資　料

資料－１　調査団員･氏名

1. 基本設計調査

氏　　名	担当業務	現　　職
大竹　　茂	総　　括	国際協力事業団 無償資金協力部　監理課
瀬野　正敏	業務主任／運営・維持管理計画	八千代エンジニヤリング株式会社
藤井　克巳	上水道計画／管路設計	八千代エンジニヤリング株式会社
村木　　裕	電気・機械設備	八千代エンジニヤリング株式会社
武内　正博	土木設計	八千代エンジニヤリング株式会社
本間　　真	積算／調達計画	八千代エンジニヤリング株式会社

2. 事業化調査（現況確認補足調査）

氏　　名	担当業務	現　　職
大竹　　茂	総　　括	国際協力事業団 無償資金協力部　監理課
瀬野　正敏	業務主任／運営・維持管理計画	八千代エンジニヤリング株式会社
武内　正博	土木設計	八千代エンジニヤリング株式会社

3. 基本設計概要説明調査

氏　　名	担当業務	現　　職
中村　三樹男	総　　括	国際協力事業団　エジプト事務所長
瀬野　正敏	業務主任／運営・維持管理計画	八千代エンジニヤリング株式会社
武内　正博	土木設計	八千代エンジニヤリング株式会社

資料－２　調査行程

1. 基本設計調査

No.	月/日	曜日	天候	宿泊地	移動	調査業務の内容
1	7/16	日	晴	パリ	東京 ↓(JL405) パリ	官団員（大竹団長）、ｺﾝｻﾙﾀﾝﾄ団員（瀬野・藤井・村木）日本出国
2	7/17	月	晴	カイロ	パリ ↓(AF504) ｶｲﾛ	官団員、ｺﾝｻﾙﾀﾝﾄ団員 カイロ着
3	7/18	火	晴	カイロ		JICA・大使館表敬及び打合せ､大カイロ上水道庁(GOGCWS)表敬・ IC/Rの説明、 ギザ州表敬・IC/Rの説明 ギザ市と協議(IC/R、調査日程)
4	7/19	水	晴	カイロ		ギザ市と協議（対象地域の状況） 計画対象地域視察 送水幹線計画ルート視察
5	7/20	木	晴	カイロ		インババ浄水場視察 国際協力省（MOIC）表敬・IC/Rの説明
6	7/21	金	晴	カイロ		団内打合せ、M/D案作成
7	7/22	土	晴	カイロ		ギザ市と協議（対象地域と前回協力の状況） 前回協力の西ｵﾑﾗﾆｱ、ﾓﾆﾌﾞ、ﾋﾟﾗﾐｯﾄﾞ南部地区視察
8	7/23	日	晴	カイロ		団内打合せ（M/D案） ギザ市と協議（M/D案）
9	7/24	月	晴	カイロ		GOGCWSと協議（M/D案） ギザ市と協議（M/D案）
10	7/25	火	晴	カイロ	東京 ↓(JL405) パリ	M/D署名 JICA事務所報告 ｺﾝｻﾙﾀﾝﾄ団員（武内）日本出国
11	7/26	水	晴	カイロ	パリ ↓(AF504) ｶｲﾛ	計画フレーム資料収集 ｺﾝｻﾙﾀﾝﾄ団員（武内）カイロ着
12	7/27	木	晴	カイロ	ｶｲﾛ ↓(AF503) パリ	官団員(大竹団長）エジプト出国（機中泊） (コンサル団員) 計画地調査(配水池予定地等）、関連施設調査、 自然条件調査準備
13	7/28	金	晴	カイロ	↓(JL406) 東京	官団員、東京着 (コンサル団員) 団内打合せ
14	7/29	土	晴	カイロ		GOGCWSと協議（技術仕様） 自然条件調査準備
15	7/30	日	晴	カイロ		インババ浄水場設備調査 送水幹線ルート踏査 既存配水管網調査 自然条件調査準備
16	7/31	月	晴	カイロ		配水場計画地、建築基準等調査 自然条件調査準備
17	8/1	火	晴	カイロ		受電状況調査、カイロ電力会社と協議 水管橋設置位置調査 自然条件調査準備
18	8/2	水	晴	カイロ		計画対象地、配水場計画地調査 自然条件調査準備
19	8/3	木	晴	カイロ	東京 ↓(JL405) パリ	計画対象地、配水場計画地調査 送水幹線路線調査 自然条件調査準備 ｺﾝｻﾙﾀﾝﾄ団員（本間）日本出国
20	8/4	金	晴	カイロ	パリ ↓(AF504) ｶｲﾛ	休日 ｺﾝｻﾙﾀﾝﾄ団員（本間）カイロ着
21	8/5	土	晴	カイロ		計画対象地、配水場計画地調査 送水幹線路線調査 自然条件調査準備
22	8/6	日	晴	カイロ		計画対象地、配水場計画地調査 送水幹線路線調査 調達関連調査準備 自然条件調査準備

