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JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

MINISTRY OF DEVELOPMENT,
NEW COMMUNITIES, HOUSING AND PUBLIC UTILITIES
ARAB REPUBLIC OF EGYPT

THE URGENT DEVELOPMENT PLAN OF THE SUEZ BAY COASTAL AREA DEVELOPMENT

DETAILED DESIGN STUDY

MAIN REPORT

VOLUME I

NOVEMBER, 1993

PACIFIC CONSULTANTS INTERNATIONAL
OCEAN CONSULTANT, JAPAN CO., LTD.

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PREFACE

In response to a request from the Government of the Arab Republic of Egypt, the Government of Japan decided to conduct a Detailed Design Study on the Urgent Development Plan of the Suez Bay Coastal Area Development in Egypt and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to Egypt a study team five times between March 1992 and November 1993, which was headed by Mr. Kazunari Makino, Advisor of Pacific Consultants International (PCI) and was composed of the staff members of PCI and Ocean Consultant Japan Co., Ltd.

The team conducted field surveys at the study area, and held discussions with officials concerned of the Government of Egypt and other public agencies. After the team returned to Japan, further studies were made and the present report was prepared.

I hope that this report will contribute to the promotion of the project and to enhance of friendly relations between out two countries.

I wish to express my sincere appreciation to the officials concerned of the Government of Arab Republic of Egypt and other public organizations for the close cooperation extended to the team.

November 1993

Kensuke Yanagiya

Kensuke Yanagiya
President
Japan International Cooperation Agency

November 1993

Mr. Kensuke Yanagiya
President
Japan International Cooperation Agency
Tokyo, Japan

Dear Mr. Yanagiya,

Letter of Transmittal

We are pleased to submit to you the Final Report on the Urgent Development Plan of the Suez Bay Coastal Area Development Project in the Arab Republic of Egypt. The reports contain the results of the detailed design study carried out and the Tender Documents for the Project in accordance with the contract entered into with your Japan International Cooperation Agency (JICA), by Pacific Consultants International in collaboration with Ocean Consultant, Japan Co., Ltd.

The study team conducted the field surveys five times at site during the period from March 1992 to November 1993. The results of the field surveys and of the studies made in Japan were fully discussed and exchanged views with the organizations concerned of the Government of Egypt, and the study team prepared the Tender Documents on various facilities and infrastructure for proposed construction of the industrial complex at Ataqa and Adabiya areas, the outcomes of which were compiled in this report.

Taking this opportunity, we wish to express our sincere appreciation to the Ministry of Development, New Communities, Housing and Public Utilities and other organizations concerned of the Government of Arab Republic of Egypt for their close cooperation and assistance rendered to us during our stay in Egypt. And furthermore, our appreciation must also to go your Agency the Ministry of Foreign Affairs, the Ministry of Transport and the Japanese Embassy in Egypt and JICA Egypt office for their valuable advice and support extended to us.

Yours faithfully,

Kazunari Makino
Team Leader

The Suez Bay Coastal Area Development Study Team

THE URGENT DEVELOPMENT PLAN
OF
THE SUEZ BAY COASTAL AREA DEVELOPMENT
DETAILED DESIGN STUDY

MAIN REPORT

TABLE OF CONTENTS

[VOLUME I]

CHAPTER 3 DETAILED DESIGN STUDY

THE URGENT DEVELOPMENT PLAN
OF
THE SUEZ BAY COASTAL AREA DEVELOPMENT
DETAILED DESIGN STUDY
MAIN REPORT
TABLE OF CONTENTS

[VOLUME II]

(CHAPTER 3 DETAILED DESIGN STUDY)

LIST OF FIGURES

[VOLUME I]

CHAPTER 2 INDUSTRIAL DEVELOPMENT AND MASTER PLAN

CHAPTER 3 DETAILED DESIGN STUDY

3.1 SURVEY AND SOIL INVESTIGATIONS

3.3 PORTS

LIST OF FIGURES

[VOLUME II]

(CHAPTER 3 DETAILED DESIGN STUDY)

LIST OF TABLES

[VOLUME I]

CHAPTER 2 INDUSTRIAL DEVELOPMENT AND MASTER PLAN

CHAPTER 3 DETAILED DESIGN STUDY

3.2 DESIGN CONDITIONS

LIST OF TABLES

[VOLUME II]

(CHAPTER 3 DETAILED DESIGN STUDY)

3.8 SEWERAGE SYSTEM

CHAPTER 5 PROJECT COST AND IMPLEMENTATION PROGRAMS

THE URGENT DEVELOPMENT PLAN
OF
THE SUEZ BAY COASTAL AREA DEVELOPMENT

LIST OF DOCUMENTS

CHAPTER 1 GENERAL

1.1 General

The Government of the Arab Republic of Egypt has made a great effort to reconstruct the Suez region, which has recovered its socio economic conditions to the extent similar to the pre-war level successfully. The Suez Bay Coastal Area is blessed with a relatively high level of development potentiality as an industrialized town, provided that the various types of infrastructure are supplemented and/or completed, such as water supply, waste water treatment plant, port facilities, roads, railway, public buildings, power supply, etc.

Upon fulfillment of these fundamental needs, the Suez region is expected to grow once again as the third developed city and plays an important role to contribute towards the industrialization of the country and decentralization of the capital city Cairo.

Under these circumstances, a Master Plan of Suez Bay Coastal Area including Short Term Development Plan of Ataqa-Adabiya was prepared by Japan International Cooperation Agency (JICA), and the reports were submitted to the Egyptian Government in 1986.

A Follow-up Study on the Short Term Development Plan was implemented by JICA Experts in 1989. The Follow-up Study was to review the Short Term Plan, and consequently it concluded that the construction of the coal berth at Ataqa Port should be postponed, the construction of Adabiya Port should be implemented by the Ministry of Maritime Transport, and the construction of Ataqa Fishery Port should be materialized under the grant aid of Japan. The scope of work covered by the Short Term Development Plan was re-evaluated and its feasibility was re-analyzed. The study recommended that the Urgent Development Project is to be implemented based on the follow up study, JICA decided to conduct a detailed design including preparation of tender documents for international competitive tenderings of Urgent Development Plan of the Suez Bay Coastal Area Development Project and the detailed design study was commenced in March 1992.

1.2 Outline of the Project

Upon the completion of the Urgent Development Project, about 400ha of Ataqa Industrial Estate (Ataqa I.E.) and 82ha of Adabiya Industrial Free Zone (Adabiya I.F.Z.) will be provided with necessary infrastructure.

In the industrial areas, the following types of industry are expected to locate:

(1) -Consumer Related Industries
- Food Industries
- Wood Products & Metal Furniture
- Spinning, Weaving & Apparels
- Paper Products

-Basic Material Industries
- Plastic & Rubber Industries
- Building Materials Industries
- Chemicals & Pharmaceuticals

-Engineering & Assembly Industries
- Electrical & Engineering Industries
- Mechanical & Metal Industries

To attract these industries, the following major facilities/utilities will be provided under the Urgent project.

(1) Roads

- New roads in the Ataqa I.E. and Adabiya I.F.Z; Trunk road with 4 lanes and common road with 2 lanes.
- Reconstruction of Suez-Adabiya Coastal road; Re-constructed road with 4 lanes.

(2) Water Supply System

- Water intake pump station of a 100,000 ton/day supply capacity
- Aquaduct pipeline
- Water treatment plant of a 100,000 ton/day capacity

- Water distribution pipelines
- Draw-off water distribution for tree plantation along the roads, Green Belt and Utility zone in Ataqa I.E.

(3) Sewerage System

- Wastewater treatment Plant of a 55,800 ton/day capacity
- Industrial wastewater collection pipelines
- Residential wastewater pipeline from Residential Area to US-Aid Wastewater Treatment Plant

(4) Grain Terminal

- Annual grain handling capacity : 1,800,000 ton
- Grain berth : length 300 m, water depth CD-15 m
- The berth being able to accommodate grain carrier of up to 80,000 DWT
- Grain Silo bins and Machinery tower : silo capacity 100,000 ton
- Two grain unloaders : 650 ton/hr/each
- Administration building, maintenance shop, etc.

(5) Bulk Cargo Terminal

- Annual bulk cargo : 767,000 ton
- Bulk cargo berths : 2 berths of total length of 420 m,
  water depth CD-13.0 m
  The berths being able to accommodate the following vessels:
  2 × 20,000 DWT cargo vessels
  or 1 × 20,000 DWT container vessel
  or 2 × 15,000 DWT container vessels
- Incinerator
- Open Storage Yard : 24,000 m^2 made of concrete pavement
- Administration building, watching tower, etc.

