MINUTES OF DISCUSSIONS
ON
THE BASIC DESIGN STUDY
ON
THE PROJECT FOR UPGRADING OF EL MAHALA EL KOBRA WATER TREATMENT PLANT IN THE ARAB REPUBLIC OF EGYPT
(EXPLANATION OF DRAFT FINAL REPORT)

In July and August 2005, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Basic Design Study Team on the Project for Upgrading of El Mahala El Kobra Water Treatment Plant in the Arab Republic of Egypt (hereinafter referred to as "the Project") to Arab Republic of Egypt (hereinafter referred to as "Egypt"), and through discussion, field survey, and technical examination of the results in Japan, JICA prepared a draft report of the study.

In order to explain and to consult with the Government of Egypt on the components of the draft report, JICA sent to Egypt the Draft Report Explanation Team (hereinafter referred to as "the Team"), which is headed by Mr. Yasuhiko Wada, Deputy Resident Representative, JICA Egypt Office, from November 5 to November 10, 2005.

As a result of discussions, both parties confirmed the main items described on the attached sheets.

Cairo, November 9, 2005

Mr. Yasuhiko WADA
Leader of Draft Report Explanation Team
Egypt Office, Japan International Cooperation Agency (JICA)

Mr. Samy M.Omarah
Chairman
National Organization for Potable Water and Sanitary Drainage (NOPWASD)
The Arab Republic of Egypt

Mr. Nabil Abdel-Hamid Hassan
Under Secretary of State,
Ministry of International Cooperation
Asian Cooperation Affairs
The Arab Republic of Egypt

Mr.Mohamed Othman Beshta
Chairman
Gharbeya Company for Water and Sanitary Drainage(GACWASD)
The Arab Republic of Egypt

ATTACHMENT

1. Components of the Draft Report

The Government of Egypt agreed and accepted in principle the contents of the draft report explained by the Team.

2. Japan's Grant Aid scheme

The Egyptian side understands the Japan's Grant Aid Scheme and the necessary measures to be taken by the Government of Egypt as explained by the Team and described in Annex-IV and Annex-V of the Minutes of Discussions signed by both parties on August 4,2005.

3. Schedule of the Study

JICA will complete the final report in accordance with the confirmed items and send it to the Government of Egypt by January, 2006.

4. Other relevant issues

4-1) Components of the Project

Both sides confirmed that the Project would be composed of the items listed in Annex- I in case the Japanese Government would finally decide to implement the Project.

4-2) Treatment of wastewater and sludge generated from the new water treatment plant (WTP)

Both sides confirmed that wastewater and sludge generated from the new WTP would be treated in thickeners and the concentrated sludge would be carried by a vacuum car and treated in drying beds of the existing sewage treatment plant (STP), which is located approximately 8 km away from the new WTP. The Egyptian side promised that wastewater and sludge generated from the new WTP should be treated in the existing STP properly.

4-3) The Vacuum car to carry the sludge to the STP

The Egyptian side agreed that the vacuum car to be procured in the Project should be used only for carrying the sludge generated in the new WTP to the STP.

4-4) Construction and rehabilitation of transmission pipes and distribution pipes

The Egyptian side submitted and explained the designs and construction schedule of transmission pipes and distribution pipes necessary for the new WTP as attached in ANNEX-Ⅱ. Both sides confirmed them and the Egyptian side promised to implement the plan in case the Japanese Government would finally decide to implement the Project.

Both sides confirmed that implementation of the Project would be much delayed at least one year, unless appropriateness of the above mentioned designs and construction schedule is confirmed by the Japanese side until the middle of November, 2005.

4-5) Raw water allocation from the El Mallah Canal

The Egyptian side explained that they obtained the approval of raw water allocation for the Project from the Ministry of Water Resources and Irrigation as attached in ANNEX-Ⅲ.

4-6) Technical assistance (Soft Component)

Both sides confirmed that technical assistance (Soft Component) listed in Annex-Ⅳ would be implemented in case the Japanese Government would finally decide to implement the Project. The Egyptian side promised to allocate necessary personnel and facility resources for the technical assistance.

4-7) Monitoring System

The Japanese side explained undertakings of the Egyptian side about Monitoring System as attached in Annex-Ⅴ. The Egyptian side agreed to implement them in case the Japanese Government would finally decide to implement the Project.

4-8) Schedule of undertakings by the Egyptian side

Both sides confirmed that the undertakings by the Egyptian side will be implemented according to the Tentative Implementation schedule and Tentative Schedule of Budget Allocation shown in ANNEX-Ⅵ in case the Japanese Government would finally decide to implement the Project.

