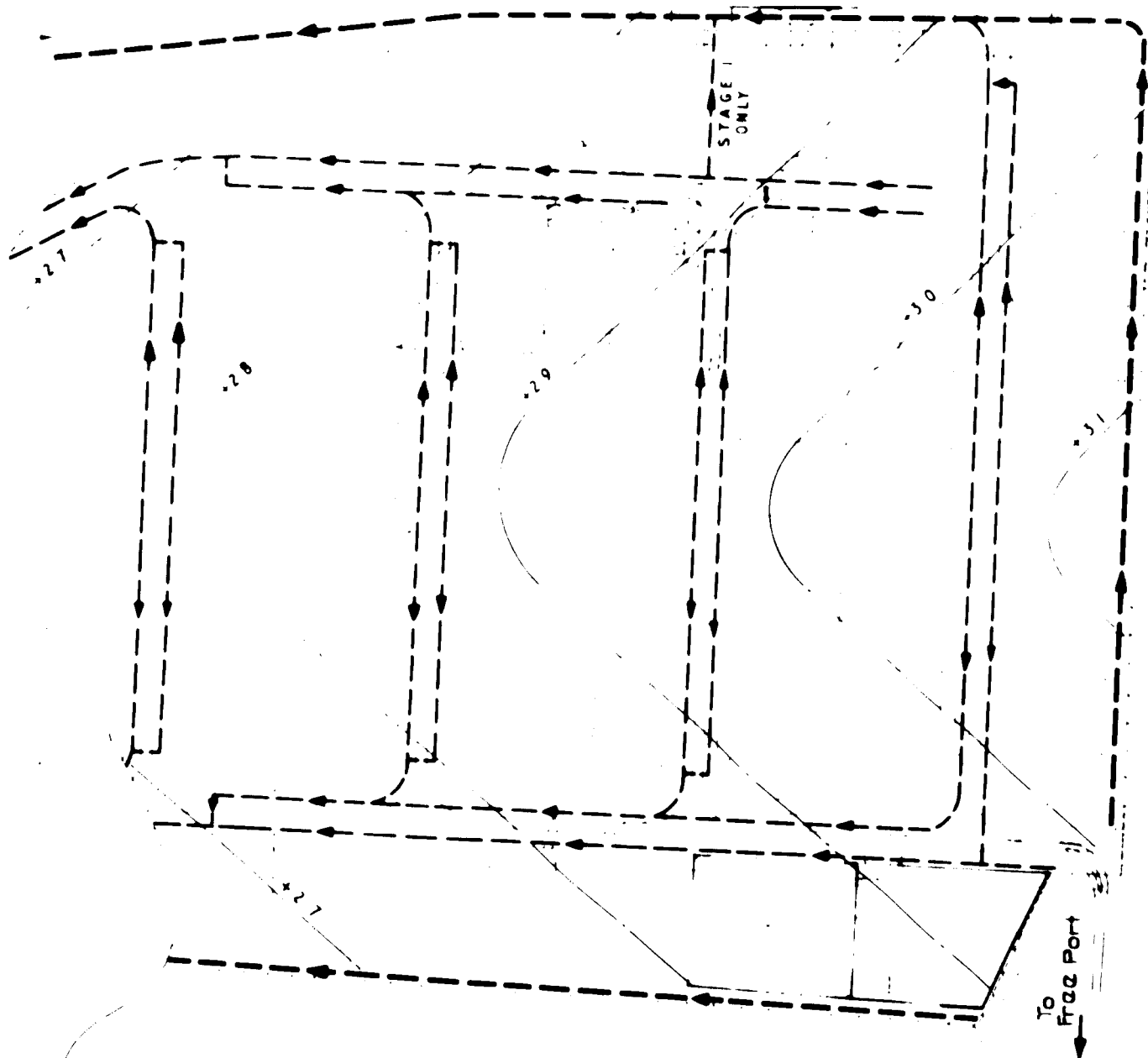


FINISHED SURFACE CONTOURS (METRES ABOVE MEAN SEA LEVEL)

MAJOR BOUNDARY DRAINAGE DITCHES REALIGNED AS NECESSARY

ROADSIDE DRAINAGE DITCHES CULVERTED AT ROAD CROSSINGS

10-0-250
10-0-250-10



SURFACE WATER DRAINAGE

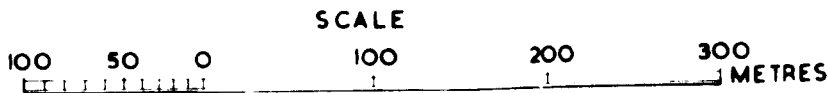


FIGURE No. 12

SECRET

- Food canning and processing
- Beverages
- Textile finishing
- Paper manufacture
- Board products
- Cement manufacture

In our view these types of industry should be accorded a low priority, the proposed scale of the IFZ being such that no difficulty should be experienced in attracting a sufficient number of industries having normal water requirements. We have therefore based the design of the water supply system on an average demand of 5,000 US gallons per day per acre throughout the whole area of the IFZ. This quantity is based on general experience of other industrial zones and includes an allowance for irrigation water. However, we have sized the reticulation system generously (see Figure No. 13) so that there will be no difficulty in coping with individual water demands somewhat in excess of the average. In addition fire hydrants will be provided at approximately 200 m intervals round the site.

Peak demands during the day are likely to be of the order of double the average daily demand. In order to avoid overloading the public supply at times of peak demand we propose that a surface reservoir should be constructed in the north-east corner of the site having a capacity of 300 000 US gallons (roughly equivalent to one day's supply at the peak demand rate for the whole site). In order to maintain an adequate supply pressure to the consumer water would be pumped from the surface water reservoir to a 40,000 US gallon elevated tank 100 feet above ground level which would feed the distribution network.

In discussion the Public Utilities Authority stated that the charge for water to the consumer (as at November 1974) would be \$1.0 per 1,000 US gallons.

(c) Sewage Disposal and Pollution

As stated in Chapter 3 a public sewage system passes the site of the IFZ and is capable of absorbing the sewage effluent produced by

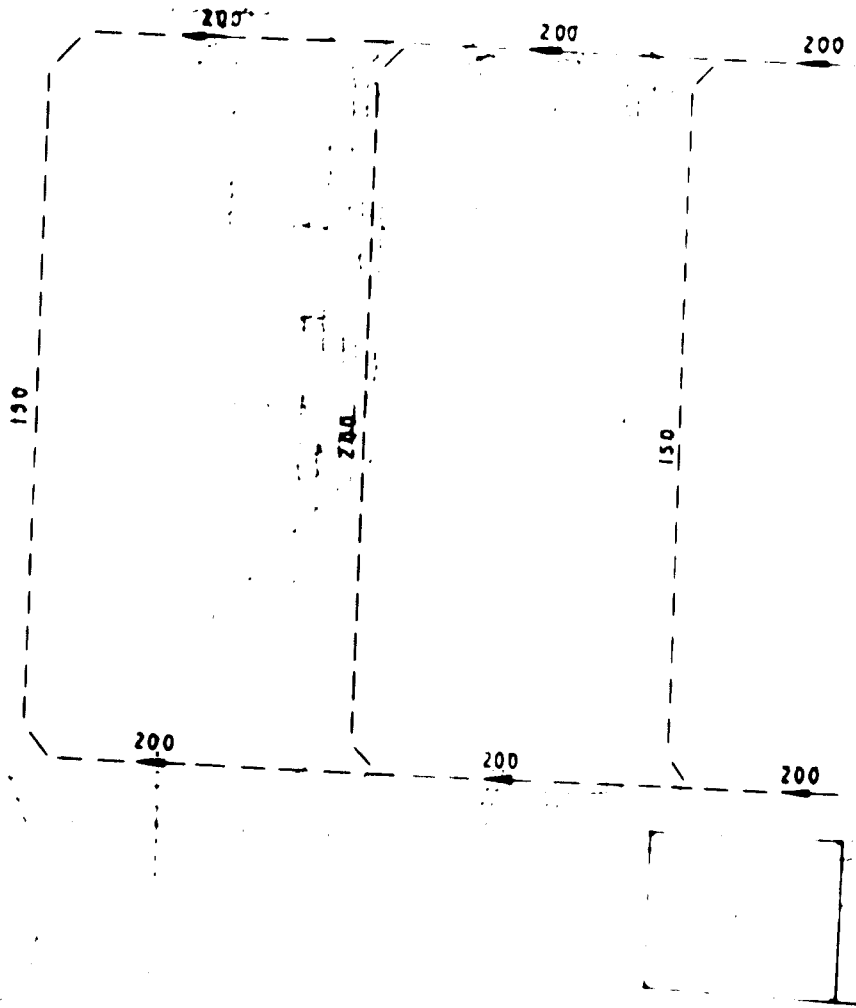
KEY

200 200 MM C AM ASBESTOS-CEMENT PIPE

Approximate
shore line

North Breakwater

N



WATER SUPPLY

SCALE

100 50 0 100 200 300 METRES

200

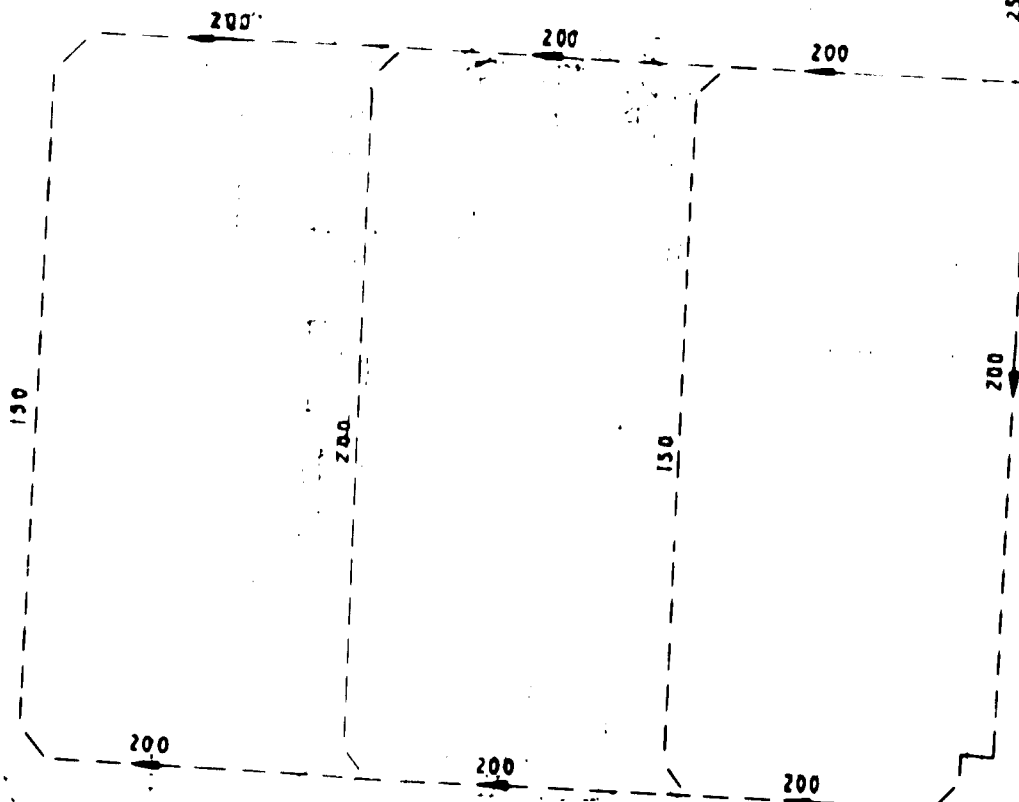
200 MM DIAM ASBESTOS-CEMENT PIPE

200MM PIPE FROM
SUPPLY MAIN

SURFACE
STORAGE
RESERVOIR

PUMPHOUSE

ELEVATED
STORAGE
TANK



WATER SUPPLY

SCALE



FIGURE No.13

SECRET

the IFZ. The sewage reticulation system on the IFZ site has been designed to deal with four times the average water demand, in order to take account of the peaks that occur at the start and finish of morning and afternoon working, breaks etc.

Owing to the flatness of the site it is not possible to drain entirely by gravity and pump stations have been introduced at intervals, as shown on Figure No. 14.

The sewage treatment plant at Sinkor is capable of dealing with all normal domestic sewage, but some industrial effluents will require special treatment and control measures. In particular the discharge of the following substances into the public sewer should be prohibited:

- Oil and greases
- Petroleum spirits and inflammable light oils
- Carbon bisulphide, trichlorethylene, amylacetate and other solvents
- Calcium carbide
- Radio-active materials
- Mercury and mercurial compounds
- Other substances likely to be injurious to public health

In view of the complex nature of many industrial processes it is not possible to contemplate bulk treatment to remove these substances, and we recommend that each industry should be required to provide such additional treatment as is necessary to produce a suitable effluent before discharge to the public sewer. Regulations covering this aspect should be incorporated in the lease and/or other documents of agreement with the tenant.

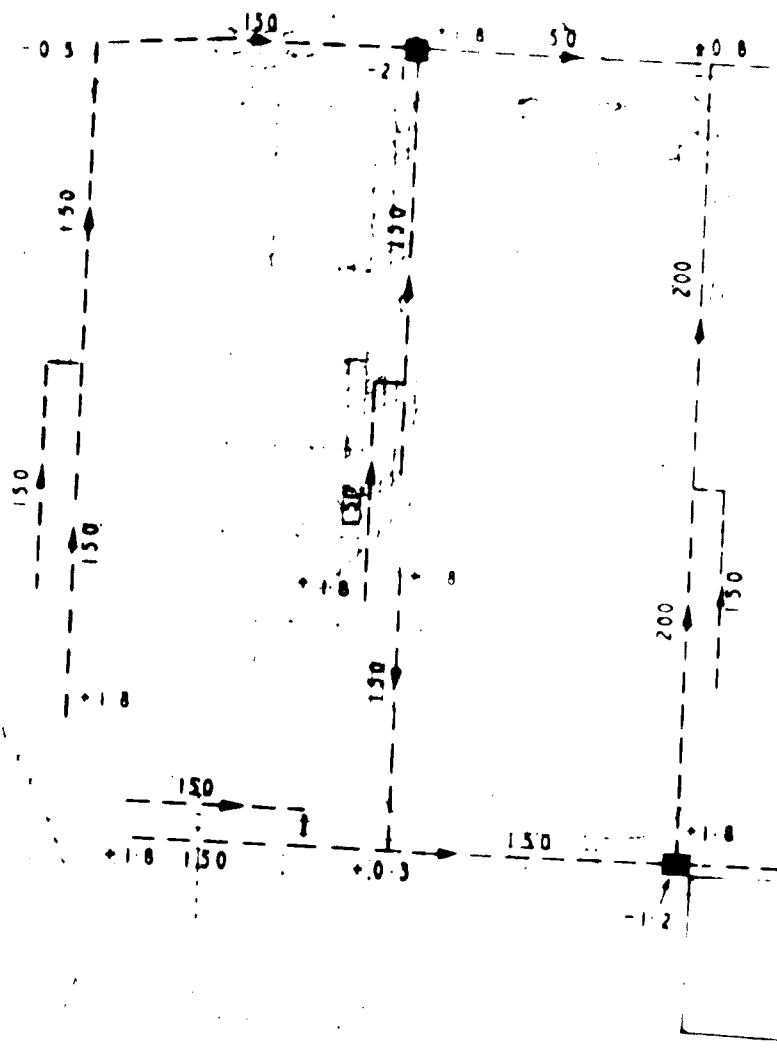
In discussion with the Public Utilities Authority it was stated that the charge for sewage disposal (as at November 1974) would be based on the amount of water supplied, at the rate of \$0.6 per 1,000 gallons.

With regard to atmospheric pollution we do not anticipate that this would be a serious factor with the great majority of industries likely to be attracted to the IFZ. Nevertheless it will be necessary to draw up acceptable standards and regulations to enforce them.

KEY: --- 200 --- 200mm DIA ASBESTOS-CEMENT PIPE
 ■ UNDERGROUND PUMP STATION
 + 0.3 INVERT LEVEL (METRES) RELATED TO MEAN SEA LEVEL

Approximate
 shoreline

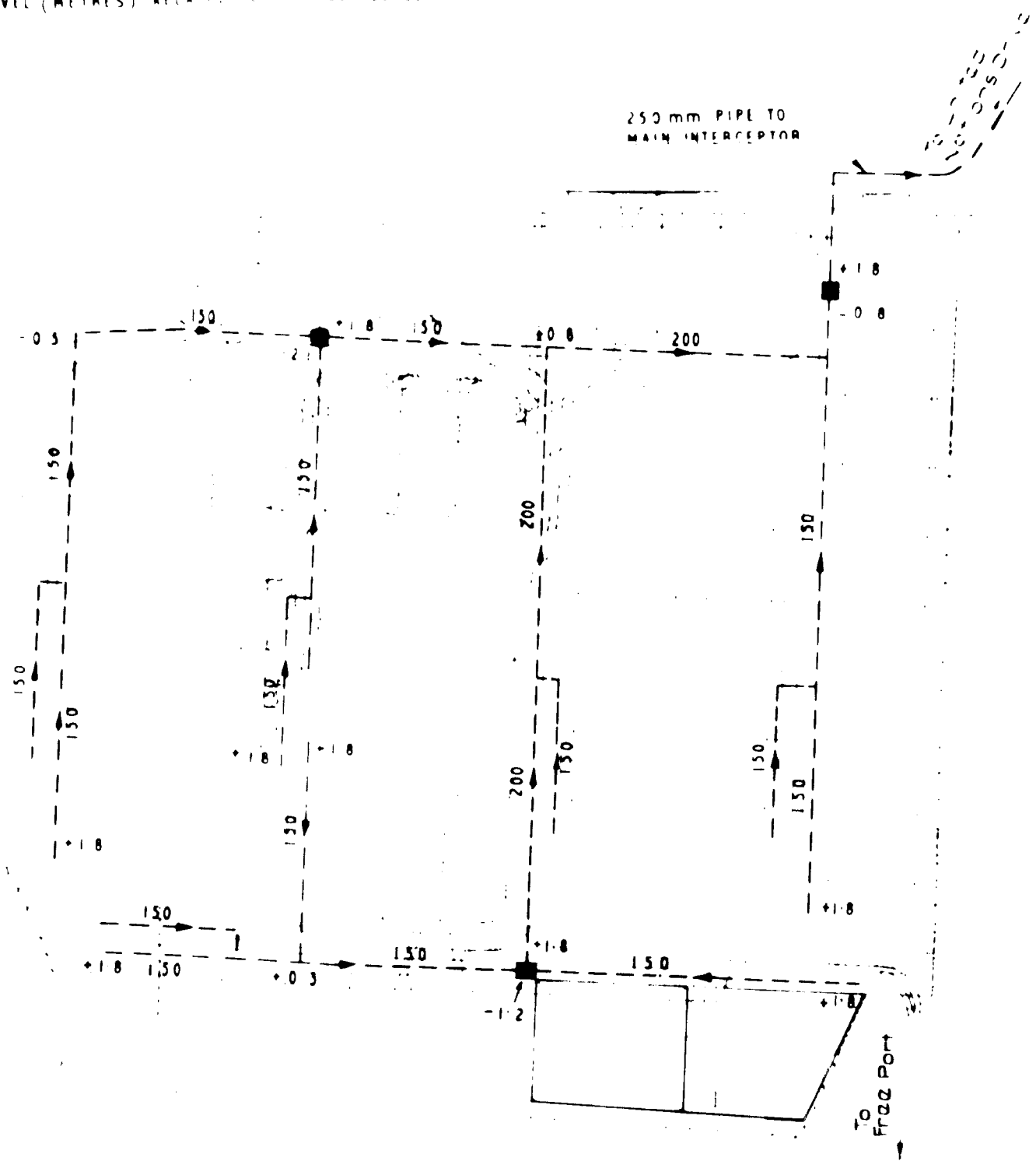
North direction



SEWAGE DISPOSAL



200 mm OIA ASBESTOS CEMENT PIPE
 UNDERGROUND PUMP STATION
 INVERT LEVEL (METRES) RELATED TO MEAN SEA LEVEL



SEWAGE DISPOSAL

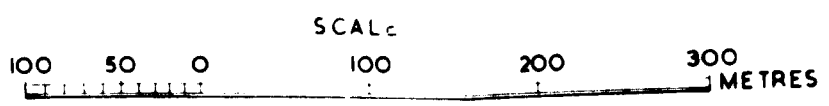


FIGURE No.14

(d) Solid Waste Disposal

In Chapter 3 we recommend that the collection of solid waste should be by private arrangement between each site owner and a private contractor. However, a dumping location should be provided outside the IFZ and leased to the private contractor who is willing to provide the service. Regulations and instructions governing methods of collection and disposal should be drawn up and made known to tenants and, where appropriate, incorporated in the lease and/or the documents of agreement.

(e) Telecommunications

We have discussed the provision of telecommunications to the IFZ site in Section 3.6(f). Within the site we envisage that the majority of industrial organisations would require their own PABX (private automatic branch exchange) with up to 5 incoming lines. This system has the advantage of providing an internal telephone system within the factory itself, as well as communication with the outside world.

(f) Power Supply and Street Lighting

(1) Power Supply

As stated in Chapter 3 the proposed site for the IFZ is close to the existing Public Utility Authority's thermal power station, which we propose should be the source of supply. From experience elsewhere the capacity of the system has been based on an average load of 250 KVA per industrial plot of about one acre. This would give a maximum demand of approximately 20 MVA for the total development.

The main distribution would be from 12.5 KV overhead lines on wood poles in accordance with the existing supplies in the area. These lines would be placed outside the plot boundaries and, where necessary, on both sides of the road. The whole development allows for seven 12.5 KV radial lines, with cross connections on the main east-west roads, as shown on Figure No.15.

The existing 12.5 KV line which crosses the site would be re-aligned along the eastern boundary of the area, the NPA housing would be fed from the new network as soon as this is energised to allow the existing line to be removed.

--- 12.5 KV OVERHEAD LINES
— DIVERSION OF EXISTING
12.5 KV OVERHEAD LINE
TIMING OF FEEDERS WOULD DEPEND
ON GROWTH OF DEMAND

APPROXIMATELY 300 METRES FROM PUBLIC
UTILITIES AUTHORITY'S TRANSFORMER STATION

10-0-0-0-10

To
Frag Port

POWER SUPPLY



FIGURE No.15

REPLICA

Medium voltage supplies to individual plots would be from 1,000 KVA (1 MVA) ground mounted transformer substations supplying either single plots or a number of plots according to demand. The precise number and location of the transformers would be determined by the load requirements of actual factories, but a typical arrangement is shown on Figure No. 16. We propose that a basic 12.5 KV network with one or two lines should be installed initially, with further reinforcement being carried out as actual loads develop, rather than install the whole Stage 1 network based on an estimate of loads that may prove inaccurate. Some saving in cost could also be achieved by encouraging larger users of power to occupy plots nearer to the power source at the northern end of the site.

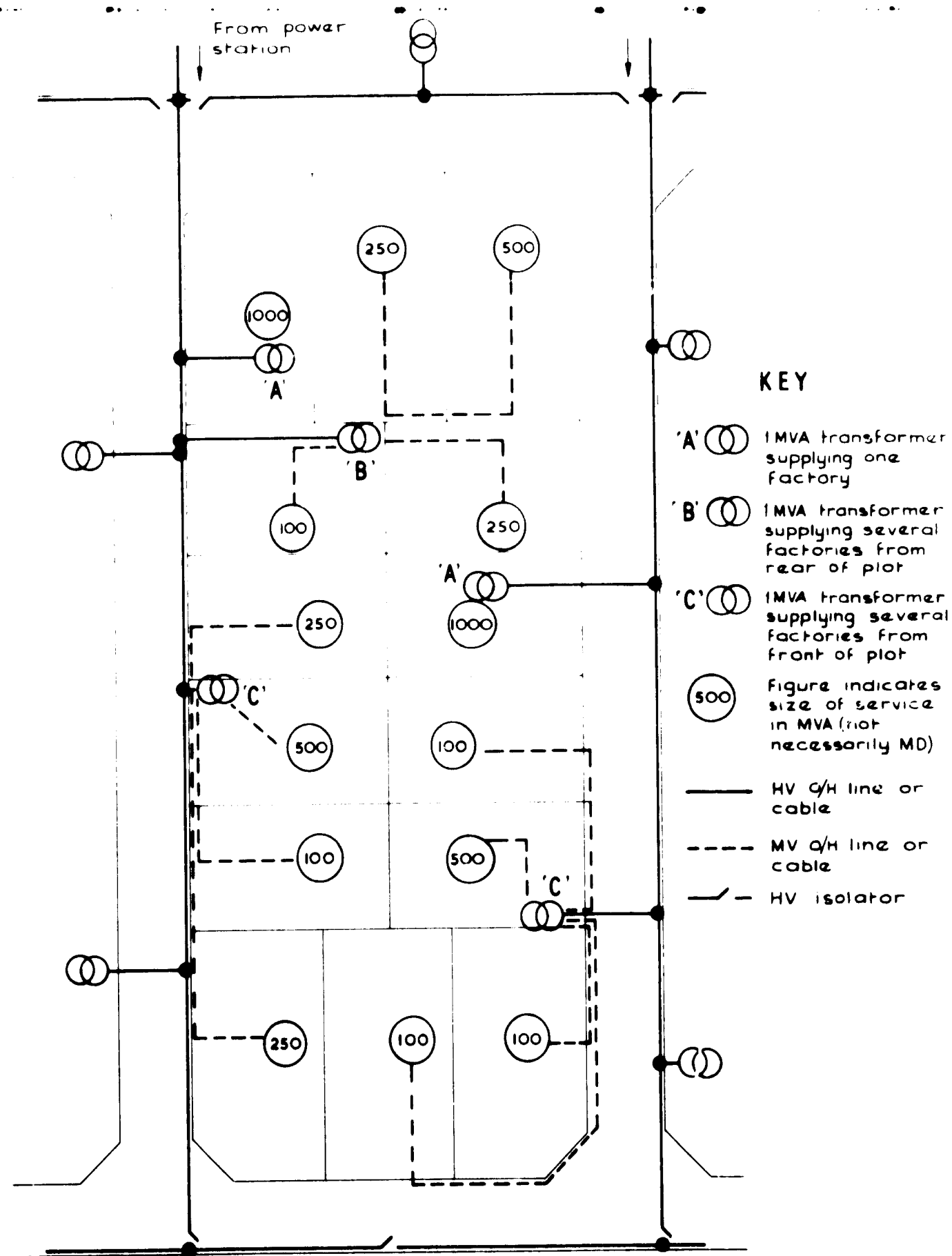
In view of the proximity of the sea all overhead lines have been planned using copper conductors in order to avoid the corrosion that would take place with the cheaper steel reinforced aluminium conductors.

(ii) Street Lighting








For the general estate roads we propose the use of 400 W mercury lamps in semi cut-off lanterns on 10 m high columns at 30 m intervals staggered on either side of the road. This will provide Class A2 lighting. The supply would be taken from convenient sub-stations, switched and metered in ground-mounted feeder pillars, and thence to an underground cable system. The lanterns would be operated by time switches and relay-contactors or by photo-electric cells mounted in each individual lantern as required. Street lighting in the administration area would be a semi-decorative scheme using post top lanterns.

(iii) Electricity Tariffs

The new rate structure of the Liberia Electricity Corporation effective as of May 1974 is the following:



KEY

- 'A'  1000 MVA transformer supplying one factory
- 'B'  100 MVA transformer supplying several factories from rear of plot
- 'C'  500 MVA transformer supplying several factories from front of plot
-  Figure indicates size of service in MVA (not necessarily MD)
-  HV o/h line or cable
-  MV o/h line or cable
-  HV isolator

TYPICAL MEDIUM VOLTAGE DISTRIBUTION

1. Residential and Commercial

One rate will apply to all residential customers and to small commercial customers:

The first	400 kilowatt hours	8¢ per kilowatt hour with a minimum bill of \$3.20
next	1100	7¢ per kilowatt hour
over	1500	6½¢ per kilowatt hour

2. Primary Power Rates

Primary power for delivery to large commercial and industrial customers

Alternate I

If customer owns transformer(s) and all material beyond the meter.

first	2000 kilowatt hours	7¢ per kilowatt hour
over	2000 kilowatt hours	5½¢ per kilowatt hour

Alternate II

If customer owns transformer(s)

demand charge (monthly)	\$4.00 per kilowatt
energy charge	5½¢ per kilowatt hour

(E) Transportation Requirements

As stated in Section 3.2 we do not consider that the IFZ organisation need be concerned with the transportation of labour to the site. With regard to the transportation of goods and raw materials there are three possibilities.

- (i) The IFZ organisation would set up its own transport pool and be completely responsible for the transport of goods within the Free Port and IFZ areas.

- (ii) Each industrial concern would make its own arrangements and either provide its own transport or make its own arrangements with commercial haulage contractors and/or the IPA.
- (iii) An intermediate arrangement under which commercial haulage contractors and/or the IPA would provide the vehicles, but their use would be co-ordinated by the IFZ authority.

In view of the short distance between the IFZ and the general cargo wharf the first possibility would appear to be an uneconomic use of resources. Similarly the second possibility has disadvantages in that duplication of effort and use of vehicles could result. The third possibility is in our view the most sensible, at least in the early years of development of the IFZ, and we have not therefore allowed for the capital cost of a fleet of transport vehicles in our estimates.

(h) Administration and Services Centre

As mentioned in Section 4.4 the south-eastern corner of the site, near to the main entrance from the port area, has been reserved for an administration and services centre. The layout is shown on Drawing No. 7482/1 and comprises the following facilities:

(i) General Administration Building

It has been assumed that the administrative offices would be small in the Stage 1 development, only four to six rooms with toilets and storage.

However, the need for conference rooms, exhibition areas, library and statistical services would probably arise, and the layout therefore allows generous space for additional buildings in Stage 2. A service yard is provided behind the buildings.

(ii) Commercial Buildings

These are grouped together and include a bank, shipping and insurance offices.

(iii) Cafeteria

A cafeteria for the use of IFZ personnel and factory managerial staff is an amenity which could be both a social and commercial asset. It has been located alongside the commercial buildings.

(iv) Clinic

This special building has been sited on its own with a service and ambulance yard screened off from other development.

(v) Police Station

This has been sited in the commercial area, it could however be linked with the fire station if desired.

(vi) Post Office/Telecommunications Building

(vii) Transport/Maintenance Depot

Although we do not envisage that the IFZ authority would provide a pool of commercial transport, some transport services will be required for the authority's own use. An area of about 2½ acres, mainly of reclaimed land, has been reserved for any necessary development, together with small offices and garage. A petrol filling station could also be located in this area.

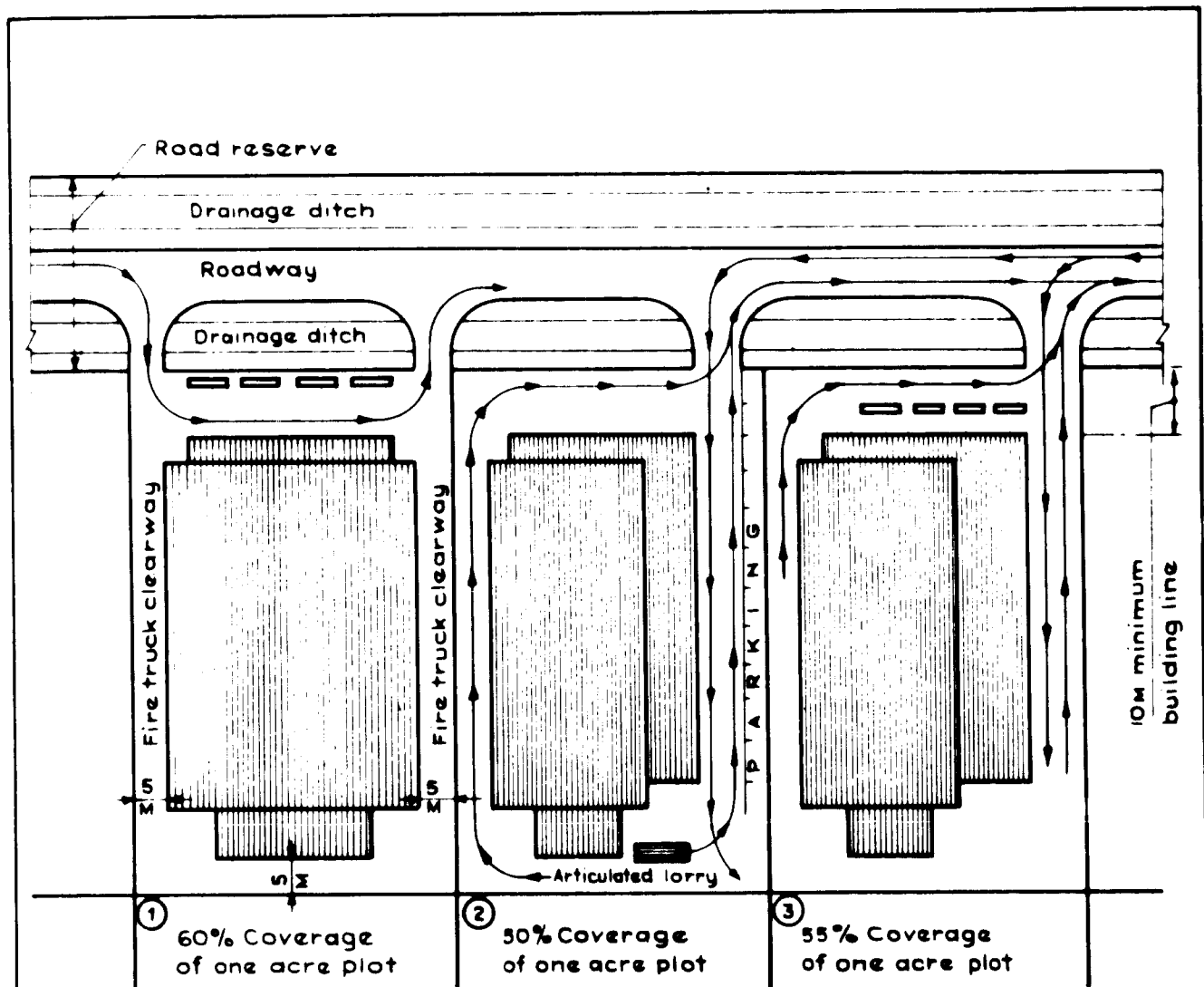
(viii) Fire Station

This has been sited within the transport/maintenance depot, and allows for one fire truck, a small workshop and staff rooms. The fire truck has direct access to the main site roads.