No.	月/日	曜日	天候	宿泊地	移動	調査業務の内容
23	8/7	月	晴	カイロ		計画対象地、配水場計画地調査 調達関連調査 自然条件調査準備 エジプト国有鉄道と協議（鉄道横断） 公共事業・水資源省と協議（運河横断）
24	8/8	火	晴	カイロ		計画フレームまとめ 調達関連調査、送水幹線路線調査 自然条件調査準備
25	8/9	水	晴	カイロ		計画フレームまとめ 公共事業・水資源省と現場確認（運河横断） 調達関連調査、送水幹線路線調査 自然条件調査準備
26	8/10	木	晴	カイロ	ｶｲﾛ ↓(BA154) ロンドン	計画フレームまとめ 調達関連調査、送水幹線路線調査 自然条件調査 ｺﾝｻﾙﾀﾝﾄ団員（村木）エジプト出国
27	8/11	金	晴	カイロ	↓(JL402) 東京	ｺﾝｻﾙﾀﾝﾄ団員（村木）東京着 休日
28	8/12	土	晴	カイロ		配水管網調査 既設埋設物位置確認 調達関連調査、自然条件調査
29	8/13	日	晴	カイロ		配水管網調査 運営維持管理調査 調達関連調査、自然条件調査
30	8/14	月	晴	カイロ		運営維持管理調査 調達関連調査、自然条件調査
31	8/15	火	晴	カイロ		建設関連基準調査 運営維持管理調査 調達関連調査、自然条件調査
32	8/16	水	晴	カイロ		浄水能力調査 運営維持管理調査 調達関連調査、自然条件調査
33	8/17	木	晴	カイロ		ﾌｨｰﾙﾄﾞﾚﾎﾟｰﾄ作成 運営維持管理調査 調達関連調査、自然条件調査
34	8/18	金	晴	カイロ		ﾌｨｰﾙﾄﾞﾚﾎﾟｰﾄ作成
35	8/19	土	晴	カイロ		ﾌｨｰﾙﾄﾞﾚﾎﾟｰﾄ作成 運営維持管理調査 調達関連調査、自然条件調査
36	8/20	日	晴	カイロ		ﾌｨｰﾙﾄﾞﾚﾎﾟｰﾄ作成 運営維持管理調査、既設配水管網調査 調達関連調査、自然条件調査
37	8/21	月	晴	カイロ		ﾌｨｰﾙﾄﾞﾚﾎﾟｰﾄ協議 運営維持管理調査、既設配水管網調査 調達関連調査、自然条件調査
38	8/22	火	晴	カイロ		ﾌｨｰﾙﾄﾞﾚﾎﾟｰﾄ協議 運営維持管理調査 調達関連調査、自然条件調査
39	8/23	水	晴	カイロ		ﾌｨｰﾙﾄﾞﾚﾎﾟｰﾄ協議 調達関連調査、自然条件調査
40	8/24	木	晴	カイロ		ﾌｨｰﾙﾄﾞﾚﾎﾟｰﾄ作成
41	8/25	金	晴	カイロ		ﾌｨｰﾙﾄﾞﾚﾎﾟｰﾄ協議
42	8/26	土	晴	カイロ		ﾌｨｰﾙﾄﾞﾚﾎﾟｰﾄ協議／署名
43	8/27	日	晴	カイロ		大使館・JICA事務所に報告・帰国挨拶 ギザ市に報告・帰国挨拶
44	8/28	月	晴	機中	ｶｲﾛ ↓(BA154) ロンドン	ｺﾝｻﾙﾀﾝﾄ団員（瀬野、藤井、武内、本間） エジプト出国
45	8/29	火			↓(JL402) 東京	コンサル団員 東京着

2. 事業化調査（現況確認補足調査）

No.	月/日	曜日	天候	宿泊地	移動	調査業務の内容
1	6/19	火	晴	パリ	東京 ↓(JL405) パリ	ｺﾝｻﾙﾀﾝﾄ団員（瀬野・武内）日本出国
2	6/20	水	晴	カイロ	パリ ↓(AF508) ｶｲﾛ	ｺﾝｻﾙﾀﾝﾄ団員 カイロ着
3	6/21	木	晴	カイロ		ギザ市と協議
4	6/22	金	晴	カイロ		国内打ち合わせ 官団員（大竹団長）日本出国
5	6/23	土	晴	カイロ		大カイロ上水道庁(GOGCWS)と協議 プロジェクト対象地域現場視察 官団員　カイロ着
6	6/24	日	晴	カイロ		JICA事務所表敬及び打合わせ 国際協力省次官表敬 ギザ州知事表敬 日本大使館表敬及び打合わせ
7	6/25	月	晴	カイロ		GOGCWSと協議 ギザ市長表敬
8	6/26	火	晴	カイロ		大カイロ上水道庁総裁表敬 ギザ市と協議 プロジェクト対象地域現場視察
9	6/27	水	晴	カイロ		GOGCWSと協議（M/D案） ギザ市と協議（M/D案）
10	6/28	木	晴	カイロ		M/D署名 JICA事務所報告 日本大使館報告
11	6/29	金	晴	機内	カイロ ↓(AF503) パリ	官団員、コンサルタント団員　カイロ発
12	6/30	土	晴		パリ ↓(JL406) 東京	官団員、コンサルタント団員　日本着

3. 基本設計概要説明調査

No.	月/日	曜日	天候	宿泊地	移動	調査業務の内容
1	9/10	月	雨	ロンドン	東京 ↓(JL401) ロンドン	ｺﾝｻﾙﾀﾝﾄ団員（瀬野・武内）日本出国
2	9/11	火	晴	カイロ	ロンドン ↓(BA155) ｶｲﾛ	ｺﾝｻﾙﾀﾝﾄ団員 カイロ着
3	9/12	水	晴	カイロ		JICA事務所表敬 大カイロ上水道庁(GOGCWS)表敬・協議
4	9/13	木	晴	カイロ		GOGCWSと基本設計概要協議
5	9/14	金	晴	カイロ		休日
6	9/15	土	晴	カイロ		GOGCWSと基本設計概要協議
7	9/16	日	曇	カイロ		ギザ市と基本設計概要協議
8	9/17	月	晴	カイロ		JICA事務所と協議、M/D案作成 ギザ市長表敬、ギザ市と基本設計協議
9	9/18	火	雨	カイロ		M/D協議及び署名
10	9/19	水	晴	カイロ		国際協力省（MOIC）報告 JICA事務所報告 日本大使館報告
11	9/20	木	晴	機内	カイロ ↓(BA154) ロンドン	コンサルタント団員　カイロ発
12	9/21	金	晴		ロンドン ↓(JL402) 東京	コンサルタント団員　日本着