4-9) Intake and intake conveyance facilities

Both sides agreed that a part of two intake pipes of diameter 800 mm shall be installed to facilitate cleaning and maintenance works, in special consideration of increased mud, which are caused by the dredging works along the Canal in the low water level season, without stopping or suspending operation of the WTP, as shown in the attached drawings of MKWP-01 (General Layout) and MKWP-11 (Water Intake Facility).

Annex- I

1. Facility Construction
   1) Intake Facilities
   2) Transmission and Distribution Pumps
   3) Flocculation and Sedimentation Facilities
   4) Filtration Units with Sump pit
   5) Sludge/Drain Tanks and Thickeners
   6) Aluminum Sulphate Dosing Facilities
   7) Chlorination Facilities
   8) Power Receiving and Transforming Facilities
   9) Emergency Generator
   10) Associated Civil and Building Works

2. Equipment Procurement
   1) Sludge transportation equipment: Vacuum car (approximately 10 ton class) × 1
   2) Maintenance tools

3. Technical assistance (Soft Component)

عناية السيد المهندس/ محمد الجوهري

ANNEX – II (1/1)

(الهيئة القومية لمياه الشرب والصرف الصحي)

Extension works for El Mehala City water networks – Contractor: El Naser Company for Utilities & Irrictions

توسعات شبكة مياه مدينة المحلة الكبرى
تنفيذ شركة النصر للمرافق والتركيبات
البرنامج الزمني التنفيذي

Implementation Schedule

م	بيان الأعمال (Item)	الوحدة (Unit)	الكمية (Qnt.)	المدة الزمنية بالشهور (Period) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
١	حفر Excavation	م٣ m^3	١٠٠٠٠٠ 100000																		
٢	ردم Back filling	م٣ m^3	٧٥٠٠٠ 75000																		
٣	إحلال Soil Replacement	م٣ m^3	٣٥٠٠٠ 35000																		
٤	المواسير والمحابس والقطع الخاصة Pipes & valves & fittings	م.ط L.M.	٢١٧٦٠ 21760																		
٥	الخزان العالي سعة ٤٠٠٠ م٣ Elevated water Tank 4000 m3 (If nessesary)																				
٦	غرف الصمامات Valve chamber	عدد No.	٣٠ 30																		
٧	تجارب وتشغيل operation & commision																				

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نائب رئيس مجلس الإدارة
والعضو المنتدب
د.م/ محمد السعيد يوسف