(i) Factory Layout

We propose that the factory layout should be based on approximately 1 acre plots having dimensions of about 80 metres x 50 metres. Of this area about 50 percent would be occupied by the building itself. Figure No. 17 illustrates some of the factors to be taken into account in determining this ratio.

Fire regulations usually require free passage for fire trucks round the building, the usual width of this passage being 5 metres with



- EXAMPLE ①** - 60% Coverage - allows clear passage round buildings, but needs one way traffic for heavy vehicles in front. Very limited parking.
- EXAMPLE ②** - 50% coverage - meets fire regulations - allows movement and turning of articulated lorries - allows car parking for 10 cars.
- EXAMPLE ③** - 55% coverage - as for ② but reduced car parking.

BUILDING COVERAGE

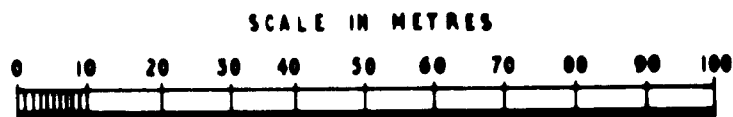


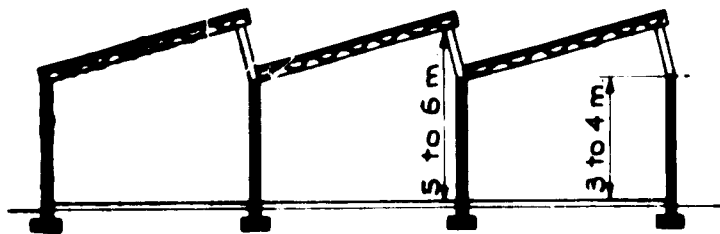
FIGURE No.17

provision for easy turning at the corners of the building. this controls the minimum distance from the side and back boundaries of the plot. The location of the front of the building is controlled by the building line which should be at least 10 metres from the plot boundary, this distance could be greater for prestige buildings to allow for more sophisticated architectural treatment or landscaping. The coverage is also controlled by the size of industrial vehicles which have to manoeuvre within the site and the amount of space allocated for car parking. We consider that the arrangement giving a 50 percent building coverage is to be preferred, thus allowing a maximum building area of about 2,000 square metres.

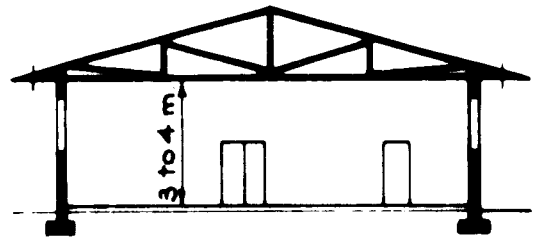
Figure No. 18 illustrates the basic requirements of a standard factory of various spans and roof designs. The provision for offices, toilets and yard space is flexible and would depend on the factory size and requirements of individual tenants. The problems of strong sunlight and ventilation are factors which would affect the detailed design. The figure also shows extension of a first stage development in the form of terraced units, these are also illustrated on the detailed layout proposed for the first main block on Drawing No. 7482/1.

The terraced units on this detailed layout have been set within the boundaries of a one acre plot or less, and floor areas ranging from about 150 square metres to 800 square metres per unit are illustrated. This range is indicative only and should not be considered as limiting in any way, a detailed study would be necessary to establish the requirements for any standard factories built by the IFZ authority including the cost of pedestrian ways, service roads, parking areas etc. and to relate the provision of standard factories to commercial development.

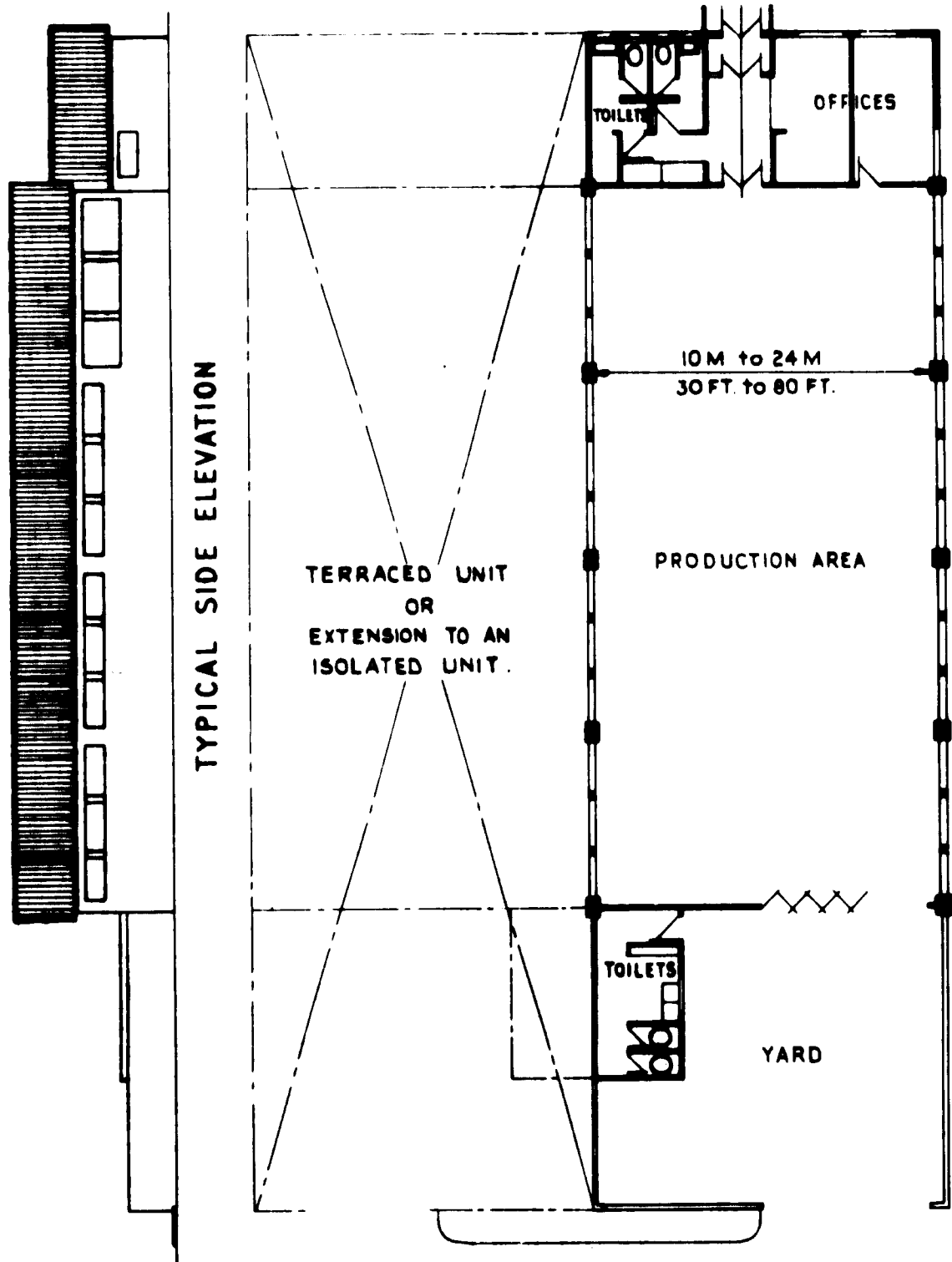
Most manufacturing industries can be carried out in simple standard factories with allowance for future expansion, and their provision by the IFZ authority would be a major factor in attracting entrepreneurs, as well as establishing good standards of working conditions. By grouping such standard factories together in one block advantage can be taken of the layout to ensure quiet working conditions in the offices, which could face into pedestrian ways and thus be free from the traffic noise at the back of the factories. In addition employees and visitors can move freely in the car-free areas.



TYPICAL SECTION FOR SMALL TERRACED UNITS
OR WHERE MAIN WALLS FACE EAST AND WEST



TYPICAL SECTION - PARTICULARLY
WHERE MAIN WALLS FACE NORTH & SOUTH



PLAN ILLUSTRATING BASIC REQUIREMENTS OF A FACTORY

SCALE IN METRES



FIGURE No. 18

(j) Parking Requirements

The parking of commercial vehicles and some staff and visitors' cars are requirements which would need study for each individual factory, and has been referred to in the previous section.

Public parking, mainly for employees' cars, should also be provided, this should be near to the factory, but can be detached from it, and should be clear of the main roads and approached safely from them. Provision for such public parking varies widely in other industrial estates throughout the world and it is difficult to forecast what would be necessary for the early stages of development of the IFZ. We have therefore proposed that areas for car parking should be reserved principally where the ground is less suitable for building. For example, part of the reclaimed area of the fresh water lagoon, or the swampy area beside the present access road to the Port Authority housing.

(k) Pedestrian Access

We have proposed that footpaths should be provided on both sides of all the principal site roads, as shown on Figure No. 11, as at least during the early years of development a considerable number of workers will come by foot. To safeguard pedestrians from the heavy industrial traffic it would be better still to separate foot and wheel traffic by the provision of pedestrian ways. A means of achieving this is illustrated on Drawing No. 7482/1, where the development of the block north of the proposed administration and commercial centre is shown in some detail. The main pedestrian way is off-centre and running north-south the full length of the block, with a short length running east-west between the public and commercial buildings. The clinic is sited separately from these buildings, and in front of it we have proposed a small concourse planted with shade trees where pedestrians could meet and talk with friends.

(l) Recreation

Recreation within the IFZ would be sought mainly during the lunch-hour break. Climatically football or other energetic games may not be practical at this time of day, but local small games might be popular and need very little space. Initially this could be provided under the concourse shade trees mentioned above, and anticipating this social

gathering we have proposed a small kiosk in this area for the sale of refreshments. Gradually as the number of employees increases it will become clearer what type of recreation is preferred, and consideration could then be given to using the undetermined area of the reclaimed freshwater lagoon, or to areas adjacent to the seashore.

4.7 Infrastructure Costs

This section presents our estimates of cost for the Stage 1 and Stage 2 developments of the IFZ site. It should be borne in mind that the present world-wide inflationary trend is being experienced in Liberia (for instance the price of cement has increased from \$1.25 per 50 kg bag in 1971/72 to \$2.60 in November 1974, and is expected to reach \$3.10 early in 1975), and it is probable that the full effect of recent increases in the price of oil have not yet worked through. Our estimates are therefore based on prices ruling in November 1974, but could be subject to a fairly rapid rate of increase.

(a) Estimated Capital Costs

Table 4.2 shows our estimate of capital cost for the basic infrastructure which includes preliminary site works, surface water drainage and roads, water supply, sewage disposal, power supply and street lighting, administration and service centre, and miscellaneous items.

We have not included in this section the cost of development or fencing of the individual plots, or of standard factories.

TABLE 4.2

CAPITAL COSTS OF INFRASTRUCTURE

Item	Unit	Rate \$	STAGE 1		STAGE 2	
			Quantity	Amount \$	Quantity	Amount \$
A) PRELIMINARY SITE WORKS						
1 Site Clearance	Ha	500	14	7,000	10	5,000
2 Compensation for House Removals etc.			-	-	Allow	350,000
3 Imported Filling	m ³	2.5	120,000	300,000	75,000	188,000
4 Site Compaction	m ²	0.2	200,000	40,000	160,000	32,000
SUB-TOTAL FOR PRELIMINARY SITE WORKS:				347,000		575,000
B) SURFACE WATER DRAINAGE AND ROADS						
5 Drainage Channel Diversions	m ³	3.0	13,500	40,500	-	-
6 Drainage Ditch Excavation	m ³	3.5	13,300	46,550	7,800	27,300
7 Pitching to Invert	m ³	150	450	67,500	250	37,500
8 Armco Culverts						
4N	m	80	690	55,200	390	31,200
6N	m	120	330	39,600	20	2,400
9 Culvert Headwalls	m ³	150	180	27,000	90	13,500
10 Site Roads	m	100	1,850	185,000	1,085	108,500
11 Plot Connections	No.	1,500	57	85,000	30	45,000
12 Foot Paths	m ²	1.0	4,000	4,000	2,000	2,000
13 Access Road to Free Port	m	90	2,500	225,000	-	-
SUB-TOTAL FOR SURFACE WATER DRAINAGE AND ROADS				775,350		267,400

Cont 'g.....

TABLE 4.2 (Cont'd)

Item	Unit	STAGE 1		STAGE 2			
		Rate \$	Quantity	Amount \$	Quantity	Amount \$	
C) WATER SUPPLY							
14	250 mm Pipe	m	36	200	7,200	-	-
15	200 mm Pipe	m	31	1,370	42,470	650	20,150
16	150 mm Pipe	m	26.5	460	12,190	450	11,925
17	Plot Connections	No.	60	49	2,940	30	1,800
18	Trench Excavation	m ³	5	2,290	11,450	1,240	6,200
19	Surface Reservoir	m ³	50	3,750	187,500	-	-
20	Elevated Reservoir	m ³	120	210	25,200	-	-
21	Pump Station	WHP	600	35	20,100	-	-
22	Fire Hydrants	No.	200	80	16,000	40	8,000
23	Connection to Supply Main		Sum		10,000		
SUB-TOTAL FOR WATER SUPPLY					335,050		48,075
D) SEWAGE DISPOSAL							
24	250 mm Pipe	m	36	200	7,200	-	-
25	200 mm Pipe	m	31	680	21,080	-	-
26	150 mm Pipe	m	26.5	1,560	41,340	1,190	31,535
27	100 mm Pipe	m	23	300	6,900	180	4,140
28	Plot Connections	No.	150	49	7,350	30	4,500
29	Trench Excavation	m ³	5	4,380	21,900	2,430	12,150
30	Manholes	No.	500	35	17,500	20	10,000
31	Pump Stations	No.	20,000	2	40,000	1	20,000
32	Dealing with Water		Sum		20,000		10,000
33	Connection to Interceptor		Sum		20,000		-
SUB-TOTAL FOR SEWAGE DISPOSAL					203,270		92,325

Cont'd....

TABLE 4.2 (Cont'd)

Item	Unit	STAGE 1		STAGE 2			
		Rate \$	Quantity	Amount \$	Quantity	Amount \$	
E) POWER SUPPLY AND STREET LIGHTING							
(i) 12.5 kV Distribution							
34	Extension to 12.5 kV panel at Power Station O.C.B. cubicles	No.	7,200	4	28,800	2	14,400
35	70 mm ² copper 3 core 12.5 kV cable from switch panel to overhead line	m	30	800	24,000	400	12,000
36	70 mm ² copper overhead line on wood poles	KM	12,000	4	48,000	3	36,000
37	Re-align existing overhead line	KM	12,000	0.3	9,600		
(ii) Sub-Stations							
38	12.5 kV cable	m	30	900	27,000	660	19,800
39	Pole mounted isolator/fuses/surge diverter	No.	2,800	15	42,000	11	30,800
40	1,000 KVA Transformer	No.	9,500	15	142,500	11	104,500
41	L.V. Switchboard	No.	2,500	15	37,500	11	27,500
(iii) Low Voltage Supply							
42	Connection per factory including cable and isolator	No.	1,500	42	63,000	29	43,500
(iv) Administration Area							
43	Sub-station	No.	16,600	1	16,600		
44	MV Network per building	No.	800	6	4,800	4	3,200
(v) Street Lighting							
45	Class A2 luminaire	KM	30,000	2	60,000	1	30,000
SUB-TOTAL FOR POWER SUPPLY AND STREET LIGHTING					503,800		321,700

Cont'd.....

TABLE 4.2 (Cont'd)

Item	STAGE 1				STAGE 2	
	Unit	Rate \$	Quantity	Amount \$	Quantity	Amount \$
F) ADMINISTRATION AND SERVICES CENTRE						
46 Administration Building	m ²	230	200	46,000	200	4,600
47 Clinic	m ²	230	168	38,600	-	-
48 Cafeteria	m ²	190	200	38,000	400	76,000
49 Post Office/Telecommunications	m ²	230	200	46,000	100	23,000
50 Police/Fire Station	m ²	230	200	46,000	-	-
51 Transport Offices	m ²	190	150	28,500	100	19,000
52 Transport Garage	m ²	100	180	18,000	-	-
53 Commercial Buildings						
Bank	m ²	230	150	34,500	-	-
Shipping	m ²	230	150	34,500	-	-
Insurance	m ²	230	150	34,500	-	-
SUB-TOTAL ADMINISTRATION AND SERVICES CENTRE				364,600		164,000
G) MISCELLANEOUS ITEMS						
54 Security Fencing	m	25	600	15,000	400	10,000
55 Security Gates	No.	2,500	2	5,000	-	-
56 Car Parks	m ²	2	3,000	6,000	2,000	4,000
57 Vehicles, Plant and Tools	Provisional Sum			50,000		25,000
58 Landscaping, Recreation				20,000		10,000
59 Furniture and Equipment				35,000		15,000
60 Telecommunications Link to Monrovia (Part Cost)				20,000		
SUB-TOTAL MISCELLANEOUS ITEMS				151,000		64,000

The rates given in sections A, B, C, D, E and F of Table 4.2 are unit rates without allowance for general contract items, contingencies and engineering and administration. In table 4.3 we summarise the costs given in Table 4.2, add percentages to cover these allowances, and develop the total capital cost.

TABLE 4.3
SUMMARY OF CAPITAL COSTS OF INFRASTRUCTURE
(US \$)

<u>Item</u>	<u>Stage 1</u>	<u>Stage 2</u>
A) Preliminary Site Works	347,000	575,000*
B) Surface Water Drainage & Roads	775,350	267,400
C) Water Supply	335,050	43,075
D) Sewage Disposal	203,270	92,325
E) Power Supply & Street Lighting	503,800	321,700
F) Administration & Services Centre	364,600	164,000
	2,529,070	1,468,500 *
General Contract Items 20%	505,810	293,700
	3,034,880	1,762,200
Contingencies 10%	303,490	176,200
	3,338,370	1,938,400
G) Miscellaneous Items	151,000	64,000
	3,489,370	2,002,400 *
Engineering & Administration 10%	348,930	200,200
	3,838,300	2,202,600
TOTAL	3,838,300	2,202,600

* Includes an allowance for compensation for removal of existing housing and club. (See Item 2, Table 4.2)



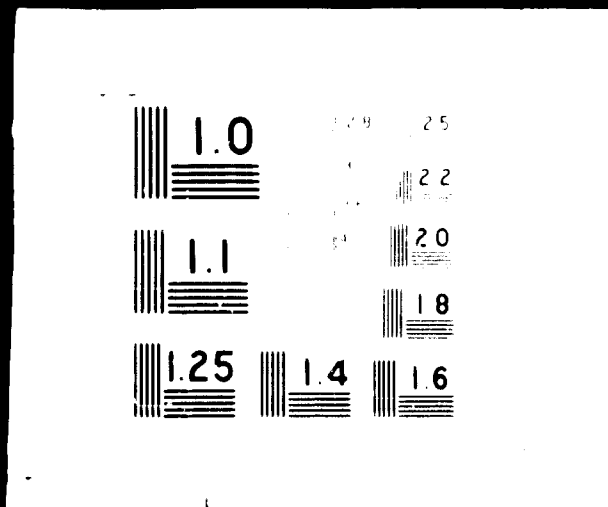
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() Site Development and Standard Factories

In our view it would be most important, in order to attract entrepreneurs to Monrovia, to provide standard factories which could be bought or rented at an economic rent. However, some firms would probably prefer to have purpose built factories constructed at their own expense, and it would not therefore be necessary to contemplate developing the site entirely with standard factories

We have already intimated that development cannot be expected realistically to proceed at a greater rate than the equivalent of five or six 1 acre factory plots per year. Of these we consider that a reasonable allocation to standard factories would be the equivalent of three 1 acre factory plots per year. Assuming a 50 percent building coverage this represents a total building area of approximately 6,000 square metres per year. We estimate that the total cost of the standard factory and plot development would be of the order of \$300 per square metre of building area.

We therefore propose that the sum of \$2 million should be invested per year in standard factory development which would be recouped by selling the factory or by renting at an economic rent

(c) Estimated Operating Costs

The following items contribute towards operating costs:

- (i) Maintenance of infrastructure
- (ii) Salaries of employees
- (iii) Office expenses
- (iv) Vehicle operating costs
- (v) Cost of utilities

At this stage it is only possible to indicate the approximate magnitude of these costs in very broad terms, as shown in Table 4.4.

TABLE 4.4

OPERATING COSTS

<u>Item</u>	<u>Cost per Year</u> \$
Maintenance of infrastructure.	30 000 from year 4 onwards
Salaries of employees	20,000 in year 1, increasing to 250,000 in year 4 onwards
Office expenses	2,000 in year 1, increasing to 10,000 in year 4 onwards
Vehicle operating costs	5,000 in year 1, increasing to 50,000 in year 4 onwards
Cost of utilities	4,000 in year 1, increasing to 10,000 in year 4 onwards
TOTAL	31,000 in year 1, increasing to 350,000 in year 4 onwards

(d) Promotion Costs

Promotion costs are additional to operating costs and are discussed in Chapter 5.

4.8 Construction Programme for Infrastructure

The proposed construction programme is shown on Figure No. 19. Three main contracts are envisaged as follows

(i) Contract No. 1

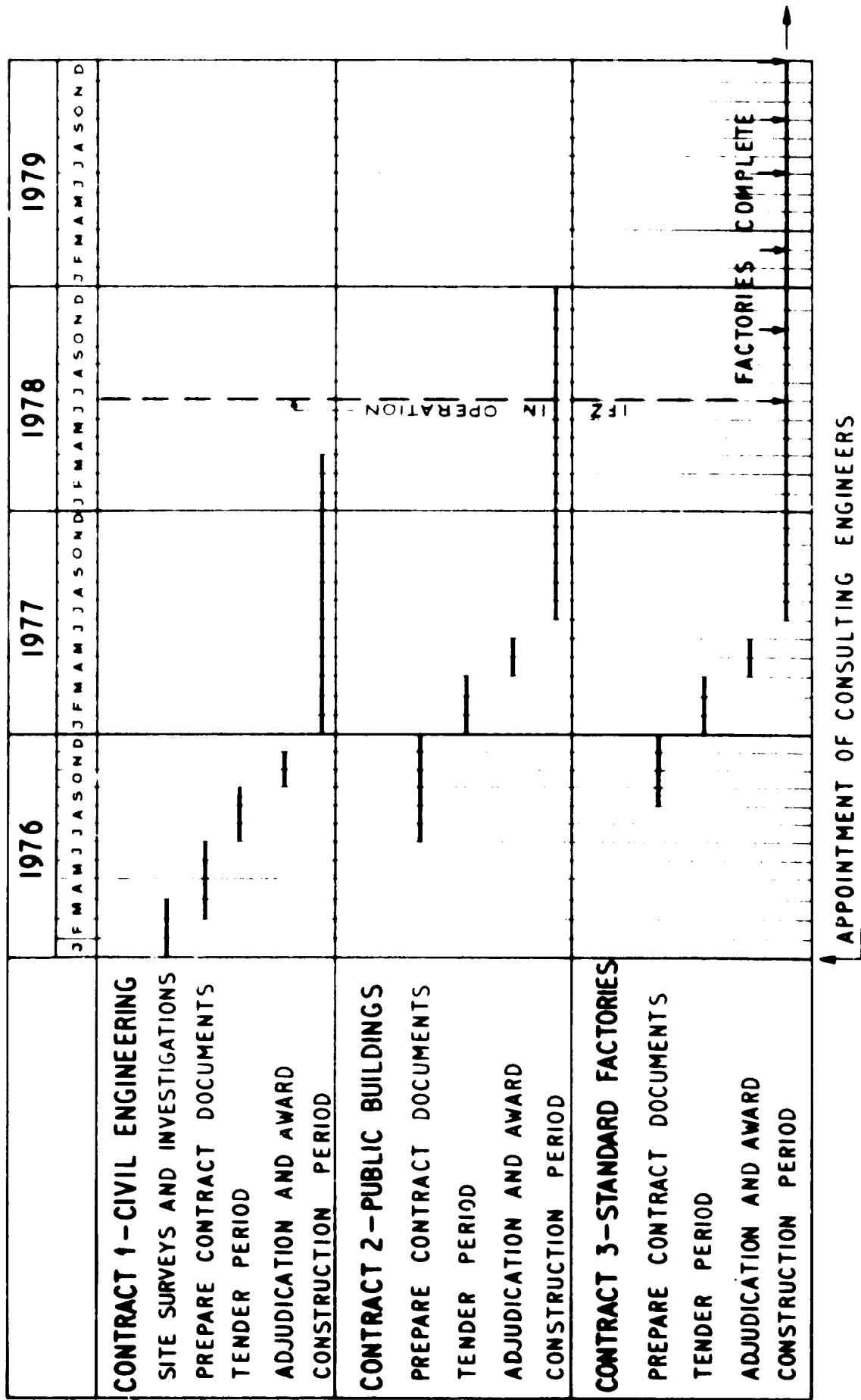
A civil engineering contract that would cover Items A,B, C, D and E as shown in Table 4.3, together with security fencing, gates, car parks and landscaping and recreation which are included under Item G.

(ii) Contract No. 2

A building contract that would cover Item F of Table 4.3.

(iii) Contract No. 3

A building contract covering the development of plots and standard factories.



APPOINTMENT OF CONSULTING ENGINEERS

CONSTRUCTION PROGRAMME FOR INFRASTRUCTURE

FIGURE No.19

Taking the date of appointment of consulting engineers as the start point it is estimated that the civil engineering contract could be completed within 2½ years, the administration and service buildings within 3 years, and the first standard factory could be available within 2½ years, at which point the IFZ could start to function.

The remaining miscellaneous items covered by the cost estimates could be fitted into this time schedule without difficulty.

The Stage 2 works would be constructed under separate contracts, the timing being determined by the rate at which Stage 1 factory plots are developed. As stated in Section 4.5, we expect the Stage 1 development to be adequate for at least seven years of development, and on this basis the Stage 2 works would be completed about 9 years from the assumed start point.

CHAPTER 5

FINANCE AND REVENUE

5.1 Introduction

The criteria on which the project may be judged depend upon the emphasis which the Government of Liberia places on the financial and other benefits it is expected to produce. At the start of the project key questions need to be considered about the best means of financing it, the type of capital structure that should be assigned to the IFZ Authority, and in particular the criteria on which the Authority should operate. The impact which the proposed IFZ in Monrovia is expected to have on the economic development of Liberia must be measured both in terms of the revenues which flow in, such as investment, wages and salaries etc., and on a broader level of social and human development. An indication is given in Section 5.5 of the benefits which the establishment of the IFZ would have on the Liberian economy.

In trying to arrive at practical solutions to the above problems the Consultants have studied the operation and financial basis of IFZs in other countries. The major conclusions of these studies are summarised in Section 5.6. Consideration is given in this Chapter to methods and sources of financing, and cash flows are presented and an indication given on the appropriate rental policy.

5.2 Phased Expenditure

Based on the capital and operating costs for the three groups of contracts described in Section 4.8, estimates have been made for phased expenditure over a period of time sufficient for the full development of Stages 1 and 2. Construction, engineering and administration costs, as shown in Table 4.3, have been spread over the estimated design and construction periods, and are shown together with running costs in Table 5.1. This table also indicates the number of equivalent 1 acre factory plots that could be expected to be in operation, and the number of standard factories constructed. The major Stage 1 investment in infrastructure is expected in the first three

years of the project, with Stage 2 development taking place in Years 7, 8 and 9. An approximately constant rate has been predicted for the growth of plots (6 per year) over 13 years, and it is assumed that out of the 71 plots developed, standard factories would be provided on 43 plots, and the remainder would be filled by clients' own factories.

Running costs comprise operating costs, which have been estimated in Chapter 4 at \$31,000 in Year 1 increasing to \$350,000 from Year 4 onwards, together with promotion costs. A separate allocation of \$30,000 per year has been made for the latter, and it is anticipated that any special promotional campaigns exceeding this allocation would be financed separately through Government grant or on special terms.

In calculating the cash flows, capital costs have been divided into the following categories.

- (1) Site establishment costs - these costs cannot be charged directly to any one factory.
- (2) Unit establishment costs (commercial buildings) - these costs are expected to be recovered from the agencies using the buildings, e.g. banks, shipping offices etc.
- (3) Unit establishment costs (standard factories) - these costs will be directly recoverable from clients to whom the factories are rented out, or sold.

From Table 5.2 which summarises these different costs, it can be seen that unit establishment costs of \$151,000 for commercial buildings and \$25.8 million for factories (which may be directly recoverable), considerably exceed the site establishment costs of \$5,889,000.

TABLE 5.1
PHASED EXPENDITURE

TIME IN YEARS FROM START	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOTAL
Equivalent 1 acre plots in operation			2	6	14	20	26	32	38	44	50	56	62	68	71	
Standard factories constructed			2	6	9	13	16	19	23	26	29	33	36	39	43	
a) CAPITAL COSTS (\$'000)																
1. Stage 1 Works																
Contract No. 1 (Civil Engineering)																
Construction	2031	726	145													2902
Engineering/Administration	58	116	87	29												290
Contract No. 2 (Infrastructure Buildings)																
Construction	145	314	24													483
Engineering/Administration	7	20	14	7												43
Miscellaneous Items (Part Section 4 of Table 4.2)																
	40	40	35													115
Contract No. 3 (Standard Factories)																
Construction	546	1729	1820	1820	1820	1820	1820	1820	1820	1820	1820	1820	1820	1820	1820	1820
Engineering/Administration	27	99	153	180	180	180	180	130	180	180	180	180	180	180	180	2365
2. Stage 2. Works																
Construction							1267	618	117							2002
Engineering/Administration						33	81	60	21							200
TOTAL PHASED CAPITAL EXPENDITURE	92	2927	3063	2240	2000	2036	3348	2678	2138	2000	2000	2000	2000	2000	2000	21840
b) RUNNING COSTS (\$'000)																
Operating Costs	31	100	250	350	350	350	350	350	350	350	350	350	350	350	350	4531
Promotion Costs	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	450
TOTAL PHASED EXPENDITURE	153	3127	3343	2620	2380	2418	3728	3058	2518	2380	2380	2380	2380	2380	2380	36871

TABLE 5.2
CATEGORIES OF PHASED CAPITAL EXPENDITURE
(\$ '000)

Time in Years from Start Point	Site Establishment Costs	Unit Establishment Costs		Grand Total
		Commercial Buildings	Standard Factories	
1	62	3	27	92
2	2251	101	645	2997
3	1143	38	1882	3063
4	231	9	2000	2240
5			2000	2000
6	38		2000	2038
7	1348		2000	3348
8	678		2000	2678
9	138		2000	2138
10			2000	2000
11			2000	2000
12			2000	2000
13			2000	2000
14			2000	2000
15			1246	1246
TOTAL	5889	151	25800	31840

5.3 Methods and Sources of Financing

(a) Capital Costs

The capital costs of the infrastructure summarised in Table 4.3 amount to \$5,889,000 (\$3,687,000 for Stage 1 and \$2,202,000 for Stage 2). In addition \$151,000 would need to be spent on commercial buildings, but this would be recoverable. The total represents a very large proportion of the annual spending by the Government of Liberia on industrial development, and even if the expenditure were to be phased as recommended in Tables 5.1 and 5.2 above, considerable annual amounts would need to be found to finance the project. An examination of other IFZs indicates

that in all cases the initial investment in the zones was financed either by the State or by commercial loans. However, in the case of Liberia it might be advisable for the Government to seek loans to supplement its own resources. One of the early tasks of the IFZ Committee would be to analyse this problem and make recommendations accordingly.