(6) Small Boat Basin

- Small boat quay : 5 berths of total length of 270 m with -5.0 m water depth.
  The berths to accommodate 5 service vessels.

(7) Tugboats

- one 32 ton bollard pull tugboat
- two 20 ton bollard pull tugboats

(8) Radar System

(9) Railway

- Annual transport capacity : 1,260,000 ton
- Railway work includes loading line, shunting yard and connecting line.
- Signal system and Telecommunications related to railway.

(10) Center Areas

- Buildings in Center A (Ataqa I.E.)
- Buildings in Center B (Ataqa I.E. Coastal)
- Buildings in Center C (Adabiya I.F.Z.)
- These center areas include buildings such as, Administration Building, Police and Fire Station, Mosque, Dispensary (Clinic), Restaurant, Power Substation, Social Club, Post Office, Field Custom Office, etc.

(11) Power Supply System and Road Lightings

- 22 kV loop distribution line and conducts
- 22 kV aerial distribution lines to Wastewater Treatment Plant
- Local sub-stations (For Water Treatment Plant, Wastewater Treatment Plant, Grain Terminal, Bulk cargo Terminal, Center A, Center B, Center C and Water Intake Plant).

- Unit sub-stations
- Road lightings

(12) Grain Handling Equipment

- two grain unloaders of 650 ton/hr/each

Note: The following works are to be designed by others and are excluded from this project.

- Relocation of H.V. transmission lines to the outside of Western boundary.
- Design of one 220/60/22 kV substation.
- Road, water supply distribution pipes and waste water collection pipes in the Residential Area.

1.3 Progress of the Study

This Detailed Design Study on the Urgent Development Plan of Suez Bay Coastal Area has been conducted by JICA Study Team since March 1992. The study activities carried out by which JICA Study Team are as follows:

March 1992	Submission of Inception Report
March - April 1992	Collection of information and data in Egypt
April - June 1992	Topographic survey and hydrographic survey
April - June 1992	Soil investigation
July 1992	Submission of Progress Report
July 1992	Collection of supplemental information and data in Egypt
September 1992	Submission of Interim Report (I)
September 1992	Collection of supplemental information and data in Egypt
November 1992 to	Additional visit to Egypt for collecting information and data about radar and tugboat requirements

December 1992	
March 1993	Environmental survey and analysis
May - June 1993	Submission of Interim Report (II)
	Collection of supplemental information and data in Egypt

In addition to the above activities, the JICA Study Team has conducted a series of interviews and discussion with the concerned authorities and agencies in Egypt.

In parallel with these activities, JICA Study Team has conducted the preliminary design of all the components of the Urgent Development of the Suez Bay Coastal Area Development (Project) and compiled the results of the preliminary design into Interim Report (I). After the discussion on the results of the preliminary design with the Ministry of Development, New Communities, Housing and Public Utilities (MODANC) in September 1992, JICA Study Team received the comments of the preliminary design which are recorded in the Minutes of Meeting on Interim Report (I) dated September 12 and 27, 1992 respectively. The JICA Study Team prepared Interim Report II incorporating the MODANC's comment, and submitted it to MODANC in March 1993.

Discussion on the Interim Report II was conducted with MODANC from May 15 to June 10, 1993. Comments from MODANC were recorded in the Minutes of Meeting on Report II dated May 22 through June 5, 1993. this Draft Final Report has been prepared incorporating all results of previous preliminary and detailed design conducted by JICA Study Team.

CHAPTER 2 INDUSTRIAL DEVELOPMENT AND MASTER PLAN

2.1. Overview of the Current Egyptian Economy

It has past almost 6 years since the JICA prepared the Master Plan and the Short Term Plan of the development of Suez Bay Coastal Area. The latest available macro economic and social data used by the study was 1983/84. The data available this time from the Ministry of Planning is up to 1986/87 which shows that the GDP growth rate was maintained at around 18% on current prices basis. Assuming that the deflator of 12-14% is reasonable for the period,the real growth rate would be around 4-6%.

The crisis and eventual war broke out in the Gulf in 1990/91 has given both the negative and positive impacts o the social, economic and political environments of Egypt. Though there is no official figures for the economic growth rate of the fiscal 1990 (1990.7-1991.6), it is estimated to be around 3.5% as against the national target of 5.3% set under the second 5 year Social and Economic Plan (86/87-91/92).

Mass return of the Egyptian workers in the Gulf region reduced remittances substantially and increased unemployment. The receipts from the tourism and the Suez Canal also decreased. To cope with these problems, the government took emergency measures for creation of employment opportunities by repriotizing the projects such as housing construction. Now outflows of Egyptian workers to Libya and the Gulf region started again and foreign tourists are coming back to the normal level, it is anticipated that the growth rate will rebound to the target level.

One of the key current issues is the economic reform designed to replace the traditional planned economy with the market economy. In line with the agreement with the IMF in May, 1991, the government has implemented her reform policies even during the Gulf war period. Now multi-tier foreign exchange rates employed at the time of he previous study were unified and liberalization of foreign exchange and bank interest were implemented. At present implementation of the basic reform of the public sector, privatization, reduction and abolishment of the various subsidies are under way according to the schedule. These efforts in the transitional period always accompany more or less pains but will definitely revitalize and enhance the economy with better results in the long run.

As of June 30, 1991, the total number of the approved projects for investment was 1,848 which exceeded by 114 over that of the previous year. The inland investment marked 92 projects of which 36 are industrial ones. While investment in the Free Zones registered 22 projects. This rapid increase in investment may be understood that the government initiatives for economic reform have resulted successfully in gaining fair confidences of both domestic and foreign investors concerning the country's future economy.

The share of the mining and manufacturing sector in the inland investment is 42%, 39%, 45% and 60% in project number, capitalization, investment amount and number of employment respectively. It is noteworthy that two car assembly projects involve Japanese car manufacturers of Isuzu and Suzuki, which are included in the above number in addition to such symbolic and successful joint venture project between the Egyptian government and a Japanese group for Alexandria National Iron and Steel Company in El-Dikheila.

2.2. National policies for industrialization

The contribution share of the industrial sector to the GDP has increased from 13.4% in 1983/84 to 17.7% in 1986/87 which simply illustrates the expanding role of the industrial sector in the Egyptian economy. Its average annual growth rate achieved was about 18% during the period. The share of industrial sector in the Gross Capital Formation also increased from 22.9% in 1983/84 to 24.7% in 1988/89. Approximately 119 thousand jobs were created during the period from 1983/84 to 1986/87 and its share in the national employment structure is 12.5% and 14.1% in the respective year referred herein.

The policy is still maintained to increase production in the various subsectors of industry such as the iron and steel, ceramics and cement, paper, fertilizer,spinning and weaving and petroleum. Coordination has been effected between heavy and consumer industries in such a way as to secure self-sufficiency, reducing imports and earning foreign exchange by manufactured export. The policy for reduction of the public involvement and promotion of privatization remains unchanged not only for industrial sector but also for all economic activities as mentioned earlier.

In line with the administrative reform policies associated with the economic reform, the negative list prepared by the government for smoother licensing is scheduled to be canceled in 1993 and thereafter anyone would be allowed to invest in any type of industrial projects except for production of military equipment.

According to the government's privatization program, all of the public sector manufacturing organizations will soon to be reformed into the public holding companies. Industrial workers have been granted certain privileges such as positive participation in the management of industrial enterprises.

2.3. Investment policy

In view of achieving more expanded investment activities by both domestic and foreign investors, a new investment law was promulgated as Law No. 230 of 1989 which repealed the previous Law No. 43 of 1974 (Investment of Arab and Foreign Funds and Free Zones) and Article 183 of the Law No. 159 of 1981 (Law on Joint Stock Companies, Partnership Limited by Shares and Limited Liability Companies). The Law has fifty eight (58) articles which are divided into three (3) chapters. Its highlights are as follows;

a. Unrestricted ownership of investment capital
Private capital of any nationality may participate independently or jointly with other nationalities in any investment field by the Law.

b. No. discrimination with regard to privileges granted under the Law.
All investment projects enjoy the exemptions granted by the Law equally regardless of the nationality or domicile of the owners.

c. Right of acquisition of land and real estate
All projects established within the framework of the Law, whatever the nationality or the domicile of the owners, have the right to acquire land and real estate property required for establishment or expansion upon approval of the Board of Directors of the General Authority for Investment (GAFI).

d. No price controls or profit ceilings
The production of projects established under the Law are free from price controls and profit ceiling.

e. Extension of exemptions for not exceeding five years
Upon recommendation of the Board of Directors of the Authority, exemptions may be extended by a decree for the Council of Ministers for a further periods of not more than five (5) years as against three (3) years in the previous law. If products use more than sixty (60) percent of the local component, there is a bonus of additional two (2) years.

f. Tax deduction after expiration of the exemption privileges

Profits distributed by the Project after expiration of the exemption privileges will be exempted from the general income tax at the rate of ten (10) percent of the original value of the taxpayer's share in the Project capital which was five (5) percent in the previous law.