Vice Chairman of the Company
Eng. Mohamed El Saeed Yousef

شركة النصر للمرافق والتركيبات – الإدارة الفنية

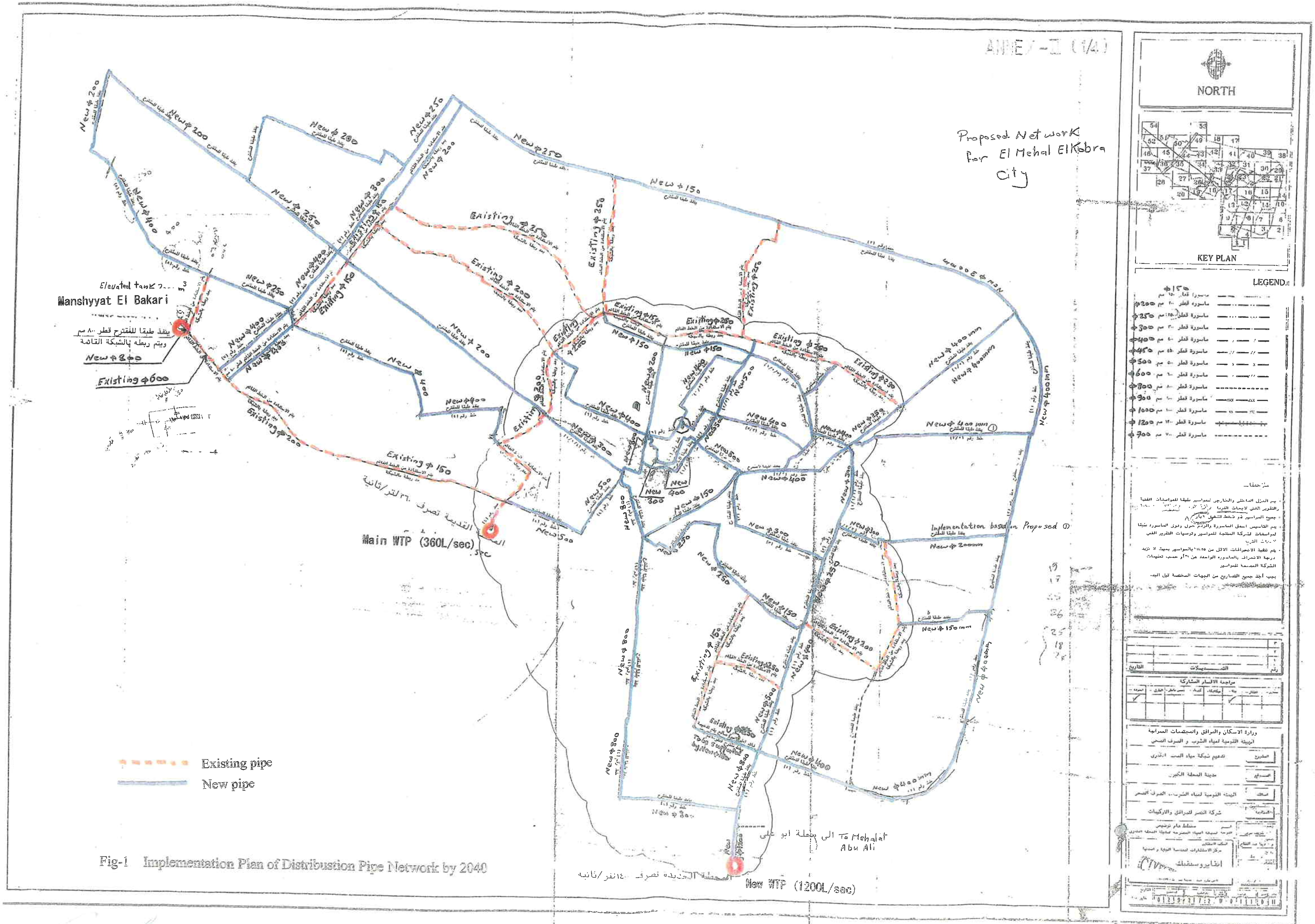


Fig-1 Implementation Plan of Distribution Pipe Network by 2040

ANNEX-II 24

Proposed Network for El Mehal ElKebra City

NORTH

KEY PLAN

LEGEND

Elevated tank 2000m³

Manshyyat El Bakari

Main WTP (360L/sec)

Target Area by 2010

To Mehalat Abu Ali

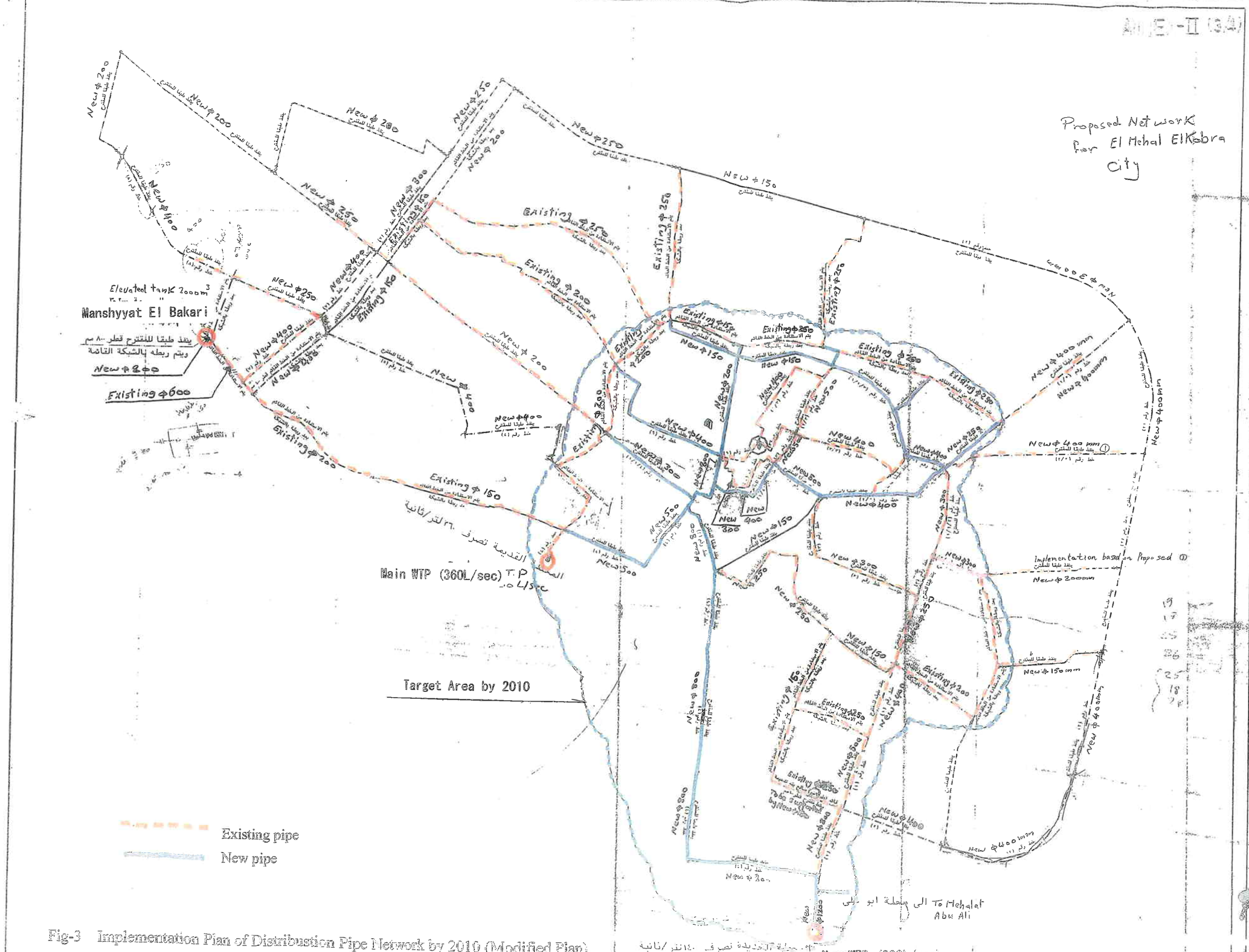
New WTP (800L/sec)