(b) Running Costs

Running costs may be financed in two ways

- (i) by using a part of the rental income or
- (ii) by direct payment from the Government budget.

It is noted in Section 5.6 that the former method is used in the Bataan EPZ where the Authority needs only to cover costs, any surplus is reinvested to promote the zone's objectives.

In the case of Shannon the Government undertakes to meet the Company's operating costs. Rental on factories is used to amortise construction costs with 1% added for infrastructure costs and a further 1% for maintenance. Revenue is also used for the repayment of debts contracted, promotion costs, reinvestment in the zone, and to supplement grant in aid given to industry.

Technical assistance and training costs of IFZ personnel overseas could very well qualify for UNIDO special assistance.

5.4 Rental Policies

One of the main attractions of IFZs has been their ability to offer standard factories at low rentals. Most rentals have been assessed either on a subsidised below cost basis or on a cost recovery rate. Of the zones examined, only in the case of the Jurong Industrial Estate was the Authority expected to be financially viable and rents charged were commercially based.

In the case of Liberia, existing Government corporations similar to the proposed Authority for the IFZ are expected to show a reasonable return on capital employed and a discounted cash flow (DCF)

rate of 8% to 10% has been suggested as appropriate during discussions with the Comptroller General of Public Corporations.

Cash flows using a 10% DCF rate are presented in Tables 5.3, 5.4 and 5.5 to assess the rentals needed to recover infrastructure, standard factory and running costs. A period of 25 years (for which long-term leases could be issued) is used in the calculations, although income will continue to come in for a longer period. A nominal ground rent of one dollar per square metre is charged - this is recommended so that control may remain in the hands of the Authority.

The results of these cash flows are summarised in Table 5.6.

TABLE 5.6
SUMMARY OF ANNUAL RENTS REQUIRED TO COVER VARIOUS COSTS
FOR A STANDARD FACTORY OF 2000 SQUARE METRES ON A PLOT
OF 4000 SQUARE METRES

Costs	\$ per square metre of factory area	\$ per square metre of plot area	Total Per Plot \$
Capital Costs			
- standard factories	40	-	80,000
- infrastructure	-	5.0	20,000
Running Costs			
	-	2.5	10,000
Ground Rental			
	-	1.0	4,000
TOTAL	\$40	\$8.5	\$114,000

Thus the rental required to cover standard factory costs alone is estimated at approximately \$40 per square metre of factory area. In addition, a rental of \$8.5 per square metre of plot area would be required, this would be the only charge for entrepreneurs who construct their own factories.

The usual practice in other zones is to charge a rent based on the following:

- (i) amortization of construction costs of factories
- (ii) a contribution towards infrastructure costs
- (iii) a contribution towards running costs
- (iv) an amount representing rent for the land

TABLE 5.3
RECOVERY OF SITE ESTABLISHMENT COSTS (INFRASTRUCTURE)

Year	Plots Developed (No.)	Plot Area Occupied ('000 m ²)	CAPITAL COST (\$'000)		INCOME RECEIVED* (\$'000)	
			Actual	Discounted @ 10%	Actual @ \$5/m ²	Discounted @ 10%
1	-	-	62	59	-	-
2	-	-	2251	1559	-	-
3	2	8	1143	658	-	-
4	3	32	231	158	40	27
5	14	56	-	-	160	99
6	20	80	38	22	280	158
7	26	104	1348	692	400	205
8	32	128	678	317	520	243
9	38	152	138	59	640	271
10	44	176	-	-	660	255
11	50	200	-	-	380	308
12	56	224	-	-	1000	319
13	62	248	-	-	1120	325
14	68	272	-	-	1240	326
15	71	284	-	-	1360	325
16	71	284	-	-	1420	310
17	71	284	-	-	1420	281
18	71	284	-	-	1420	256
19	71	284	-	-	1420	233
20	71	284	-	-	1420	212
21	71	284	-	-	1420	192
22	71	284	-	-	1420	175
23	71	284	-	-	1420	159
24	71	284	-	-	1420	145
25	71	284	-	-	1420	131
				4024		4294

* It is assumed that receipt of income commences in the year following that shown for plot development.

TABLE 5.4
RECOVERY OF UNIT ESTABLISHMENT COSTS (STANDARD FACTORIES)

Year	Factories Con- structed	Factory Area Rented ('000 m ²)	CAPITAL COST (\$'000)		INCOME RECEIVED (\$'000)	
			Actual	Discounted @ 10%	Actual @ \$40/t. ²	Discounted @ 10%
1	-	-	27	25	-	-
2	-	-	645	533	-	-
3	2	4	1882	1413	-	-
4	6	12	2000	1366	160	109
5	9	18	2000	1242	480	298
6	13	26	2000	1123	720	406
7	16	32	2000	1026	1040	533
8	19	33	2000	934	1280	595
9	23	46	2000	848	1520	645
10	26	52	2000	772	1640	633
11	29	58	2000	700	2080	728
12	33	66	2000	638	2320	740
13	36	72	2000	560	2640	766
14	39	73	2000	526	2880	757
15	43	86	1246	293	3120	745
16	43	86	-	-	3640	793
17	43	86	-	-	3640	721
18	43	86	-	-	3640	655
19	43	86	-	-	3640	597
20	43	86	-	-	3640	542
21	43	86	-	-	3640	491
22	43	86	-	-	3640	448
23	43	36	-	-	3640	403
24	43	86	-	-	3640	371
25	43	86	-	-	3640	335
				12029		12319

TABLE 5.5
RECOVERY OF RUINING COSTS

Year	Plots Developed (No.)	Plot Area Occupied ('000 m ²)	OPERATING COSTS (\$ '000)		PROMOTION COSTS (\$ '000)		INCOME RECEIVED (\$ '000)	
			Actual	Dis-counted @ 10%	Actual	Dis-counted @ 10%	Actual	Dis-counted @ 10%
1	-	-	31	2	30	27	-	-
2	-	-	100	33	30	25	-	-
3	2	8	250	188	30	23	-	-
4	8	32	350	239	30	21	20	14
5	14	56	350	217	30	19	50	50
6	20	80	350	197	30	17	140	79
7	26	104	350	180	30	15	200	103
8	32	128	350	163	30	14	260	121
9	38	152	350	148	30	13	320	136
10	44	176	350	135	30	12	380	147
11	50	200	350	123	30	11	440	154
12	56	224	350	112	30	10	500	160
13	62	248	350	102	30	9	560	162
14	68	272	350	92	30	8	620	163
15	71	284	350	84	30	7	680	163
16	71	284	350	76	30	6	710	155
17	71	284	350	69	30	6	710	141
18	71	284	350	63	30	5	710	123
19	71	284	350	57	30	4	710	116
20	71	284	350	52	30	4	710	106
21	71	284	350	47	30	4	710	91
22	71	284	350	43	30	3	710	87
23	71	284	350	39	30	3	710	79
24	71	284	350	36	30	3	710	72
25	71	284	350	32	30	3	710	65
				<u>2493</u>		<u>272</u>		<u>2492</u>

5.5 Conclusions

The discounted cash flow analysis given previously in this Chapter indicates that the annual rent required to cover costs will be of the order of \$114,000 for a standard factory on an acre plot. Of the total rental of \$114,000 some \$80,000 is in respect of the cost of providing a standard factory which represents a rental of \$40 per square metre of factory space. These figures appear high in comparison with IFZs elsewhere although direct comparison is difficult for a number of reasons.

It seems likely therefore that some form of Government subsidy will be needed, at least in the early years, in order to attract entrepreneurs to establish businesses in the IFZ.

The costs of the IFZ could be met in the following ways:

- (i) Investment costs in infrastructure could be met by Government or by means of international or bi-lateral aid or loans at favourable terms, or by a mixture of the two. Debt obligations would be underwritten by Government. A contribution from rentals would be expected to be made towards amortising these costs over the life of the project.
- (ii) Investment costs in standard factories could be met initially by Government or through aid or loans. An opportunity would be provided by this sector for involving the Liberian Bank for Industrial Development and Investment which could enable private funds to be mobilised.
- (iii) Running costs could be met by the Authority increasingly through rental income as the IFZ develops, but in the early years these charges would have to be met by Government.
- (iv) Promotion costs could eventually be covered by operating revenues up to say \$30,000 per year. All promotion costs in the early years and any subsequent special campaigns would have to be financed by Government.

The cash flow for the project would be improved to the extent to which the IFZ Authority was able to sell rather than rent standard factory units, as this would result in a speedy return of capital expenditure.

A number of major benefits will follow from the establishment of an Industrial Free Zone. These cannot be quantified within the scope of this study as this would require more detailed analysis, together with a thorough evaluation of priorities by the Government of Liberia

An examination of similar zones elsewhere shows that the following benefits resulted from their establishment.

- (1) Generation of new employment opportunities outside as well as within the Zone.
- (2) Attraction of foreign capital and technology, improved productivity and the introduction of new industrial skills.
- (3) Formation of new management, production and marketing skills.
- (4) Development of facilities in the surrounding area.
- (5) Generation of demand for domestic goods and services by industries established in the IFZ.
- (6) Further opportunities for processing and exporting local raw materials.
- (7) Increase in export revenue as a contribution to the balance of payments.
- (8) Increase in revenue from direct and indirect taxation.

These benefits will help to meet investment, promotion and operating costs by augmenting the revenue from factory rentals. On balance the impact is likely to be positive. In Shannon for example it was estimated that, taking all costs and benefits into account, the return on investment was over 20%.

5.6 Overseas Experience

A description is given below of the financial criteria under which Industrial Free Zones operate in other countries, their capital structure and their responsibilities in this field. Additional details of the existing Zones studied are to be found in Volume 2.

(a) Bataan Export Processing Zone - Philippines

There are three sources of income for the EPZ.

- (i) Rental income.
- (ii) Budgetary contribution.
- (iii) Issue of bonds and contracting of loans.

(i) Rental Income

The EPZ Authority is given responsibility to fix, assess and collect storage charges and fees, rentals for lease of lands, buildings, warehouses, facilities and other properties owned by the Authority. In addition it has the power to fix and collect fees and charges for permits, licenses and services provided.

(ii) Budgetary Contribution

Under its law of establishment the capital of the Authority consists of (1) its existing assets and such other properties as may be contributed to the Authority by the Government to form part of capital, (2) all capitalized surplus, and (3) a total cash contribution by the Government of 400 million Pesos (US \$57.14 million) appropriated out of any fund in the National Treasury. This amount is programmed and released by the Budget Commission according to a schedule of development and expenditure prepared and submitted by the Authority. The amount is credited to the authorized capital mentioned above.

(iii) Debts and Issue of Bonds

The Authority can incur debts and issue bonds in the Philippines up to a total of 300 million Pesos (US \$42.36 million) and it can contract foreign loans up to \$50 million. Both these forms of indebtedness are unconditionally guaranteed by the Government.

A sinking fund has been established by the EPZ out of the above sources of finance in order to pay for maturing obligations and amortization. The fund is kept in the custody of the Central Bank of the Philippines. A standing appropriation is available in a general fund at the National Treasury in order to back the Government guarantee.

The operating basis of the EPZ is to cover costs. The Authority is non-profit making and under the law of establishment is obliged to use all returns from its capital investment and excess revenues from its operations for the development, maintenance and other related expenditure to pay its indebtedness and promote the objectives of the Zone.

Under a special clause in the law of establishment the EPZ Authority is exempt from all taxes, licenses and customs duties under a five year guarantee, after which an assessment is to be made as to whether it is self sustaining and capable of paying these taxes.

Bearing in mind the operating criteria of the EPZ the rental scales paid by a Zone enterprise are on a subsidised below cost basis. Rental scales have been set up as follows.

	<u>Annual Rental Scale Per Square Metre</u>	
	<u>In Pesos</u>	<u>In US Dollars</u>
July 1, 1974 to June 30, 1977	4.00	0.57
July 1, 1978 to June 30, 1980	5.00	0.71
July 1, 1981 to June 30, 1983	6.00	0.86
July 1, 1984 to June 30, 1986	7.00	1.00
July 1, 1987 to June 30, 1989	8.00	1.14
July 1, 1990 onward	To be set by resolution of the Authority	

All industrial lots in the Zone are for lease for a period of 15 years renewable for 10 years at the option of the lessee.

In view of the spiralling construction costs experienced by the EPZA, rental scales for the Standard Factory Buildings are now subject to individual negotiation. As a matter of policy, however, these scales are established at lower rates in comparison to existing rental scales in Greater Manila.

(b) Jurong Industrial Estate, Singapore

The Industrial Estate at Jurong is managed by the Jurong Town Corporation and is therefore operated in accordance with the criteria laid down for the latter.

The Corporation is expected to be financially viable. It is financed by loans from the Government of the Republic of Singapore and from other sources, interest being paid on all loans at varying rates, from 4% to 9½% per annum, but mainly at 5½% per annum.

An example of the scale at which the Corporation operates may be seen by examining the profit and loss account at December 31, 1973. This showed.

- (a) A return on capital employed for 1973 of 8.1% before interest, and 3.3% after interest charges
- (b) A surplus before interest charges of S\$45,038,000* of which S\$7,514,000 was attributable to the port.
- (c) A surplus after interest charges of S\$18,110,000 of which S\$4,796,000 was attributable to the port.
- (d) Revenue of S\$39,510,000 for rents of industrial premises, and S\$12,511,000 for port charges.

In order to achieve financial viability, the rents charged on the Industrial Estate are commercially based.

The Jurong Town Corporation designs and constructs standard factories to house light industries and these are available for sale or rental to industrial enterprises requiring ready built premises for

* S\$2.26 = US \$ 1

immediate occupation. The smallest factory building occupies a floor space of 9,360 sq.ft (870 sq.m) and can be either rented for \$27,000 per annum (\$31.0 per sq.m) or sold at a price of \$133,000, while the largest factory building which has a covered area of 35,000 sq.ft (3,250 sq.m) may be rented for \$81,000 per annum (\$25.0 per sq.m) or sold for \$400,000. The maximum lease period for all standard factory buildings and land in the light industrial area is 60 years.

Land values in Jurong Industrial Estate range from \$2.30 to \$3.00 per sq. ft. Lease rentals are calculated at 6% of the value per annum and are normally available on a 30 year lease with an option to renew for a further 30 years. Revision of land values is made once every 5 years with a guarantee that the increase will not be more than 50% of the preceding value. The period of the lease depends also on the location of the site, the type of industry and total investment made. There is no element of subsidy.

(c) Kaohsiung Export Processing Zone

No detailed financial figures were available but an examination of the legislation creating the Kaohsiung EPZ indicates that financial viability for the EPZ is not a requirement, although it is preferred. Thus in 1973 revenues exceeded expenses, but it is not known what allowance, if any, was made for capital depreciation.

On the above operating criteria, the Authority rents land at market value. The annual rental of land is calculated as 6% of the stipulated price of the land. In 1973 this was US \$11.35 per sq.metre, giving an annual rental of US \$0.60 per sq.metre. The Authority sells buildings in the EPZ at cost. It appears that buildings are not leased out.

The construction expenses of zone infrastructure and the zone administration expenses for the first three years were financed by donations and loans from the Council of International Economic Corporation and Development (CIECD). For example, a special loan for the construction of factory buildings was recently obtained for a term of 10 years at a minimum rate of 12%.

For the recovery of zone expenses the following sources of funds are available:

- import license endorsement fees
- public facilities maintenance fees
- export certificate fees
- export trade promotion fees
- 10-year charge on land lease on export enterprises in the zone.

Shannon Industrial Estate

The motives for establishing the Shannon Industrial Estate were to ensure the future of Shannon Airport and to generate employment for the region. This entailed that the Industrial Estate was not expected to be a purely commercial operation, insofar as the attraction of industry and non-calculable benefits were expected to exceed its financial costs.

The capital of the Shannon Free Airport Development Company consists of ordinary shares which are held by the Ministries of Commerce and Industry, Finance and Power. Out of an authorised capital of 17 million shares 14,604,500 have so far been issued.

For its operating income the Company receives running expenses from the Government as well as a sum given for grants to industries and for promoting the objectives of the Airport complex. A further grant is allowable to the Company for housing and community services directly relevant to the Industrial Estate. For this purpose the Company may also receive repayable grants from the exchequer.

An examination of the balance sheets of SFADCO show that in general the rents received from the Industrial Estate (and also the housing estate) are in practice used to pay back repayable advances and for promotion expenditure (industrial and tourism).

As no profitability criteria are laid down for the calculation of rents, the latter is based on a sum to amortise the construction cost of the factories. An addition of 1% is added for infrastructure costs and a further 1% for maintenance. Clients may purchase the factories

or construct their own but in this case a nominal ground rent is paid every year to enable the Company to maintain control over the property. Rents are reviewed at the end of every 7 years.

Recent Government legislation in Ireland has encouraged the fixation of rents on Industrial Estates throughout the country, (including Shannon), and at present the rental has been fixed at 90 pence per sq. ft. of building area (\$23.25 per sq.m per annum).

CHAPTER 6

SELECTION OF SUITABLE INDUSTRIES

6.1 Objectives

The Contract document requires the Consultants to evaluate the admissible industries and select the potential industries from those existing at the moment in the Project Area, and foreign industries which are likely to be attracted in the Industrial Free Zone and examine the type of industries within the context of the location of the Industrial Free Zone in relation to potential markets. Criteria to be borne in mind in identifying admissible industries are

- (a) export potential
- (b) labour intensity
- (c) low water usage
- (d) low material usage

Additionally pollution factors were considered in relation to the engineering aspects of the study. These have been examined in Chapter 4.

However certain observations may be made at the outset of this analysis:

- (a) at this stage of the project an attempt has been made to indicate the different types of industry which might be attracted to a Liberian IFZ; it is recommended that more detailed feasibility studies should be carried out during the implementation stages of the plan,
- (b) the industries identified in this chapter are divided into two types:
 - (i) those which have a significant local relevance for Liberia and which may therefore have valuable linkages with other industries in Liberia itself,

- (ii) those which are footloose and which may well be attracted to a Liberian IFZ but have no specific local characteristics.

While both of these types of industry are important to the effective establishment of an IFZ, the former would undoubtedly be of greater value to the Liberian economy.

6.2 Export Potential

Throughout the study this requirement has been regarded as paramount. No significant markets for IFZ products exist or are likely to develop within Liberia itself. Subject to normal customs requirements and existing legislation however, there is no reason why some small part (10-20% approximately) of the output of individual IFZ companies should not find its way on to the local market.

An extensive programme of market studies beyond the scope of this feasibility study is needed to demonstrate the export sales potential of individual industries. The Liberian Development Corporation is considered a suitable agency for this type of research, and should incorporate the industries identified in this analysis into its programme of market investigations.

The present analysis utilises data published by the US company, Predicasts Inc. of Cleveland, Ohio which brings together a range of expert forecasts of the markets for industrial products. A selection is made here of indicative categories - using Standard Industrial Classification (SIC) breakdown - and the forecasts are compared.

The final outcome is an index which relates market growth forecasts for individual sectors to that for manufacturing industry in general. This is shown in Table 6.1. It should be noted that the forecasts relate to the Western European markets for the products in question.

TABLE 6.1

INDEX OF EXPORT MARKET POTENTIAL

<u>Index Group</u>	<u>Index of¹ Export Potential</u>
Food, drink and tobacco	43
Chemicals and allied products	144
Metal manufacture	148
Mechanical & electrical engineering	219
Vehicle & marine engineering	61
Other metal goods	148
Textiles	23
Leather goods, clothing & knitwear	58
Bricks, pottery, glass & cement	52
Timber & furniture	42
Paper, printing & publishing	85
Other manufacturing industries	
- plastic products	147
- rubber products	42
All manufacturing	<hr/> 100 <hr/>

¹ Index of Export Potential: This index compares the forecast export growth rates of the sectors in question, and makes it possible to rank sectors by likely market growth.

Source: Based on European market forecasts published by Predicasts Inc., Cleveland, Ohio.

From the index presented in Table 6.1 it would seem that the best export market growth prospects are likely to be found in:

- mechanical and electrical engineering
- metal goods and manufacturing
- plastic products
- chemicals

These industries are classic IFZ types and have very pertinent characteristics, e.g. a high value to weight ratio and high added value during manufacture. Although having a lower indicated growth such industries as textiles, leather goods and clothing and timber products could be suitable for location in a Liberian IFZ, and would employ relatively high numbers of employees.

6.3 Labour Intensity

(a) Introduction

Whilst the Liberian Government's preference for industries with a high ratio of labour to capital investment is fully appreciated, industries which are of lower labour intensity should not be excluded. It must be recalled that currently Liberia is not attracting enterprises in manufacturing industry in significant numbers and, as shown in Chapter 2, average employment in manufacturing industry is only 36.1 workers. There is opportunity, for example, for the IFZ to develop valuable depot and handling functions in relation to manufacturers who require a base in West Africa for servicing and supplying spare parts over a wide area. This type of enterprise would not be a major employer of unskilled labour but it would offer a valuable basis for later manufacturing industry and could be an attractive IFZ facility.

Labour intensity is not an easy concept to quantify and use as a basis for industry selection. Clearly, in many industries it is possible to vary the relationship of capital invested and labour cost in order to obtain the most economical operating situation. There is also the question of likely unit size of establishments in any given industry. Each of these elements will be changing over time in response to movements in markets, products and levels of technology.

(b) Labour Indicators

In the light of these factors an attempt is made to generate some broad indicators which may serve to guide the Liberian Government

in its identification of preferred industry types. These indicators are based on published U.K. data and are shown in Table 6.2 below.

TABLE 6.2

UNITED KINGDOM LABOUR INDICATORS

	<u>Labour Intensity</u>	<u>Average Size</u>
Food, drink and tobacco	38.7	107
Chemicals and others	35.4	130
Metal manufacture	56.9	186
Mechanical and electrical engineering	57.2	113
Vehicle and marine engineering	60.0	390
Other metal goods	54.5	49
Textiles	60.9	60
Leather goods, clothing and knitwear	54.5	61
Bricks, pottery, glass and cement	59.6	28
Timber and furniture	53.9	57
Paper, printing and publishing	51.8	77
Other manufacturing industry		
- plastic products	52.5	51
- rubber products	53.5	225
All manufacturing industry	<u>52.6</u>	<u>88</u>

NOTES.

1. Labour Intensity. The figure noted is the percentage of the value of net output represented by wages and salaries.
2. Average Size. Average employment per establishment.

Source. Based on the Report of the Census of Production (United Kingdom) 1963.

The implications of the findings presented in Table 6.2 are twofold

- (i) With regard to labour intensity the most suitable candidates (i.e. those with the highest ratio of labour costs to net output), are textiles, vehicle and marine engineering bricks, pottery, glass and cement. The least attractive are food, drink and tobacco, chemicals and allied industries.
- (ii) In terms of employment size, three industries (vehicle and marine engineering, rubber products and metal manufacture) tend to be operated on a particularly large scale and this might be unsuitable for IFZ establishment. Industries whose size is particularly appropriate (i.e. approximately 100 employees), are mechanical and electrical engineering, metal goods, paper, printing and publishing.

Actual EPZ experience on this topic can be derived from Kaohsiung, although industries at this zone are rather larger than would be appropriate for Liberia. The average employment is 247 with electrical products, toy manufacturing and garments all operating at over 350 employees per unit. Industries employing approximately 100 are.

- precision machinery and instruments
- machinery manufacture
- chemical products
- handicrafts

The Consultants do not feel that the scale of operations recorded in Kaohsiung implies that the industries in question cannot successfully operate at lower employment levels. It must be borne in mind that Kaohsiung is a city of two million people and the EPZ site in question is of 170 acres with buildings of up to three stories.

(c) Conclusions

It is difficult to reach any clear conclusions on industry selection from the point of view of labour numbers and intensity. There seems no reason to suggest that most of the potential industries could not co-operate effectively with the site and potential labour force of Monrovia. We would expect units to employ up to 150 persons and thus only very large scale (normally basic processes) need to be excluded.

In terms of labour intensity it would appear that textiles, bricks (etc.) and vehicle and marine engineering could be the most suitable. Of these, however, we would not expect vehicle engineering per se to be a prime consideration (on grounds of scale) but related manufacturing and assembly trades could well be attracted to the IFZ. Equally we would not expect bricks, cement etc., to be appropriate for an IFZ.

Further points worthy of note in this context are.

- (i) the percentage of male employment which can be expected in each industry sector
- (ii) the relationship of employment to land area (which gives another approach to the question of labour intensity).

With regard to (i) Kaohsiung experience would suggest that high percentages of male employment are recorded by:

- chemical products
- metal products
- furniture manufacturing

Low percentages of male employment are recorded by.

- garment manufacture
- toy manufacture
- packing and assembly
- electrical products

For point (ii) experience both at Kaohsiung and also at Bataan, Philippines can be considered. The findings are that industries requiring a large amount of space per employee include

- metal products
- chemicals

Those requiring relatively less space per employee are

- wood and handicrafts
- wearing apparel
- electronics
- shoes and leather goods

This final group, therefore, appears preferable for location at Monrovia.

6.4 Low Water Usage

In considering various industries for the IFZ, one of the limiting factors is that only those of relatively low consumption of water should be admitted to the Zone so as not to strain the infrastructure facilities envisaged for the provision of water.

As a guideline an approximate consumption figure of 5,000 US gallons (19m³) per day per factory is recommended. Most of the types of industries under consideration are in the medium to light range and are not particularly heavy users of water.

Typical water utilisation of factories in developing countries is shown in Table 6.3.

From this it appears that of the industries expected to be attracted to the Zone, the following are likely to be heavy users of water and special provision would need to be made for them

- food, fish canning and processing
- beverages and brewing
- cement, bricks and tiles
- paper and paperboard products

TABLE 6.3
TYPICAL WATER UTILISATION FACTORS FOR
SELECTED INDUSTRIES

<u>Industry</u>	<u>Unit</u>	<u>Consumption per Unit</u>	
Palm Oil	Hl		0.5 m ³
Groundnut Oil	100 Kg	(i) Steam	250 Kg
		(ii) Water	10 m ³
Margarine	100 Kg		0.5 m ³
Soap	ton		17.5 m ³
Meat Packaging	ton		40 m ³
Fish Canning	10 tons/8 hours	(i) Steam	6.4 tons
		(ii) Water	100 m ³
Brewing	Hl	(i) Steam	180 Kg @ 8 Kg/cm ²
		(ii) Water	10 to 12 Hl
Bricks and Tiles	50 tons/day		1.6 m ³ /Hour
Cement	ton		2 to 3 m ³ *
Cigarettes	Ton/dry leaf tobacco	(i) Steam	500 Kg @ 12 Kg/cm ²
		(ii) Water	2 m ³
Matches	1 Million/Hour		1.7 m ³ /Hour
Particle Board	m ³		1.5 m ³
Paper Making	m ³		20 to 30 m ³
Paper Pulp	m ³		300 m ³
Iron Foundry	Ton/iron melted		3 m ³

Source: OECD Manual of Industrial Project Analysis in
Developing Countries

* 50% recycled

6.5 Raw Materials Usage

(a) Introduction

This factor has been given particular weight in the industry analysis. The research programme in Liberia was geared to obtaining a full appreciation of the types of industries which could be established in order to increase the level of processing of local raw materials. Government departments and agencies included in this programme were:

Ministry of Commerce

Ministry of Planning and Economic Affairs

Liberian Development Corporation

Various other organisations both in the public and private sectors

This section considers the list of projects produced by these agencies (see Table 6.4) and identifies those which seem most suitable for location on an IFZ. Care was taken not to name as IFZ industries those projects which could more satisfactorily be located in Liberia proper.

(b) Analysis

Table 2.5 presented export totals for major raw materials produced in Liberia. In order of importance (in value terms) these are:

- iron ore
- diamonds
- rubber
- logs and lumber
- coffee
- cocoa

Other local materials of actual, or potential, industrial value are:

- silica sand
- quartz
- tropical fruits
- fish products
- palm oil
- cassava

TABLE 6.4

COMPOSITE LIST OF POSSIBLE INDUSTRIES - LOCAL SUGGESTIONS

Origin	Food Drink and Tobacco	Chemicals and Allied	Metals and Fabrications	Textiles and Apparel	Other
Three Year Development Plan for Industry	Paper factory Palm oil refinery Rubber factory	Toilet soap Pesticide Fertilizers	Iron and steel Copper Aluminum	Woolen Cotton Synthetic	Leather Rubber Glass
Non-River Basin	Fruit and vegetable Soaps Sulfur Cassava peeler plant				
Priority of Planning Proposed Projects	Tobacco and cigarettes Paper Food processing	Fertilizers	Iron and steel Copper Aluminum	Woolen Cotton Synthetic	Leather Rubber Glass
100 Programs of Projects	Woolen mill Cotton plant Paper mill plant				
Other Locally Selected Industries					
Non-Manufacturing Industries					

The listing of suggested local industries (in Table 6.4) includes products based on all of these materials, with the exceptions of iron ore, diamonds, fish processing and cocoa. The analysis of the suggested industries is designed to highlight the following:

- value of local raw material input
- merit in preferring IFZ location to industrial park or other location within Liberia proper
- likely scale of operation

A sector by sector analysis is presented below:

(i) Food, Drink and Tobacco

In general it is felt that industries in this group are not well suited to IFZ location. They tend to involve limited processing and a small labour force. There is no reason why such products should not be produced elsewhere in Liberia where land values are lower and raw materials more easily obtained. It is not, therefore, suggested that food products be given a high priority in selecting preferred industries.

(ii) Chemicals and Allied Products

From this group of potential industries the following are selected for further attention.

soaps
fertilisers
cosmetics

These are not particularly related to local materials but are capable of being supported by non-IFZ supplying industries. In other characteristics they are quite suitable for IFZ location.

(iii) Metal Manufacture

The industries listed under this heading are intended to supply the local Liberian market and are not likely to be of a scale suitable for an industrial free zone. Local raw materials are not involved to any significant extent.

(iv) Mechanical and Instrument Engineering

Here again the products of the proposed industry - production of agricultural implements and tools - are intended for sale in Liberia and Sierra Leone. It is unsuitable for IFZ location.

(v) Electrical Engineering

All of the industries named - industrial and vehicle batteries, air conditioning units, electrodes and transistor radio assembly are well suited to IFZ location and should be prime candidates. However, there is already an industrial battery plant in Liberia and it would be difficult to sell sufficient quantities from an IFZ factory on the local market. Again, raw materials are not likely to play a significant part in the production processes.

(vi) Vehicle and Marine Engineering

Bicycles should be a successful IFZ industry with possible potential markets in other African states. The proposal for a basic transportation vehicle (BTV) comes from the LDC programme and would not be suitable for IFZ location as the intention is to provide a vehicle for use in Liberia itself. Other vehicle assembly industries are regarded as free zone industries - based on imported part-finished materials.

(vii) Other Metal Goods

On an appropriate scale of operations household utensils and enamelware could be suitable for IFZ location. Again however, it is likely that the project envisaged is primarily for local sale and, as such, would be better located on the industrial park.

(viii) Textiles

There is a major textile plant under construction on United Nations Drive. This plant will employ over 100 persons and should be fully adequate to supply local market needs for garments and other finished textile products.

Whilst textiles in general are an ideal IFZ industry, there is no need to supply the local market given the existence of adequate non-IFZ installations. The IFZ would therefore duplicate the existing capacity, without causing any direct competition.

(ix) Leather Goods, Clothing and Knitwear

All the projects noted under this head.

knitwear
shoes
luggage products
garments

are ideal IFZ industries. There is, however, no significant local raw material input, except in the case of rubber based clothing or footwear.

(x) Bricks, Pottery, Glass and Cement

Basically four industries in this group offer substantial utilisation of local raw materials, namely porcelain products, glass manufacture, quartz products and building materials. None of these industries is well established in Liberia but might in the longer term be regarded as possible IFZ industries. Initial investment should be directed outside the IFZ for establishment in suitable locations within Liberia.

Light bulb assembly may be regarded as a potential IFZ industry but this would be on grounds other than utilisation of local materials.

(xi) Timber and Furniture

It is envisaged that manufacture of most types of furniture and wood products would be suitable for the IFZ. Basic timber preparation would not be suitable but could provide the necessary, part processed, material for more sophisticated processing.

(xii) Paper, Printing and Publishing

A paper mill is considered unsuitable as an industry for establishment in the IFZ. However there are good prospects for the production of paper goods, packaging materials and printed matter. The possibility of establishing a pulp mill elsewhere in Liberia has not been investigated but this could be worthy of a specific pre-investment study.

(xiii) Other Manufacturing Industries

The production of rubber tyres and other rubber products is one of the most likely means of utilising Liberian raw materials in IFZ industries. It is anticipated that a number of related industries could become established in Liberia as a result of linkages with industries in the IFZ.