資料－３　関係者（面会者）リスト

関係者（面会者）リスト

関係機関	氏　名
国際協力省 **Ministry of International Cooperation (MOIC)**	
第一次官(First Undersecretary)	Mr. Ahmed Ragaei
日本担当副部長(Japan Department)	Mr. Ashraf Nofal
経済研究員(Economic Researcher)	Ms. Dorria Salem
経済研究員(Economic Specialist)	Mr. Jean Issac
ギザ州 **Giza Governorate**	
知事(Governor)	Mr. Mahmoud Abu El Leil
副知事(Secretary General)	Mr. Mohamed Yasseen Badawy
ギザ市 **Giza City**	
市長(Mayor)	Mr. Medhat Ebrahim Draz
副市長(Secretary General)	Mr. Yousef Farag
技術顧問(Technical Adviser)	Dr. Nabil Makhlouf
技術部長(Manager of Infrastructure and Bridge Department)	Mr. Nasr Abdallah Amber
広報部長(Manager of Public Relation)	Mr. Ahmed El Daramali
財務部長(Manager of Financial Department)	Mr. Ibrahim Abd El Wehab
ピラミッド区設備部(Utility Dept. of Pyramids District)	Mr. Saeed Mohamed
大カイロ上水道庁 **General Organization for Greater Cairo Water Supply (GOGCWS)**	
総裁(Chairman)	Mr. Hassanen Al Shahawy
プロジェクト部部長(General Director of Project Department)	Mr. Samir Hassan Mohamed
浄水場統括部部長(Head of Department of Water Treatment Plants)	Mr. Mohamed Abd El Zaher
南ギザ浄水場長(Manager of South Giza Water Treatment Plant)	Ms. Nagwa Zaghlaul
南ギザ浄水場次長(Assistant Manager of South Giza Water Treatment Plant)	Mr. Ezat Sadek
南ギザ浄水場日本プラント課長(Manager of Japanese Plant in South Giza Water Treatment Plant)	Mr. Mahmoud Shehata
インババ浄水場長(Manager of Embaba Water Treatment Plant)	Mr. Adel Osman
インババ浄水場次長(Assistant Manager of Embaba Water Treatment Plant)	Mr. Badawy Mohamed
ギザ浄水場長(Manager of Giza Water Treatment Plant)	Mr. Samir Saleeb
配水管網維持管理部長(Acting Manager of Pyramids Water Network Center)	Mr. Mustafa Saeed

関係機関	氏　名
公共事業・水資源省（ギザ担当部）	
Ministry of Public Works and Water Resources for Giza Governorate	
副大臣・潅漑局長（Deputy Minister, General Manager of Irrigation Department）	Mr. Abu Zeid Ahmed
潅漑局部長（Manager of Irrigation Department）	Mr. Sayed Gamal
排水局部長（Manager of Drainage Department）	Mr. Adel El Tokhy
ピラミッドヒルズ開発組合	
Pyramids Hills Building Society	
組合長（Chairman）	Gen. Mohamed Refaat El Tabbe
カイロ配電会社	
Cairo Distribution Company	
局長（General Manager）	Mr. Khaled Ibrahim
技師（Engineer of networks）	Mr. Attia Ameen
エジプト国有鉄道	
National Organization of Egyptian Rail Way	
技術局長（Head of Engineering Sector）	Mr. Ahmed Ali Bestawy
技術部長（Manger of O&M and Technical Section）	Mr. Maher Shafic
大カイロ下水道庁	
Greater Cairo General Organization for Sanitary Drainage (GOSD)	
維持管理部長(Head of O&M Sector)	Mr. Mohamed Abd El Rahman
事業局次長(Deputy Manager of Project Dept.)	Mr. Obeid Faheem Girgis
西岸ネットワーク部長(Head of Network Section in West Bank)	Mr. Victor William
在エジプト日本国大使館	
Embassy of Japan in Egypt	
二等書記官(Second Secretary)	角田　享介　氏
ＪＩＣＡエジプト事務所	
JICA Egypt Office	
所長(Resident Representative)	中村　三樹男　氏
所員(Assistant to Resident Representative)	坂元　律子　氏
所員(Assistant to Resident Representative)	宇多　智之　氏
所員(Assistant to Resident Representative)	佐藤　仁　氏

資料－４　当該国の社会経済状況

	エジプト・アラブ共和国
	Arab Republic of Egypt

一般指標					
政体	立憲共和制	＊1	首都	カイロ（Cairo）	＊2
元首	大統領／モハメッド・ホスニ・ムバラク	＊1,3	主要都市名	アレクサンドリア、ギザ、ポートサイド	＊3
			雇用総数	22,329千人　（1997 年）	＊6
独立年月日	1922年２月28日	＊3,4	義務教育年数	８年間（　　年）	＊13
主要民族／部族名	ｱﾗﾌﾞ系92%、ｱｼﾞｱ、ｱﾌﾘｶ、欧州混血	＊1,3	初等教育就学率	100.5 %　（1996 年）	＊6
主要言語	アラビア語	＊1,3	中等教育就学率	74.9 %　（1996 年）	＊6
宗教	イスラム教、コプト教6%	＊1,3	成人非識字率	44.7 %　（2000 年）	＊13
国連加盟年	1945年10月24日	＊12	人口密度	59.54 人/km2　（1997 年）	＊6
世銀加盟年	1945年12月	＊7	人口増加率	2.3 %　（1980 年）	＊6
IMF加盟年		＊7	平均寿命	平均 66.30　男 64.70　女 67.90	＊6
国土面積	1,000.00 千km2	＊6	5歳児未満死亡率	66 /1000　（1997 年）	＊6
総人口	60,348千人　（1997 年）	＊6	カロリー供給量	3,289.0 cal/日/人　（1996 年）	＊10

経済指標					
通貨単位	エジプト・ポンド（Pound）	＊3	貿易量	（1998 年）	
為替レート	1 US $ = 3.49　（2000 年　8月）	＊8	商品輸出	4,403 百万ドル	＊15
会計年度	Jun. 30	＊6	商品輸入	-14,618 百万ドル	＊15
国家予算	（1995 年）		輸入カバー率	11.9 (月)（1997 年）	＊14
歳入総額	73,654 百万ｴｼﾞﾌﾟﾄ･ﾎﾟﾝﾄﾞ	＊9	主要輸出品目	原油、石油製品、繊維、果実、野菜、アル	＊1
歳出総額	68,669 百万ｴｼﾞﾌﾟﾄ･ﾎﾟﾝﾄﾞ	＊9	主要輸入品目	食糧、化学品、機械	＊1
総合収支	-1,323 百万ドル　（1998 年）	＊15	日本への輸出	82百万ドル　（1998 年）	＊16
ODA受取額	1,947.3 百万ドル　（1997 年）	＊18	日本からの輸入	1,077百万ドル　（1998 年）	＊16
国内総生産(GDP)	75,604.72 百万ドル　（1997 年）	＊6			
一人当たりGNP	1,200.0 ドル　（1997 年）	＊6	粗外貨準備額	18,664.8 百万ドル　（1997 年）	＊6
GDP産業別構成	農業　17.7 %　（1997 年）	＊6	対外債務残高	29,849.1 百万ドル　（1997 年）	＊6
	鉱工業　31.8 %　（1997 年）	＊6	対外債務返済率(DSR)	9.0 %　（1997 年）	＊6
	サービス業　50.5 %　（1997 年）	＊6	インフレ率 (消費者価格物価上昇率)	11.4 % （1990-97 年）	＊6
産業別雇用	農業　男 28.7％女 32.1％（1990 年）	＊6			
	鉱工業　22.3％　7.0％（1990 年）	＊6			
	サービス業 38.7％　36.5％（1990 年）	＊6	国家開発計画		
実質GDP成長率	4.0 %　（1990 年）	＊6			＊11