2.4. Demographic Changes

The Master Plan Study was based on the latest available data of 1976 census and the estimates made by the Coastal Agency for Public Mobilization and Statistics (CAPMAS). Now the results of 1986 census is available for analysis of the demographic changes at national as well as regional and governorate levels from 1976 to 1986 period.

The population growth rate during the period was 2.5%. The national total population grew to 48.3 million from 36.6 million. Therefore it is understood that there has been an average annual increase of 1.2 million people. The population share of the urban governorates of Cairo, Alexandria, Port Said and Suez has decreased from 21.4% to 20.2% which can be explained as an effect of the government dispersal policies. This is primarily due to decreases of the relative share of Cairo and Alexandria. On the other hand the population of Suez governorate has increased from 190 thousand to 328 thousand with an average annual growth rate of 5.1%. Accordingly its population share to the national total changed from 0.5% to 0.7%. Yet it is note worthy that the population of the GreaterCairo City Region which includes Cairo, Giza City, Markaz El-Giza and Shobra El-Khiema City has still increased by 200 thousand annually.

2.5. Changes in the Physical Settings of Suez-Ataqa-Adabiya

The reconstruction and development has taken place here and there in the city and improvements in landscape along the coastal road were impressive. The image of the war damaged city almost disappeared. The city with several new hotels and civic facilities is now beginning to appear as the keystone city of the Red Sea region. Mid-rise housing buildings have been mushrooming at the fringe areas of the city sandwiched by the two parallel roads to Cairo. The major changes noticed in Ataqa-Adabiya areas are summarized as below.

1) The site for the US-AID assisted sewage treatment plant (STP) for the city with an area of approximately 400ha. was allocated next to the Ataqa Power Plant. The area includes the residential area proposed under the Master Plan.

2) The site for a graphite factory with an area of 30ha was located adjacent to the STP to the south. The area is all fenced and construction of factory building may begin soon.

3) The Misr Gulf Oil and Processing Co. (MGOPC) is now operating at the site next to the graphite factory to the south. Their production capacity of the edible oil is 50,000 tons per year.

4) The site for the Siam Darby Egypt Edible Oil Co. (palm oil refining) with an area of 6ha is allocated in the map next to the MGOPC. Their planned production capacity is 80,000 tons per year.

5) A gas station is operating at the planned utility zone located between the eastern boundary of the Ataqa West I.E. and the Suez-Ain Sukhuna coastal road.

6) A new diversion road from Adabiya to Cairo-Suez Road is planned and an initial earth work started at a certain portion. Road alignment runs in parallel with the western boundary of the Ataqa West I.E.

7) Ataqa Fishery Port is constructed according to the Master Plan. The revetments is shifted southward so that the planned area can be slightly expanded.

8) The site for the proposed sewage treatment plant for the Ataqa I.E. is occupied by the Navy and their abandoned facilities remain.

9) About 2 km long of railway is installed from the boundary of the SCA properties in Adabiya to the mid way to the boundary of the Ataqa I.E. for transporting mined materials from the quarries.

10) One transmission line passing through the planned area is additionally constructed. As a result, there are two transmission lines.

11) Though it was not confirmed as to live or dead, there are several embedded water pipelines probably for the quarries.

12) Red Sea Port Authority constructed its administration building at the site proposed for the center facilities of the Adabiya Industrial Free Zone.

13) Almost a southern half of the planned Adabiya IFZ is fenced and occupied by the Navy for their facilities.

14) Embedded pipelines (probably oil and water) were westwardly laid at the planned Adabiya IFZ site from the original utility zone in the Master Plan.

15) The northern part of the IFZ was deeply excavated to obtain reclaiming material for the construction of Adabiya Port.

16) The No.5 berth for general cargoes at the marginal type wharfs was constructed and in operation in Adabiya Port. The No.6 berth located next to the No.5 to the south is now under construction.

These changes mentioned above require careful considerations when reviewing on location plans and land use plans of the Ataqa I.E. and Adabiya IFZ. Based on the findings, the Steering Committee of MODANC and the Study Team had extensive as well as intensive discussions to search for best alternative.

As stated in the Minutes of Meeting on the Inception Report of March 19,1992, it was firstly agreed that the boundary of Ataqa I.E. and Adabiya IFZ should be adjusted according to the current status of the land use and the total areas of both projects were to be maintained the same as stated in the Scope of Work.

Secondly it was agreed that the northern boundary should be extended further north up to the boundary between the STP and the graphite factory so as to allow the latter to enjoy various services offered by the industrial estate and at the same time to maintain a coordinated land use along the Suez-Ain Sukhuna coastal road. This change of boundary line permits flexibility in land use in the southern section.

Thirdly though it is out of the scope of work under the study, it was agreed to consider a future expansion area of industrial estate and also residential areas which include replacement of the one taken out by the STP for the purpose of designing required infrastructures and utilities of the industrial estate.

As shown in Figures 2.6.1 to 2.6.4, four alternative plans have been developed and evaluated from such angles as development costs, land use efficiency, revenue generation, attraction to investors and community as well as the complex procedures of bureaucratic coordination.

Since there is no available land for replacement with the area occupied by the Navy in Adabiya district, the fist alternative is to divide the Adabiya IFZ into the two sections. The half section is the remaining area of approximately 30ha kept at the original site and the other half is located adjacent to the Ataqa I.E. This plan was found to be costly in terms of development and operation and maintenance.

The Alternative II is to totally relocate the Adabiya IFZ facilities to the adjacent area of the Ataqa I.E. to avoid division of the facilities into the two parts. Naturally it has

bigger advantages over the Alternative I in development, operational and maintenance costs. However it requires longer hauling distance of cargoes moving between the Adabiya Port and the IFZ in Ataqa and may pose a problem to the customs for administering bonded cargoes run along the public road connecting the two separate facilities.

An attempt was made to have a closer look at the problems. The original site of the Adabiya IFZ is located outside of the customs zone and is apart from the general cargo berths for over 400-500 meters separated by both the Suez-Ain Sukhuna road and its parallel utility belt. Therefore it will not allow direct transport from the berths to the IFZ by conventional cargo handling equipment such as straddle carriers and fork lifts.

Container vans have to be reloaded on trucks and trailers to transport to the IFZ. The transportation cost for additional time distance of about 5 minutes to Ataqa would be insignificant. As to monitoring the movement of bonded cargoes through the public road, it will not be difficult to trace the movement by the customs police at the both gates as visibility along the road is secured from the topographic conditions and land use.

The Alternatives III and IV were further developed to study an optimum land use. The H.V. power transmission lines traverse the area obliquely which hinder to secure rectangular shape of factory lots as much as possible and result in more dead space particularly at the IFZ where small lots are in great demands. The both alternatives are based on rerouting this transmission lines along the new diversion road to achieve a higher efficiency in land use, to avoid a certain negative impacts to industries sensitive to magnetic field and to create an aesthetical value to the proposed industrial facilities. The difference between the two plans is whether the railway for transporting mined products from the quarries to be kept for benefits of industries to be located or to demolish the same not to hinder traffics on the main street connecting Ataqa port with the diversion road.

Finally it was decided by MODANC to adjust the road alignment of the diversion road to allow rectangular shape of lots and to secure sizable areas for residential development. Thus the final plan was tentatively made as shown in Figure 2-6-5.

In the progress Report submitted in July 1992, the Plan shown in Figure 2-6-5 was

recommended as the best plan out of the five (5) alternatives. On the other hand MODANC had been coordinating with the concerned agencies and conveyed their current findings to the Study Team at their second visit to Cairo for modifications. These are relocations of the sewage treatment plant to Adabiya, removal of the railway for quarries, siting of power sub-station along the Adabiya-Suez/Cairo road and creation of a buffer zone along the wheel track running between the USAID sewage treatment
plant and the proposed Ataqa Industrial Estate.