Implementation based on Proposed ①

Existing pipe

New pipe

Fig-2 Implementation Plan of Distribustion Pipe Network by 2010 (Original Plan)



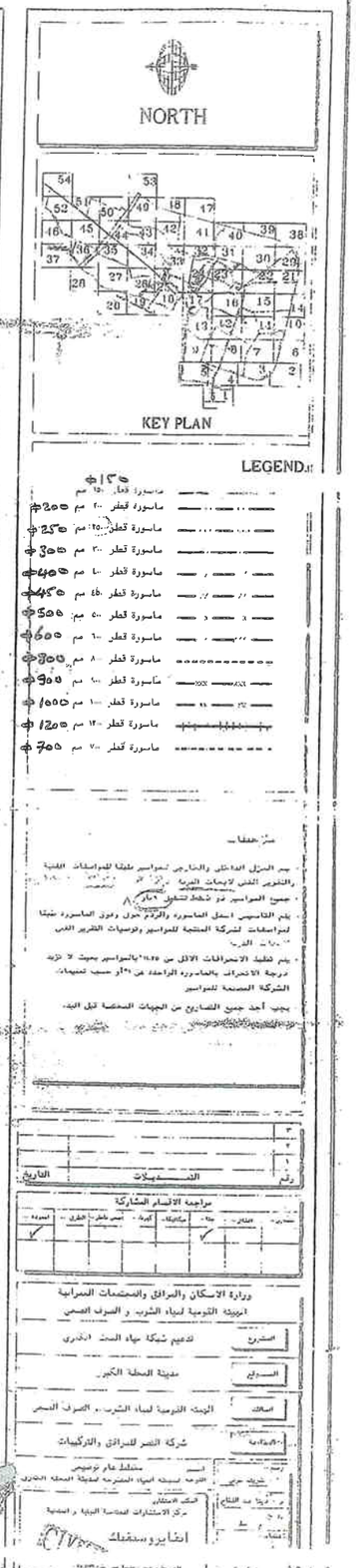


Fig-3 Implementation Plan of Distribustion Pipe Network by 2010 (Modified Plan)

Fig-4 Current Distribustion Pipe Network

Annex - III - (1)

وزارة الموارد المائية والري
الإدارة العامة لري الغربية

السيد المهندس/ رئيس الهيئة القومية لمياه الشرب والصرف الصحي .

تحية طيبة وبعد

معلومات خاصة بفم بحر الملاح بند (٢ ، ٣ ، ٤)

العام	المناسيب بالخلف		التصرفات	
	أقصي	أقل	أقصي	أقل
٢٠٠٠	٥,٦٤	٤,٣٢	٣,٣٠٠	٠,٥٠٠
٢٠٠١	٥,٦٣	٤,٢٠	٢,٢٥٠	٠,٣٠٠
٢٠٠٢	٥,٤٤	٤,٤٨	٢,١٠٠	٠,٢٠٠
٢٠٠٣	٥,٦٠	٤,٣٠	٢,١٠٠	٠,٤٠٠
٢٠٠٤	٥,٤٣	٤,٤٥	٢,٢٠٠	٠,٥٠٠
٢٠٠٥	٥,٥٠	٤,٤٨	٢,٠٠	٠,٥٠٠

بند رقم (٥) : يتم التحكم في البوابات بالفتح طبقاً للتصرفات المطلوبة طبقاً للتوزيع النسبي المقرر عن طريق الآباك الخاص بالمجري المائي حيث أنها من الترع المغايرة .