Additionally PVC and plastic products would represent attractive IFZ industries. There is, however, no local raw material input into such industries and they should be assessed on the basis applied in the following section of this Chapter.

(c) Summary of Selected Local Projects

The broad conclusion is that there is at present relatively little opportunity for utilising local raw materials in IFZ industries. In order of priority the following industries require significant inputs of raw materials from Liberia:

- rubber products and tyres
- wood and furniture products
- glass and pottery products

Should the proposed steel rolling mill be established in Liberia then it would be possible to envisage a number of metal products which could utilise local steel.

Many of the industries suggested are designed to supply the local market and are not likely to offer the necessary level of added value to justify location on the IFZ site. They are clearly more

suited to location on the Industrial Park. The projects identified by LDC tend to be of this type and are intended for small scale production with intermediate level technology which is suited to a limited market size. Thus even where there is apparent duplication (e.g. textiles or rubber shoes) this is not likely to imply an undesirable competition between IFZ and Liberian domestic manufacturers.

6.6 Industry Selection - Overseas Experience

Industries which have been attracted to other Free Zones are listed in Table 6.5. It is to be noted that with the exception of a few industries in Bataan only light to medium industries have been established and are broadly within the ranges which have been considered above.

The studies of the proposed IFZ's in Dakar and Abidjan have indicated in broad terms the types of industries expected. These include textiles and clothing, plastics, leather, electronics and toys. In addition, the IFZ at Abidjan could attract industries partly based on the use of local raw materials such as fruit drying and preservation, meat refrigeration, wood industries, shoes, etc. Other industries include cigarettes and cigars, production and assembly of electrical goods and assembly of precision goods.

An analysis of three existing zones shows the nature of operations in general categories as follows:

	<u>Kaohsiung</u>	<u>Bataan</u>	<u>Jurong</u>
Electronics	23%	16%	6%
Textiles	23%	27%	11%
Metal Industries	10%	5%	18%
Chemicals	-	-	16%
Plastics	11%	5%	12%
Leather Goods	5%	10%	1%
Wood & Paper Products	-	17%	11%
Food	-	-	9%
Other	28%	20%	16%
	<u>100%</u>	<u>100%</u>	<u>100%</u>

Source: Consultants Case Studies

TABLE 6.5

INDUSTRIES LOCATED AT OTHER FREE ZONES

<u>Kaohsiung EPZ</u>	<u>Bataan FLZ</u>	<u>Colon FZ</u>
Precision machinery and instruments	Ceramics	Drugs and pharmaceuticals
Electronic products	Confectionery	Cameras and films
Optical products	Cosmetics	Publishing
Metal products	Electronics and electrical products	Electronics
Plastic products	Food manufacture	Radio
Machinery	Furniture	Laboratory and surgical
Furniture	Garments	Machinery and spare parts
Handicraft products	Handicrafts	Tobacco
Electrical appliances and products	Knitted and woven goods	Automotive parts and tyres
Rubber products	Leather products	Office equipment
Chemical products	Light metal products	Chemicals
Printed matter	Office machines	Food manufacture
Confectionery	Pharmaceuticals	Cosmetics and toiletries
Cosmetics	Plastic products	Paints, batteries and insecticides
Leather products	Precision instruments	Textiles
Paper containers	Rubber products	Liquor and beverages
Toys	Synthetic textiles	
Yachts	Threads and yarns	
Knitted and woven goods	Woodcrafts	
Garments		

Cont'd....

TABLE 6.5 (Cont'd)

INDUSTRIES LOCATED AT OTHER FREE ZONES

<u>Shannon IFZ</u>	<u>Jurong IFZ (selected examples)</u>
Printing and publishing	Electric wire and cable
Plastics, moulding and fabrication	Nylon stockings
Musical instruments	Vinyl asbestos floor tiles
Cutlery and cutting tools	Fibreglass boats
Pharmaceuticals	Teak and hardwood floors
Food processing	Vespa scooter assembly
Engineers tools and gauges	Vitreous china, etc.
Scientific, surgical and photographic instruments	Office paper products
Machine tools	Cement paints
Industrial engines	Elevator parts and assembly
Office machinery	Gramophone records, cassettes, cartridges
Electrical machinery	Oxygen based equipment
Telephone apparatus	Rugs and carpets
Textile machinery	Printing inks and coatings
Other industrial equipment	Industrial packing materials
Bolts, nuts, screws, rivets, etc.	Zip fasteners
Wire and wire products	Watches
Man-made fibres	Telephone exchange assembly
Textile finishing	Mirrors
	Spare parts centres
	Fluorescent lamp tubes
	Broadloom carpet backing

Source: Consultants Case Studies

6.7 Industry Recommendations

The analysis of local recommendations and experience gained in existing export processing zones is the basis for an indicative list of preferred industries which is shown in Table 6.6. This list should not, of course, be regarded as definitive and applications will require constant supervision in order to ensure an effective mix of industries and the best possible utilisation of local materials and part-finished goods.

As a next stage in the project it is recommended that industry by industry surveys should be carried out in the promising sectors outlined above.

TABLE 6.6

SELECTED INDUSTRIES FOR ESTABLISHMENT
AT THE INDUSTRIAL FREE ZONE

Product Group	Manufacturing and Services	Export	Import	Value Added	Employment	Investment	Other
Food Processing and Beverages	Food processing, beverages, confectionery, etc.	Yes	No	High	Medium	Medium	Medium
Textiles and Apparel	Textiles, garments, footwear, etc.	Yes	No	Medium	High	Medium	Medium
Chemicals and Pharmaceuticals	Pharmaceuticals, chemicals, etc.	No	Yes	High	Medium	High	High
Metals and Machinery	Machinery, metal products, etc.	No	Yes	High	Medium	High	High
Electronics and IT	Electronics, IT hardware, etc.	No	Yes	High	Medium	High	High
Automotive	Automotive parts, etc.	No	Yes	High	Medium	High	High
Other Industries	Various other manufacturing sectors	Yes	No	Medium	Medium	Medium	Medium

CHAPTER 7

INCENTIVE LEGISLATION

7.1 Institutions Involved

The Liberian investment incentive code is implemented by two agencies.

- (a) Concessions and Incentives Commission (CIC), which is responsible for allocating incentives and for vetting applications.
- (b) Ministry of Commerce, Bureau of Industry (BOI), which is responsible for ensuring that the terms of incentive agreements are fulfilled by the beneficiary company.

Other government departments are indirectly involved in this activity.

7.2 Incentive Code

The objects of the Code are set out in the preamble to a recent amendment to the 'Act Adopting the Investment Incentive Code of the Republic of Liberia', as follows:

"Recognising the great benefits derived from the Open Door Policy of Liberia which provides for non-nationalisation of private enterprise, free movement of capital including the repatriation of dividends and also of the capital originally invested in the case of change of ownership or termination of enterprise as well as facilitating the employment of the necessary foreign technical and managerial personnel together with unrestricted home transfer of savings of such personnel".

Incentives are available for approved investment projects which (with regard to manufacturing industry) "process, fabricate, manufacture finished and semi-finished goods from raw materials and/or assemble finished goods from component parts, i.e. enterprises of the Manufacturing Sector".

Other sectors of relevance to this project, which are within the terms of the Act are:

- building and construction
- transport and communications
- supporting service sectors

The provision of incentives requires that the sponsor of an approved project should sign an Investment Incentive Contract with the Government of Liberia.

The conditions for approved project status are that the project.

- (a) falls within the overall priority as established by the National Planning Council
- (b) ensures the permanent employment of Liberians at all levels, and carries out appropriate training schemes and, in case of expansion, increases employment and augments training activities in harmony with the volume of expansion
- (c) leaves an option open for Liberians to contribute to the enterprise by purchasing shares or otherwise participating in the ownership.
- (d) produces a local value added amounting to not less than 25 percent of the value of gross output.
- (e) uses raw material and other supplies of Liberian origin and imports only items of which the local product is not available in sufficient quantity and/or its quality or price is not approximately equal with the intended imports as determined by the Government.

The incentives are extremely generous and may be summarised as follows:

- (a) customs duty benefits: imports of machinery and equipment are exempt up to 90% of the dutiable value, raw materials, semi-finished products and other supplies are treated in the same way consular fees are not required.

- (b) income tax benefits reinvested profits are exempt from income tax. all remaining profits are exempt from 50% of the income tax that would otherwise be payable.
- (c) export rebates; full rebates are payable on all import duties, excise duties and taxes paid on goods exported from the production of an approved project
- (d) additional benefits which may be granted:
 - preferential rentals on the Industrial Park.
 - support in obtaining loans from Government agencies.
 - tariff protection to cover the local ex-factory price.
 - loss carry forward provisions.
 - accelerated depreciation facilities.
 - purchase of goods by Government from the approved project.

The incentives will be granted for up to 5 years with possibility of extensions.

The obligations on the sponsors are not onerous. These include:

- employment of Liberian nationals when possible,
- risk capital to be at least one third of the borrowed capital,
- submission of necessary documentation.

7.3 Effectiveness of Incentive Legislation

Despite its generous provisions the Investment Incentive Code has had only modest success in attracting new investment to Liberia.

During the period April to December 1973 five projects received investment incentives. These were.

- (a) Mesurado Toilet Soap Industries.
- (b) Corniffes' Art Printing;
- (c) Mesurado Garment Company;
- (d) PPP Timber Industries
- (e) National Milling Company of Liberia.

The total investment in these five Projects is about \$ m 4.7 and employment generated is of the order of 400 jobs.

Since the end of 1973 a further 19 firms have applied for incentives, of which 12 are new establishments. Industries include umbrella manufacture, detergents and shipping.

Thus, during the last 2 year period less than 20 new companies have been attracted to Liberia. If Liberia is to attract further new industries then it will be essential to overcome the infrastructural and market limitations which currently exist. The Industrial Park has not attracted many of the new manufacturing establishments which have been set up in Monrovia and has not overcome basic problems of infrastructure. The Liberian market (even with the added potential of the Mano River Union with Sierra Leone) is of limited size and even relatively small scale operations such as the West African Shoe and Rubber Industries Limited, are hampered by the size of the domestic market.

7.4 Incentives and Legislation - Overseas Experience

(a) Introduction

An examination of incentives offered in existing IFZ's and EPZ's shows that they are all broadly similar in offering attractions through the provision of good infrastructure, factories, transportation, etc., and the streamlining of bureaucratic procedures. Most Industrial Zones have been set up by special decrees, and specific powers are granted to the Zone authorities to enable them to offer particular incentives and to avoid restrictions. In all cases the raw materials coming into the Zones and the finished products being exported are not subject to the payment of duties and taxes. Local raw materials purchased from outside the Zones are considered as exports.

In addition to these basic incentives, various zones offer different types of fiscal and financial assistance. These are considered below for existing zones studied as part of the project and for those proposed in neighbouring countries.

(b) Existing IFZ's and EPZ's

In the case of the EPZ at Mariveles, Bataan, Philippines, allowances are made to carry over a net-operating loss in the first five years of operation inside the zone and for accelerated depreciation, and exemption is granted from export tax. In addition foreign exchange assistance is given by the Central Bank of the Philippines, and financial assistance to zone registered enterprises. Exemption from local taxes and licenses is also available. Other attractions include long-term leases at low rentals, cheap power and water rates and low cost housing. The Zone Authority also provides assistance in overseas promotion, and in settling industrial disputes.

The Kaohsiung EPZ offers in addition to exemption from customs duties, tax concessions including a 5 year tax holiday on corporate income tax, no sales tax, no commodity tax, a minimal (0.1% of sales) stamp tax, and repatriation of capital. Factory building loans for purchasing standard factories or construction of self designed buildings are offered up to 70% of purchase price or construction cost on a 10 year instalment basis. Loans at reasonable rates are granted to export enterprises against export letters of credit. Efficient procedures for documentation and comprehensive warehousing and transport services are also regarded as attractions.

In the case of the Jurong Industrial Estate the whole of Singapore is exempt from export duties and has comparative freedom from import duties which are mainly restricted to alcoholic drinks, tobacco, cars and other luxury items. Firms establishing factories in the Industrial Estate get additional fiscal and other incentives. These include tax relief on pioneer industries for five years and for expansion of existing industries for up to 5 years. No tax is paid on interest due to foreign lenders and exemption given or rates reduced on fees and royalties if not taxed in the country of residence. In addition the infrastructural advantages of the Estate are available, including cheap power supplies.

The Shannon Industrial Estate offers, in addition to export and import tax exemptions, a range of Government grants given on new plant as well as accelerated depreciation. Full training costs of indigenous labour are paid by the Government.

(c) Neighbouring Countries

The proposed incentive structure for the two zones under consideration for Dakar and Abidjan are virtually identical. In the case of Abidjan only a pre-feasibility study has been prepared and a general indication given of the broad ranges of financial and other aid which deserves further study.

The incentive structure of the proposed IFZ at Dakar Senegal is laid down in the Statut de la Zone Franche Industrielle de Dakar (Loi 74-06). Of particular importance are the following incentives offered to companies setting up in the Zone.

- (i) Total fiscal exemption on revenues.
- (ii) Exemption of import and export taxes on all goods, raw materials and capital equipment (excluding those entering Senegal).
- (iii) Tax relief for goods and services entering the Zone from the customs territory of Senegal.
- (iv) Freedom to transfer all capital investment and revenues.
- (v) Freedom to transfer expatriate salaries.

Measures to improve the efficiency of operation include an autonomous administrative structure, a time limit of one month in which the management must make a decision, a ceiling on rent, and the imposition of increases only by decree. The terms laid down in the Statute are guaranteed for a period of 25 years.

The study of the proposed IFZ in Abidjan, Ivory Coast recommends a similar incentive structure to be adopted as that for Dakar. However, two special areas are indicated in the study for consideration in the situation of the Ivory Coast. These relate to the implementation of a special training programme in the Zone and for sending personnel abroad, and improved service and a reduction in the costs currently charged by transportation companies which appear to be held at an artificially high level.

7.5 Incentives Required for the Establishment of an IFZ in Liberia

The incentives which an IFZ in the Project Area would offer are essentially of three types. These are

- (a) infrastructure advantages.
- (b) administrative simplicity
- (c) fiscal and financial incentives.

(a) The first of these is discussed at length elsewhere in this Report (see Chapter 4).

However it is worth stressing that, in many ways, the preparation of an ideal industrial infrastructure and provision of necessary services are the most valuable attractions of an Industrial Zone project. Liberia already offers a high standard of fiscal incentives and a well structured industrial administration. Relatively few changes are likely to be necessary in both areas.

In these circumstances the particularly attractive features of the North Beach site are very important to this project, provided that basic utilities are fully adequate and that transport from the free port to the IFZ is well organised.

As described in Chapter 4, facilities to be offered by the Industrial Zone as part of basic infrastructure and services, should include:

- (i) Advance standard factories sold at cost arrangements for advantageous financial terms should be available.
- (ii) Efficient management of warehousing and transportation services.
- (iii) An administration centre housing the free zone and customs offices, and employment and statistical services.
- (iv) A cafeteria offering a basic food and supplies centre for zone employees.
- (v) Health and sanitation services.

(vi) A post and telecommunications office.

(vii) Fire and security services.

(viii) A commercial building for a bank and shipping and insurance offices

(b) In terms of administration it is considered that only an independent government corporation can effectively handle the operations of the IFZ. This proposal is discussed in Chapter 9.

(c) With regard to financial and fiscal incentives only minor changes need to be made in the existing incentive code. It would be the responsibility of the Liberian Government and the IFZ Corporation to ensure that the benefits available were limited to selected industries whose presence in the IFZ would be in keeping with planned requirements. This responsibility would be an on-going one and would need to take account of such factors as:

- the desired rate of development of the zone
- the characteristics of any individual proposed industries
- the needs and benefits to the Liberian economy of each particular case.

Table 7.1 indicates the minor changes in the Liberian Incentive Code which would be required to ensure that the IFZ offered advantages equal to those available in successful EPZs and IFZs elsewhere.

As mentioned in Chapter 2, the lack of skilled labour is likely to be a major problem. One way of overcoming this and at the same time encouraging entrepreneurs to invest in the IFZ would be for the Government of Liberia to offer firms training grants to cover the relevant costs wholly or partially.

TABLE 7.1

FISCAL AND FINANCIAL INCENTIVES FOR THE IFZ

<u>Current Incentives</u>	<u>Change Suggested</u>
1. Complete convertibility of currency	None
2. Freedom to repatriate capital	None
3. Freedom to employ expatriates	None
4. Necessity to negotiate an Investment Incentive Contract	Should be automatic for IFZ approved firms
5. Import duties exempt to 90% of value	Increase to 100% automatic exemption
6. Re-invested profits exempt from income tax	None
7. Remaining profits exempt from 50% of tax payable	Increase to 100% exemption
8. Incentives available for 5 years with possibility of extension	Probably no change required
9. Assistance in obtaining loans and finance	Preferential financing arrangements to cover set-up costs
10. Possibility of locating on the industrial park	Fully prepared sites with factories available at cost rental
11. Nil	Training grants

CHAPTER 8

CUSTOMS PROCEDURES

An essential element in the choice of site is its location within the boundaries of the Free Port of Monrovia. This would have advantages from the point of view of both national and international transport but its main attraction is that it would avoid the need to bring IFZ goods within the customs sovereignty of Liberia. This feature, whilst not essential for effective establishment of an IFZ would be a strongly positive factor in the promotion of one in Liberia.

However, this advantage will only be significant if the Free Port begins to be operated as a customs-free area (as its originators intended). In this chapter the present operation of the Free Port is considered and recommendations made on ways in which its procedures could be improved to ensure effective customs-free operation.

8.1 Current Customs Operation

A Free Port or Free Zone within a port is an area in which goods may be landed, processed, and re-exported without any intervention by the customs authorities. The area is subject to all other laws, e.g. health, labour conditions, inspection and immigration, etc. but it is entirely exempt from customs. The present Port of Monrovia was established in 1948 at which time it operated as an ordinary port with customs operations inside the port area. In 1956 legislation was enacted to institute the Free Port but no efforts were made to put the mechanism of the Free Port into operation. The law specifically states that the Free Port of Monrovia shall be construed to mean the area in the harbour at Monrovia which is enclosed by the north and south breakwaters and the fence on the landside of Bushrod Island. Additionally a further section of the legislation states that customs territory shall be construed in connection with importing and exporting, to include all Liberian territory except that included within the Free Port of Monrovia .

The reasons behind the non-implementation of Free Port legislation seem to be fears of loss of revenue due to pilferage or smuggling. In practice the customs authorities have great powers within the port and the Free Port concept is confined to a system of bonded warehouses. Presently storage and on-shipment are permissible without customs interference but no repacking may be undertaken.

In fact neither the National Ports Authority (NPA) nor the customs authorities are satisfied with the present state of affairs. During discussions with the Commissioner and two Assistant Commissioners the customs authorities stated their preference to withdraw to the land side of the Free Port fence and to allow operations within the protected area to operate without customs control.

This view is shared and strongly supported by the NPA. In their report for 1973, the NPA state that.

It is our sincere belief that for a small but geographically well located country like Liberia a positive and realistic promotion of the Free Zone concept would bring about a significant improvement in economic benefits to the country. This would require more than just legislative enactment, as we have already seen that it has failed it would also require certain objective criteria, a well conceived programme and an effective machinery".

Towards this end the NPA recommends the following steps.

- (i) the Free Port should be operated as such and ambiguities in customs procedures clarified
- (ii) certain changes should be made to the land use characteristics of the Free Port area,
- (iii) special industrial incentives should be limited to the Free Port area
- (iv) Robertsfield International Airport should be involved in any free zone developments,
- (v) a special "Free Zone Commission" should be set up to ensure the effective implementation of the idea.

The Consultants are in agreement with all the above suggestions except for point (iii). It would not be good policy in their opinion to limit special industrial incentives to the Free Port area. Many potential industries are better suited to location elsewhere in Liberia and it would not be helpful to discourage this type of investment. Experience on the Shannon Free Zone, for example, has shown that a number of industries are able to establish themselves elsewhere in support of Free Zone enterprises. This would be a most valuable development in Liberia. The relationship of RIA to the proposed IFZ has been considered in Chapter 3.

8.2 A Customs System for the IFZ in Monrovia

Fundamental to the customs procedure evolved is the choice of site on the one hand and the system of transportation envisaged on the other. The former aspect has been considered in detail in Chapter 3 and the Consultants recommend the North Beach site within the Free Port area as being the best location for the IFZ. The selection of this site leaves four possibilities of operation. These are:

- (a) regarding the whole Free Port area as customs free and enforcing the barrier along United Nations Drive
- (b) leaving the Free Port operations unchanged and using bonded vehicles to carry goods and products between the IFZ and the port using United Nations Drive,
- (c) leaving the Free Port operation unchanged and utilising the road route which has been identified through the ore depots to the IFZ.
- (d) Using lighters to ferry goods from the cargo wharf to the North Beach area.

An examination is made below of the feasibility of these possibilities:

(a) Making the Whole Free Port Area Customs Free

It has been noted above that the original area designated for the Free Port area is considerably larger than the area currently under the direct control of the National Port Authority. An extension

of the boundary to the original area would bring the proposed North Beach area within this ambit.

From the customs operations point of view this is by far the most attractive solution. By upgrading the road through the ore depots a direct route could be established between the IFZ and the port. No customs formalities would be necessary - excepting a check procedure to ensure that IFZ industries were fulfilling re-exportation requirements. This solution would be most attractive to potential entrepreneurs, would be strongly supported (on general as well as specifically IFZ grounds) by both the National Port Authority and the Customs Commissioners, and is the solution favoured by the Consultants.

(b) Use of Bonded Vehicles along United Nations Drive

This solution would probably represent a least-cost alternative, assuming that the cost of essential improvements to United Nations Drive were not debited to the IFZ project. However it is unattractive on the following grounds.

(i) checks would be necessary both within the Free Port and at the IFZ; the currently ineffective operation of Free Port legislation would be maintained and the major advantage of solution (a) above would be lost.

(ii) United Nations Drive is highly congested and, although plans to improve the road are in preparation, no definite date for such improvement is established.

(c) Use of the Existing Road Through the Ore Depots

This possibility is feasible from the operational point of view and may be an acceptable solution if it proves impossible to make the whole Free Port area customs free. It is not clear whether this alternative would require bonded transport. In theory it would not be necessary but in practice security would be a considerable problem. No consistent opinion was obtainable from the Customs Authorities on this point.

(d) Use of Lighters

The possibility of using a lighterage service within the Free Port to transfer goods from international cargo vessels to the IFZ site was considered in conjunction with the NPA. Their view was that such a scheme was feasible but not desirable. The wharf area is already under considerable pressure from vessels loading and unloading. Any additional cross-flow traffic would produce an unacceptable level of interference with the basic activities of the port. A further point is that the lighterage service would require some infrastructure at the IFZ site and this would add considerably to the cost of the project. At the same time, truck transport would still be needed to move goods the short distance from the lighterage jetty to the individual factories.

On balance therefore, it is felt that the best possibility from the administrative point of view is the extension of the existing Free Port boundary to encompass the whole area originally envisaged, including the IFZ site. A rough assessment indicates that the extension of the Free Port boundary might produce a 25% overall cost saving, while other schemes would result in similar increases.

8.3 Overseas Experience

The procedures currently undertaken by the Export Processing Zones which have been studied are described in Volume 2. In view of the fact that most of the goods which are processed in these EPZs are brought into the Zone from outside, special customs procedures have been adopted involving the use of trucks under guard of Zone and Customs Police.

(a) The EPZ in Bataan, Philippines, makes some use of the Port of Manila which is about 160 kilometres away by road. The overland movement of cargo is handled by trucking companies, including some containerised cargo. The existing dock at Mariveles Bay is also used by BEPZ factories. Zone enterprises enjoy a simplified import-export procedure, particularly with the elimination of the filing of the report of export sales to Bureau of Customs and the exemption from

securing clearances from the Bureau of Internal Revenue. In brief the following procedure is involved in the importation of goods.

- (i) Zone enterprises apply for an Import Permit using an IPE Authority form supported by a firm offer or proforma invoice. Copies are distributed to the Customs collector of Suriveles Port and to the EPZ Authority.
- (ii) Upon arrival of the shipment an Import Tally Form is completed and clearance by both Customs and EPZ Authority inspectors for the entry of goods into the Zone is given only after actual checking of cargo and submission of shipping manifest, bill of lading, packing list and other documents.
- (iii) Transporting of imported goods from the pier area to Zone factories or warehouses is carried out under guard by both Customs Guard and Zone Police.
- (iv) Unloading at Port of Manila or Manila International Airport (MIA) is advised to the EPZ Authority in advance. Hauling of cargo from Manila to Zone is under guard by both EPZ Authority and Customs Police.
- (v) Upon delivery of goods, the importer submits to the Import-Export Division (IED) the following documents: consular and commercial invoices, packing list, bank release certificate and other necessary papers. Use of goods is not allowed until after submission of such documents.
- (vi) Goods for the Zone landed at Port of Manila or MIA are treated as transshipments and brought to the Zone under Customs and EPZ Authority guard.

Should temporary warehousing in Greater Manila be required only Customs bonded warehouse may be used.
- (vii) Goods are unloaded only in the presence of Import-Export personnel. In the absence of such personnel, the escort Zone Police may allow unloading, provided goods are not brought directly into the plant.

- (viii) A special form is available for damaged cargo and is filled in by an EPZ Authority commodity inspector.

Procedures for exportation are much simpler. As in the case of imports an export permit is needed. Commodity clearance for Zone exports is given semestrally or annually by the Bureau of Standards. Loading of cargo is done in the presence of a Customs Inspector and where cargo is loaded at the Port of Manila or the Manila International Airport, transportation is carried out under guard by both Zone and Customs Police.

(b) Shannon Free Airport

The procedures which are undertaken at the Shannon Industrial Estate would be of great relevance to the proposed Zone in Nonrovia, particularly with regard to the import of goods which in Shannon come in by air and thus stay within the Zone territories. The documentation and procedures used are described in Volume 2. A brief summary is given here of the procedures involved for the two types of goods.

- (i) Those coming into the Zone directly from the Airport
(ii) Those coming via ports and transported across Ireland.

(i) Airfreight

Since the Airport is itself within the Zone, no customs documentation is required either for importing or exporting.

The Customs Office receives a copy of the cargo manifest for statistical purposes. This also enables the Customs to keep a check on the flow of raw materials and of finished products.

(ii) Seafreight

As in the case of other Free Zones operating this system, a strict check is kept on goods which have to be transported over customs territories. In Ireland imported goods are entered on a Transshipment Bill (a bond note) at port of entry. The goods are sealed and travel under bond to the Free Customs Zone boundary. The carrier presents the Transshipment Bill to

the Customs Officer at the boundary and the latter satisfies himself that the seals are intact, that there are the stated number of packages etc., before the goods are allowed through. A similar procedure applies to goods which are exported through an outside port.

As it is expected that there would be some industries in the Free Zone in Monrovia processing local raw materials, it is instructive to examine the procedures used in Shannon for such goods.

Local goods entering Shannon are listed in Carriers Manifest, which is shown in the first instance to the preventive officer. Once the goods have been checked, the Manifests are signed by the officer, and the Carrier keeps a copy. A relative export specification is drawn up for the goods to be exported.

The procedures in Shannon have been effective as the penalties for any breach of the laws are very severe, e.g. in the case of broken seals for bonded goods, the company involved must pay 5% of the value of total annual sales as a fine.

- (c) The Kaohsiung EPZ is in Kaohsiung Harbour and customs procedures are thus easier to manage.
- (d) In Jurong, Singapore, where there are virtually no export duties and very few import duties (on limited luxury products), very little control is needed by the Customs authorities.
- (e) The proposed IFZ at Dakar will be situated about 25 km from the port and about 15 km from the airport. The feasibility study for the IFZ recognises the difficulty of transit of goods from the port and airport to the Zone. Strict control over the transportation of goods will need to be kept and a system of bonding goods will need to be devised.
- (f) No definite site has been selected for the IFZ at Abidjan but it is unlikely that this would have its own access to either port or airport. In this case the goods will have to be bonded.

8.4 Free Zone Checking Procedures

Of the four options considered in Section 8.2 the one which would be most practical from the point of operation, is the extension of the existing customs barrier to the United Nations Drive fence. This would include the IFZ within the general area of the Free Port and would ensure that the system was secure. However, certain documentation would still be necessary for customs procedures and statistical procedures. The system proposed is described below

- (a) On arrival on the quayside all imports would need to be checked against a manifest. Free Zone goods would be isolated in a specific warehouse area.
- (b) Goods would then be transported to the IFZ gates along the road inside the Free Port.
- (c) At the IFZ gates an official check would need to be carried out to ensure
 - (i) delivery as agreed
 - (ii) that IFZ accounts of goods in and out are compatible, severe penalties are recommended for any infringement.
- (d) The same checks, i.e. at the IFZ gate and on the quayside, would be necessary for IFZ exports.
- (e) If the customs department retreats to the Free Port boundary none of these checks would involve a customs officer, who need only be present at the IFZ gates to satisfy himself that regulations were being fulfilled.
- (f) The United Nations Drive gates would, of course, be manned by customs staff to monitor IFZ workers and goods flowing into Liberian revenue territory.

With regard to local goods or raw materials entering the Zone for processing, further documentation would be needed

- (i) A Carriers Manifest showing details of the goods would be completed.
- (ii) The goods would be checked against the manifest at the entrance to the IFZ.
- (iii) On leaving the IFZ the copy of the manifest would be shown together with the relative export specification or shipping bills.
- (iv) Only after the Customs Officer has satisfied himself that the goods being exported corresponded to the particulars shown on the manifest and on the export specification would he issue a certificate of exportation and allow the goods to go through to the Port.
- (v) A further check would be made at the quayside before the goods are either loaded on to ships or entered into the Free Zone Warehouse.

CHAPTER 9

ORGANISATION AND MANAGEMENT

9.1 Introduction

The successful establishment and organisation of the Industrial Free Zone in Monrovia is dependent both upon the incentives offered and particularly upon the efficiency of operation. In Chapter 8 the question of simplified customs procedures was discussed. Chapter 10 considers the best way in which the IFZ may be established and the institutional framework necessary for this. In this Chapter aspects of the IFZ administration are considered firstly from the point of view of existing governmental institutions and secondly with the benefit of relevant international comparisons.

9.2 Government Institutions

The implementation of an Industrial Free Zone in Monrovia would involve a number of different sectors including government departments, public utilities, the Port Authority and the private sector.

A number of Government agencies and departments have responsibilities which cover important aspects of this project. These include:-

- Ministry of Commerce, Industry and Transportation
- Ministry of Finance
- Ministry of Planning and Economic Affairs
- Ministry of Labour, Youth and Sport
- Public Utilities Authority
- National Ports Authority
- Commissioners for Customs
- Liberian Development Corporation
- Liberian Bank for Industrial Development and Investment

The problem posed is whether and where an IFZ Authority should fit in to the Government structure. An organisation similar to that of the National Port Authority (NPA) could be set up and it is therefore of interest to examine the NPA's present structures.

From its inception in 1948 the Port of Monrovia was operated by an American Company (the Monrovia Port Management Company) as agents for the Liberian Government. In July 1972 the CPA took over direct operation of the Port, all the rights, duties, obligations, interests and functions being transferred to it by an Executive Order of March 29, 1969. The CPA was created by an Act of Legislature on April 20, 1967, and two further amendments were passed in 1970 and 1972 to give the Organisation its present scope. These Acts may be regarded as the bases on which an IZ Authority could be established in Liberia and are more fully considered below.

The structure of the CPA board is such that all relevant organisations are represented - for example the three main Government Ministers involved (Commerce, Industry and Transportation, Finance, and Planning and Economic Affairs) are ex officio members. In addition the Board includes the Managing Director of the Port Authority, seven members at large appointed by the President and four representatives of a cross-section of the users of the Port.

The general policy of the CPA is outlined by this Board. Although the Free Port of Monrovia (which comes under the CPA) is publicly owned it is regarded as an independent body for financing and reporting purposes.

For other Public Corporations, Government ownership varies from 100% (as for example, in the case of the Liberian Development Corporation), to differing ratios of part ownership (as for example, 50% in the case of the Liberian Produce Marketing Corporation). Most of these corporations are now responsible to the Controller of Public Corporations, located within the Ministry of Finance, who oversees their operations. Although the financial guidelines for such corporations are not yet well established, it is suggested that a target rate of return on capital employed of 15% should be assumed. However, this figure is by no means a rigid criterion for judging the success of the Corporations.

9.3 Overseas Experience

Industrial free Zones elsewhere are generally run by separate Free Zone Authorities. These are given varying degrees of independence delineated in special decrees setting them up. The main structures and responsibilities of the various organisations are described below.