Later it was found that the factory site of Saim Darby was nontransferable and a land between the proposed road and Misr Gulf Oil and Processing was not in good shape in view of marketing the land to comparatively large factory to create a favorable image of the industrial estate along the Suez-Ain Sukhuna road, it became necessary to modify the road network plan. At the same time the result of the surveys became available to the water supply engineers, a siting plan for water treatment plant was proposed. From July 24, 1992 there have been several contacts between MODANC and Study Team through facsimile communications and finally reached to get approval from MODANC on August 2, 1992 on the plan shown in Figure 2-6-6.

After the approval mentioned above, some weak modifications were carried out during the detailed design study. A final land use plan, which is accepted by MODANC on June 4, 1993, is shown in Figure 2.6.7.

The land use of Ataqa Industrial Estate and Adabiya Industrial Free Zone are as follows:

1) Ataqa I.E.

	Original Plan 1986 (F/S)	Proposed Plan under Review
Gross Area	400 ha	432 ha
Net Factory Lots	310	347
Utilities	15	15
Common Facilities	13	11
Road and others	62	59

2) Adabiya IFZ

	Original Plan 1986 (F/S)	Proposed Plan under Review
Gross Area	82 ha	84 ha
Net Factory Lots	52	56
Utilities	1	-
Common Facilities	7	7
Road and others	22	21

ATAQA INDUSTRIAL ESTATE
AND
ADABIYA INDUSTRIAL FREE ZONE

ALTERNATIVE – I

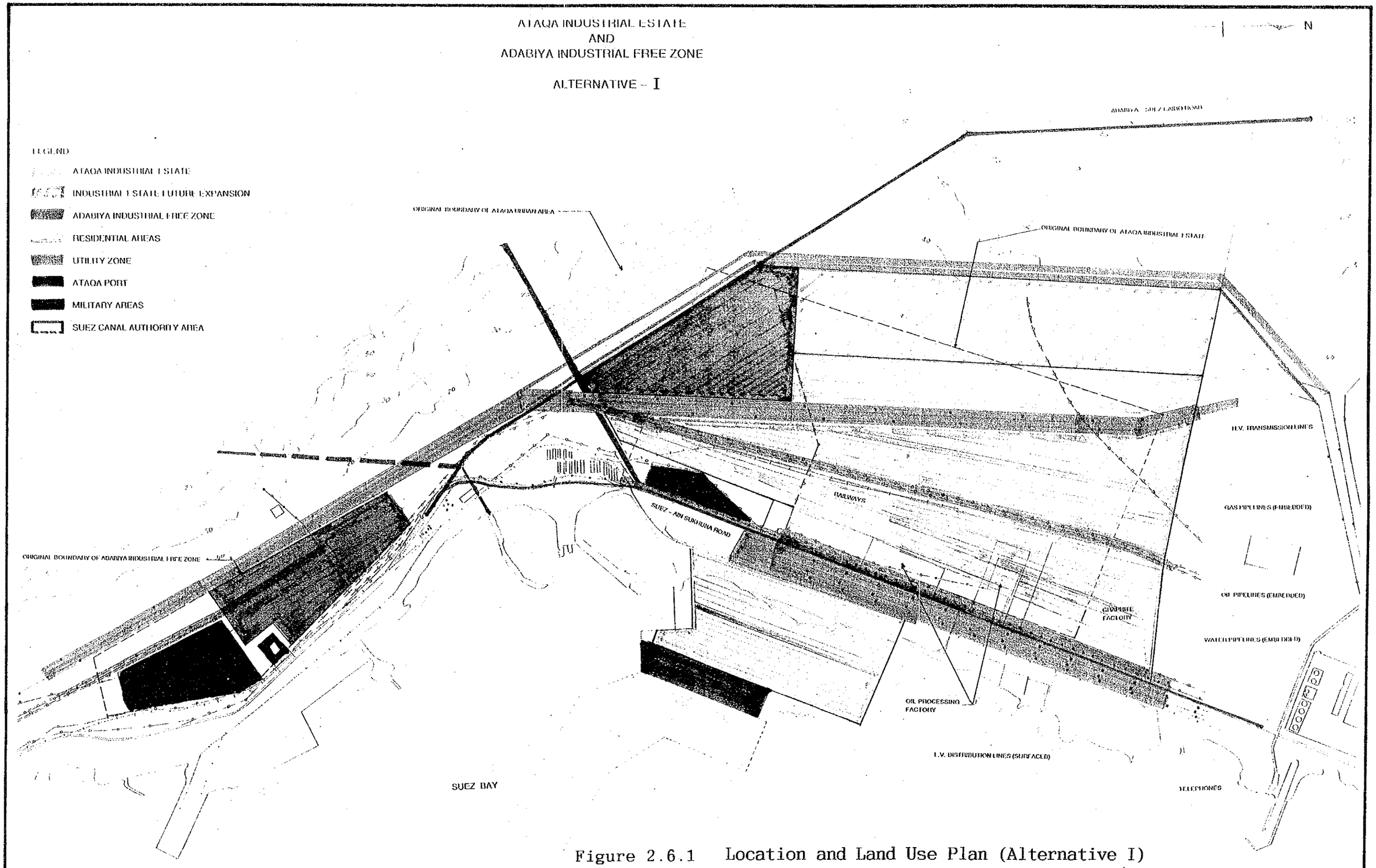

Figure 2.6.1 Location and Land Use Plan (Alternative I)

ATAQA INDUSTRIAL ESTATE
AND
ADABIYA INDUSTRIAL FREE ZONE

ALTERNATIVE -- II

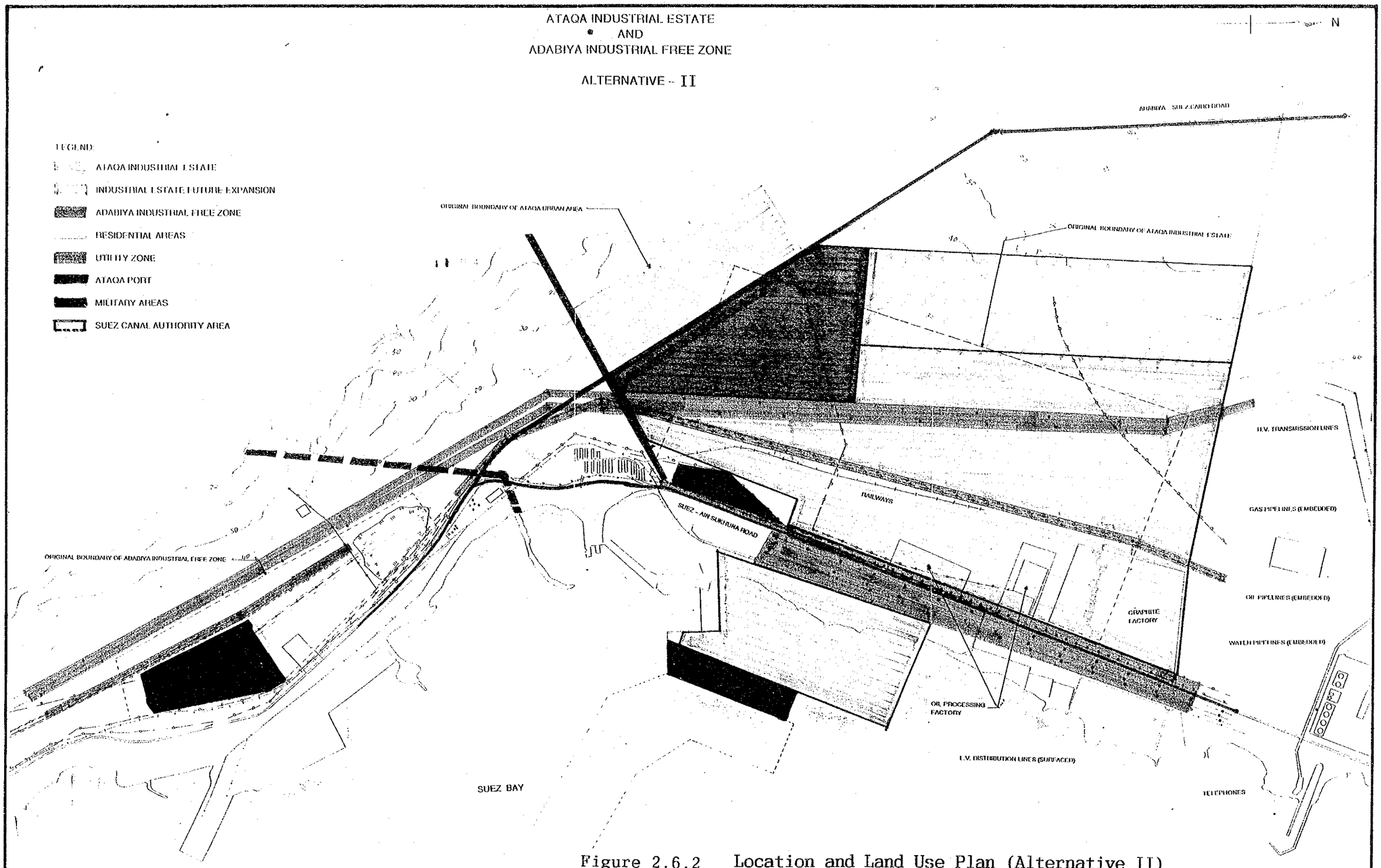

Figure 2.6.2 Location and Land Use Plan (Alternative II)