気象　（1961年～ 1990 年平均）　観測地：カイロ（北緯30度08分、東経31度24分、標高74m）													＊4,5
月	1	2	3	4	5	6	7	8	9	10	11	12	平均/計
降水量	5.4	3.3	4.7	1.6	.3	0	0	0	0	.7	3	5.3	24.3 mm
平均気温	13.9	15.3	17.7	21.6	24.8	27.7	28	27.9	26.5	23.9	19.3	15.1	21.8 ℃

＊1　各国概況（外務省）
＊2　世界の国々一覧表（外務省）
＊3　世界年鑑1999（共同通信社）
＊4　最新世界各国要覧９訂版（東京書籍）
＊5　理科年表1999（国立天文台編）
＊6　World Development Indicators1999
＊7　The World Bank Public Information Center,
　　International Financial Statistics Yearbook 1998
＊8　Universal Currency Converter
＊9　Government Finances Statistics Yearbook1998 (IMF)
＊10　Human Development Report1999(UNDP)
＊11　Country Frofile(EIU),外務省資料等
＊12　United Nations Member States
＊13　Statistical Yearbook 1999(UNESCO)
＊14　Global Development Finance1999(WB)
＊15　International Finances Statistics 1999(IMF)
＊16　世界各国経済情報ファイル1999(日本貿易振興会)
注：商品輸入については複式簿記の計上方式を採用しているため
　　支払い額はマイナス標記になる

	エジプト・アラブ共和国
	Arab Republic of Egypt

我が国におけるODAの実績				（資金協力は約束額ベース、単位：億円）	＊17
項目＼暦年	1995	1996	1997	1998	
技術協力	23.85	28.86	25.44	24.82	
無償資金協力	70.25	73.15	69.01	66.16	
有償資金協力	0.00	0.00	0.00	0.00	
総額	94.10	102.01	94.45	90.98	

当該国に対する我が国ODAの実績				（支出純額、単位：百万ドル）	＊17
項目＼暦年	1995	1996	1997	1998	
技術協力	26.41	31.04	26.19	23.20	
無償資金協力	141.19	118.39	65.33	41.84	
有償資金協力	75.15	51.89	33.88	20.22	
総額	242.75	201.32	125.40	85.25	

OECD 諸国の経済協力実績				（支出純額、単位：百万ドル）	＊18
	贈与（1） （無償資金協力・ 技術協力）	有償資金協力 （2）	政府開発援助 （ODA） (1)+(2)=(3)	その他政府資金 及び民間資金(4)	経済協力総額 (3)+(4)
二国間援助 （主要供与国）	1,464.6	31.7	1,496.3	913.5	2,409.8
1. United States	589.0	-47.0	542.0	880.0	1,422.0
2. Germany	362.4	34.8	397.2	4.3	401.5
3. France	259.1	24.8	283.9	-57.0	226.9
4. Japan	91.5	33.9	125.4	218.3	343.7
多国間援助 （主要援助機関）	97.9	303.6	401.5	49.2	450.7
1. CEC			197.0	189.7	386.7
2. IDA			141.4	0.0	141.4
その他	5.0	44.5	49.5	0.0	49.5
合計	1,567.6	379.7	1,947.3	962.7	2,910.0

援助受入窓口機関	＊19
技術協力：プロ技，開調／計画国際協力省 専門家派遣・研修員受入・機材供与／外務省 無償　：計画国際協力省 協力隊　：外務省	

＊17　我が国の政府開発援助1999(国際協力推進協会)
＊18　Geographical Distribution of Financial Flows to Aid Recipients 1999(OECD)
＊19　JICA資料

資料－５　討議議事録(M/D)

1. 基本設計調査時

MINUTES OF DISCUSSIONS
ON
BASIC DESIGN STUDY
ON
THE PROJECT FOR IMPROVEMENT OF WATER SUPPLY SYSTEM
IN THE NORTHERN PYRAMIDS AREA IN GIZA CITY
IN THE ARAB REPUBLIC OF EGYPT

In response to a request from the Government of the Arab Republic of Egypt (hereinafter referred to as "Egypt"), the Government of Japan decided to conduct a Basic Design Study on the Project for Improvement of Water Supply System in the Northern Pyramids Area in Giza City (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent to Egypt the Basic Design Study Team (hereinafter referred to as "the Team"), which is headed by Mr. Shigeru Otake, Project Monitoring and Coordination Division, Grant Aid Management Department, JICA, and is scheduled to stay in the country from July 17 to August 28, 2000.

The Team held discussions with the officials concerned of the Government of Egypt (hereinafter referred to as the "Egyptian side") and conducted field survey in the study area.

In the course of the discussions and field survey, both sides have confirmed the main items described on the attached sheets. The Team will proceed further works and prepare the Basic Design Study report.

Cairo, July 25, 2000

Mr.Shigeru Otake Leader Basic Design Study Team JICA	Mr. Medhat Ebrahim Draz Mayor of Giza City Giza Governorate The Arab Republic of Egypt	Gen. Eng. Hassanen Al Shahawy Chairman General Organization for Greater Cairo Water Supply (GOGCWS) The Arab Republic of Egypt

(Witness)

Mr. Ahmed Ragaei
First Undersecretary
Ministry of International Cooperation
The Arab Republic of Egypt

ATTACHMENT

1. Objective

The Objective of the Project is to improve the living standard of population in the Northern Pyramids Area in Giza City by means of Improvement of water supply system.

2. Project Site

The Project Site as attached Annex-I

3. Responsible and Executing Organization

(1) Responsible and coordinating organization of the Project is Giza Governorate.