بند رقم (٦) : يتم تطهير بحر الملاح سنوياً طبقاً لعقد سنوي بواسطه الكراكات وذلك عن طريق إزالة الحشائش والتجريف ثلاث مرات (كل أربع شهر) حسب حالة المجري .

بند (٧) : يمكن توفير ٣٥٠٠٠م٣/يوم من المياه لأجل إنشاء المحطة .

بند (٨) : بالنسبة للقوانين والتعليمات لإنشاء المحطة

١. لا يتجاوز منشأ المأخذ نصف الميل الموجود حالياً بالطبيعة .
٢. التدبيش للقاع مسافة ٨ متر .
٣. الالتزام بمنسوب أقل منسوب للمياه ولا يطلب من الإدارة زيادة المنسوب .
٤. أن يكون منسوب الراسم العلوي للماسورة تحت أقل منسوب للمياه بمقدار ٤٠ سم علي الأقل علي أن يتم الالتزام بالمناسيب الموجودة بالجدول أعلاه .
٥. أن تتولي الهيئة القيام بأعمال الصيانة للمأخذ بالكامل وكذا رفع المخلفات والروامس من أمام المحطة
٦. أن يكون الراسم العلوي للماسورة المارة أسفل المصرف علي عمق لا يقل عن ٥٠ سم من قاع المصرف .

ملحوظة : بالنسبة لبند (١) تم تسليم القطاعات المطلوبة للفريق الياباني .

مدير

وكيل الادارة

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Annex III - (2)

Ministry of Irrigation and Water Resources

Central Department for Gharbia Irrigation

Mr. Eng./ Chairman of the National Organization for Potable Water and Sanitary Drainage

Please find the following information regarding El Malah Canal

Year	Water Levels		Discharges	
	High W.L	Low W.L	Maximum (million cubic meter)	Minimum (million cubic meter)
2000	5.64	4.32	2.3	0.5
2001	5.63	4.20	2.2	0.3
2002	5.44	4.48	2.1	0.2
2003	5.60	4.30	2.1	0.4
2004	5.43	4.45	2.2	0.5
2005	5.50	4.48	2.00	0.5

- The flow is controlled through opening gates at the canal inlet according to the required discharges and through the level control at inlet.
- The canal is dredging three times in the year (every four months) and in accordance with the canal condition.
- It is possible to provide 35000 cubic meters per day for the water treatment plant.
- The following is the regulations for the intake construction:
  1- The intake structure should not exceed the canal side slope.
  2- Pitching of the canal bed should extend for 8 meters of the canal width at the bottom.
  3- The design should follow the low water level and it is not allowed to request the department for level increase.
  4- The upper level of the intake pipe should be at a minimum distance of 40 centimeters from the low water level in the above table.
  5- NOPWASD should maintain the intake and remove the floating materials in front of the intake.
  6- The intake pipe cover that crosses the drain should be 50 centimeters at least.

Note: The cross sections for the canal and the adjacent drain have been handed to the Japanese Team.

General Manger for Gharbia Irrigation

Eng. Ahmed El Esawi

Date: August 16, 2005

Annex-IV

Contents of Technical Assistance (Soft Component)

The contents of activities in the Soft Component are as follows.

1. Guidance in water treatment process management technology
   The contents of guidance are as follows. Lectures with practical training will be given to the trainees since lectures alone may not raise the trainees' motivation.

   a. Preparation of training texts in Japan
   b. Accurate grasp of the current technical level and problems in water treatment process
   c. Lecture on theory and control techniques of water treatment process
   d. Practical training in water quality control and water treatment process operation
   e. Preparation of standard form for inputting water quality data

2. Guidance in data-based maintenance technology
   The contents of guidance are as follows;

   a. Outline explanation of the monitoring system
   b. Guidance in data processing methods
   c. Technical guidance concerning information utilization

Annex- V

Works undertaken by NOPWASD About Monitoring System

1. The Egyptian side shall supply and install the following measuring equipments with required cables and a terminal box for detecting flow rate and residual chlorine concentration of the treated water from the existing water treatment plant.