ATAQA INDUSTRIAL ESTATE
AND
ADABIYA INDUSTRIAL FREE ZONE

ALTERNATIVE - III

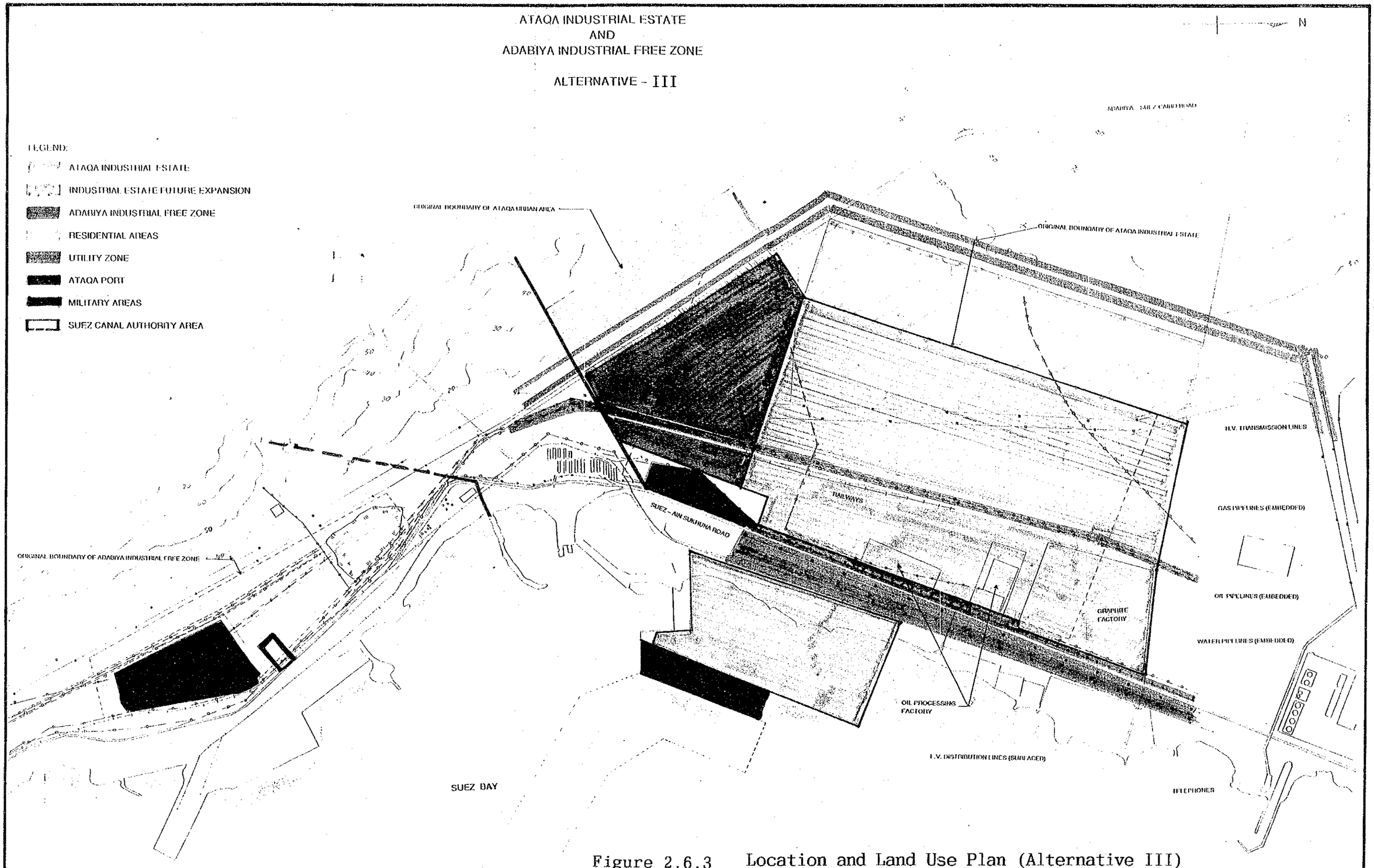

Figure 2.6.3 Location and Land Use Plan (Alternative III)

ATAQA INDUSTRIAL ESTATE
AND
ADABIYA INDUSTRIAL FREE ZONE

ALTERNATIVE – IV

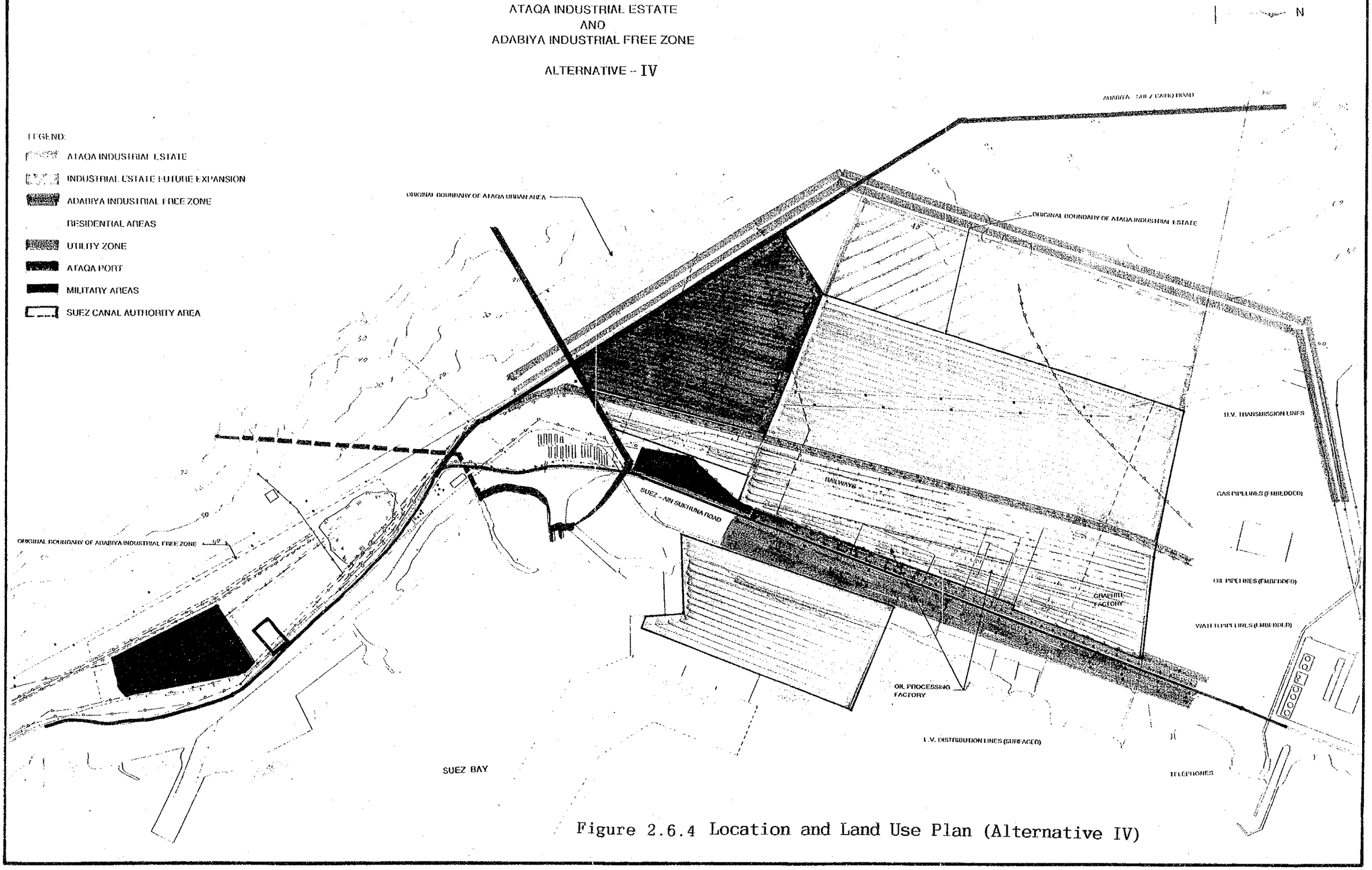

Figure 2.6.4 Location and Land Use Plan (Alternative IV)