(2) Executing organizations are as follows:

a) Giza City

①Coordination of the Project between Japanese side and Egyptian side

Project main component is below

- Water Transmission Main described as 4. (1)
- Water distribution station

②Construction of water distribution network

b) General Organization for Greater Cairo Water Supply

①Providing technical informations for the Project to the Japanese side

②Construction of new Water Transmission Main to be constructed by Egyptian side from Embaba Treatment Plant to the crossing point at King Faisal Street and Mariotia Canal

(3) Organization chart

The organization chart of the Giza Governorate is described in Annex-II (1/2).

The organization chart of the Giza City is described in Annex-II (2/2).

The organization chart of the Greater Cairo Water Supply is described in Annex-III.

4. Items requested by the Government of Egypt

After discussions with the Basic Design Study Team, the following items were finally requested by the Egyptian side.

(1) Construction of water transmission main
- Water transmission main from the crossing point at the King Faisal Street and Mariotia Canal to the water distribution station
  : approx. 2.4km in length and 1,600mm in diameter.
- Road and/or railway crossing by jacking method: 3 places.
- Canal crossing by aqueduct: 3 places.

(2) Construction of water distribution station
- Water reservoir: capacity 30,000 m^3, 1 unit.
- Distribution pump station.

(3) Provision of piping materials for water distribution network
- Piping materials: approx. 30km in length and 200 to 600mm in diameter.

However, final items to be constructed and procured under Japan's Grant Aid will be decided after further studies in Japan, taking account of :

- existing conditions of the water supply system
- justification of the Project in the future plan for the water supply system
- water supply demand forecast
- operation and maintenance capability of the operating authority
- economic and administrative viability of the Project

*As the result of the site survey, it was found that an aqueduct is required over the Lebeni canal on the water transmission main and this aqueduct was not included in the original request by the Egyptian side. Therefore, the Egyptian side requested the Japanese side to include the construction of the above-mentioned aqueduct. The Team agreed to convey the request from the Egyptian side to the Japanese authorities concerned.

5. Japan's Grant Aid System

(1) The Egyptian side has understood the system of Japan's Grant Aid on Annex-IV as explained by the Team.

(2) The Egyptian side will take the necessary measures described in Annex-V for the smooth implementation of the Project, on condition that the Grant Aid Assistance by the Government of Japan is extended to the Project.

3

6. Schedule of the Study

(1) The consultants will proceed to further studies in Egypt until August 28, 2000.

(2) Based on the Minutes of Discussions and technical examination of the study results, JICA will prepare the draft report and dispatch a mission in order to explain its contents in October, 2000.

(3) In case that the contents of the draft report are acceptable in principle by the Egyptian side, JICA will complete the final report and send it to the Government of Egypt around January, 2001.

7.Other relevant issue

(1) Basic Parameter of the Project

Both sides agreed that the target year of the Project would be 2010.

The population and required amount of water in the Project Area in 2010 shall be studied in the Basic Design Study.

(2) Supply of Water to the Project Area

The Team explained sufficient amount of treated water covering demand of the Project Area shall be secured and supplied to the Project Area by the Egyptian side.

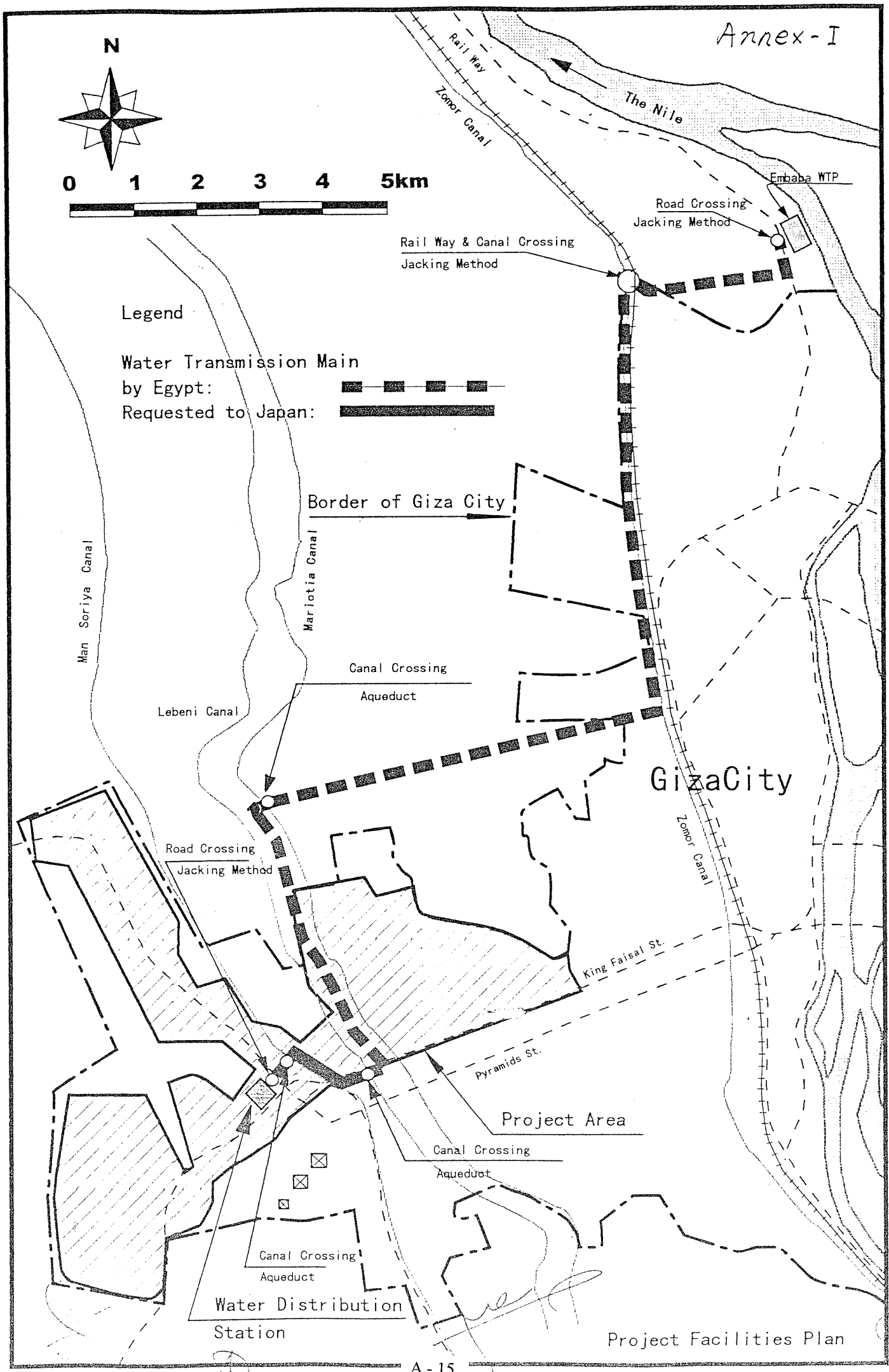
The Egyptian side explained that they would construct a new transmission main between Embaba treatment plant and the Project Area in order to supply enough water by the end of June, 2003 as shown in attachment.