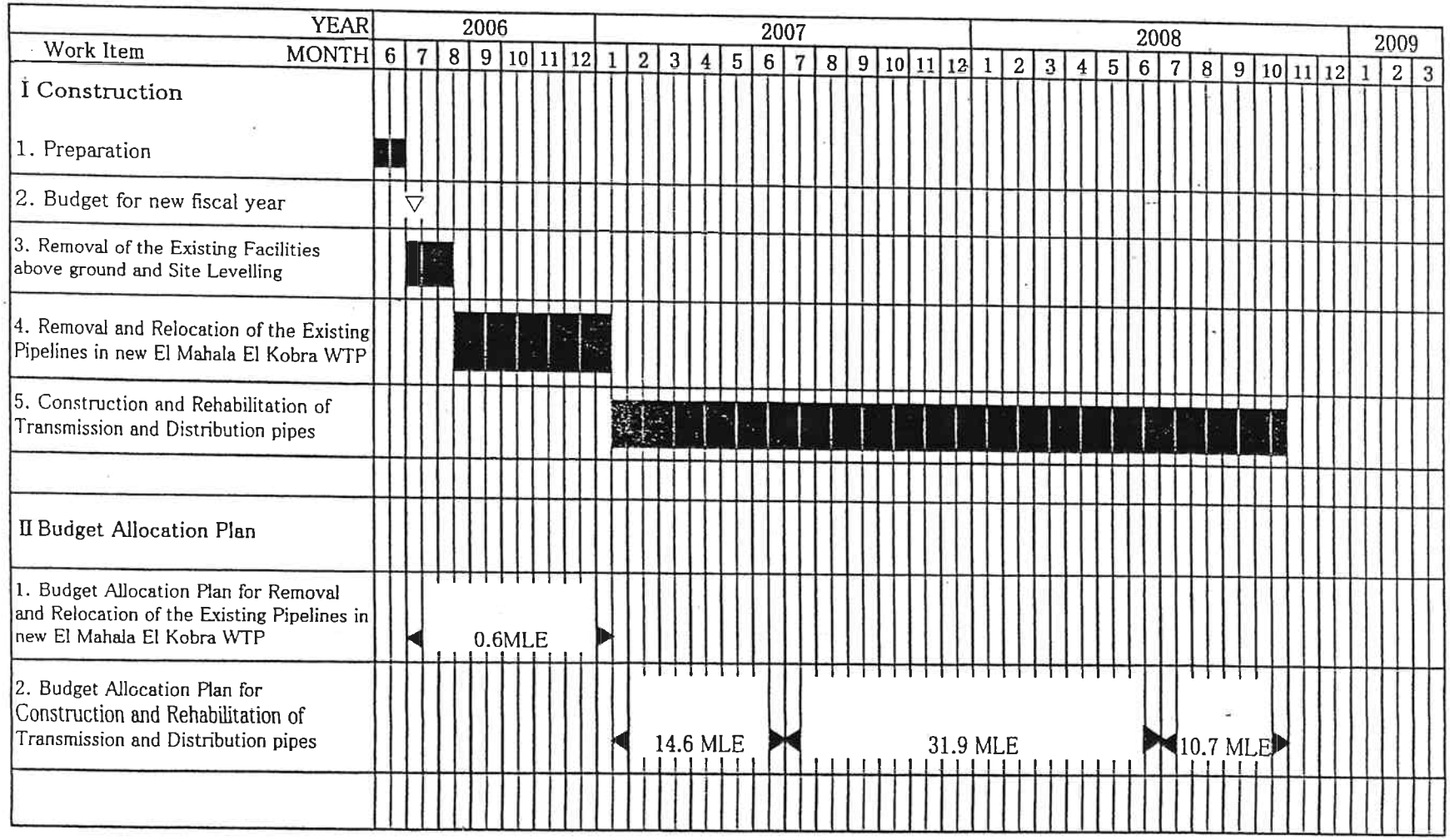
   - Flow meter (detector)
   - Residual chlorine concentration meter (detector)

   The Japanese side shall connect the terminal box, which shall be installed near by the above equipments, to the monitoring panel in the proposed electrical room.