(a) Bataan, Philippines

The EPZ Authority in Bataan was set up by the Foreign Trade Zone Law in 1969 later superseded by a Presidential Decree in November 1972. The Authority is a government corporation with the power to incur debt, grant additional incentives to Zone enterprises and to manage other EPZs in suitable locations in the country. The corporate powers of the Authority are vested in a Board of Commissioners consisting of the Deputy Governor of the Central Bank of the Philippines, the Vice Chairman of the Board of Investments, and the Under-Secretary of the Department of Trade as ex officio members. The remaining members, as well as the Chairman, are appointed by the President. The Authority of the Zone is responsible to the Board and is divided into four major divisions - Operations, Zone Administration, Personnel, Finance and Planning - and a special division which is attached to the Office of the Administrator.

The Authority has a capitalization related to its existing assets, capitalized surplus and a cash contribution of 400 million pesos (U.S. \$57.14 million). The Authority is given the power to incur domestic indebtedness and to issue bonds in the Philippines up to a level of 300 million pesos (U.S. \$42.86 million). At the same time it can contract foreign loans up to U.S. \$50 million unconditionally guaranteed by the Government.

The Authority is responsible for operating, administering and managing the EPZ and other such Zones in the Philippines. The Authority must act as a public corporation and has to fix rates and charges which are fair and reasonable. The non profit making character of the Authority is stressed by the Foreign Trade Zone and any profit must be devoted to expansion. All revenue of the Authority

is exempt from tax, and the Authority has exclusive jurisdiction and sole police authority over the areas it owns.

(b) Kaohsiung, Taiwan

The EPZ Administration of Kaohsiung is a branch of the Ministry of Economic Affairs and is divided into four divisions under a Director. The following matters come within the jurisdiction of the EPZ Administration

- (i) Administrative regulation of EPZ operations.
- (ii) Planning, construction and management of all installations and facilities within the Zone.
- (iii) Management of revenues derived from properties within the Zone.
- (iv) Preliminary approval of factory and business registration and construction.
- (v) Inspection of plant installation and working conditions of workers.
- (vi) Inspection of products and issue of pertinent licences.
- (vii) Endorsement in respect of import and export of commodities.
- (viii) Regulation of foreign exchange and trade.
- (ix) Adoption of measures for prevention of smuggling.
- (x) Rendering services to industries located within the Zone.

The Administration aims to make the Zone financially viable, although it does not appear to be under any obligation to do so.

(c) Jurong Industrial Estate

The Estate is managed by the Jurong Town Corporation. The administrative Committee is appointed by the Government and consists of representatives of Police, Public Works and Utilities, Ministry of Environment, Commissioner of Lands, Port of Singapore Authority, Ministry of Finance, Housing and Development Board, National Trades Union Congress, and Industry. Administrative responsibilities are shared by five Divisions.

- (i) Construction
- (ii) Design
- (iii) Industrial Estates
- (iv) Secretariat
- (v) Finance

The Corporation is financed by loans from the Government at reduced interest rates and is expected to be financially viable. A return of 3.3% on capital employed was achieved in 1973.

In addition to the administrative matters for which it is responsible, the Jurong Town Corporation designs and constructs standard factories to house light industries.

(d) Shannon Free Airport

The Shannon Free Airport Development Company is a private limited liability company registered under the Company's Act. The shareholders are the Ministers for Industry and Commerce, Transport and Power, and Finance. It is managed by a Board of Directors appointed by the shareholders. The board consists of a part time Chairman and five part-time Directors who establish the overall strategy and policies of the Company, determine the organisation and general lines of action necessary to achieve Company objectives, and decide on matters referred to by the Executive Committee. Implementation of the Board's policies and decisions is the function of the Company's permanent, full time staff headed by its chief executive, the General Manager.

For the achievement of its tasks the Company's staff is divided into three main groups, each headed by an Assistant General Manager. The groups are further sub divided into nine Divisions and one section (See Chart 9.1). Finance for the Company is provided by the Exchequer, under the terms of special legislation and takes the following forms.

1963

COMPANY OFFICERS AND MANAGERIAL PERSONNEL
 (As of 12/31/63)

		Business & Trans- portation Manager
		Industrial Promotion Manager
	Private Secretary	Publicity Manager
		Planning and Research Manager
		Physical Planning Manager (Acting)
General Manager	AGM - Physical Resources	Construction and Maintenance Manager
Private Secretary	Personal Assistant	Estates Manager
		Staff & Services Manager
	AGM* - Finance & Administration	Assistant Company Secretary
	Private Secretary	Financial Controller

* Also Company Secretary

Share Capital	to meet the capital cost of industrial and tourist amenity development
Repayable Advances (i.e. Loan Capital)	to meet capital costs (less housing grants) of housing and community development at Shannon
Housing Grants	made available to the Company on the same basis, and at the same rates as normal grants for house building
Housing Subsidies	made available to the Company on much the same basis, and at much the same rates, as in the case of Local Authority housing, and designed to keep rents to a reasonable level
Grant-in-Aid for Operating expenses	to meet the Company's running costs (staffing office expenses, promotion, maintenance of property)
Grant in aid for Assistance to Industry	to provide grant assistance to industry at Shannon.

The functions of the various divisions are described below.

Construction and Maintenance Division plans and executes projects for industrial, housing and tourism developments in Shannon and the Mid West region of Ireland and ensures that the environment for development is conducive to the success of these developments.

Estates Division establishes policies on the leasing, selling, control and use of Company property; secures necessary approval for housing rents, house selling prices and schemes to facilitate home purchase ensures that Community services are planned realistically in relation to needs.

Finance Division operates the Company's accountancy service and financial control procedures to ensure efficiency, economy and

security in all financial transactions. prepares all financial statements for the Company operates an overall system of budgetary control and co-ordinates the preparation of the Company's programme budget, provides and operates a system of internal audit of all the Company's financial affairs.

Industrial Promotion Division studies and selects markets for industrial promotion, designs promotional campaigns, prepares copy for advertisements, leaflets and booklets, meets industrialists (in Ireland and abroad) and provides them with information on all aspects of Shannon as a factory warehouse or office location conducts negotiations and investigates proposals, preparing recommendations on facilities to be offered, assists established industry in a variety of ways, advises in regard to demand for factories including sizes and types and any modifications that may be indicated, recommends allocations of factories, warehouses and offices to incoming tenants.

Physical Planning Division initiates and co-ordinates the physical planning of Shannon Town in accordance with the Outline Development Plan reviews the development plans periodically and ensures that they are updated and revised as required.

Planning and Research Division undertakes the direct research, preparation and publication of the Company's industrial development programme, monitors results and prepares revisions of that programme, liaises with Local Authorities and other public bodies in the Region in the production of plans related to other aspects of regional development, provides an information and intelligence service to the Company, provides an information service to external bodies and individuals in relation to Company activities and results, co-ordinates all research projects relating to the Company's activities commissioned outside the organisation.

Publicity Division publicises all aspects of Shannon and the Mid-West Region, directs public relations activities including the issue of press statements, the organising of functions, and the reception of visiting groups and VIPs.

Staff and Services Division performs all the accepted functions of Personnel management in respect of the Company's own staff, operates general services on behalf of the Company as a whole, including organizational studies, purchasing and stores, internal services (reception, telephone, post), co-ordinates divisional typing operations.

Tourism and Transportation Division is mainly concerned with stimulating passenger flow at Shannon and projects involving tourism.

Administration Section performs all the statutory and accepted functions of a company secretary, co-ordinates the preparation of all legal documents on behalf of the Company, drafts proposals for new legislation, processes applications for grant payments in respect of firms established at Shannon and in the Region, prepares advance estimates of grants for budgetary purposes, deals with official correspondence with, and prepares submissions and reports to, the Departments of Industry and Commerce, Transport, and Power.

(e) Abidjan, Ivory Coast

No management structure has been recommended for Abidjan, although in general it is stressed that the management of an IFZ should be autonomous.

(f) Dakar, Senegal

According to the Statute for the IFZ of Dakar, an autonomous administration is to be set up. The Director will be named by decree, and will be responsible to a co-ordinating committee. The following responsibilities are allocated to the Administration

- to take all measures necessary to implement and operate the Zone, including the drafting of rules and regulations;
- to co-ordinate the administrative formalities necessary for the operation of industrial enterprises within the Zone
- to undertake, after consultation with the Co-ordinating Committee, all development plans necessary for the

operation of the Zone

- to approve the admission of entrepreneurs to the Zone subject to consultation with the Co-ordinating Committee
- to oversee all administrative services necessary to the operation of the Zone (these services will have offices in the Zone).

The Co-ordinating Committee will consist of representatives of organisations involved in operations related to the IFZ including:

A representative of the President, of the Primature and the Ministry of Planning.

A representative of the Ministry of Industrial Development.

- The Director General of Customs and Excise.

- The Director General of the Treasury.

The Director of Inland Revenue.

- A representative of the Ministry of Finance.

- A representative of the Ministry of the Interior.

- The Director of the Port of Dakar.

- A representative of the Ministry of Public Works.

9.4 The Proposed Structure of the IFZ Authority in Liberia

An examination of existing public corporations in Liberia and of the operation of IFZs overseas suggests that an independent public corporation is probably the most effective structure that can be established for an IFZ Authority in Monrovia. There are comparable institutions already working in Liberia, such as the Liberian Development Corporation, the National Ports Authority, Roberts International Airport, etc.

Some aspects of the experience of IFZ's overseas could be incorporated into the administrative structure proposed for the IFZ Authority in Monrovia. For example, in Shannon the Authority is a

limited liability company with government ministries as shareholders and finance provided by the exchequer. Beyond that however, the Company is left to implement the objectives set out by the Board without interference.

In the context of Liberia the IFZ Authority could have a similar structure to that of the National Port Authority with a Board representing the various interests involved laying down the objectives of the IFZ within the limits of the powers and broad objectives set up by legislation.

As in the case of other Public Corporations, the Ministers of the following three major Ministries involved should be represented

Ministry of Finance

Ministry of Commerce Industry and Transportation

Ministry of Planning and Economic Affairs

Other representatives of Government and Government Agencies would include.

Ministry of Labour, Youth and Sport

Public Utilities Authority

The National Port Authority

Commissioners for Customs

Liberian Development Corporation

Liberian Bank for Industrial Development and Investment

Members to be appointed by the President

Representatives of a cross-section of users of the IFZ including industry and transportation

The Managing Director of the IFZ

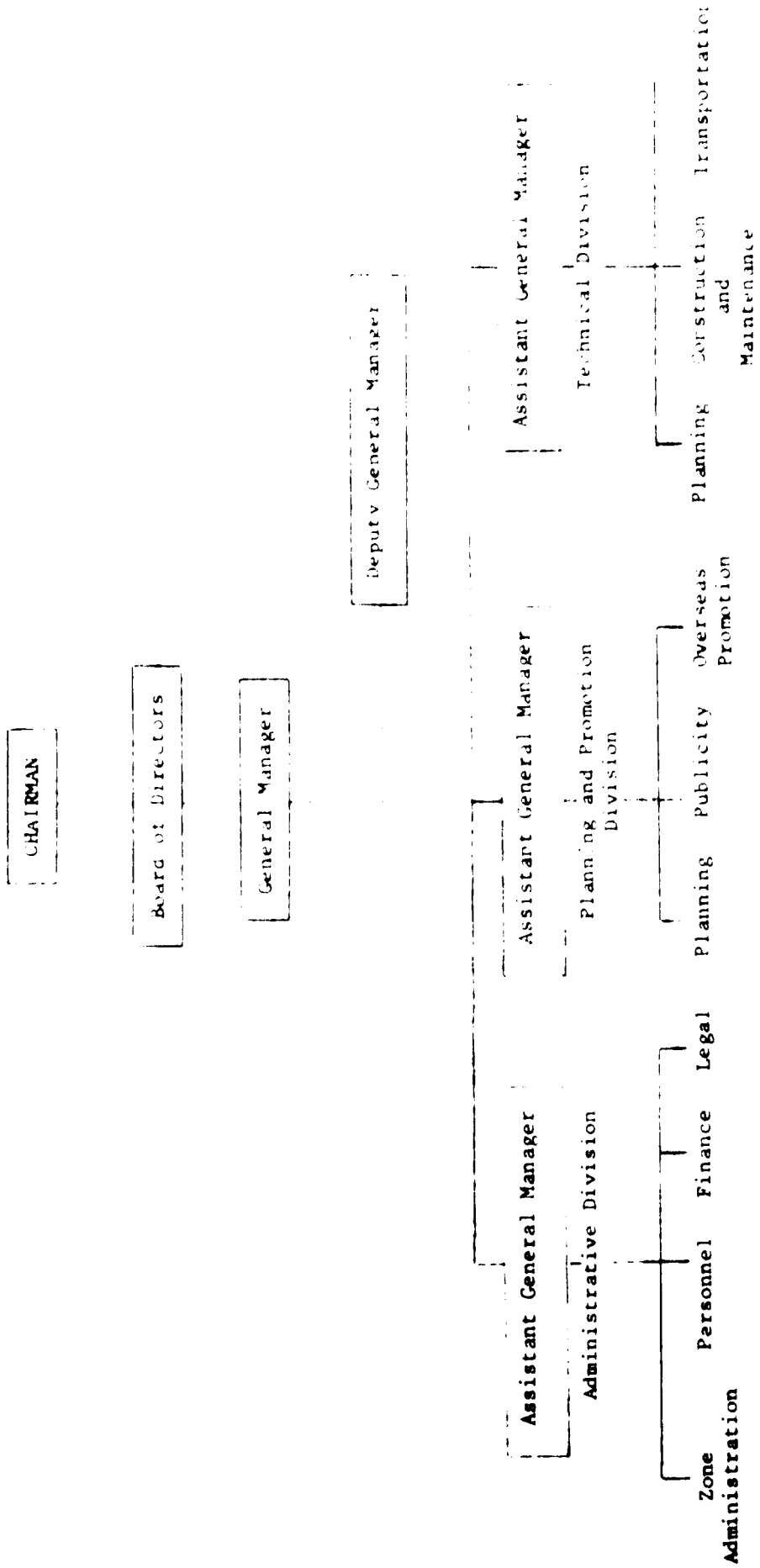
Implementation of the policies and objectives set by the Board would be carried out by the Executive. A suggested organic structure of the organisation is shown in Chart 9.2.

The Industrial Free Zone Corporation should have responsibilities for the following functions:

CHART 9.2

INDUSTRIAL FREE ZONE

PROPOSED MANAGEMENT STRUCTURE AND FUNCTIONS



- (i) Administration of the IFZ regulations.
- (ii) Planning, construction and management of all necessary installations and facilities within the zone.
- (iii) Management of revenues derived from IFZ operations.
- (iv) Factory registration and licensing.
- (v) Inspection of plant and working conditions.
- (vi) Inspection of materials and products.
- (vii) Assurance of conformity with IFZ regulations.
- (viii) Co-ordination with other bodies for security, transportation, employment etc.
- (ix) Operation of IFZ services, e.g. postal, security, sanitary, maintenance, transportation, etc.

It is proposed that the organisation should operate in three divisions Administrative, Planning and Promotion, and Technical

The Administrative Division would be concerned with the operating aspects of the Zone, the financial control and audit, legal aspects and personnel relations.

The Planning and Promotion Division would operate both within Liberia and through overseas offices or representatives of the Government in order to attract foreign investors. At the same time the division would carry out market studies and prepare individual industry profiles for presentation to prospective entrepreneurs.

With regard to government offices abroad, studies need to be carried out on those already operating, particularly in the USA, in order to determine whether they are sufficiently well organised to add the promotion of the IFZ to their existing duties. As promotion is one of the key factors involved in the success of the Zone, serious consideration should be given to **establishing representative offices for this work.**

The Technical Division would concern itself with the physical infrastructure of the IFZ, including all engineering aspects and construction and maintenance of the infrastructure **and standard factories**. A sub-division would manage all transportation aspects.

9.5 Draft Legislation

The **objectives**, powers and responsibilities of the IFZ Authority must be laid down in an Act passed by the Government of Liberia. This Act may be enacted as an amendment to the Public Authorities Law through the addition of a Chapter to provide for the creation of the Industrial Free Zone (as happened in the case of the National Port Authority) or by a separate Act passed by the Senate and House of Representatives.

Clearly the detailed content of the Act cannot be specified until the project has been discussed and approved by the Government. However, an indication is given below of the general clauses which would need to be covered in the Act.

(a) Definition of Terms

"Free Zone" as used in the Act would mean the area specified within the Port for this purpose.

Authority would mean the body politic and corporate created by the Act.

(b) Creation of the Industrial Free Zone Authority

The establishment and management of the IFZ would be governed by the provisions of the Act. For all other matters the provisions of Liberia's legal code would apply. The Act would create the IFZ Corporation, which would be a Public Corporation and have **specific powers** granted to it under the Act.

(c) Purpose of the IFZ

The purpose of the Zone would be to establish a means of attracting foreign investment to set up industrial enterprises in order to promote exports and encourage the employment of local labour.

The Zone would at the same time offer an opportunity for processing foreign and local raw materials for export.

(d) Duration of the Act

It is recommended that a term should be set for the incentives offered under the Act so as to offer guarantees to potential investors. A period of 25 years is suggested.

(e) Administration

The Act would create the Corporation and define its organizational structure as proposed above in Section 9.4. A description of the power of the Board to lay down the objectives of the Corporation, to formulate policies and to be responsible for general supervision, would be included.

With regard to the Executive part of the Administration the powers of the Authority to operate, administer and manage the IFZ would be defined, covering in particular their ability to construct, own, lease and maintain infrastructure facilities and standard factories.

(f) Financial Aspects

This section would cover two major fields.

(i) Capital Structure

The capital of the Authority would be defined in terms of assets, capitalization including share issues (if any), Government and private participation and cash contributions by Government.

(ii) Objectives of Operation

The law would state whether the Zone is to be financially viable and the degree to which it can incur domestic indebtedness. For example the Presidential Decree of the Bataan EPZ specifically states.

Section 21. Non profit character of the Authority.
Exemption from Taxes - The Authority shall be a non profit corporation and shall devote all returns from

capital investment and excess revenues from operations for expansion purposes. Consistent with this provision, the Authority shall be exempt from all taxes, duties and fees payable to the Government or its Agencies...

Most Public Corporations in Liberia are expected to obtain annual return of 15 percent on capital employed, and this may apply to the IFZ. In this respect the IFZ Authority would be given powers to fix, assess and collect storage charges and fees, rentals and licence fees.

(8) Operating Aspects

This section would define the types of entrepreneurs, products and procedures of operations of the proposed IFZ. For example the following items would be included.

- The term "free zone industry" is defined to mean industries permitted to engage in the manufacture, processing or assembling of export products within the free zone area and enterprises engaging in such activities as storage, transport, loading, unloading, packing and repair essential to the production or sales operations of industries established in the Zone.
- Foreign merchandise, e.g. equipment, raw materials, semi-finished products, would be brought into the IFZ without customs certification, payment of duties or payment of any bond.
- Domestic merchandise would be taken into the zone (or zone merchandise would be taken into Liberian customs territory) in accordance with prescribed legislation and statutes.
- There would be no time limit on the storage of foreign merchandise.
- There would be complete freedom from customs control within the the Free Port area.

It is recommended that no specific conditions would be laid down for prospective entrepreneurs with regard to the amount of investment and employment - however the employment of locals would be stipulated as a sine qua non.

(h) Incentives

A special article would be included to define the incentives offered, as proposed in Chapter 7 above. This would cover aspects of the treatment of merchandise in the Zone, and additional incentives such as accelerated depreciation, operating loss carry over etc.

(i) Reports

The IFZ Authority would have to submit an annual report as well as an annual statement of accounts.

(j) Penalties

Penalties for infringement of the statute would be specified.

(k) Arbitration

Means of Arbitration between the IFZ Authority and the foreign investor would be stipulated. It is suggested that this could be arranged with the International Bank for Reconstruction and Development (IBRD).

OVERALL DEVELOPMENT PROGRAMME10.1 Action Programme

In drawing together the conclusions of this Report into a practical guide for the establishment of an IIZ in Monrovia, certain key factors emerge as essential to success. The studies carried out on selected zones in other parts of the world (see Vol. 2) indicate the sort of general problems that arise on such projects and the type of policies which have been adopted to overcome them. However, it is with in the particular conditions existing in Liberia, which have been described earlier in this Report that the programme we now recommend would be implemented.

The proposed overall development programme is shown on Figure No. 20, which indicates the actions to be taken under the following four broad spheres of activity:

Policy Decisions and Legislation

Financial Aspects

Organisation and Administration

Implementation

10.2 Policy Decisions and Legislation

The first step in the overall development programme would be the appointment of an Industrial Free Zone Development Committee (IFZDC) by the Government of Liberia, to be responsible for planning

	1975	1976	1977	1978	1979
POLICY DECISIONS AND LEGISLATION	J F M A M J J A S O N D	J F M A M J J A S O N D	J F M A M J J A S O N D	J F M A M J J A S O N D	J F M A M J J A S O N D
GOVERNMENT APPOINTS IFZ COMMITTEE	●				
COMMITTEE PREPARES PROPOSALS	—				
LEGISLATION ENACTED	—				
ESTABLISHMENT OF CUSTOMS PROPOSALS	—				
FINANCIAL ASPECTS					
ASSESSMENT OF TECHNICAL ASSISTANCE REQUIREMENTS	—				
ASSESSMENT OF FINANCIAL REQUIREMENTS	—				
CONSIDERATION OF FUNDING	—				
BUDGETARY ALLOCATION	●				
ORGANISATION AND ADMINISTRATION					
IFZ AUTHORITY BOARD ESTABLISHED	●				
INAUGURAL BOARD MEETING	●				
APPOINTMENT OF GENERAL MANAGER	●				
SELECTION OF IFZ PERSONNEL	—				
TRAINING AT HOME AND OVERSEAS	—				
ESTABLISHMENT OF INTERNAL REGULATIONS	—				
IMPLEMENTATION					
CONSULTING ENGINEERS APPOINTED	●				
CONSTRUCTION OF INFRASTRUCTURE	—				
PROMOTION AT HOME AND OVERSEAS	—				
SELECTION OF TENANTS	—				
LABOUR RECRUITMENT AND TRAINING	—				

IFZ IN OPERATION

(SEE FIGURE No 19 FOR DETAILED PROGRAMME)

OVERALL DEVELOPMENT PROGRAMME

and carrying out the activities necessary to establish the IFZ.

The IFZC could include two main groups responsible for policy making and executive functions. These could be:

- (i) A senior ministerial group to act as policy makers within the powers conferred on the IFZC by the **Liberian Government.**
- (ii) A permanent (but flexible) working group to undertake day to day operation of the IFZC.

A number of ministries and agencies will participate in these functions including:

Ministry of Commerce, Industry and Transportation

Ministry of Finance

Ministry of Planning and Economic Affairs

Ministry of Labour, Youth and Sport

Liberian Development Corporation

National Ports Authority

Public Utilities Authority

Commissioner for Customs

It is important that the IFZDC should have a clearly defined role so that the project can operate effectively with adequate official backing. In this respect the first few years will be critical in determining the character of the zone.

The principal task for the IFZDC would be to draft the legislation required to establish and promote the IFZ Authority, covering the following subject headings

- (a) administration and management structure
- (b) powers and responsibilities
- (c) financial basis and operating criteria
- (d) customs procedures
- (e) incentive legislation
- (f) criteria for selection of industries
- (g) transport systems, both local and international
- (h) training facilities and programmes.

It is expected that when recommendations have been made on these aspects the IFZDC will transfer its responsibilities to the IFZ Authority which would be the public corporation responsible for administration and development of the IFZ.

10.3 Financial Aspects

In order to establish the IFZ Authority a budget allocation will be necessary initially from local resources, but international assistance and foreign investment will probably be required at the implementation stage.

The IFZDC could play a major role in securing financial backing for the IFZ project from both domestic and international sources. Following on from the adoption of the major findings of this Report it is suggested that approaches should be made to relevant international

organisations, such as the IFDB, African Development Bank, etc. for financial assistance. The possibilities of bi lateral aid should also be investigated.

Technical assistance and training costs of IFZ Authority personnel overseas could very well qualify for U.D.D. special assistance.

10.4 Organisation and Administration

In order to establish the IFZ Authority the necessary legislation would have to be passed by the Government of Liberia. The content of this and the management structure of the Authority have been discussed in Chapter 9.

With the creation of the Authority a number of further steps could be put in hand in order to produce an effective operative unit:

- (i) Appointment of a general manager this is a key position and consideration should be given to securing expert expatriate advice during the early years of operation.
- (ii) Selection of permanent staff for the Authority.
- (iii) Institution of industrial training programmes both at home and overseas.
- (iv) Drawing up of internal regulations and procedures.

10.5 Implementation

When the decision has been taken to proceed with the IFZ and the proposed site has been approved, the programme for implementing the infrastructure programme, as described in Chapter 4, can be put in hand.

Concurrently the Authority should initiate the following:

- (i) a promotional campaign, which should be tied in with the establishment of overseas offices or agencies in key countries;
- (ii) in depth studies of possible industries; these could well be carried out in conjunction with the Liberian Development Corporation and UNIDO;
- (iii) labour recruitment and the creation of a training centre.

These activities would lead to the selection of tenants for the first standard factories and plots, and the IFZ could then commence operations.

10.6 Time Scale

A tentative time scale for the above programme is indicated on Figure No. 20, which envisages the occupation of the first factory, and the effective commencement of operations in the IFZ, by mid 1978.

APPENDICES

APPENDIX A

TERMS OF REFERENCE

1. RESPONSIBILITIES OF THE CONTRACTOR, UNIDO CONTRACT NO. 74/33

Statement of Work

The Contractor shall render on the terms hereinafter set forth the services and facilities necessary to carry out a comprehensive feasibility study of planning, establishment and operation of an Industrial Free Zone in the Project Area, comprising but not necessarily limited to the following:

- A. Engineering Aspects;
- B. Economic and Other Aspects,
- C. Overall Plan for Implementation of the Project.

A. Engineering Aspects

A.1 Engineering Planning Related to Location

Consideration will be given, by the Contractor, to environmental factors and to the relationship of the site to town and other facilities, social amenities and particularly to communication routes. In the planning considerations, the Contractor will include all matters relevant to the establishment and future development of the zone in as far as they will be affected by the type and size of industry likely to be attracted to the zone.

Where specifically, the factors highlighted by the economic study carried out will have to be fed into the engineering plan with a view to providing practical recommendations in infrastructure requirements including housing, drainage and communications (roads, seaport, airport expansions).

A.2 Engineering Place for the Site

Bearing in mind the results of the economic study, the Contractor shall prepare an overall plan of the site with adequate provision for future expansion in the site layout. The Contractor shall recommend the optimal allocation to plots, parking areas, drainage requirements, waste disposal, service centre (if required), administration block, etc., and shall provide all working drawings.

A.3 Cost Estimates

The Contractor shall provide cost estimates where required, but more specifically with regard to infrastructure work such as:

- cost of providing adequate water and power supply;
- cost of roads;
- cost of eventual seaport and airport expansions;
- eventual expenditure on the future development of the zone.

Taking into consideration the results of the study on the above mentioned estimated cost, the Contractor shall make the recommendations on rental policies.

B. Economic and Other Aspects

B.1 Survey of Industrial Free Zones in Neighbouring Countries

The Contractor shall carry out a survey of Industrial Free Zones in neighbouring countries with a view to establishing the reason why industry moved into those areas, particularly the inducements offered to the establishment of a new industry and the management organization and legal requirements for ensuring effective administration procedures.

B.2 Survey of Potential Industries

The Contractor shall:

- (a) Evaluate those industries which might most appropriately be attracted to the proposed Industrial Free Zone on the basis of:
 - (i) export potential;
 - (ii) labour intensity,
 - (iii) low water usage.
 - (iv) raw materials usage.

The assessment of pollution factors shall be in conjunction with the engineering aspects of the study.

These criteria shall be drawn out within the overall objectives of the National Development Plan for Liberia, together with the specific objectives of the Industrial Free Zone, of which the contribution towards exports and the provision of employment are to be considered the most important.

- (b) Evaluate the admissible industries and select the potential industries from those existing at the moment in the Project Area, and foreign industries which are likely to be attracted in the Industrial Free Zone and examine the type of industries within the context of the location of the Industrial Free Zone in relation to potential markets.

B.3 Policies for the Establishment and Operation of the Industrial Free Zone

The Contractor shall examine the existing regulations and conditions applicable to industry in the Project Area with a view to determining what changes may be necessary with regard to the following aspects.

(a) Incentives

These shall be drawn up with a consideration of incentives in other zones, and within the context of the Project Area existing incentive structure.

(b) Organization and Administration

A management structure shall be laid down within which the Industrial Free Zone can effectively operate.

(c) Customs Procedure and Exchange Controls

These shall be drawn up in accordance with local regulations.

(d) Legal Aspects

Draft laws on the establishment and operation of the Industrial Free Zone shall be recommended.

C. Overall Plan for the Implementation of the Project

The Contractor shall draw up an overall plan by amalgamating all the conclusions of the various parts of the study.

2. TERMS OF REFERENCE ATTACHED AS APPENDIX 1 TO THE 'REQUEST FOR PROPOSAL' ISSUED BY UNIDO AND DATED 27 JUNE 1974

The United Nations Development Organization (UNIDO) has been requested by the Government of Liberia to provide a comprehensive feasibility study for planning, establishment and operation of an industrial free zone at the Free Port of Monrovia.

The Government attaches considerable importance to promoting investment in industries capable of exporting manufactured goods to improve Liberian foreign exchange earnings. An effective method of achieving this may be the establishment of an industrial free zone.

The study will determine the feasibility of the proposed Industrial Free Zone, the investment required, operating costs, projected income and long-range profitability.

Essential attention will be given to:

- (a) cost of providing adequate water and power supply to the zone.
- (b) cost of road, seaport and airport expansions if required;
- (c) relationship to existing town location and estimate of housing requirements.
- (d) planning considerations,
- (e) provision of adequate future expansion.
- (f) area land use plan including waste disposal, parking areas and drainage requirements.
- (g) recommended rental scales in relationship to estimated costs.

Working drawings will be attached to the study.

The study will also suggest the optimal industries and the best combination of these industries. Included in this part of the study will be:

- (a) a survey of Industrial Free Zones in neighbouring countries;
- (b) an examination of export potential for the industries proposed.
- (c) an evaluation of admissible industries on the basis, among others, of the following criteria:
 - (i) labour intensity
 - (ii) low water usage
 - (iii) low pollution factors
 - (iv) raw materials usage

Consideration should be given to incentives needed to attract potential foreign and domestic investors, to management organization requirements, to legal requirements for ensuring realistic encouragement to foreign investors, to ensure effective administration, customs procedures and exchange controls procedures.

GENERAL PROGRAMME SCHEDULE

1. The team of experts of the Contractor is to be available in UNIDO, Vienna, on the way to Liberia, within a maximum of 7 days from the receipt of the signed contract by the Contractor. They will be available in Vienna for 2 working days both on going to the field, and on returning. This applies to all Contractor's staff going to Liberia, unless otherwise agreed by UNIDO.
2. Briefing will be made also in Geneva by UNCTAD for one day.
3. The team is to enter the field immediately following the conclusion of the briefing schedule.
4. The team shall submit to UNIDO a work programme within 2 weeks after arrival in the field in 6 copies in English. The work programme shall outline the method, type and timing of the work to be executed, after inspection of the prevailing situation in the field and consultation with the Government Authorities.
5. The Contractor shall submit to UNIDO a draft final report in 6 copies in English within 30 days after completion of the field work.
6. The Contractor shall take into account the comments by UNIDO in preparing the final report, which shall be submitted to UNIDO within the following 30 days in 30 copies in English.

PERSONNEL

For the field work, in Liberia, the Contractor should assign sufficient specialized staff and at least 2 experts with previous practical and sound experience and knowledge on the establishment, and operation of industrial free zones, particularly oriented towards export production. These experts should be on the following fields:

- industrial economist;
- industrial civil engineer.

The team of experts shall be supported by their home office and shall be able to draw upon relevant know-how in technical, economic and marketing matters as required by the above programme of work.

It is estimated that it will take about 6 m/m effort to accomplish the project.

3. PROPOSAL SUBMITTED BY SIR ALEXANDER GIBB & PARTNERS DATED AUGUST 1974

INTRODUCTION

The project involves the preparation of a comprehensive feasibility study for the planning, establishment and operation of an industrial free zone at the Free Port of Monrovia.

A successful Master Plan will involve consideration of a wide range of aspects concerning engineering, economic evaluation, administration and management, incentives, customs procedures and exchange control procedures. The framework on which such a plan could go ahead is indicated below:

A. Engineering Aspects

These aspects may be conveniently summarised under three headings:

A.1 Engineering Planning Related to the Location

Consideration will be given to environmental factors and to the relationship of the site to town and other facilities, social amenities and particularly to communication routes. Planning considerations will include all matters relevant to the establishment and future development of the zone insofar as they will be affected by the type and size of industry likely to be attracted to the Zone. More specifically, the factors highlighted by the economic study carried out will be fed into the engineering plan to draw up practical recommendations on infrastructure requirements including housing, drainage and communications.