The Team requested the Egyptian side to present a photocopy of national budget allocation which has been approved by the Egyptian financial authority for the construction of the water Transmission Main. The Egyptian side answered that they would send the above documents by August 25, 2000.

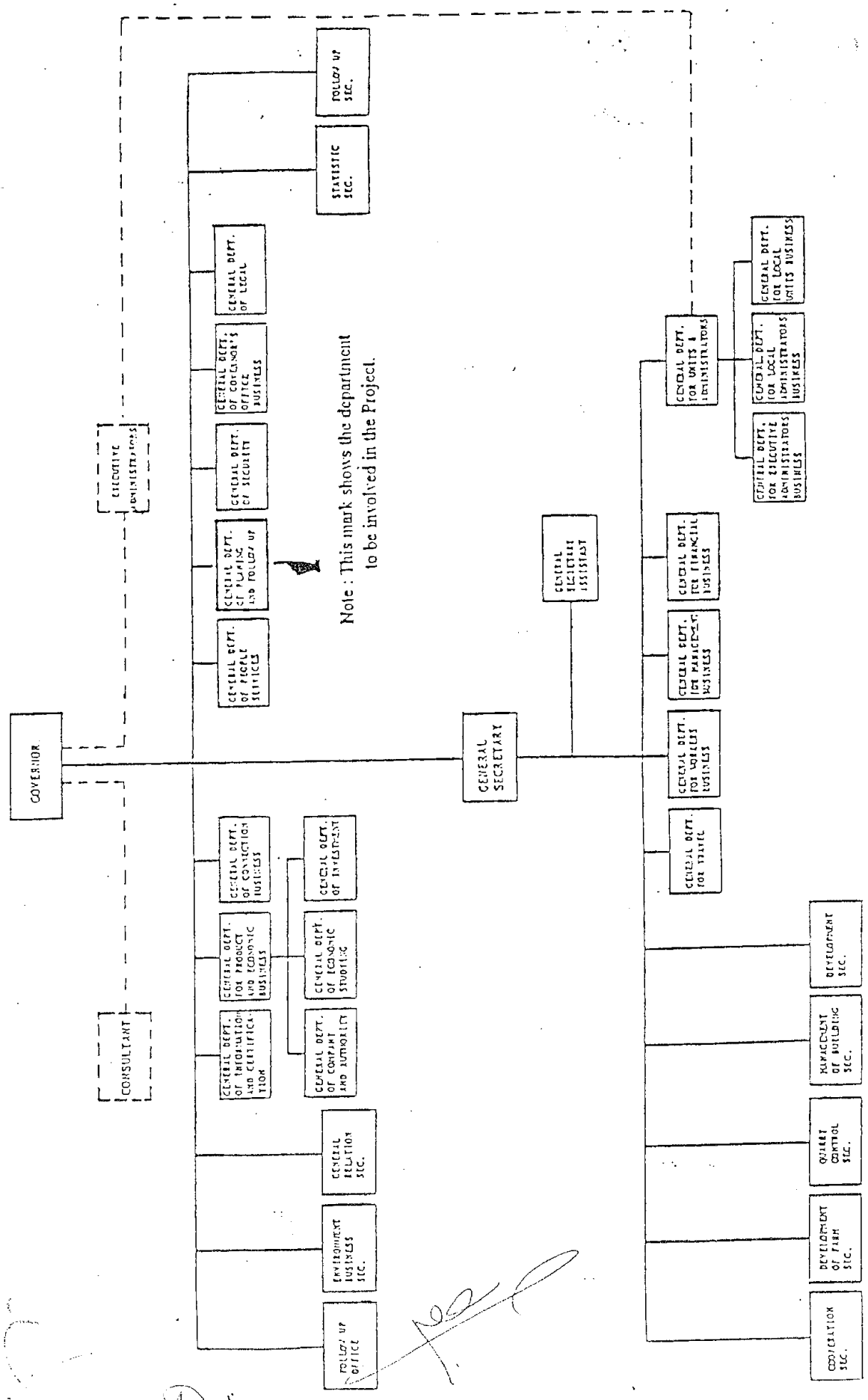
(3) Provision of piping materials for water distribution network

The Team emphasized that piping materials with smaller diameter shall be procured by the Egyptian side because they can be easily procured from local market.