ATAQA INDUSTRIAL ESTATE
AND
ADABIYA INDUSTRIAL FREE ZONE

ALTERNATIVE – V

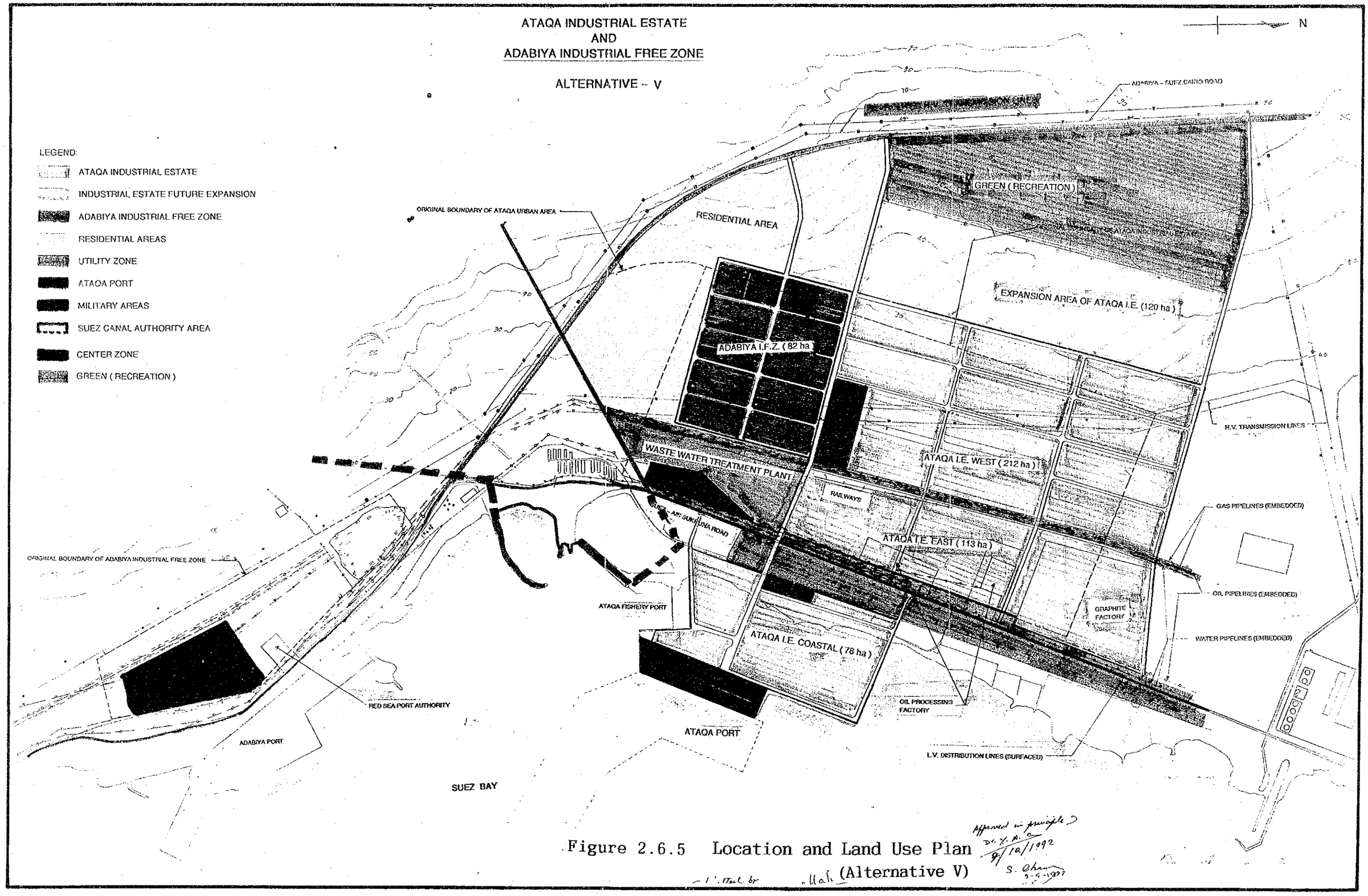

Figure 2.6.5 Location and Land Use Plan (Alternative V)

Approved in principle
Dr. Y. A. ...
9/10/1992
S. Ghan
9-5-1993

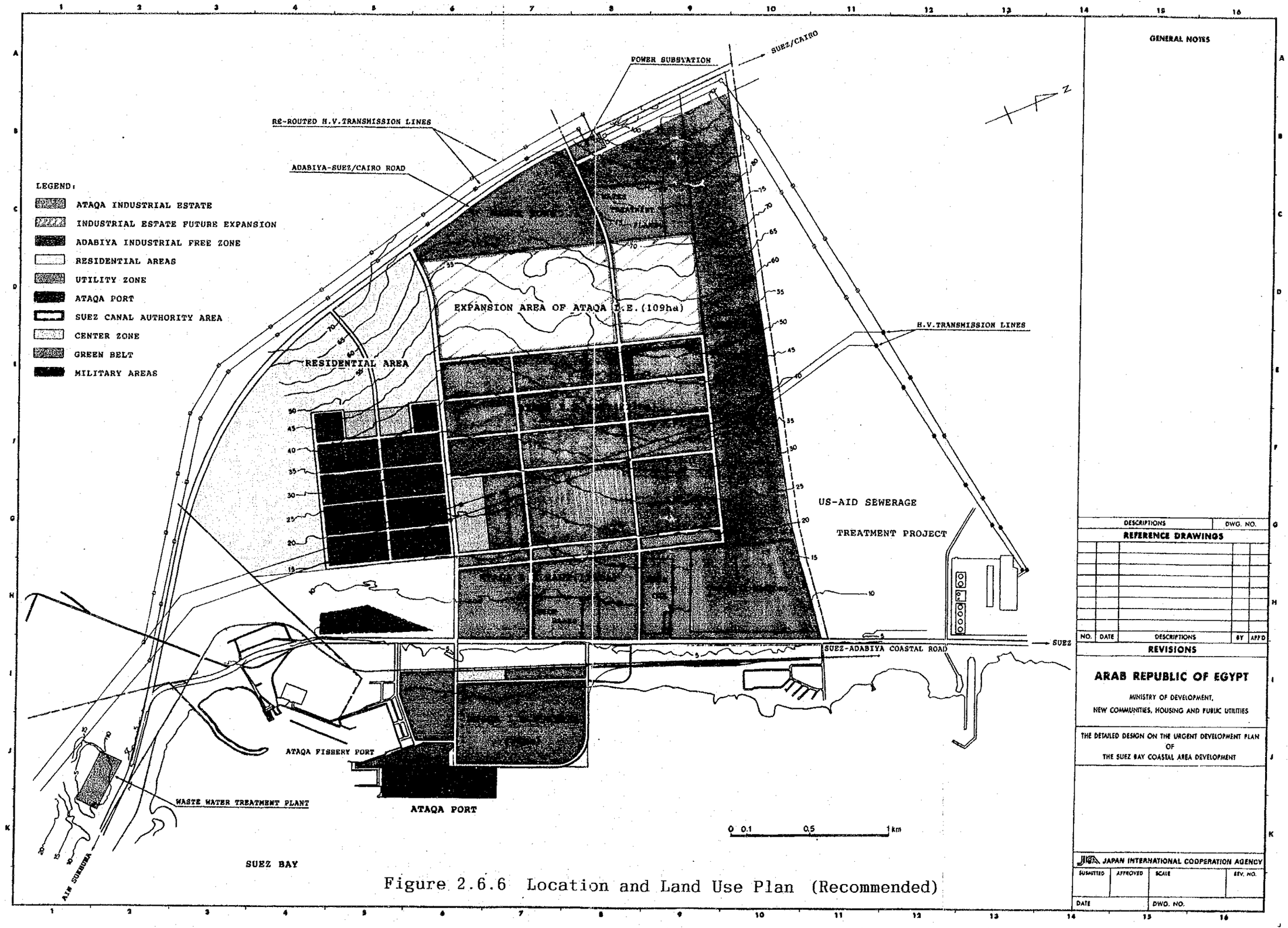

Figure 2.6.6 Location and Land Use Plan (Recommended)