A.2 Engineering Plan for the Site

This will give emphasis to the development of the site by stages, bearing in mind the results of the economic study. The factors affected will include the overall plan of the site for phased development, the site layout with an optimum allocation to plots, parking areas, drainage requirements, service centre (if required), administration block, etc. An overall master plan of the site will be prepared. Working drawings will be provided where required.

A.3 Cost Estimates

These will be provided where required, but more specifically with regard to infrastructure work such as:

- the cost of providing adequate water and power supply
- the cost of roads
- the cost of seaport and airport expansions if required

However, in view of the short duration envisaged for the project only a broad range of costs can be estimated for expenditure on the future development of the Zone. It is assumed that some work has already been done with regard to factories as these are not specifically mentioned in the terms of reference, and therefore costs will be readily available. These latter costs will be used in conjunction with the estimated infrastructure costs to arrive at recommendations on rental policies.

B. Economic and Other Aspects

The following aspects will be involved in this part of the study:

B.1 A Survey of Industrial Free Zones

A survey of Industrial Free Zones will be carried out in neighbouring countries with a view to establishing the reason why industry moved into those areas, particularly the inducements offered to the establishment of a new industry and the management organisation and legal requirements for ensuring effective administration procedures. Although the terms of reference only refer to neighbouring countries, it is felt that useful information could be obtained by drawing upon the experience gained by the firms' international network of offices in studies of similar Industrial Free Zones elsewhere.

B.2 A Survey of Potential Industries

(a) An evaluation of those industries that might most appropriately be attracted to the proposed Industrial Free Zone will be carried out on the basis of:

- (i) export potential;
- (ii) labour intensity;
- (iii) low water usage;
- (iv) raw materials usage.

The assessment of pollution factors would be in conjunction with the engineering aspects of the study.

These criteria are to be drawn up within the overall objectives of the national development Plan for Liberia, together with the specific objectives of the Free Zone, of which the contribution towards exports and the provision of employment are seen to be the most important.

(b) Evaluation of Admissible Industries

Potential industries will be selected from those existing at the moment in Liberia, and foreign industries which are likely to

be attracted to the Free Zone. The types of industries to be attracted will be examined within the context of the location of the Zone in relation to potential markets. These are likely to be in other parts of Africa, in Europe and in the Americas.

B.3 Policies for the Establishment and Operation of the Free Zone

A study will be carried out of the existing regulations and conditions applicable to industry in Monrovia with a view to determining what changes may be necessary with regard to the following aspects:

(a) Incentives

These will be drawn up with a consideration of incentives in other Zones, and within the context of Liberia's existing incentive structure.

(b) Organisation and Administration

A management structure will be laid down within which the Zone can effectively operate.

(c) Customs Procedures and Exchange Controls

These will be drawn up in liaison with local government officials.

(d) Legal Aspects

Draft laws on the establishment and operation of the Zone will be recommended.

C. Overall Plan for the Implementation of the Project

This will be drawn up by amalgamating all the conclusions of the various parts of the report.

ORGANISATION AND FACILITIES FOR ACCOMPLISHING THE TASK

Sir Alexander Gibb & Partners will be working in conjunction with Coopers & Lybrand Associates Ltd. as sub-contractors on the project. Relevant details of the organisations are attached in Annex 6 below. Brochures giving full details of both firms have already been sent to UNIDO.

Coopers & Lybrand have offices in Liberia and in many other parts of the world and it is proposed that for a survey of existing industrial Free Zones in other countries, local offices will be used. The following arrangement is proposed in order to accomplish the project:

The overall direction of the project will be under a team leader from Sir Alexander Gibb & Partners who will be the industrial civil engineer. He will be responsible to a Partner and will co-ordinate all the work whether carried out in Liberia, in the home office or elsewhere. The home office staff of Sir Alexander Gibb & Partners who will be consulted on this project will include:

- an industrial mechanical engineer
- a senior architect
- an economist with experience of free customs zones
- other staff

Coopers & Lybrands Ltd. will provide the following staff:

- an economist for fieldwork and for the preparation of the Report
- a Partner/Director for consultation
- a senior economist for consultation

Details of the experience of key personnel are shown in Annex 7.

The local staff of Coopers and Lybrands in Monrovia, and also in other international offices will also assist on the project.

On questions concerning the management and operation of the Free Customs Zone the Consultants will consult as necessary with the Management of the Shannon Free Airport Development Company with whom they have worked on similar aspects, on a project in Thessaloniki, Greece, carried out on behalf of UNIDO.

METHOD OF ACHIEVING THE OBJECTIVES OF THE PROJECT

The project will be carried out by an industrial civil engineer and an industrial economist. They will be backed by staff from the company's local office in Monrovia and senior direction and experts from the home office. The companies' international offices will be involved in specific aspects of the work. On other subjects such as administration and operation it is proposed to consult the management of an existing Free Customs Zone.

The specific objectives of the project are to be achieved in the following way:

A. Engineering Aspects

The civil engineer will spend much of his time in Monrovia where, in consultation with the relevant government officials, he will collect relevant information for the planning of the Zone. Contact will

be made with local construction companies and with the Ministries to ascertain the reality of the figures used. The plan for the site will be drawn up in consultation with engineers and architects in the home office. Close liaison will be maintained by the engineer with all economic aspects of the work so that all relevant data can be taken into account in arriving at a practical plan.

B. Economic Aspects

The proposed method of research is based upon fieldwork to be carried out by a member of the firm's staff in Liberia and neighbouring countries, supplemented by the updating of extensive research work carried out by the firm's international network of offices for similar studies elsewhere. The work programme would be directed from the firm's London office, the full range of services of which would be available as necessary throughout the studies. The proposed programme of work would include:

- (a) identification of similar Industrial Free Zones in neighbouring countries and selection of those appropriate for detailed study;
- (b) fieldwork by a member of the firm's staff in Liberia and in those neighbouring countries selected for detailed study;
- (c) in parallel with the above research would be the updating by our overseas offices of research carried out on similar areas in other parts of the world;
- (d) collation and appraisal of the field research programme;
- (e) preparation of report.

C. Administration and Legal Aspects

This aspect will be considered by the team in conjunction with staff from the home office. At the same time the proposed framework will be discussed with the relevant Government officials in Liberia. For the preparation of the Final Report the proposals will be discussed as necessary with expert personnel from the Shannon Free Airport Development Company.

4. SPECIAL INDUSTRIES PROJECT DATA SHEET PREPARED BY UNIDO AND UNDP

REFERENCE DATA:

Country: LIBERIA

Project Title: Assistance in a comprehensive feasibility study of planning, establishment and operation of an industrial free zone at the Free Port of Monrovia, Liberia.

Project Number: IS/LIR/73/007 REV.1

Origin and Date of Request: Government of Liberia through the Resident Representative (re. letter dated 29 January 1973) amended by letter of Resident Representative dated 23 November 1973.

Purpose of the Project: To prepare a comprehensive feasibility study on an industrial free zone at the Free Port of Monrovia, Liberia.

BACKGROUND INFORMATION:

The Government of Liberia attaches considerable importance to promoting industries capable of exporting manufactured produce to foreign countries to help improve the Liberian exchange position. In this respect, it appears that the establishment of a free zone at the Free Port of Monrovia for the location of export-oriented industries will make a considerable contribution to the expansion of manufactured exports.

DESCRIPTION OF THE PROJECT:

The project is to cover the following aspects:

- A. Overall Planning
1. Identification and planning of the types and sizes of industries to be admitted in the zone and the related common utilities to be supplied based on the analysis of the present export industry structure in Liberia, to avoid harmful competition.
 2. Identification of potential entrepreneurs, for instance through industrial circles in Europe and the United States.
 3. Preparation of an outline of legislative and administrative measures required for the establishment of an industrial free zone in Liberia.

4. Preparation of an outline of institutional framework for the management and the operation of the zone.
5. Studying the necessary infra-structure development.

B. Engineering Study

Study existing plans and cost evaluation and prepare modifications on such problems as:

1. Standard industrial buildings planning
2. Central common utilities
3. Traffic situation

In addition to the above, extensive and detailed terms of reference have been worked out and agreed with the Government, covering all the above points. This is required for the formulation of the tender document which will be sent to the list of selected engineering consultant companies for open competitive bidding for the contract.

TRAINING:

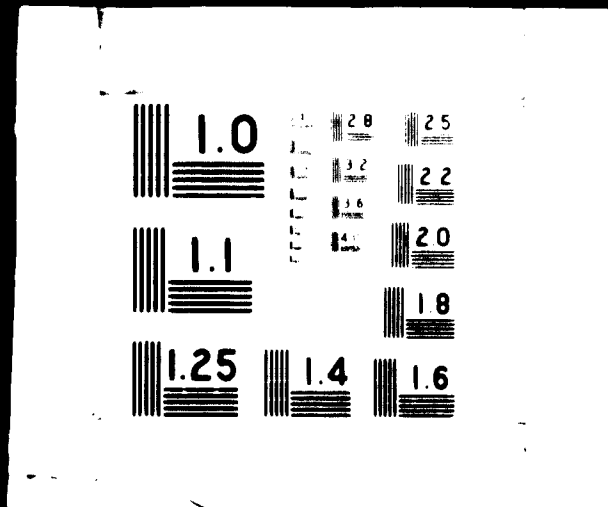
- A. In addition it is considered essential that as soon as possible a study tour of operating industrial free zones should be made by two senior executives who will be directly involved in the planning and/or managing of the Industrial Free Zone in Liberia.
- B. Preparations for such a study tour have already been made in principle in that the Shannon Free Airport Development Co. Ltd. is prepared to accept suitable candidates for planned industrial free zone training, and continuous contact has been already established by UNIDO with industrial free zones in Asia who are prepared to accept Fellows for training purposes in this field.



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APPENDIX B

LIST OF ORGANISATIONS CONTACTED DURING THE STUDY

- (1) In Vienna
UNIDO
- (2) In Geneva
UNCTAD
- (3) In Liberia
Ministry of Commerce, Industry and Transportation
Ministry of Planning and Economic Affairs
Ministry of Finance
Ministry of Labour, Youth and Sports
Ministry of Public Works
Ministry of Lands and Mines
Public Utilities Authority
National Port Authority
Free Port of Monrovia
Liberian Development Corporation
Liberian Bank for Industrial Development and Investment
Commissioners for Customs
National Housing Authority
Commonwealth District of Monrovia
Geological Survey
Hydrological Service
Meteorological Service
UNDP
UNIDO
UNCTAD
British Embassy
U.S. Embassy
Bong Mining Company
National Iron Ore Company
Masurade Company
Blackwood-Hodge Ltd.

West African Shoe Corporation
Farrell Lines
PZ Lines
Lone Star Lines
Roberts International Airport
SEDECO
SAIA
Macars Construction Co.
Raymond Concrete Pile
Hilton and Richards
Stanley Engineering
Lyons Associates

(4) In Abidjan

UNIDO
UNDP
Ministere Du Plan
Bureau Du Developpement Industriel

(5) In Dakar

UNIDO
Societe Nationale D'Etudes et de la Promotion Industrielle
Ministere Du Developpement Industriel

(6) In Ireland

SFADCO

APPENDIX C

NEIGHBOURING COUNTRY DEVELOPMENTS

An examination of relevant developments in the countries in West Africa indicates that no free zones have as yet been set up in the region. Industrial estates have been set up in Nigeria, Ghana, Senegal, Ivory Coast and Gabon and an industrial estate is being planned at Lomé in Togo. However, none of these estates is specifically intended to promote exports.

Two countries were identified in which studies have been carried out on the establishment of Industrial Free Zones: Senegal and the Ivory Coast. According to UNIDO, studies are also being carried out in The Gambia and in Morocco. Visits were made to Dakar (Senegal) and to Abidjan (Ivory Coast) in order to assess the progress made on these projects. A list of organisations contacted is shown in Appendix D).

A summary is given below of the proposed projects in Abidjan and Dakar, and conclusions drawn which are applicable to an IFZ in Monrovia.

1. ABIDJAN, IVORY COAST

A Study of an Industrial Free Zone was carried out by a UNIDO expert in October 1974. The project is still at a pre-feasibility study stage, and only a general assessment has been made as to whether a Zone should be set up. A brief cost benefit analysis carried out in the Study shows that such a Zone would have a positive impact on the Ivory Coast economy.

In general terms, if a Zone is set up in Abidjan it would have the following advantages.

- (i) Central location for North and South America and Europe.
- (ii) Good infrastructure at Abidjan including good transport facilities, port, airport, hospitals,

hotels etc.

- (iii) Political stability and encouragement of private sector industry.
- (iv) The availability of a large amount of unskilled labour which is to some extent offset by the disadvantages inherent in a low level of skilled labour and high wages relative to neighbouring African countries.
- (v) Infrastructure and transport are available at prices competitive with other African countries.

While the Study is still at a pre-feasibility stage, some information is available on the size and type of Zone envisaged. A number of sites have been examined, the most promising of which is near the airport but about 5 miles from the port. An initial development of 50 ha (120 acres) is envisaged with an expansion area of 200 ha (approx. 500 acres). An employment density of 150/ha is forecast with total employment for Phase 1 of 6500.

No detailed studies appear to have been carried out with regard to the proposed Zone and a general indication only is given as to the categories of industries expected. These include textiles and clothing, production and assembly of electrical goods, production and assembly of electronics, leather industries, wood industries, shoes, fruit drying and preservation, meat refrigeration, cigarette and cigar manufacture, assembly of precision goods, plastics, pleasure boats and toys.

The pre feasibility study is at present under consideration by the Government and no decision has as yet been taken with regard to its implementation. It is expected that a Zone such as the one envisaged would not be operational until 2 years after a Government decision.

2. DAKAR, SENEGAL

The project for the establishment of an Industrial Free Zone in Dakar is the most advanced of all such projects in West Africa. A detailed feasibility study has been carried out by a firm of Swiss consultants on behalf of the Government, a site allocated, and a Statute establishing the Free Zone passed. The zone company has been set up and a manager chosen.

The project was originally planned for implementation by July 1975 but has been delayed pending a Government decision with regard to its financing.

(a) Area

The IFZ is planned in a proposed industrial area of 500 ha at N'Bao. The site is about 25 kilometres from Dakar and its port, and about 10 kilometres from the airport. Direct access is available to the sea but no infrastructure work has been carried out or is planned in the near future. The IFZ is expected therefore to use the airport and the port of Dakar.

An area of 65 ha (160 acres) with possibilities of expanding to 100 ha (250 acres) is envisaged for the IFZ. A first stage development of 35 ha (86 acres) is planned.

(b) Standard Factories

Standard factories are to be provided for renting out on 99 year leases.

(c) Management and Financing

The IFZ Authority, known as SARFOZI (Societe d'aménagement et de promotion de la zone franche industrielle), has been set up by Statute. It is planned to have a capital of 50 million Fr.CFA. (220,000) divided between the Government (30 per cent) SUTTEC (26 per cent), Banque Internationale pour L'Afrique Occidentale (10 per cent), La Societe generale pour l'industrie (10 per cent), Union Senegalaise de Banque pour le Commerce et l'industrie (8 per cent)

Societe Generale de Banques au Senegal (8 per cent) and Banque Internationale pour le Commerce et l'Industrie au Senegal (5 per cent).

(d) Cost

The cost of establishing the zone and infrastructure work is expected to be met by Iran, La Caisse Centrale de Co-operation Economique (CCCE) and the World Bank. Provisional estimates lie between 600 and 700 million Fr.CFA. (approx. \$2.7 million to \$3.2 million).

(e) Industries Targeted

It is hoped to attract export oriented and labour intensive industries. Sectors which are specifically mentioned include textiles, leather, plastics, electronics and toys. A minimum investment of 200 million Fr.CFA. and an employment of at least 150 Senegalese workers is stipulated for each industry.

(f) The Statute of the IFZ at Dakar

The Statute establishes the IFZ and lays down the conditions of operation and incentives offered. According to the Statute an autonomous administration is to be set up. The Director is to be named by a decree, but is to be responsible to a co-ordinating committee. The following responsibilities are allocated to the Administration:

- to take all measures necessary to implement and run the Zone, including laying down its rules and regulations,
- to co-ordinate the administrative formalities necessary for the operation of industrial enterprises within the Zone
- to undertake, after consultation with the Co-ordinating Committee, all development plans necessary for the operation of the Zone;
- to approve the admission of entrepreneurs to the Zone subject to consultation with the Co-ordinating Committee,
- to oversee all administrative services necessary to the

co-operation of the Zone (these will have offices in the Zone).

The Co-ordinating Committee will consist of representatives of organisations involved in operations related to IFZ operations including:

A representative of the President, of the Primate and the Ministry of Planning.

A representative of the Ministry of Industrial Development.

The Director General of Customs and Excise.

The Director General of the Treasury.

The Director of Inland Revenue.

A representative of the Ministry of Finance.

A representative of the Ministry of the Interior.

The Director of the Port of Dakar.

A representative of the Ministry of Public Works.

(g) Conclusions

Progress in establishing the IFZ in Dakar has been slower than anticipated. Work has not as yet begun on the site, and no detailed engineering plans, for example for the design of standard factories, have been prepared. Customs procedure are in the course of being drafted. It is not expected that the zone will be operational until 1976.

3. COMPARATIVE ANALYSIS OF IFZ PROJECTS PROPOSED FOR WEST AFRICA

A summary of the studies for Abidjan and Dakar is shown in Table C1. Pertinent factors such as cost of labour and direction of trade are also indicated. A comparison is made below between these projects and the proposed IFZ in Monrovia.

It is evident that on a general level the projects in West Africa offer broadly similar incentives in terms of fiscal exemptions and financial aid. However, both Senegal and Ivory Coast are subject

to certain restrictions as members of the franc zone, whereas Liberia offers complete freedom for convertibility of currency. This factor should prove an added incentive to prospective entrepreneurs to go to Monrovia.

Actual geographical location is not expected to influence investors as between one or other of the three states as they are looking at West Africa as a whole. It could be said that Dakar would be the most attractive location due to its proximity to Europe and North America however, the cost difference of transport is marginal as Continent - West Africa Conference (COFAC) rates apply for West African countries (see Table C2). At the same time facilities at the three ports in terms of anchorages, wharfage and warehouse stores, are very similar.

A comparison of the various sites in the three countries shows that the proposed site for an IFZ within the Free Port of Monrovia should be the most attractive as it would eliminate the additional paperwork needed for the bonding of goods between port and site.

In terms of other economic advantages, the three countries are broadly similar. All have had a remarkable degree of political stability, together with a philosophy for encouraging private sector development. Both Abidjan and Dakar (and to a lesser extent Monrovia) offer good infrastructure and excellent living conditions, such as hotels, hospitals, schools etc.

There is a large pool of unemployed, unskilled labour available in all three countries. In terms of cost of labour Senegal and Ivory Coast have relatively more expensive labour than Liberia.

An examination of the present direction of trade shows that Senegal and Ivory Coast are closely tied to France, both for exports and imports. Both are members of the Yaounde Convention and thus have an advantage in providing access for foreign companies into the EEC. However, this advantage is likely to be eliminated

vis a-vis Liberia, as the latter is one of the 44 Africa, Caribbean, Pacific (ACP) countries currently negotiating with the EEC. Some advantage is expected for access for manufactured products from these countries into the EEC.

TABLE C1
SUMMARY OF STUDIES OF PROPOSED INDUSTRIAL FREE ZONES IN WEST AFRICA

	DAKAR, SENEGAL	ABIDJAN, IVORY COAST
1. Name	La Zone franche industrielle de Dakar (ZPID)	La Zone franche industrielle de Cote d'Ivoire
2. Location		
(a) Proximity to major urban areas and centres of economic activity	At Mbao, approx 25 km from Dakar, situated in a proposed industrial area	Sites proposed at industrial areas at Yopougon, Boulay and to the East of the airport (the latter is the most probable). All sites are within easy access of Abidjan
(b) Transport infrastructure		
(i) inland	Site adjacent to major road into the interior	Near good road network
(ii) sea	Although site is coastal, no port development exists and would not be justified for many years	The alternative sites proposed are within 10 km of the port
(iii) air	Approx 10 km from the airport	Site adjacent to the airport
3. Size of Estate		
(a) Physical area (total) - of which IFZ	500 hectares for Industrial Zone 35 ha (Phase I) 50 ha (Total area)	200 hectares 50 to 60 hectares
(b) Number of factories	250 factories have been suggested for the whole Industrial Zone development	Not estimated

TABLE C1 (Cont'd)

	DAKAR, SENEGAL	ABIDJAN, IVORY COAST
4. Types of industries expected	<p>Textiles Plastics Leather Electronics Toys etc.</p>	<p>Textiles and clothing Production & assembly of electrical goods Production and assembly of electronics Leather Wood industries Shoes Fruit drying and preservation Meat refrigeration Cigarettes and cigars Assembly of precision goods Plastics Pleasure boats Toys</p>
5. Direction of Trade		
(a) Exports	<p>(1968) Z</p> <p>France 66.3 Other franc area 13.1 Other EEC 9.4 UK 1.9</p>	<p>(1971) Z</p> <p>France 33 USA 17 Netherlands 9 FDR 9 Italy 8 UK 4</p>
(b) Imports	<p>France 44.3 Other franc area 17.3 Other EEC 15.0 USA 3.6 UK 1.1</p>	<p>France 47 Italy 7 USA 7 FDR 5 Netherlands 5 Japan 4 UK 2</p>

TABLE C1 (Cont'd)

	DAKAR, SENEGAL	ABIDJAN, IVORY COAST
6. Employment forecast	Not available	@ 150 persons per hectare 750 in the first phase
7. Advantages stated for the zones	<p>(1) Suitable location for export to N. and S. America and Europe</p> <p>(2) Good infrastructure and living conditions available in Dakar</p> <p>(3) Political stability</p> <p>(4) Availability of educated and unskilled labour</p>	<p>(1) Suitable location for exports to N. and S. America and to Europe</p> <p>(2) Good infrastructure including transport, port, airport, hospitals, hotels, etc.</p> <p>(3) Political stability and encouragement</p> <p>(4) A large amount of labour available</p> <p>(5) Transport and utilities available at prices competitive with other African countries</p>
8. Criteria for evaluating admissible industries	<p>(1) Labour intensive</p> <p>(2) Export oriented</p> <p>(3) Minimum investment 200 million FrCFA (\$0.9 m)</p> <p>(4) Minimum employment 150 Senegalese workers and management</p>	<p>(1) Labour intensive</p> <p>(2) Export oriented</p> <p>(3) Offering new techniques and modern management</p> <p>(4) Having large indirect effects</p> <p>(5) Using local raw materials</p>

TABLE C1 (Cont J)

	DAKAR, SENEGAL	ABIDJAN, IVORY COAST
9. Proposed Incentive Structure	<p>(1) Total fiscal exemption</p> <p>(2) Exemption of import and export taxes on all goods, raw materials and capital equipment (excluding those entering Senegal)</p> <p>(3) Tax relief, for goods and services entering the zone from the customs territory of Senegal</p> <p>(4) Freedom to transfer all capital investment and revenues</p> <p>(5) Freedom to transfer expatriate salaries</p> <p>(6) Freedom to recruit local and expatriate personnel subject to certain limits</p> <p>(7) Arbitration of any disputes concerning the application of the Statute, by the World Bank</p>	<p>As for Dakar (although no mention is made of (7))</p>
10. Financial and Other Aid	<p>(1) Statute guaranteed for 25 years</p>	<p>(1) Long-term low interest rates should be studied</p> <p>(2) Special Government assistance should be given in the matter of training in the Zone and abroad</p>

TABLE C1 (Cont'd)

	DAKAR, SENEGAL	ABIDJAN, IVORY COAST
11. Export Prospects	<p>(2) Autonomous administrative structure</p> <p>(3) Decisions on investments to be made by the Management within one month</p> <p>(4) Ceiling on rent and increases to be decided by decree</p> <p>Under Yaounde II products from the Free Zone should be considered as products originaires provided they are subject to a certain amount of transformation. Sufficient evidence would need to be supplied with regard to origin*</p>	<p>(3) Guarantee against nationalisation</p> <p>(4) Guarantee that the Government will not interfere in the running of the Zone</p> <p>(5) Immediate processing of paper work and customs inspection within 24 hours</p> <p>(6) Reduction of delays and of costs currently charged by transportation companies</p> <p>As for Senegal</p>
12. Relevant Cost Factors	<p>(1) Labour Costs</p> <p>(2) Existing rents</p>	<p>(1973)</p> <p>Unskilled worker (SIEG) 73</p> <p>Skilled worker 80</p> <p>Professional worker (1 cat) 118</p> <p>Professional worker (2 cat) 137</p> <p>Unclassified worker 245</p> <p>Abidjan Port Zone 165 FrCFA/m² yr</p> <p>Vridi 100 FrCFA/m² yr</p> <p>Kovmassi 65 FrCFA/m² yr</p> <p>Warehouses (Ind.Zone) 120 to 150 FrCFA/m² month</p>
	<p>(1973)</p> <p>Unskilled worker (SIEG) 58,19</p> <p>Skilled worker 67,44</p> <p>Professional worker (1 cat) 109,01</p> <p>Professional worker (2 cat) 124,20</p> <p>Professional worker (3 cat) 149,34</p> <p>Not available</p>	<p>Per Hr. (Fr CFA)</p>

* These terms will be replaced by the ACP-EEC negotiations currently underway

TABLE C1 (Cont'd)

	DAKAR, SENEGAL	ABIDJAN, IVORY COAST
(3) Construction Costs	Not available	Average construction prices: (1,000 Fr CFA per sq. metre) - small workshops 12 to 18.750 - heavy construction 23 to 35.000 - offices - ground floor 30 to 40.000

TABLE C2

FREIGHT RATES FOR SELECTED PRODUCTS

North bound Freight Rates from Ports in West Africa between Angola and Mauritania to Europe Continent. Effective 1st June, 1974.*

NOTE. An additional 13% fuel surcharge is applicable.

<u>Products</u>	<u>Deutsche Marks/Tonne</u>
Aluminium	20c
Wheat, Maize, Rice, Sesame	137
Brewery Cake	137
Coffee	155
Cocoa	135
Cotton and Linters	
- Weight rate for bales	
up to 2.5 cbm/1000 Kilos	213
above 2.5 cbm/1000 Kilos	93
Cotton piece goods	202
Cotton waste	101
Fish in consumer packs	461
Meat, poultry in packs	461
Household and personnel effects	251
Empty Drums	81
Tinned Food	137
Tinned Fruit and Fruit Juice	163
Leather and Leather Sole	458
Machinery Parts	186
Iron Ore	134
Paper Waste	222
Phosphates	156
Rubber Tyres	204
Scrap	Up to 250
Tricots (tubular, cotton wool, half finished)	174
Timber	
Sawn	130 to 234
Veneers	156
Plywood	130
Furniture	235
Joinery	204
Profile boards in wood boxes	156
Yarn Cotton	163

General Rate for Farrell Lines** \$131.50/tonne

PLUS Fuel Surcharge . 13

PLUS Monrovia Port Dues \$ 1

\$145.50/tonne

Note . W = Weight, M = Measurement

Source. *Continent - West Africa Conference (COMAC)

**Farrell Lines, Free Port, Monrovia

APPENDIX DEXPERIENCE OF SHANNON FREE AIRPORT DEVELOPMENT COMPANY
(SFAACO) RELATED TO THE PROPOSED PROJECT IN LIBERIA

The study of the Shannon Free Airport development which is included in Volume 2 of this Report, may be used as an example of a successful project in the field of Free Zones. Although there are clearly differences in terms of motives, location, and type of development between Shannon and Monrovia, there are nevertheless certain lessons to be drawn from the Shannon experience, particularly in the early years, which are of some relevance to the Liberian project. These are indicated below.

1. The initial establishment of a zone is likely to be a slow process. The first factory was established in Shannon two years after the studies were carried out, and it was another three years before any fast rate of growth was achieved. Impressive rates of growth, as in the case of Kaohsiung, reflect exceptional local and regional conditions.
2. Free Zones are very sensitive to world wide trading and economic conditions. Since 1970 Shannon has hardly shown any growth.

Promotion is one of the key factors in the success of a free zone, and the Free Zone Company must be prepared to spend a great deal of money, especially in the early years. In Shannon promotion is paid for by a grant in aid given by the Irish Government, and is not recouped in the rental charges made to clients. Generous financial grants are given, and minimum fees demanded for establishment. In addition a wide range of incentives, tax exemption, accelerated depreciation etc. are given.

4. Control is kept over development of the Zone by charging

a nominal ground rent, although clients may purchase factories or construct their own, subject to approval.

5. SFADCO was set up by Government Act as a limited company with three government ministries (Finance, Industry and Commerce and Power), as its shareholders. The Company is managed by a Board of Directors appointed by the shareholders. The Board establishes the overall strategy and policies of the Company and determines the organisation and general lines of action necessary to achieve the aims laid down. In this way the Company is given a large measure of commercial freedom free from bureaucratic interference.
6. Most amenities are provided by SFADCO including a labour recruitment service, labour liaison service, information service, technical library, canteen etc. Other services such as banks, police, post office, fire and medical services, are provided either commercially or by the relevant national or local authority.
7. In the early years of its development conditions for the admission of industries were not stringent so as to attract as many clients as possible. It is only since Shannon has become well established that more selective criteria are being applied.
8. Administration has been simplified so that a minimum amount of documentation and control is required.
9. Excluding a few large firms, average employment per factory is calculated at 80. This approximates to the figure expected for the Zona in Monrovia.
10. The design of standard factory bays is such that clients may easily expand into adjacent bays without too much additional cost.

APPENDIX E

SUMMARY OF INFORMATION ON SELECTED INDUSTRIAL ZONES

1. (a) Name of Estate (b) Date of Establishment	2. Location:		3. Size of Subzone:		4. Inventory of all (or major) establishments on estate:
	(a) detailed siting; proximity to major urban areas and centers of economic activity;	(b) transport infrastructure: (i) inland; (ii) sea; (iii) air;	(a) physical area;	(b) number of factories;	
<p>TAIWAN</p> <p>1. (a) Kaohsiung Export Processing Zone (b) 1966</p>	<p>Kaohsiung Harbour; Kaohsiung City. (30° 20' N, 120° 30' E) Taipei 100 miles.</p>	<p>Road and rail communications to most parts of Taiwan.</p> <p>Kaohsiung is an international port with facilities for air, sea and rail services and shipping available.</p> <p>Seven miles from Kaohsiung International Airport.</p>	<p>1400 acres</p>	<p>1400 acres (to present years)</p>	<p>2000+ enterprises</p> <p>20 industries:</p> <p>1. Manufacturing 2. Processing 3. Assembly</p> <p>14 electronics: 1. Textiles 2. Heavy industry</p>
<p>TAIWAN</p> <p>2. (a) Taichung Export Processing Zone (b) 1969</p>	<p>Taichung Harbour; Taichung City. (24° 15' N, 120° 45' E) Taipei 100 miles.</p>	<p>Road and rail communications to most parts of Taiwan.</p> <p>Existing port. Major international port and railway station. Excellent air service.</p>	<p>1000 acres</p>	<p>1000 acres (to present years)</p>	<p>1000+ enterprises</p> <p>20 industries:</p> <p>1. Manufacturing 2. Processing 3. Assembly 4. Electronics 5. Textiles 6. Heavy industry</p>
<p>TAIWAN</p> <p>3. (a) Keelung Export Processing Zone (b) 1969</p>	<p>Keelung Harbour; Keelung City. (25° 45' N, 121° 45' E) Taipei 100 miles.</p>	<p>Road and rail communications to most parts of Taiwan.</p> <p>Keelung is an international port with facilities for air, sea and rail services and shipping available.</p> <p>Keelung International Airport.</p>	<p>1000 acres</p>	<p>1000 acres (to present years)</p>	<p>1000+ enterprises</p> <p>20 industries:</p> <p>1. Manufacturing 2. Processing 3. Assembly 4. Electronics 5. Textiles 6. Heavy industry</p>

Question	Thailand	Philippines	Summary
4. cont'd.			
(a) main sources of raw materials:	Local: Japan. Hong Kong. USA. Holland.	Local: Japan. USA.	Local: Malaysia. Indonesia. Japan.
(b) acres of plant:	9 under 1.25 acres. 9 1.25 - 2.5 acres 2 2.5 acres +	17 under 1.25 acres. 3 1.25 - 2.5 acres. 4 2.5 - 10 acres. 3 10 acres + 9 not available.	288 under 1.25 acres. 288 1.25 - 2.5 acres. 108 2.5 - 10 acres. 48 over 10 acres.
(c) number of persons employed.	Number employed Number of factories less than 500 5 501 - 1,000 8 1,001 - 1,500 7 1,501 - 2,000 3 2,001 - 2,500 2 20	Number employed Number of factories less than 500 24 501 - 1,000 4 1,001 - 1,500 1 1,501 - 2,000 1 2,001 - 2,500 1 not available 2 22	Number employed Number of factories 1964 44 1970 42 1971 107 1972 (Sep.) 114 1973 119
5.(a) Factors that influenced choice of this site for the EPZ:	Use of undeveloped land. Proximity to modern harbour. To achieve balanced industrial development of Thailand. Availability of labour at reasonable cost.	Availability of labour. High cost of alternative sites, land government owned. Proximity to labour supply. Proximity to commercial centre, Manila. Availability of transport facilities and infrastructure. Port already has berths and mobile cranes; port facilities important in selecting site. No dredging. Rents for plots at subsidized levels; below existing rental rates in Greater Manila. Leases for 15 years, renewable after 10. Rent US\$6.00 per sq. foot in 1974, rising to US\$8.00 per sq. foot in 1989. No buildings sold as yet.	Need to develop any new projects in proximity of Singapore port and the natural harbour in which to develop Cebu Port. Low priced, state owned land. Small population on site, reducing problems of relocating people. Very important. 270 acres out of 1,500 reclaimed from the sea. Rent at 6% of land value per annum - 10 years lease - revision of value every 5 years. Factories sold or rented - maximum lease 10 years, at a 10% annual building. Rent per sq. ft. 1974, 1975 per sq. ft. purchase price.
(b) influence of port facilities:	This greatly influenced the choice of site.		
(c) Is any part of the EPZ claimed from the sea?	EPZ was reclaimed by harbour dredging.		
(d) (i) basis for changing rents:	Land - rented only - at market value.		
(ii) basis for sale of buildings:	Buildings - sold only - at cost.		