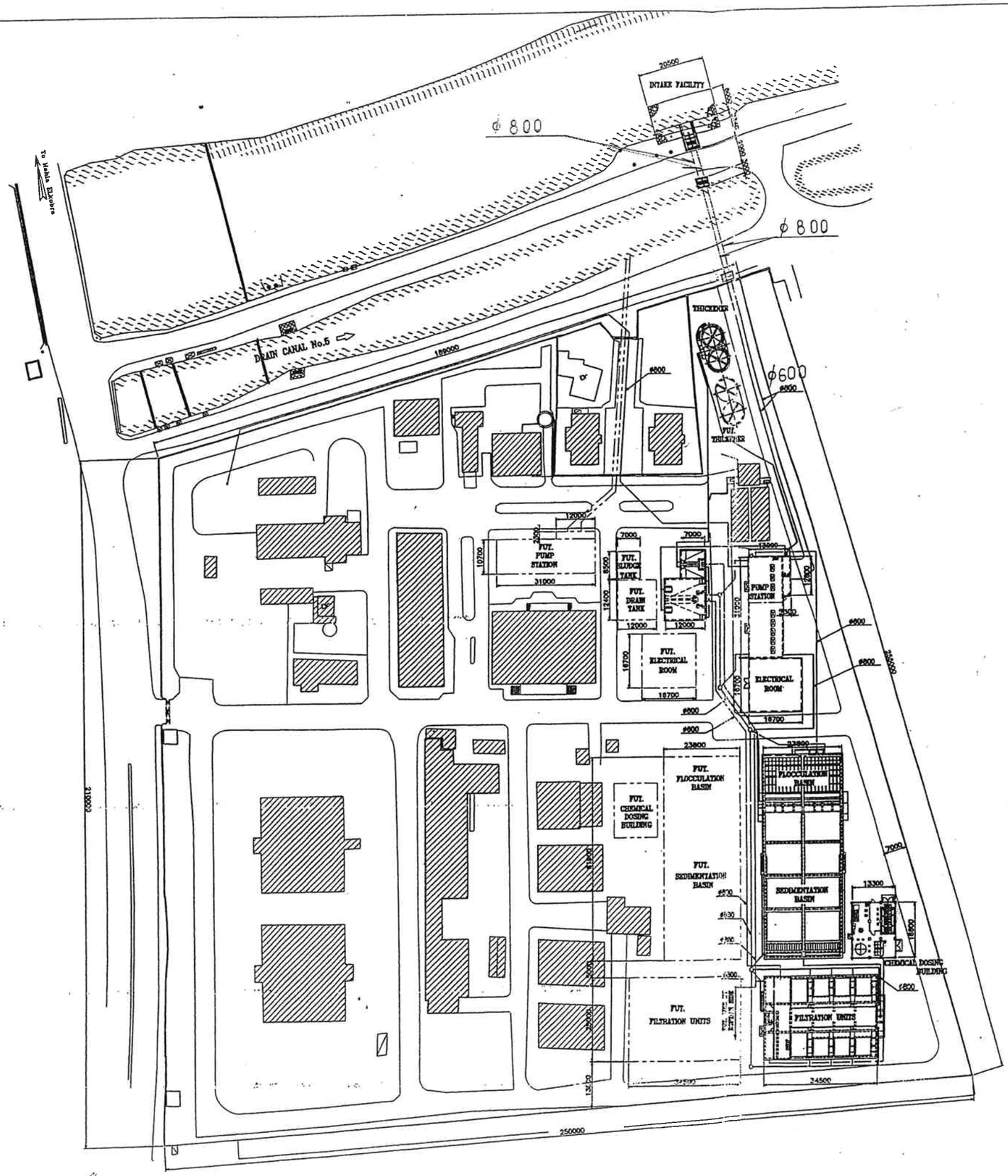
2. The Egyptian side shall provide a personal computer with incidental accessories such as a printer and UPS. The personal computer shall be pre-installed type with necessary software such as Windows. The personal computer will be used for processing of the measured data and displaying and printing the processed data for operating and maintenance use of the water treatment plant. The items supplied by the Egyptian side shall be as follows.
   - Personal computer
   - Printer
   - UPS (Uninterruptible Power Supply) Unit
   - OS (Operating system) of Windows XP of compatible English and Arabic
   - Standard application software of Office

Annex-VI Tentative Schedule of Implementation and Budget Allocation for Main Undertakens by the Egyptian Side
The Project for Upgrading of El Mahala El Kobra Water Treatment Plant in the Arab Republic of Egypt