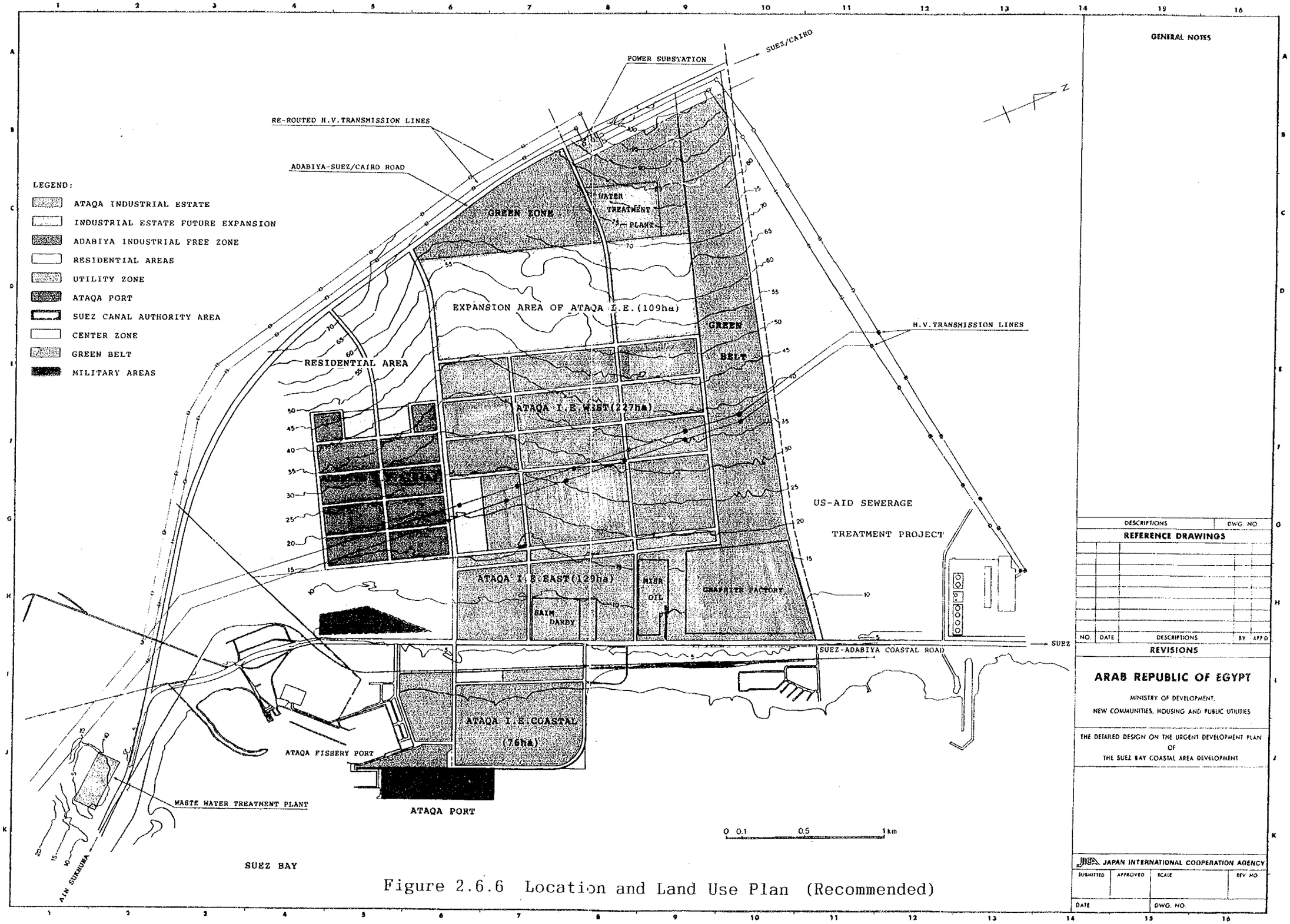

Figure 2.6.6 Location and Land Use Plan (Recommended)

LEGEND:

- ATAQA INDUSTRIAL ESTATE
- INDUSTRIAL ESTATE FUTURE EXPANSION
- ADABIYA INDUSTRIAL FREE ZONE
- RESIDENTIAL AREAS
- UTILITY ZONE
- ATAQA PORT
- SUEZ CANAL AUTHORITY AREA
- CENTER ZONE
- GREEN BELT
- MAIN ROADS

POWER SUBSTATION
STORM WATER DRAINAGE
EXPANSION AREA OF ATAQA INDUSTRIAL ESTATE
RESIDENTIAL AREA
CENTER C
CENTER B
CENTER A
DISPOSAL PIPELINE
SEWER RELAY PUMP STATION NO.1
SEWER PUMP NO.3
SUEZ ADABIYA COASTAL ROAD
OUTFALL
ATAQA FISHING PORT
SMALL BOAT BASIN
ATAQA PORT
SHUNTIG YARD
WASTE WATER TREATMENT PLANT
TO AIN SUKHUNA
ADABIYA PORT
ACCESS CHANNEL (TO BE DREDGED C.D-15 m)
SUEZ BAY
BOUNDARY OF THE PROJECT AREA
TO BE RELOCATED
PIPELINE
TO SUEZ

GENERAL NOTES

LEGEND

EXISTING FACILITIES

- RAILWAY
- ASPHALT ROAD
- TRACK
- TELEPHONE LINE
- POWER TRANS LINE
- EMBEDDED PIPE LINE

DESCRIPTIONS	DWG. NO.
REFERENCE DRAWINGS	

NO.	DATE	DESCRIPTIONS	BY	APP'D
REVISIONS				

ARAB REPUBLIC OF EGYPT

MINISTRY OF DEVELOPMENT,
NEW COMMUNITIES, HOUSING AND PUBLIC UTILITIES

THE DETAILED DESIGN ON THE URGENT DEVELOPMENT PLAN OF THE SUEZ BAY COASTAL AREA DEVELOPMENT

JICA JAPAN INTERNATIONAL COOPERATION AGENCY

SUBMITTED	APPROVED	SCALE	REV. NO.
		1 : 10,000	
DATE March 1993		DWG. NO.	

Figure 2.6.7 Location and Land Use Plan (Recommended ; Final)