Malawi

Malawi

Malawi

5. case's

(e) factors determining advisability of industries to the EZZ.

Foreign exchange earnings.
Labour intensity
Use of indigenous materials.
Introduction of modern industrial techniques.
Attraction of modern capital.
Balanced industrial development.
Export quotas imposed by major customers.

(f) historical development

Year	Number of firms in operation	Number of employees
1967 Dec.	50	5,686
1968 Dec.	80	17,005
1969 Dec.	126	28,303
1970 Dec.	152	40,822
1971 Dec.	156	42,845
1972 Dec.	158	50,248
1973 Dec.	155	53,947
1974 Oct.	146	47,628

(g) incentives offered to firms set up in the EZZ, (in order of importance as specified by the firms concerned)

Simplified procedures - EZZ acts for government departments.
Relatively low-cost labour.
Tax concessions:-
no sales tax
no commodity tax
stamp tax at 10% of sales
5 year tax holiday on corporate income tax
Exemption from customs duties.
Comprehensive warehousing and transport services.
Abundant supply of power and water at reasonable cost.
Financing:-
factory building loans, up to 70% of purchase price/construction cost on 10 year instalment basis
export loans granted against export letters of credit

(h) attraction of port based zones.

Some firms would not have used an inland zone as most raw materials are imported and proximity to harbour facilities is important. Most firms recognise the value of a port based zone, but it is not the most important factor.

Foreign exchange earnings.
Local labour intensity.
Export orientated.

EZZ now restricted to Stage I development only. Divided into three phases:-

- I - labour intensive light industries.
 - II - development almost complete.
 - III - to include medium-to-heavy industries.
- Total development to end Phase III to accommodate 1000 factories.

Exemption from import duties, and import taxes on raw materials and machinery.

Priority use of foreign exchange for imports
long-term leases at minimum rentals.
Simplified import/export procedures
guaranteed delivery in 48 hours.
Long-term zero-cost loans for factory buildings.
Availability of labour, PTC manpower training.
Complete government constructed infrastructure and facilities.
Pier facilities, sea, power and water at 10% below Manila rates.
Low cost housing.
PTC assistance in overseas promotion.
PTC assistance in setting industrial projects.
Geographic location in centre of South East Asia.

The industries planned for the zone would probably still establish in the zone if it was not port based as other incentives are more important. However, an inland zone would have to be a reasonable distance from a port. Phases II and III medium and heavy industry may consider port based more indispensable because of transport costs.

Initially labour intensive, but now there is a labour shortage, and the emphasis is on provision of modern technology, and the use of indigenous skills.

Year

Year	Factories Operating	Number of employees
1969	100	17,000
1970	120	25,000
1971	130	35,000
1972	140	50,000
1973	150	60,000

Not in order of importance

Supply of labour.
Lack of labour discipline.
Good banking services and financial facilities.
Good efficiency of port facilities.
Tax relief on consumer industries, tax relief five years expansion tax relief on expanded increase up to five years.
No tax on interest paid to foreign lenders, exemption of reduction of tax on fees and royalties if not based in country of residence.
Political stability.
Cheap and efficient power supplies.
Geographical position.

All access is by ship and the existence of port facilities is therefore crucial. A more recent development has been the use of air transport for light industries processing high value goods, e.g. electronics assembly and optics.

APPENDIX FINDUSTRIAL PROJECTS PLANNED FOR DEVELOPMENTIN LIBERIA

This Appendix presents a listing of industries which have been selected for development in Liberia by various agencies. The Appendix is divided into the following sections

Section

1. A THREE YEAR PLAN FOR THE DEVELOPMENT OF INDUSTRY IN LIBERIA.
Bureau of Industry, Ministry of Commerce, Industry and Transportation.
2. SANO RIVER UNION.
3. MINISTRY OF PLANNING. PROPOSED MANUFACTURING PROJECTS.
4. CURRENT AND FUTURE PROJECTS PROGRAM FOR THE LIBERIAN DEVELOPMENT CORPORATION.
5. OTHER INDUSTRIES SUGGESTED DURING THE RESEARCH PROGRAM.

1. A THREE YEAR PLAN FOR THE DEVELOPMENT OF INDUSTRY IN LIBERIA

Industries identified in this document are

Public schemes

Bed linens
Toiletries
Furniture
Uniforms
School articles
Paper products

Private schemes

Sugar plantation and factory
Rubber products
Iron and steel industry
Food products

Other projects

Palm oil
Animal feeds
Timber preparation
Synthetic detergents
Cosmetics
Rubber processing
Galvanised steel roofing sheet
Umbrellas

Possibility for an Industrial Free Zone

Porcelain ware

2. MANO FIVE P. U. IO.

The industries identified in discussions for the Union and their proposed sponsorship, are listed below*.

<u>Industry</u>	<u>Sponsorship</u>
Agricultural implements and tools	Sierra Leone
Textiles and knitwear	
Industrial sacks	
Fruit and vegetable processing	
Salt	
Rubber and polyurethane products (including tyres)	Liberia
Cement	
Wood products	
Cassava pellets	Joint
Soaps and detergents	
Palm oil refinery	

Other industries referred to in the document were

- Sugar
- Pulp and paper
- Iron and steel
- Household utensils
- Enamel ware
- Fibre bags
- Various other industries of lesser importance.

* meeting of the Sub Committee on Trade, Industry and Agriculture, Freetown May 1974.

3. MINISTRY OF PLAN. I.G. PROPOSED MANUFACTURING PROJECTS

A summary document of projects which have been proposed by individual private entrepreneurs includes the following specific examples

Tobacco and cigarette manufacture

Shoes

Plastic goods

Textiles

Watches

Handicrafts

Asbestos cement

Galvanised roof sheet

Luggage products

Bamboo and reed goods

Battery factory

Pulp and paper

Board manufacture

Cooling systems

Electrical appliances

Electrodes

Drugs and cosmetics

Food canning

Fertilisers

Steel and aluminium fabrication

Building materials

4. CURRENT AND FUTURE PROJECTS PROGRAMME FOR THE LIBERIAN DEVELOPMENT CORPORATION (LDC)

In view of the importance attached to the relationship between LDC and the proposed IFZ we reproduce a full version of that organisation's development programme. Chapter 6 utilises the project aspects of this document in producing a recommended industry selection list whilst Chapter 1 indicates how the work of LDC may integrate with the proposed overall development programme.

4.1 Current Projects

1. Restructuring of the West African Shoe and Rubber Industry (WASRIL) factory, Monrovia.

2. Liberia Rubber Processing Corp (LRPC) planning for and implementing the establishment of 3 rubber processing plants.

Schedule.

Plant	1	Gbarnga	15/12-74
"	2	Kahata	15/4-75
"	3	Canta	15/11-75

3. Industrial Park in Monrovia planning for the development of Roads, Water, Sewage, Telephones, Power, etc.

4. Establishment of the Liberian Centre for Arts and Crafts.

4.2 Projects to be Implemented during 1975

1. Retreading Plant.

2. Agro-Industrial Estates (Consultancy Services).

3. A Plant for manufacturing a Basic Transportation Vehicle (PTV)

4. A Pole Plant (Concrete and Wood).

5. A Plant for the manufacture of all types of Industrial and Agricultural hand tools.

6. Wood Products Manufacturing.

(a) Furniture Manufacturing Project Analysis.

(b) Potential for Plywood and Veneer Plant;

- (c) Furniture and building materials
- (d) Broom Handles, Ringers, Tooth Picks, Household Utensils, Wood Doors, Wood Frames, Panels, etc.

7. Transistor Radio Assembly Plant.

4.3 Projects to be Studied or Implemented in 1976

1. A Dry Dock and Repair Yard.
2. A Steel Mill Project.
3. Food Processing:
 - (a) A Soluble Coffee Plant
 - (b) A Citrus Plant.
 - (c) Evaluation of a Proposed Peppersauce Business.
 - (d) Pepper, etc.
4. Industrial Free Zone.
5. Clay Industry:
 - (a) Building Materials
 - (b) Ceramics and Sanitary Goods.
6. Textile and Garment Industry.
7. Printing.
8. A Salt Manufacturing and Processing Plant.
9. Production of Edible Oil.
10. Cassava Processing.
11. A Cosmetic and Perfumery Plant.
12. A Glass Manufacturing Plant.

With reference to the Mano River Union Agreement.

The following studies have been undertaken by the Liberian Development Corporation within the scope of the scheduled indicated Union Industries envisaged for the 1975 - 1976 period:

1. Agricultural Implements/Tools:
 - (a) A plant for the manufacture of all types of industrial and agricultural hand tools in Liberia.
2. Textile Knitwear:
 - (a) Knitting mill

- (b) Textile Factory
 - (c) Proposed German Textile Mill
 - (d) Factory for the Manufacture of Mattresses
 - (e) Textile and Garment Industry.
3. Industrial Sacks.
- (a) West African Sacks Products.
 - (b) Packing (Salt, Rice, etc.)
 - (c) Jute Bag Manufacturing Plant.
4. Fruit and Vegetable Processing
- (a) A Soluble Coffee Plant
 - (b) A Citrus Plant.
5. Salt
- (a) A Salt Manufacturing and Processing Plant.
6. Rubber and Polyurethane Products
- (a) A Proposed Polyurethane Foam Rubber Plant
 - (b) A Retreading Plant.
7. Cerent
- (a) An Asbestos Cerent Roofing Material Plant.
8. Wood Products.
- (a) Potential for Plywood and Veneer Plant
 - (b) Hard Board Suitcases Production.
 - (c) Furniture and Building Materials
 - (d) Furniture Manufacturing Project Analysis.
9. Glass Bottles, etc.
- (a) A Glass Manufacturing Plant.
10. Cassava Pellets.
- (a) Cassava Processing.
11. Soap and Detergents
12. Palm Oil Refinery.
- (a) Production of Edible Oils.

5. OTHER SUGGESTED INDUSTRIES

Air conditioner systems (not appliances)

Physical instruments

Repackaging services

Quartz vehicle accessories

Insulators

Bicycles

Light bulb assembly

Distribution depots for equipment spares, etc.

APPENDIX G

OUTLINE OF PUBLIC CORPORATIO. LEGISLATION

This appendix presents an outline of existing public corporation legislation in Liberia, and is divided into the following two sections

1. Liberian Development Corporation (LDC).
2. Extracts from legislation creating the National Port Authority (NPA).
 - (i) An Act repealing and adopting chapter six of the public authorities law
 - (ii) An Act amending certain sections of the Act creating the National Port Authority

1. LIBERIAN DEVELOPMENT CORPORATION

Main features of "An Act repealing Chapter 55 of the Executive Law in Relation to the Liberian Development Corporation" Approved 12th February, 1974.

1. Corporation created: The LDC is established, which shall be a primary implementer of Liberia's national strategy of integrated, co-ordinated and balanced development of the nation's resources.

2. Purpose: This is to co-ordinate the execution of the total national development strategy in all areas of human and economic profitability.

3. Functions: These are:

- (a) to be the means whereby the Government finances its participation in development enterprises;
- (b) to identify and carry out the management of viable enterprises within the overall national development strategy,
- (c) to work with LIPDI on project appraisals and financing.
- (d) to involve itself in applications for Investment Incentives,
- (e) to issue loans,
- (f) to purchase securities in suitable public ventures,
- (g) to establish its own enterprise either independently or in partnership,
- (h) to monitor enterprises in which it is involved,
- (j) to provide technical inputs into relevant projects of international agencies (etc.),
- (k) to assist organisations to obtain financial aid either by the equity participation of LDC of government or by other relevant sources.

4. Powers. The Corporation can exercise the following powers.

- (a) establish contact with agencies or entrepreneurs for development purposes,
- (b) accept gifts of assets or services,
- (c) handle cash or security deals,
- (d) carry out any essential business negotiations.

5. Capitalisation: Between 1% and 5% of Government of Liberia revenues are payable to LDC each year.

6. Board of Directors: This consists of.

Minister of Finance
Minister of Commerce Industry and Transportation
Minister of Planning and Economic Affairs
President of the National Bank
President of LIPIDI
Minister of Agriculture
Five private sector nominees
Chairman (appointed by the President of Liberia)

7. Management: A general manager is appointed with responsibility for day-to-day management.

8. Credit powers. The Corporation may issue bonds and debentures.

9. Fiscal provisions: All assets and incomes may be freely used to defray the Corporation's costs. Additionally funds may be kept on deposit. An annual report must be prepared.

2. EXTRACTS FROM LEGISLATION CREATING THE NATIONAL PORT AUTHORITY.

(i) AN ACT REPEALING AND ADOPTING CHAPTER SIX OF THE PUBLIC AUTHORITIES LAW

"It is enacted by the Senate and house of Representatives of the Republic of Liberia in Legislature assembled".

Section 1, Chapter 6 Title 29-A of the Liberian Code of Laws of 1956, as amended and approved by the law of April 20, 1967, is hereby repealed and there is enacted in lieu thereof a new Chapter 6, also to be known as the 'NATIONAL PORT AUTHORITY ACT', as follows:

CHAPTER VI
CREATION OF NATIONAL
PORT AUTHORITY

50. Definition of Terms. As used in this Chapter and in any other regulation and/or regulations and rules made thereunder the following terms indicate and mean.

'Authority' is a body politic and corporate pursuant to Section 51 hereof.

'Republic' or 'State' means the Republic of Liberia.

'Legislature' means the Senate and House of Representatives of the Republic.

'Senate' is the Senate of the Republic.

'House of Representatives' is the House of Representatives of the Republic.

'President' means and refers to the President of the Republic.

'Port' or 'Ports' as used in this Act shall mean a harbour, port or ports located wholly or partly within the territorial limits of

the Republic, deep rivers, seaports, other facilities and appurtenances thereto.

'National' means and refers to Ports subject to the authority of the Republic of Liberia.

'Government' means the authority of the Republic to administer and control the affairs of the State.

'Persons' means partnerships, corporations, etc.

§ 51. NATIONAL PORT AUTHORITY: An Authority to be known as the 'National Port Authority' is hereby created pursuant to Chapter 1, Title 29-A of the Liberian Code of Laws of 1956 as amended by the Law of 1958-59. Such Authority shall be a body politic and corporate constituting a public authority and shall have the powers granted it under this Chapter.

§ 52. NPA LIMITS. The National Port Authority shall include and extend to the ports of Monrovia, Greenville, Harper and such additional ports as the Government shall from time to time decide to and so construct or acquire within the territorial limits of the Republic. The limit and extent of these ports shall be indicated by drawings and maps and shall be annexed to this Act.

§ 53. PURPOSE AND OBJECTIVE: The National Port Authority is hereby established and created to plan, design, construct and shall engage in the development, maintenance and operation of all public ports within Liberia subject to the articles and principles enumerated herein and such other and further powers as may be vested in it. To carry out its function, the NPA is also given the greatest degree of financial and administrative autonomy. It shall manage, operate, maintain, develop and construct all ports within the Republic, and all funds for services which NPA renders and provides shall be under its sole and complete control. In addition the NPA shall assume the responsibilities and function of the various Government Departments with respect to the operation and supervision of Ports in the Republic of Liberia.

§ 54. POWER OF THE NPA. In addition to and not in limitation of the powers conferred upon public authority by Chapter 1 of this Title the National Port Authority shall have the following powers

1. To institute a comprehensive system of tariffs and charges for the services and facilities it provides which shall be reasonably related to the cost of providing such services and facilities....

2. To enter into contracts, sue and be sued, and to assign the provision of port services and the use of facilities.

3. (a) To acquire any property or any interest therein or any easement over any immovable property, whether by way of purchase, lease, exchange or otherwise, for the purposes of NPA.

4. To initiate new services or discontinue existing services as might be required in the exercise of its functions.

5. To engage in structures and construction, dredging, reclamation, remove wrecks, operate its own security force which will have adequate police powers to enforce compliance with its regulations and by-laws.

6. To have its own Harbor Master at each Port who shall direct and regulate the movement of vessels within said port.

7. To have its own By Laws and regulations.

8. To apply for, purchase, or by other means acquire, hold, sell, assign, lease, mortgage, or otherwise dispose of and protect, prolong and renew whether in the Republic of Liberia or elsewhere any and all patents, patent rights, licenses, protections, concessions, trade marks and trade names and to use and turn to account and to manufacture under grant license experimenting upon and testing and improving or seeking to improve any patents, inventions, or rights which the NPA may acquire or propose to acquire.

S 55. The Board of the National Port Authority

1. NPA shall have a Board, an Executive Officer and other officers and staff to perform such duties as NPA may determine.

2. All powers of NPA shall be vested in the Board consisting of 11 members. They shall include:

- (a) Six representatives of the Government.
- (b) Four representatives of a cross section of the users of the ports, and
- (c) One representative of labor. The representatives of the Government on the board shall be ex-officio.

The other members of the Board shall be nominated by their respective groups subject to the approval and appointment of the President. They will be appointed each for three years.

(A member of the Board shall be appointed by the President as Chairman).

3. The Board shall outline the general policy of NPA. It shall hold regular quarterly meetings and such other meetings as may be provided for the Board or called by the Executive Officer. The Executive Officer shall participate in meetings of the Board, but shall have no vote except a deciding vote in case of equal division.

4. A quorum for any meeting of the Board shall be a majority of its members including at least three of the Government representatives.

5. The Board may by regulation establish a procedure whereby the Executive Officer when he deems such action in the best interest of NPA may obtain a vote of the Board members on a specific question without calling a meeting of the Board.

S 56. The Executive Officer.

1. The Board shall select the Executive Officer who shall be the highest executive officer of NPA, on such terms and conditions as the Board may think fit.
2. The Executive Officer shall be responsible for the conduct of the general operations of NPA, and for that purpose shall exercise all powers delegated to him by the Board.
3. The Executive Officer shall conduct the ordinary business of NPA. Subject to approval of the Board with regard to senior officers and staff, the Executive Officer shall be responsible for the organization, appointment and dismissal of the officers and staff.

S 57. Transfer and valuation of Assets and Liabilities.

- (1) Upon the coming into operation of this Act, all lands, buildings and other property, movable and immovable, of all public ports within the Republic, including all assets, powers, rights, interests and privileges of said ports shall be transferred to and vested in the NPA without further assurance. Said public ports include but are not limited to Monrovia, Sinoe and Cape Palmas.
- (2) Upon such transfer all debts, liabilities and obligations of all public ports within the Republic shall also be transferred to and be deemed to have been incurred by NPA.

The Board will in consultation with present Management of said ports evaluate these assets against liabilities promptly after the coming into operation of this Act, and will define in specific terms the financial structure of NPA as to its initial debt and equity capital.

S 58. Private Ports: The NPA will be consulted by Government of the letter's intention to grant any concession and/or concessions for private port operations in Liberia.

S 59. Reports. NPA shall submit an annual report to the President and such other reports and information as he may from time to time require. The annual report shall set out in detail facts describing the operation and fiscal transactions of the NPA during the preceding year, its financial condition and a statement of all receipts and disbursements during each year.

S 61. Existence. The existence of the NPA shall continue until it shall be terminated by special Act of Legislature. Upon the termination of the existence of this NPA all its rights and properties shall vest in the Republic.

Section 2. This Act shall take effect immediately upon publication in hand-bills.

Any law to the contrary notwithstanding.

Approved May 12, 1970.

Published May 23, 1972.

(ii) AN ACT TO AMEND CERTAIN SECTIONS OF THE ACT CREATING THE
NATIONAL PORT AUTHORITY

It is enacted by the Senate and House of Representatives of the Republic of Liberia, in Legislature Assembled:

Section 1. Section 55 of the Public Authority Law with respect to the Board of the National Port Authority is hereby amended to read as follows:

Sub-Section 55. THE BOARD OF THE NATIONAL PORT AUTHORITY.

1. The National Port Authority shall have a Board, a Managing Director and other officers and staff to perform such duties as the Board may determine.
2. All powers of the National Port Authority shall be vested in the Board consisting of 15 members. They shall include:
 - (a) The Minister of Commerce, Industry and Transportation; the Minister of Finance, and the Minister of Planning and Economic Affairs, who shall be Ex-Officio Members of the Board;
 - (b) The Managing Director of the National Port Authority;
 - (c) Seven (7) members at large to be appointed by the President;
 - (d) Four (4) representatives of a cross section of the users of ports in Liberia who shall be nominated by their respective groups, subject to the approval and appointment by the President.

Except for the Ex-Officio Members and the Managing Director, the members of the Board shall be appointed each for a period of

three (3) years.

A member of the Board shall be appointed by the President as Chairman who shall have the casting vote in case of a tie.

3. The Board shall outline the general policy of the National Port Authority. It shall hold regular and such other meetings as may be provided for in the by-laws.
4. A quorum for any meeting of the Board shall be a majority of its members including at least one of the Ex-Officio Members of the Board.
5. The Board may by regulation establish a procedure whereby the Managing Director, when he deems such action in the best interest of the National Authority may obtain a vote of the Board Members on a specific question without calling a meeting of the Board.

Section 2. henceforth the Appellation "Executive Officer shall be changed to "Managing Director" wherever it appears in the National Port Authority Act or amendment thereof.

Section 3. Section 52 of the Public Authority Law is hereby amended to read as follows:

Sub-section 52. NATIONAL PORT AUTHORITY LIMITS. The National Port Authority shall include and extend to the ports of Monrovia, Buchanan, Greenville, Harper and such additional ports as the Government shall from time to time decide to and so construct or acquire within the territorial limits of the Republic. The limit and extent of these ports shall be indicated by appropriate drawings and maps.

Section 4. This Act shall take effect immediately upon publication in hand-bills.

Any law to the contrary notwithstanding.

Approved May 23, 1972

PUBLISHED BY AUTHORITY
GOVERNMENT PRINTING OFFICE
MINISTRY OF FOREIGN AFFAIRS
June 5, 1972

* Open ditches would be provided on both sides of all roads but are not shown for clarity

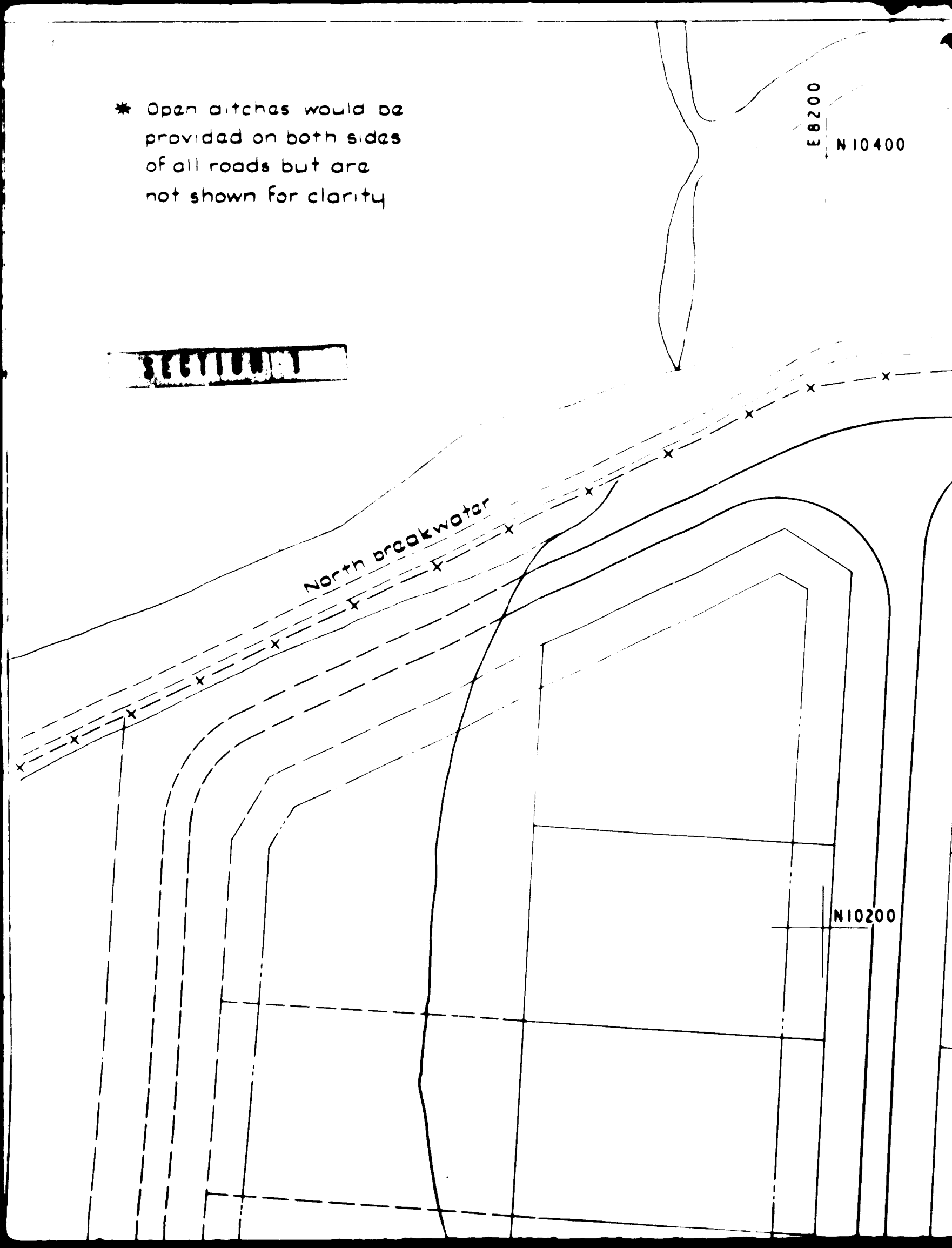
E 8200

N 10400

SECTION

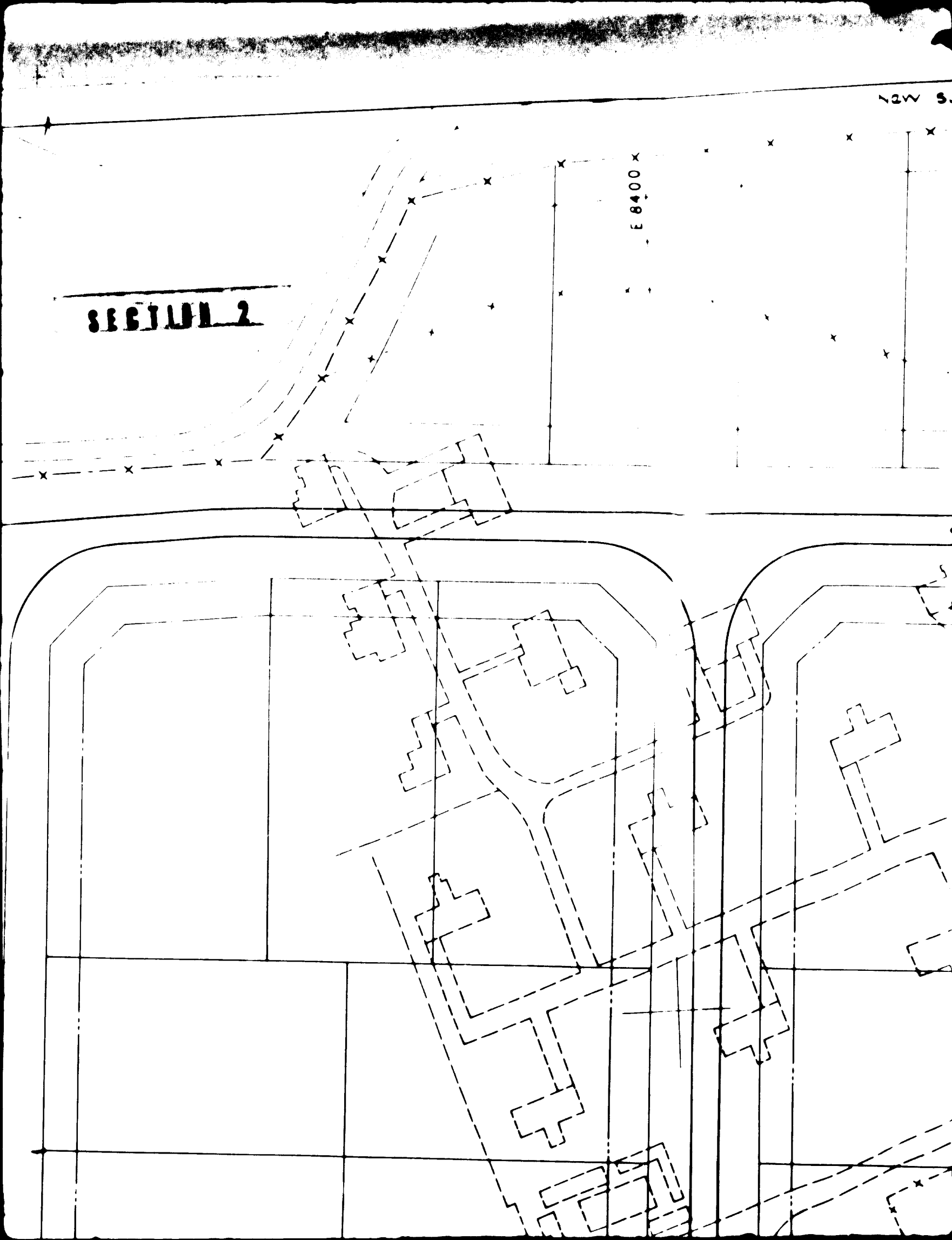
North breakwater

N 10200



SECTION 2

E 8400 X



New surface water drainage ditch

New boundary fence

10m minimum building

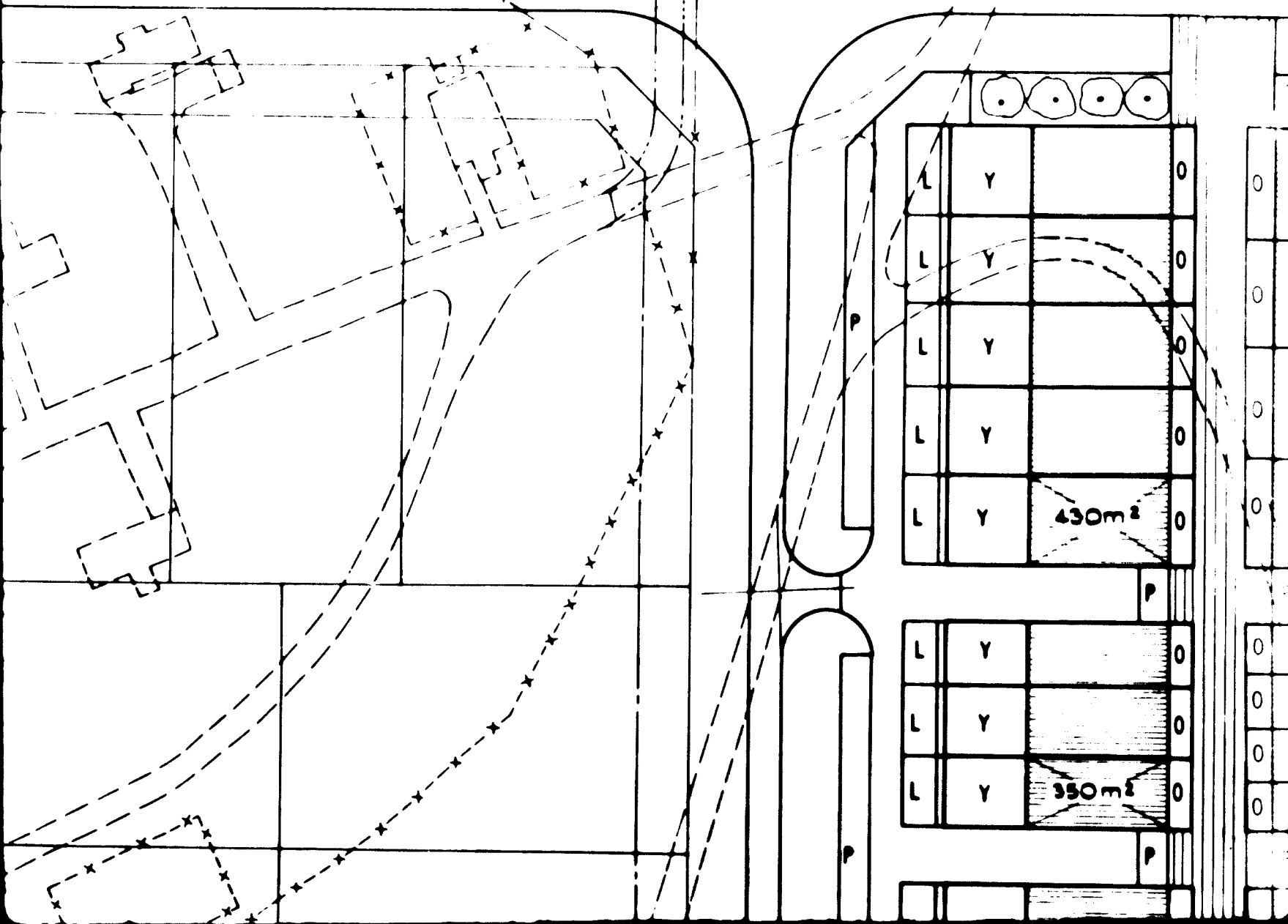
SECTION 3

New position of access road to housing area to allow for first stage of industrial development