Currency Unit:Million LE

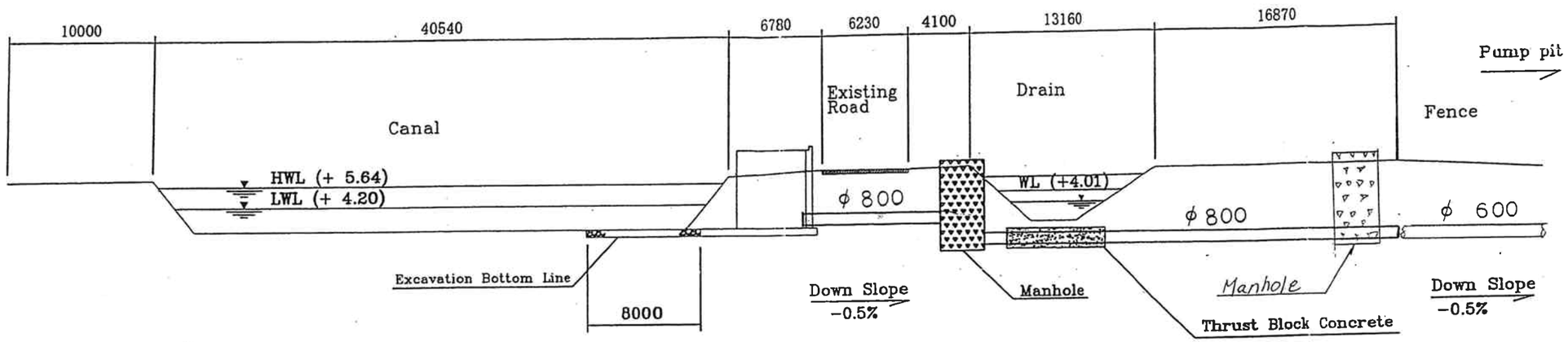


MLE: Million Egyptian Pound

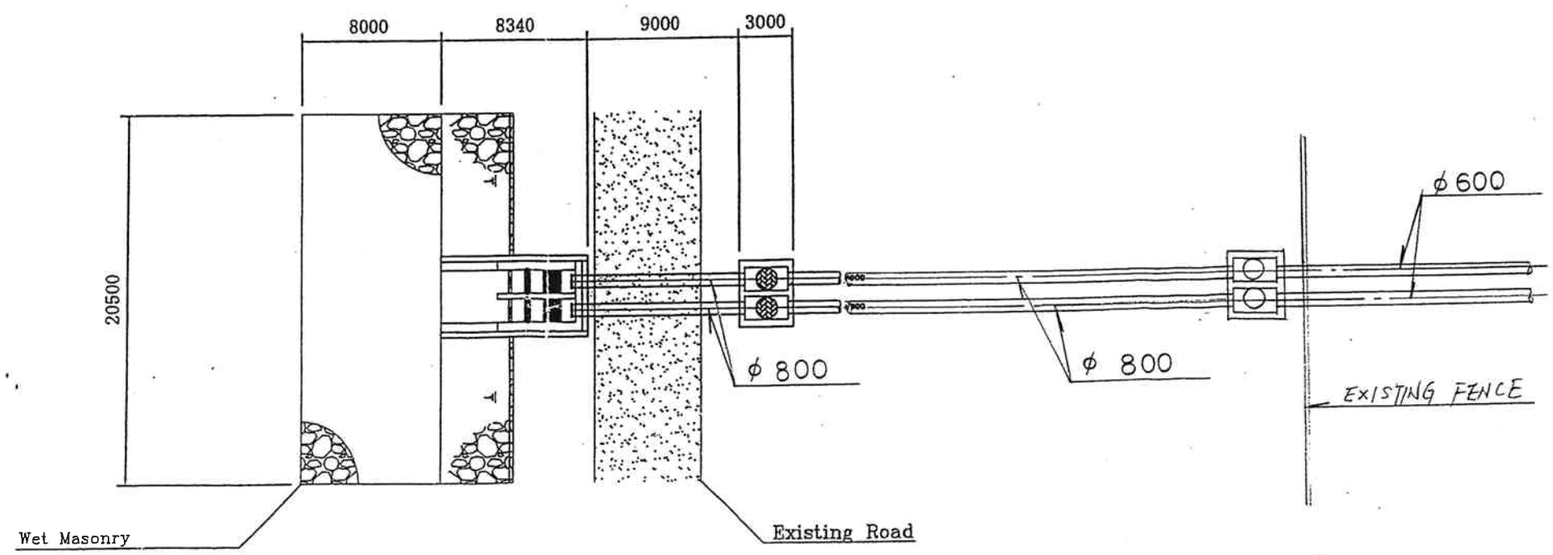


MKWP-01 General Layout

SECTION OF EL MALLAH CANAL AT WATER INTAKE FACILITY



PLAN OF WATER INTAKE FACILITY



MKWP-11 Water Intake Facility(1/2)