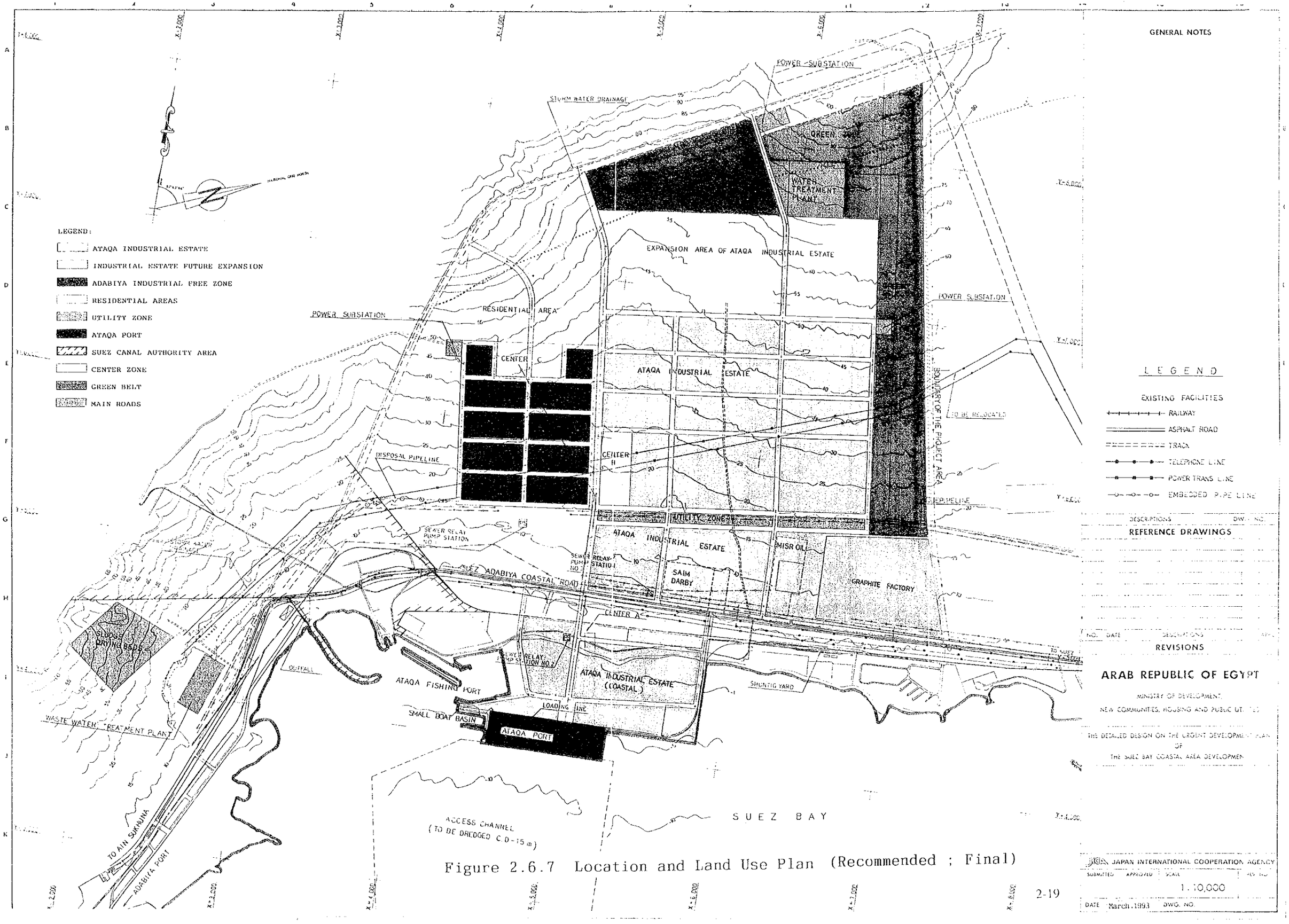

Figure 2.6.7 Location and Land Use Plan (Recommended ; Final)

2.7. Types of Industry Likely to be Located

Though the data is not available, there must be an increased shares of the private sector in number of establishment and their industrial outputs since 1986 in accordance with the privatization policy of the government for industrialization. The large scale operations of textiles, food, chemicals, metals and engineering industries are still owned and managed by the public sector and whose share in production value in 1985 was about 70%.

As mentioned earlier, a factory of edible oil company is already in operation. Another new one in the same line of business by a Malaysian investor is scheduled to be established soon with bigger scale of production than the former.. It is said that the national demand for edible oil is 700,000 tons per year and local production share is only 15%. Therefore there is still more rooms to invite location in Suez as one of the import substitution industries. Once they are successful, they will expand their production and may go to export too.

The food industry has achieved the highest growth of 225% among the manufacturing industries during the period from 85/86-89/90. Flour milling and sugar refining are also suitable type of industries to be located in the Ataqa I.E. for they mostly depend on imported materials and have potential to become export industries too due to its locational advantages in international trade.

The Ministry of Supply and Home Trade (MOSHT) has a plan to locate grain silos of 100,000 tons capacity in Suez since 1985 as stated in the Master Plan but has not realized yet due to the delay in development of port facilities. It was also proposed to establish a grain processing complex composed of flour milling, pasta, bakery and animal feeds at the immediate hinterland of the proposed grain silos to achieve an economy of scale, efficiency of industrial linkages and foreign exchange earning through export of excess production.

According to the recent hearing with MOSHT, there is no policy change in locating the silos in Suez but has no idea as to invest in the milling as proposed because of present excess capacities in the down stream products. Also there is an institutional problem to organize an integrated food processing complex due to the fact that the state enterprises are divided according to the specific lines of business. If it is difficult for

the Holding Companies for integration of food processing, it may be of interest to the private sector.

Though the CAPMAS industrial production data is not available for wood products and metal furniture, this subsector is considered to have achieved a substantial growth in the past 5 years judging from the foreign trade statistics of the wood and wood products. As shown in the Table 2-7-4, the share of factory lots of his subsector in the 7 communities is almost the same as that of the food industries.

The spinning & weaving has traditionally been the key subsector in the Egyptian industries and has achieved 217% growth during the same period. This subsector has the third largest share in factory lot allotment in the 7 communities.

The growth of the chemical and pharmaceutical production including plastic, rubber, paper and ceramics was also high at 213% during the period. The major contributors for the present and future high growth will be tanned leather, oxgen, glues, pharmaceuticals, glycerine, sulfuric acid fiber glass products for hotel furnishings, sports and entertainment, flexible and rigid foam, automotive spare parts, radial tires, corrugated carton, newspaper rolls, writing and printing papers, cigarette paper, insulators, and crystal products for tablewares.

The mechanical and metal industries subsector has achieved 190% growth rate during the period. Major contributors are pumps, buses, steel sheets, cast iron, iron wires, steel structure and diesel engines. The growth rate of the building material industries was 171% with major contributors of cement, bricks and ceramics. Since Ataqa is known as a main supply source of aggregates for construction used in the Delta region and cement factory is now located nearby, the Ataqa I.E. is an ideal site for location of such concrete products of concrete as piles, poles and railroad slippers which are seldom seen in the market. As stated earlier, a graphite factory of a sizable scale is already located in the planned area of Ataqa I.E.

On the other hand, major import of manufactured products of the country are machinery and mechanical appliances, electrical goods, base metals and related products, chemicals, wood and wood products, vehicles and parts, man made resins and plastics. As an industrial strategy to promote manufactured exports through import substitution, the Ataqa I.E. is considered as one of the ideal sites in the country

to locate those engineering and metal industries because of easier access to both the home and foreign markets. In view of relatively low requirement of industrial water and their poential for export markets, it is recommended to encourage the engineering and assembly industries such as automotive and electrial machinery.

Taking into consideration the trends of industrial location at the ongoing 7 new communities, of national industrial production, of international trades and locational advantages of Suez, a model of industrial mix of the Ataqa I.E. was made as shown in Table 2-7-1 which has more diversity in type of industry than that of the Master Plan Study.

Tables 2-7-8 through 2-7-13 show the results of analysis of the factory lot size of the industries located both in the 10th of Ramadan City and the 6th October.City. It reveals that almost 80% of factories are located in lots under 10,000 sq.m.. The popular sizes are 1001-3000sq.m. and 3001-6000sq.m. as shown in Figure 2-7-1. Therefore, the lot module of 3ha as proposed in the Master Plan Study for primary subdivision is found to be still appropriate.

As a result, there are the following differences between the Original Plan of 1986 and the one under review as shown below.

	Original Plan (F/S)	Proposed Plan
Types of industry :	* consumer related * basic materials * assembly	* consumer related * basic materials
Number of factories	70	379
Employment	14,000	22,000
Investment	-	EL1296 million
Production	EL203 million	EL1272 million
Water consumption	40,300tonspd	40,000tonspd *)

*) Based on the Japanese data of 1982, it will amount to 72,000 tons per day. This is based on the sample data taken from the industries located in the 10th of Ramadan. Since there are no data on electrical & engineering industries and on chemicals & pharmaceuticals, these are based on the Japanese data.

As to the Adabiya IFZ, a reference was made to the updated information of the Cavite Export Processing Zone in the Philippines, activities of which are quite similar to those proposed for the Adabiya IFZ. As shown in the Table 2-7-14, wearing apparels and electrical machinery are the outstanding types of industries in terms of area occupied and employment generated. The pattern is almost identical to the similar facilities in South East Asia. The Table 2-7-2 shows a model plan of industrial mix of the Adabiya IFZ which follows the same pattern.

As a result, there are the following differences between the Original Plan of 1986 and the one under review as shown below.

	Original Plan (F/S)	Proposed Plan
Types of industry :	*consumer related *assembly	*assembly *basic materials
Number of factories	40	90
Employment	6,600	12,000
Investment	-	EL700 million
Production	EL76 million	EL820 million
Water consumption	2,500 tonspd	6,700 tonspd

Concerning the zoning of types of industry, ten (10)t ypes of industry shown in Table 2-7-1 & 2-7-2 were grouped into four (4) broad categories of activities in order to allow flexibility in actual lot allocations. They are the consumer related industries, basic material industries, engineering and assembly industries and others. Then their specific activities were evaluated from the following factors to produce a zoning plan as shown in Figure 2-7-2. Such factors are material flows and linkage with the port facilities, linkage with related industries, lot size, employment, location of the existing and or committed factories, appearances of factory buildings, demonstration effects to the public consumers and environmental effects to the surroundings. The result of evaluation concludes that the consumer related industries such as food and wood products are assigned to the coastal zone and the zone along the Suez-Ain Sukhuna road due to the linkage with the port and the fact that two factories related to food industries are already located. The basic material industries are assigned to the zone in the Ataqa West surrounded by the buffer green area, the utilities belt and the engineering and assembly industries primarily due to possible environmental impacts. The engineering and assembly industries are assigned to the zone along the arterial

road connecting the port and the Adabiya-Suez Cairo road as the factories of these industries are generally in good appearance and clean.