Boundary fence for first stage of industrial development

10m minimum bu

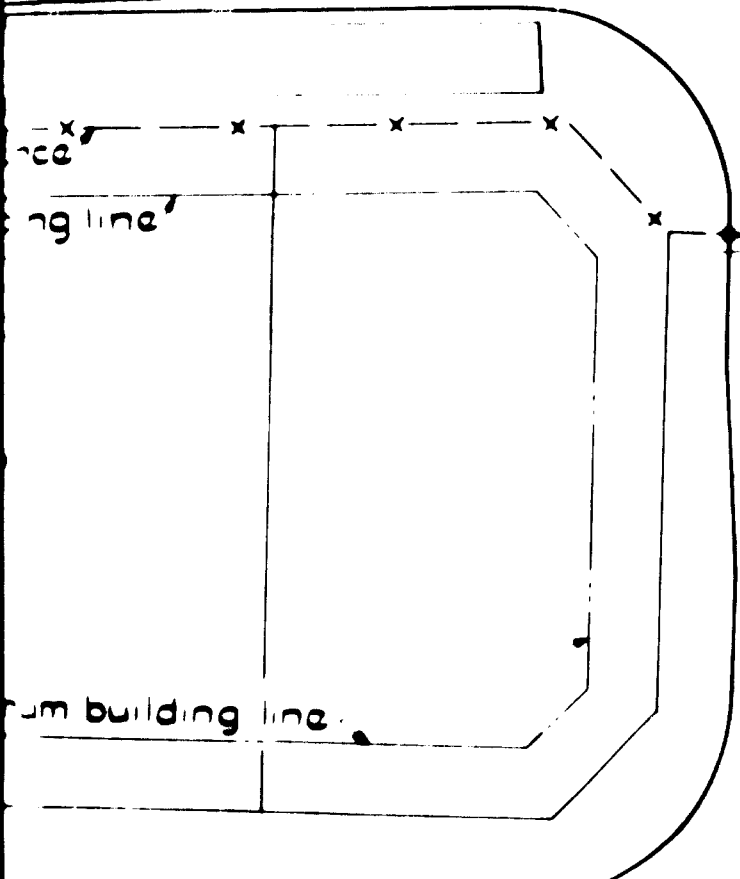
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L	Y		0
L	Y		0
L	Y		0
L	Y		0
L	Y	430m²	0

L	Y		0
L	Y		0
L	Y	350m²	0

TO UNITED NATIONS DRIVE →



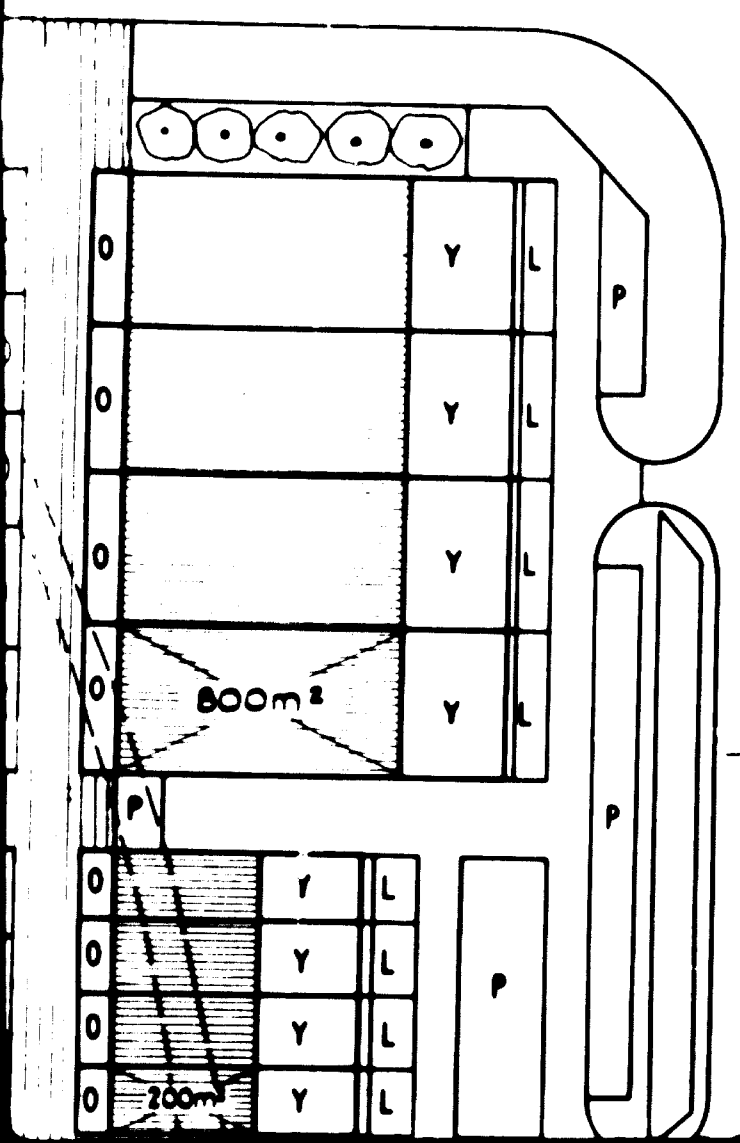
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CONTROL GATES

SURFACE WATER RESERVOIR

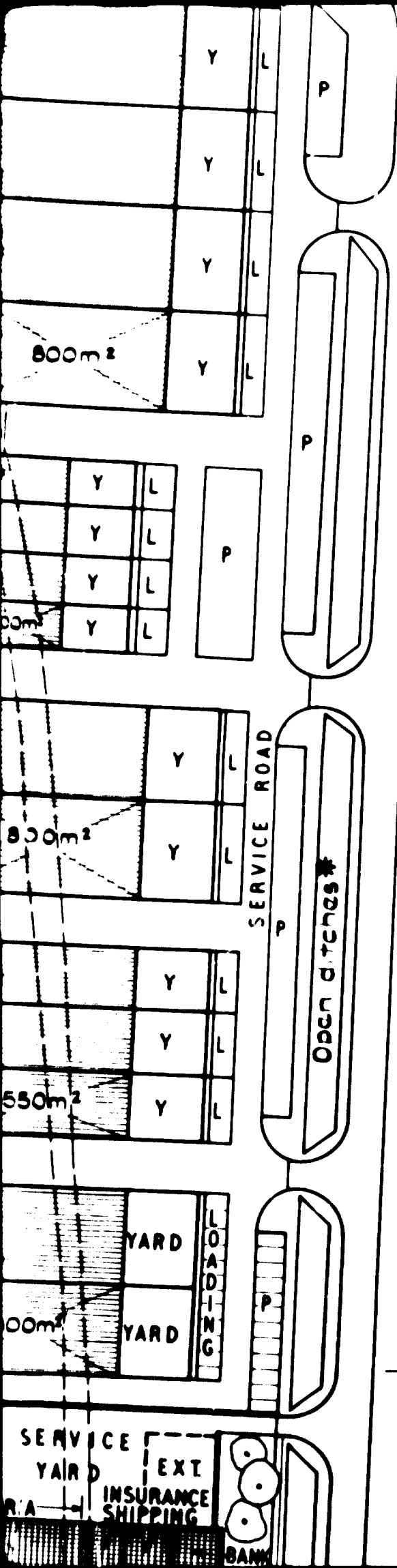
PUMPHOUSE

ELEVATED WATER TANK



SECTION A









SECTION 6

Existing fence line

water drainage ditch

KEY

-  Public and commercial building
-  Extension areas
-  Standard factories
-  Offices
-  Yard

1 acre

SECTION 8



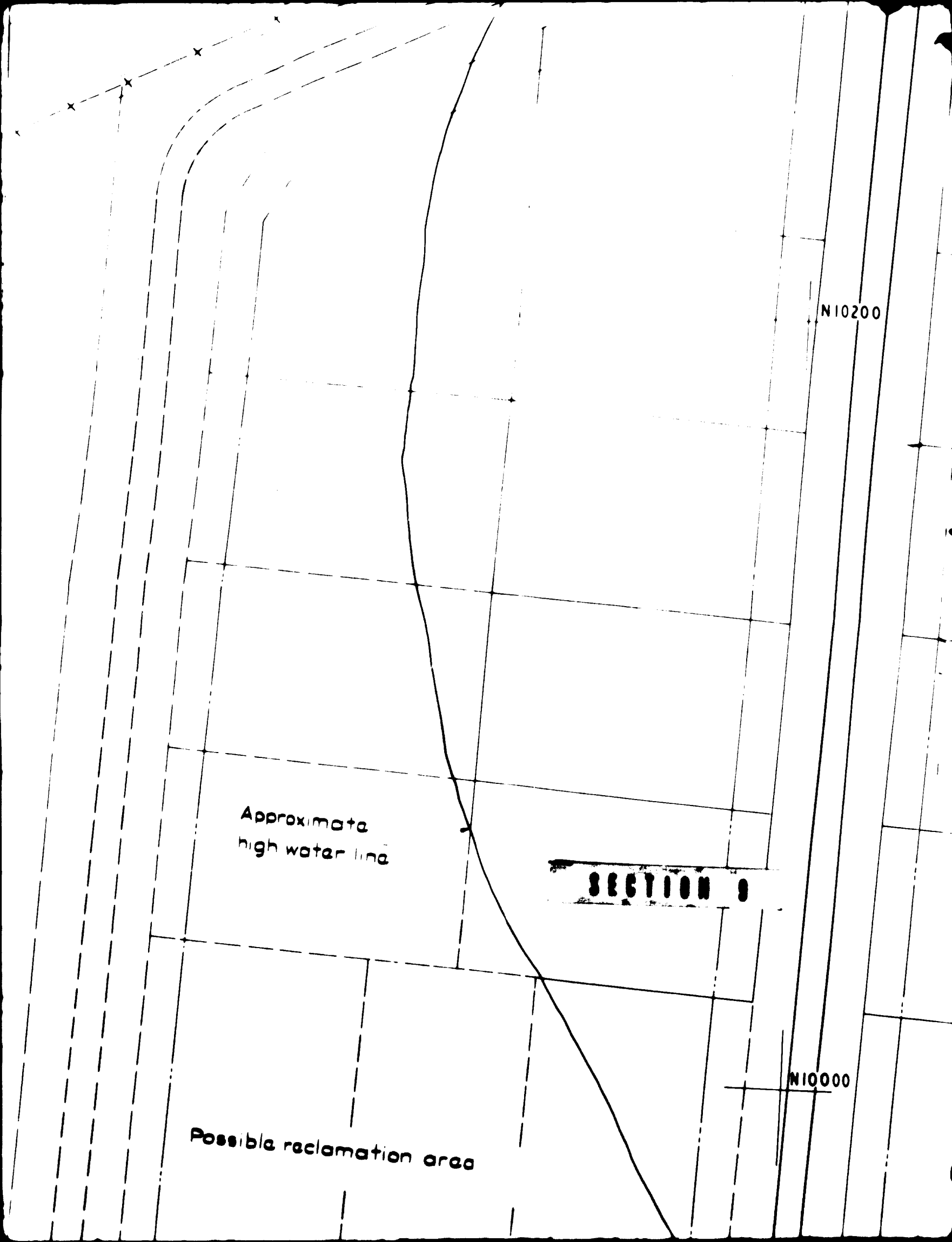
N10200

Approximate
high water line

SECTION 9

N10000

Possible reclamation area

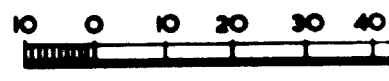


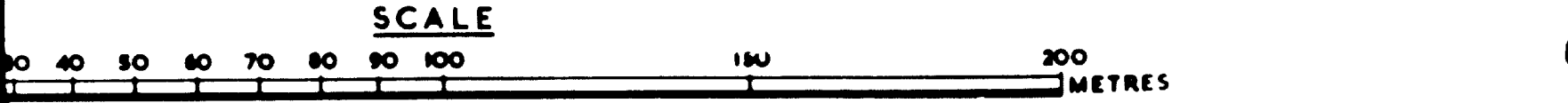
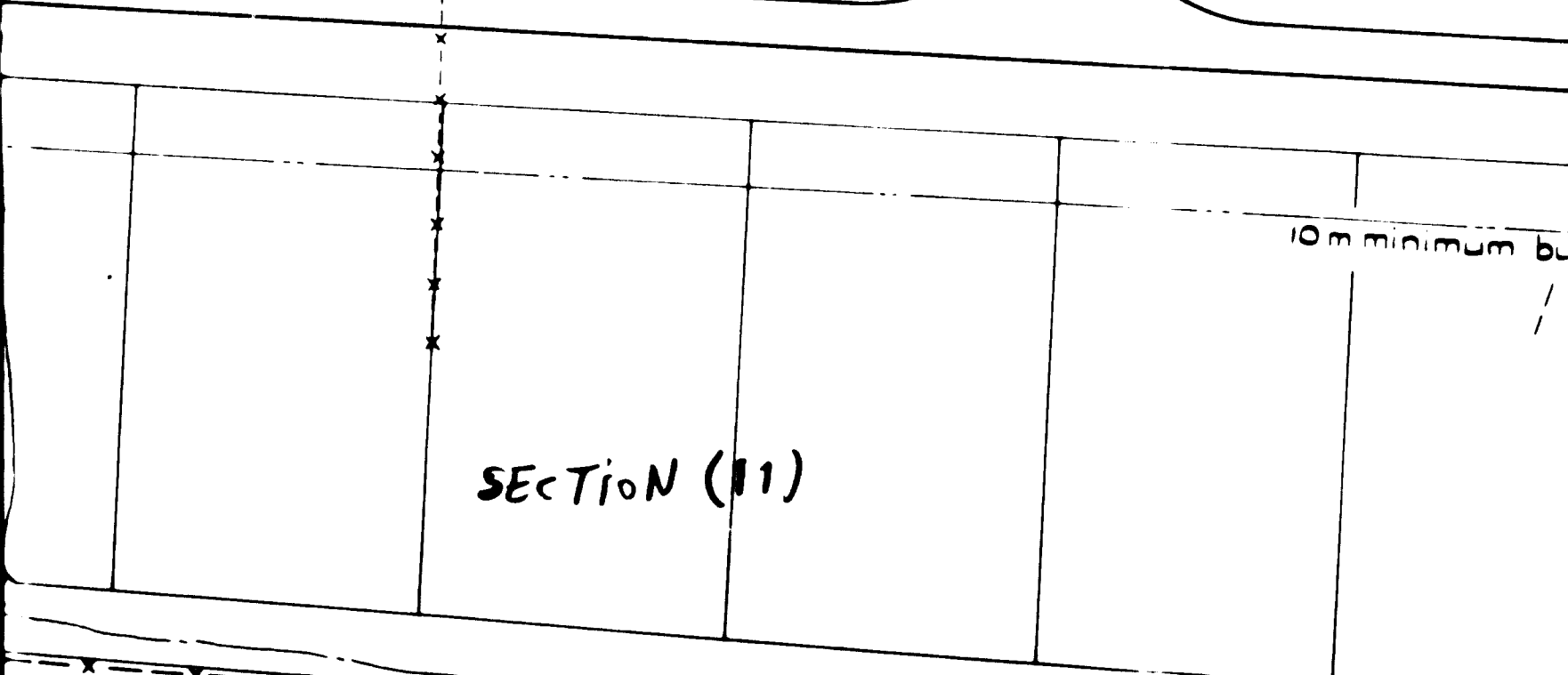
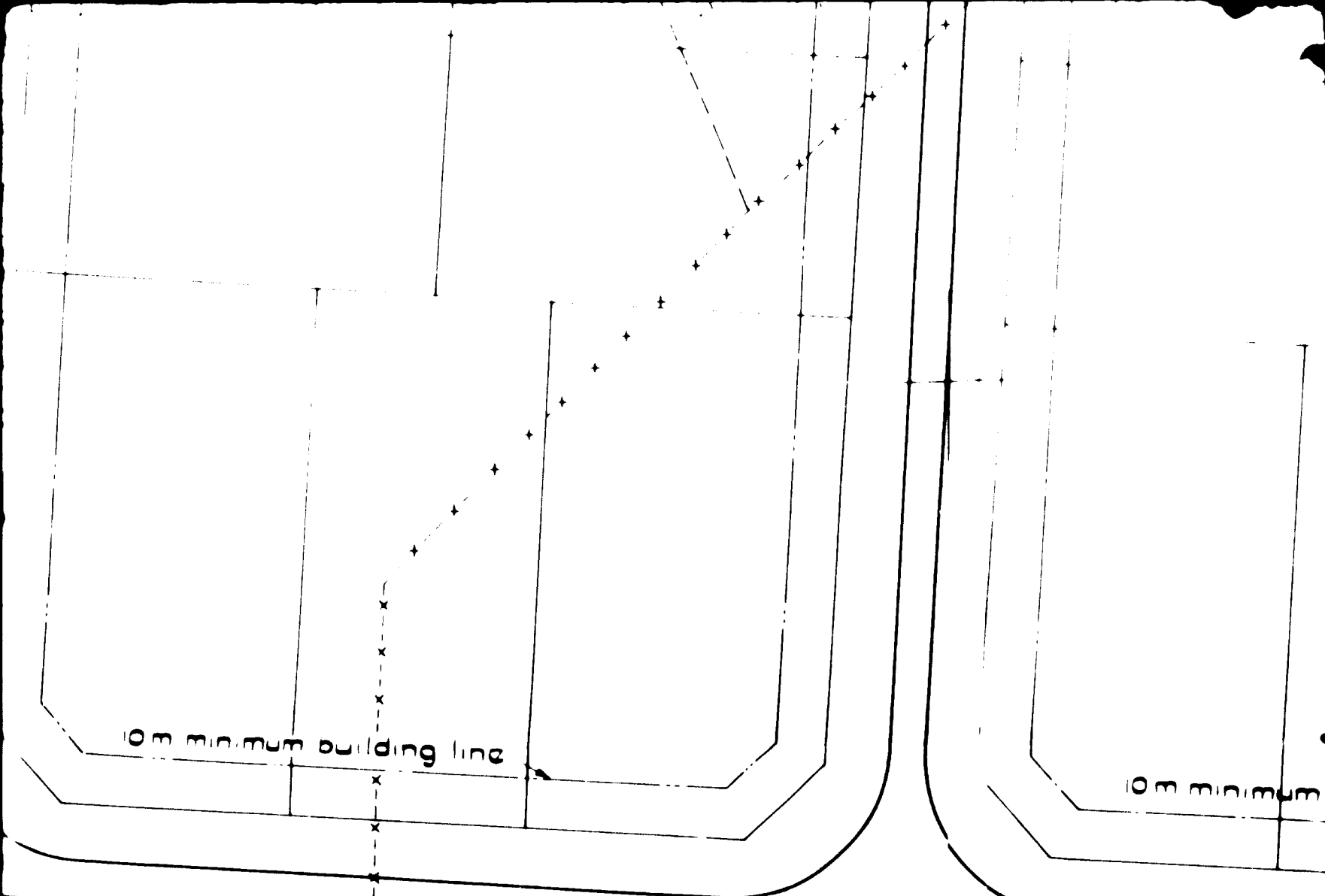
Approximate
high water line

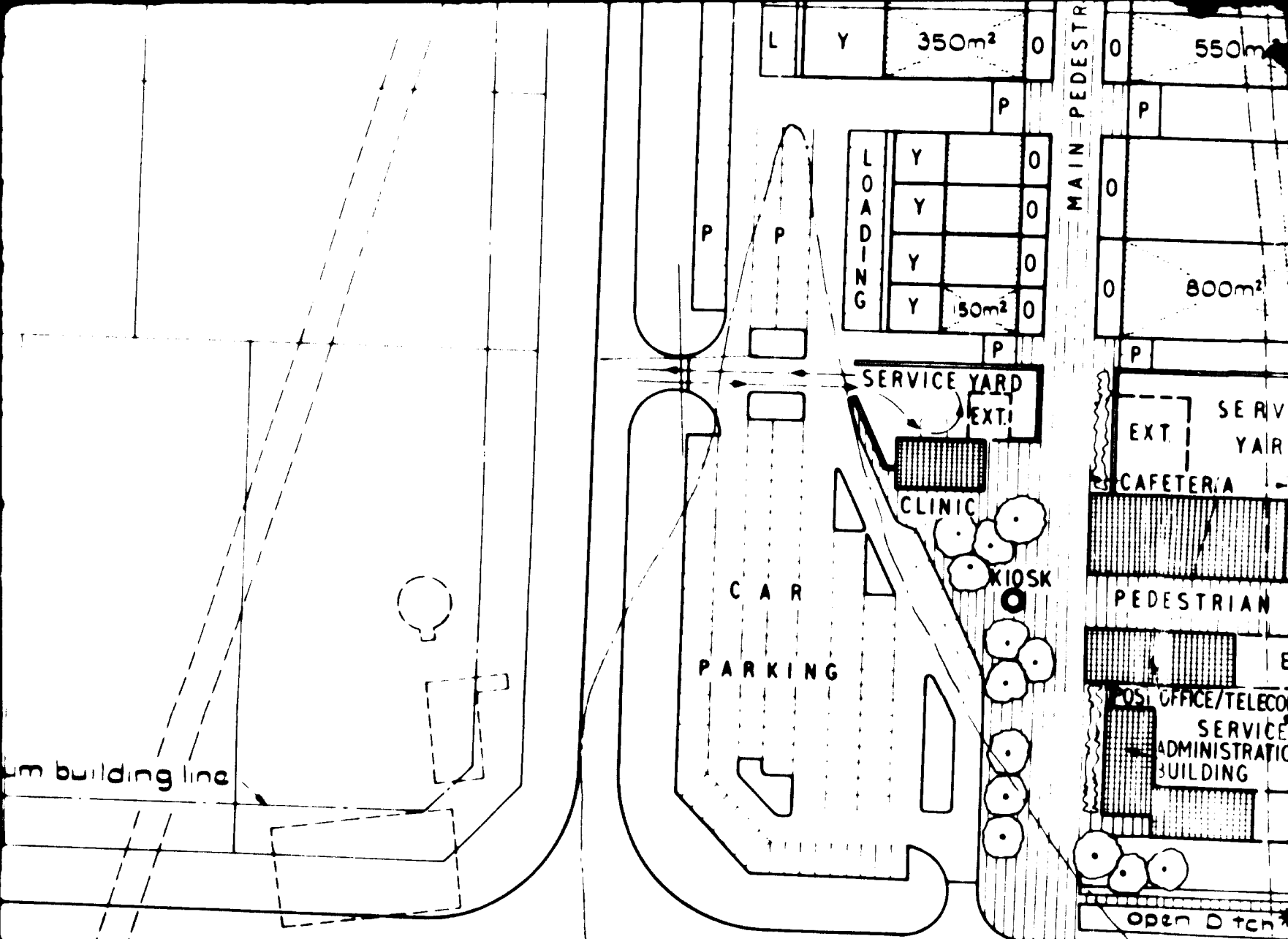
Possible reclamation area

N10000

SECTION 10







CAR
PARKING

Existing
water line

building line

SECTION (12)

Undetermined area
Existing area under water to
be reclaimed and held in reserve
for undetermined purposes e.g:
Industrial development, transport
parking, warehousing etc

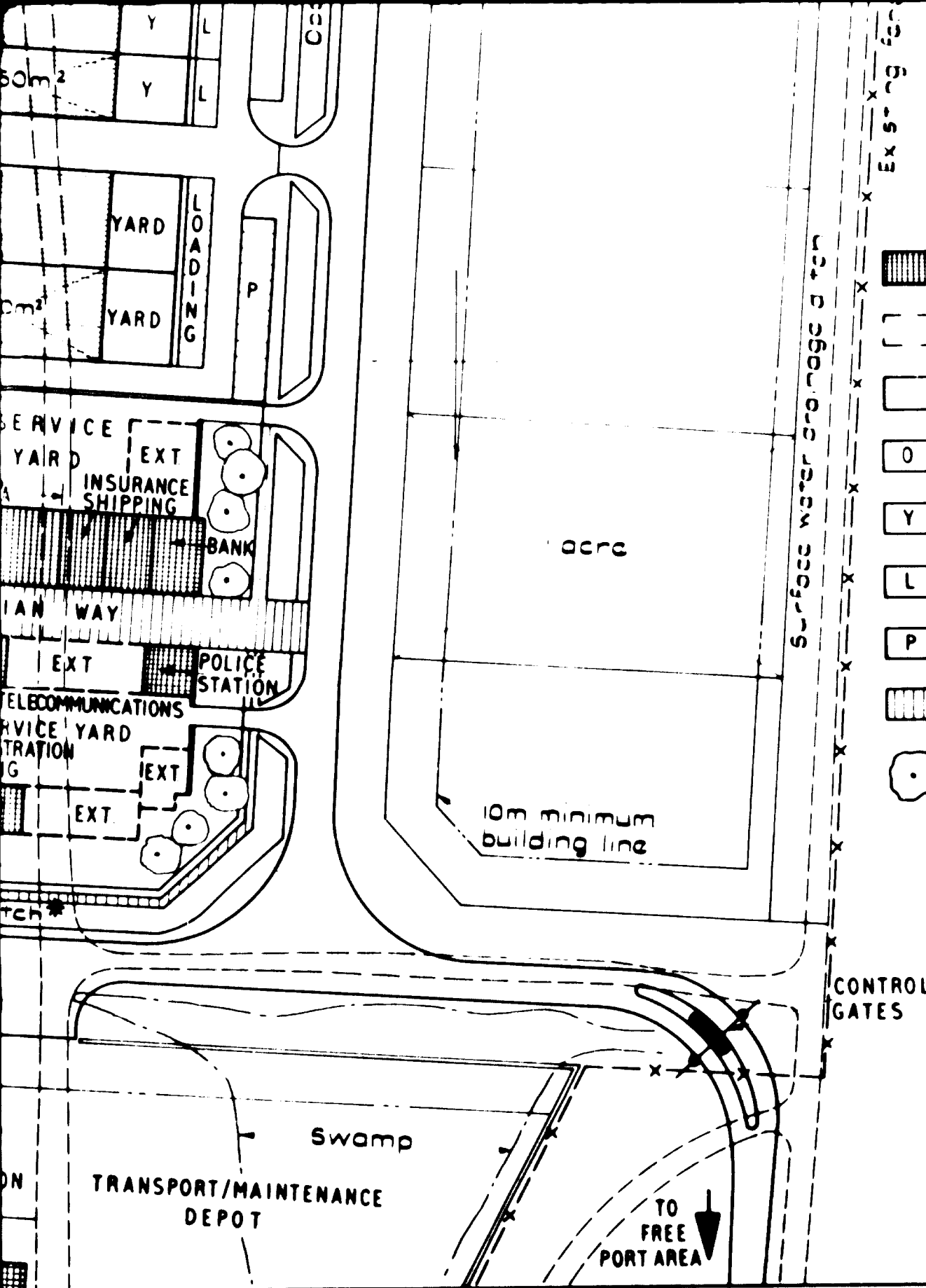
-Lagoon-

FIRE
STATION










OFFICES

SHEDS

open ditch



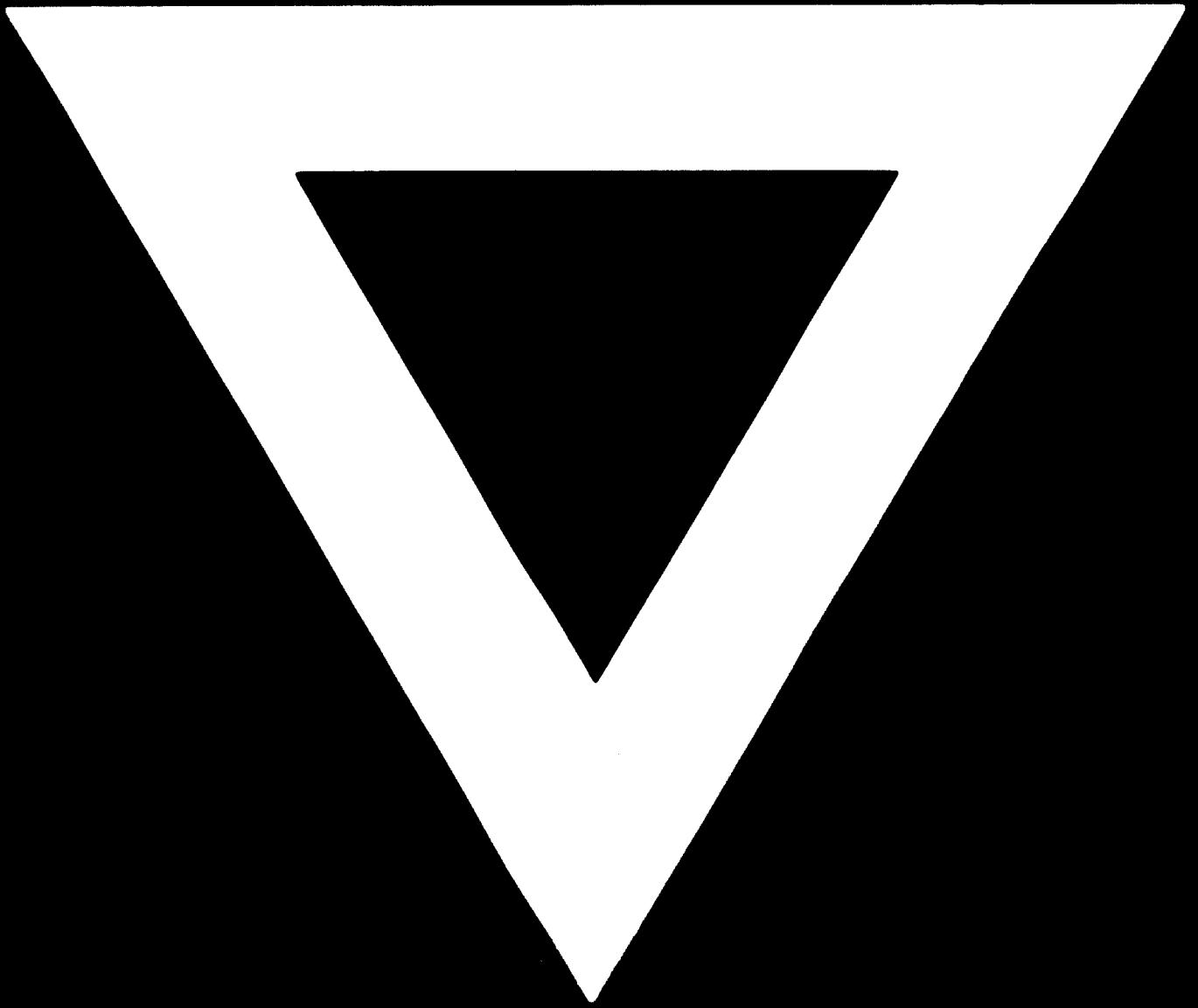
KEY

-  Public and commercial buildings
-  Extension areas
-  Standard factories
-  Offices
-  Yard
-  Loading areas
-  Parking areas
-  Pedestrian ways
-  Trees

SECTION (13)

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANISATION
INDUSTRIAL FREE ZONE IN MONROVIA - LIBERIA
PROPOSED SITE LAYOUT

Sir Alexander Gibb & Partners Standard House London Reading RG1 4PS	DATE: FEBRUARY 1975 DRG.No.7482/1
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76. 05. 19