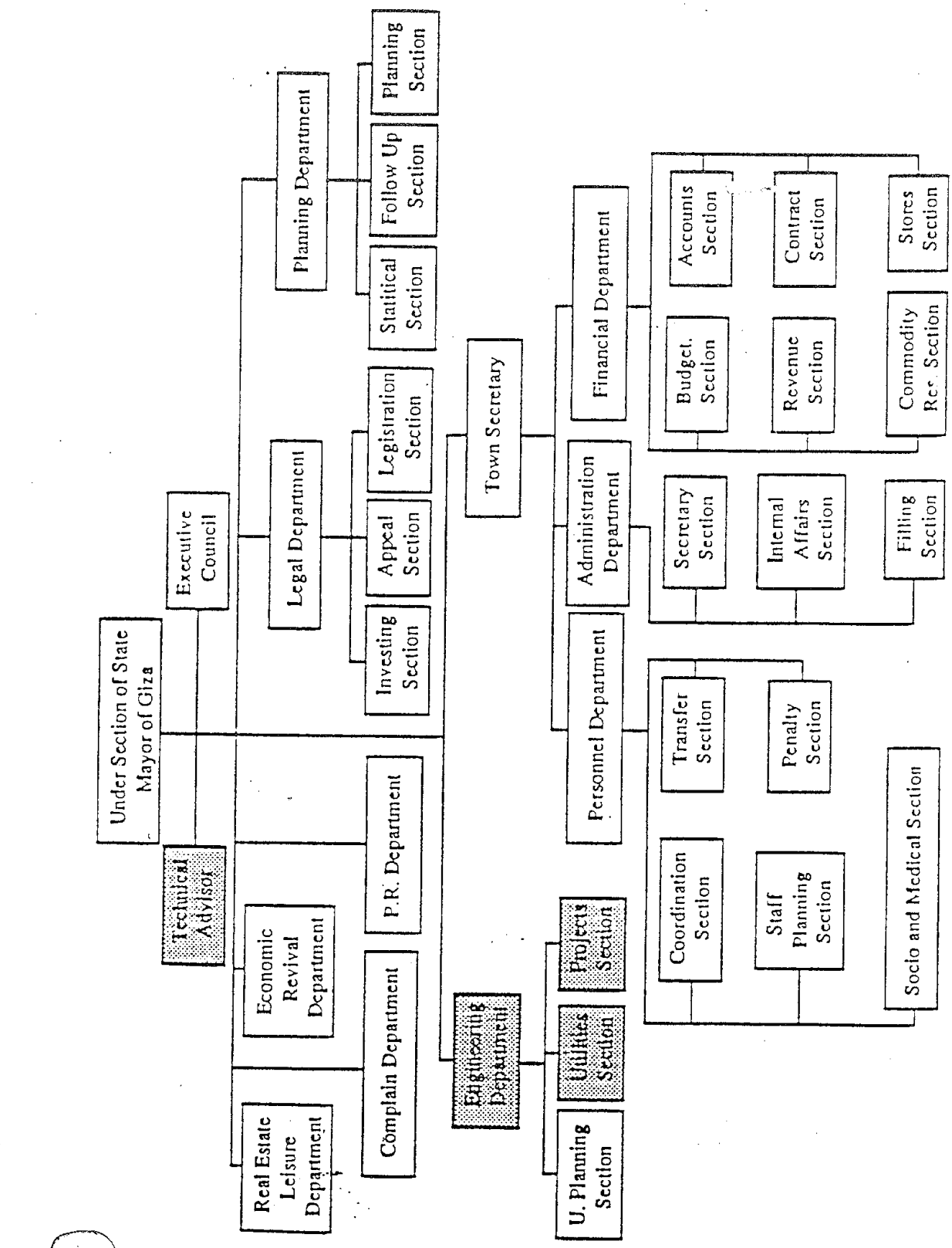
The Egyptian side explained the necessity of this item for the smooth implementation of the distribution network and requested the Japanese side again to examine the possibility for the procurement of the materials.


Annex-I
N
0 1 2 3 4 5km
Rail Way
Zomor Canal
The Nile
Embaba WTP
Road Crossing
Jacking Method
Rail Way & Canal Crossing
Jacking Method
Legend
Water Transmission Main
by Egypt:
Requested to Japan:
Border of Giza City
Man Soriya Canal
Mariotia Canal
Canal Crossing
Aqueduct
Lebeni Canal
GizaCity
Road Crossing
Jacking Method
Zomor Canal
King Faisal St.
Pyramids St.
Project Area
Canal Crossing
Aqueduct
Canal Crossing
Aqueduct
Water Distribution
Station
Project Facilities Plan

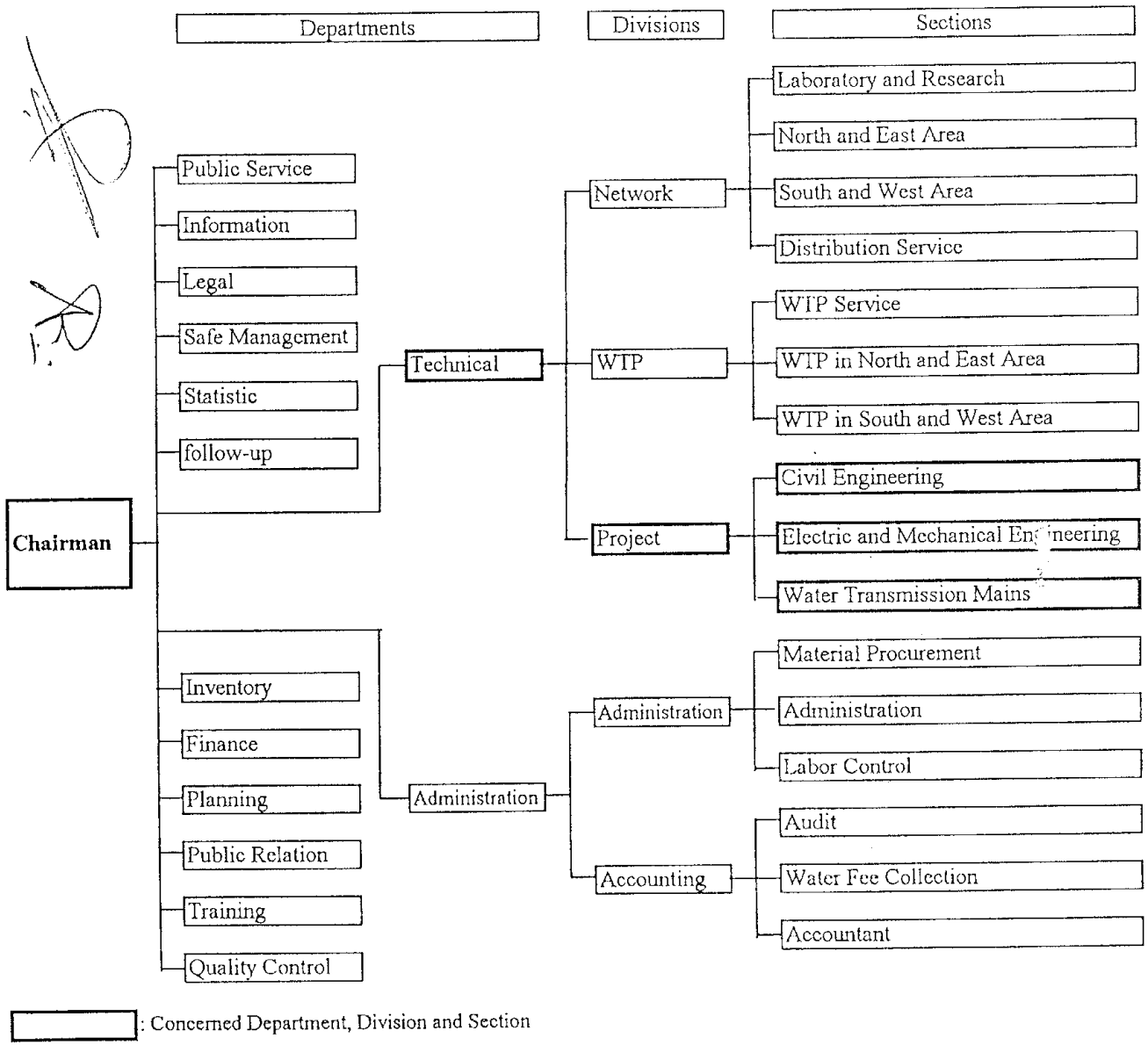
Annex-II (1/2) Organization of Giza Governorate



Annex-II (2/2) Organization of Giza City



Note : Shadowed parts show the section and department to be involved in the Project



Organization Chart of General Organization for Greater Cairo Water Supply (GOGCWS)

Annex-IV

Japan's Grant Aid Programme

1. Grant Aid Procedures

(1) Japan's Grant Aid Program is executed through the following procedures.

- **Application** (A request made by the recipient country)
- **Study** (Basic Design Study conducted by JICA)
- **Appraisal & Approval** (Appraisal by the Government of Japan and Approval by the Cabinet of Japan)
- **Determination** (Exchange of Notes between the Governments of Japan and the recipient country)
- **Implementation** (Implementation of the Project)

(2) Firstly, the application or request for a Grant Aid project submitted by a recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to determine whether or not it is suitable for Japan's Grant Aid. If the request is deemed suitable, the Government of Japan entrusts a study on the request to JICA (Japan International Cooperation Agency).

Secondly, JICA conducts the study (Basic Design Study) using (a) Japanese consulting firm(s). If the backgrounds and objective of the requested project are not clear, a Preparatory Study is conducted prior to a Basic Design Study.

Thirdly, the Government of Japan appraises the project to see whether or not it is suitable for Japan's Grant Aid Programme, based on the Basic Design Study Report prepared by JICA, and the results are then submitted to the Cabinet for an approval.

Fourthly, the project, once approved by the Cabinet, becomes official when pledged by the Exchange of Notes signed by the Governments of Japan and recipient country.

Finally, for the implementation of the project, JICA will assists the recipient country in such matters as preparing tenders, contract and so on.

2. Basic Design Study

(1) Contents of the study

The purpose of the Study (Preparatory / Basic Design Study) conducted on a project requested by JICA is to provide a basic document necessary for appraisal of the Project by the Japanese Government. The contents of the Study are as follows:

a) To confirm background, objectives, and benefits of the Project and also institutional capacity of agencies concerned of the recipient country necessary for Project implementation.

b) To evaluate appropriateness of the Project for the Grant Aid Scheme from a technical, social and economic point of view.

c) To confirm items agreed on by the both parties concerning the basic concept of the Project.

d) To prepare a basic design of the Project.

e) To estimate costs involved in the Project.

Final project components are subject to approval by the Government of Japan and therefore may differ from an original request.

Implementing the project, the Government of Japan requests the recipient country to

take necessary measures involved which is itemized on Exchange of Notes.

(2) Selection of Consultants

For smooth implementation of the Study, JICA uses (a) registered consultant firm(s) registered. JICA selects (a) firm(s) through proposals submitted by firms that are interested. The firm(s) selected carry (ies) out a Basic Design Study and write(s) a report, based upon terms of reference set by JICA.

The consultant firm(s) used for the Study is (are) recommended by JICA to the recipient country to also work on the Project's implementation after the Exchange of Notes, in order to maintain technical consistency.

(3) Status of a Preparatory Study in the Grant Aid Programme

A Preparatory Study is conducted during the second step of a project formulation & preparation as mentioned above.

A result of the study will be utilized in Japan to decide if the Project is to be suitable for a Basic Design Study.

Based on the result of the Basic Study, the Government would proceed to the stage of decision making process (appraisal and approval).

It is important to notice that at the stage of Preparatory Study, no commitment is made by the Japanese side concerning the realization of the Project in the scheme of Grant Aid Programme.

3. Japan's Grant Aid Scheme

(1) What is Grant Aid?

The Grant Aid Programme provides a recipient country with non-reimbursable funds needed to procure the facilities, equipment and services for economic and social development of the country under the following principles in accordance with the relevant laws and regulations of Japan. Grant Aid is not a form of donation or such.

(2) Exchange of Notes (E/N)

Japan's Grant Aid is extended in accordance with the Notes exchanged by the two Governments concerned, in which the objectives of the Project, period of execution, conditions and amount of the Grant Aid, etc., are confirmed.

(3) Period

"The period of the Grant Aid" means the one fiscal year that the Cabinet approves the Project for. Within the fiscal year, all procedures such as exchanging of the Notes, concluding contracts with (a) consultant firm(s) and (a) contractor(s) and final payment to them must be completed.

(4) Purchase of the Products and or Services

Under the Grant Aid, in principle, Japanese products and services including transport or those of the recipient country are to be purchased.

When the two Governments deem it necessary, the Grant Aid may be used for the purchase of the products or services of a third country.

However, the prime contractors, namely, consulting constructing and procurement firms, are limited to "Japanese nationals". (The term "Japanese nationals" means persons of Japanese nationality or Japanese corporations controlled by persons of Japanese nationality.)

(5) Necessity of "Verification"

The Government of recipient country or its designated authority will conclude

contracts denominated in Japanese yen with Japanese nationals. The Government of Japan shall verify those contracts. This "Verification" is deemed necessary to secure accountability to Japanese taxpayers.

(6) Undertakings required of the Government of the Recipient Country
(As described in Annex-V)

(7) Proper Use
The recipient country is required to maintain and use the facilities constructed and the equipment purchased under the Grant Aid properly and effectively and to assign staff necessary for this operation and maintenance as well as to bear all the expenses other than those covered by the Grant Aid.

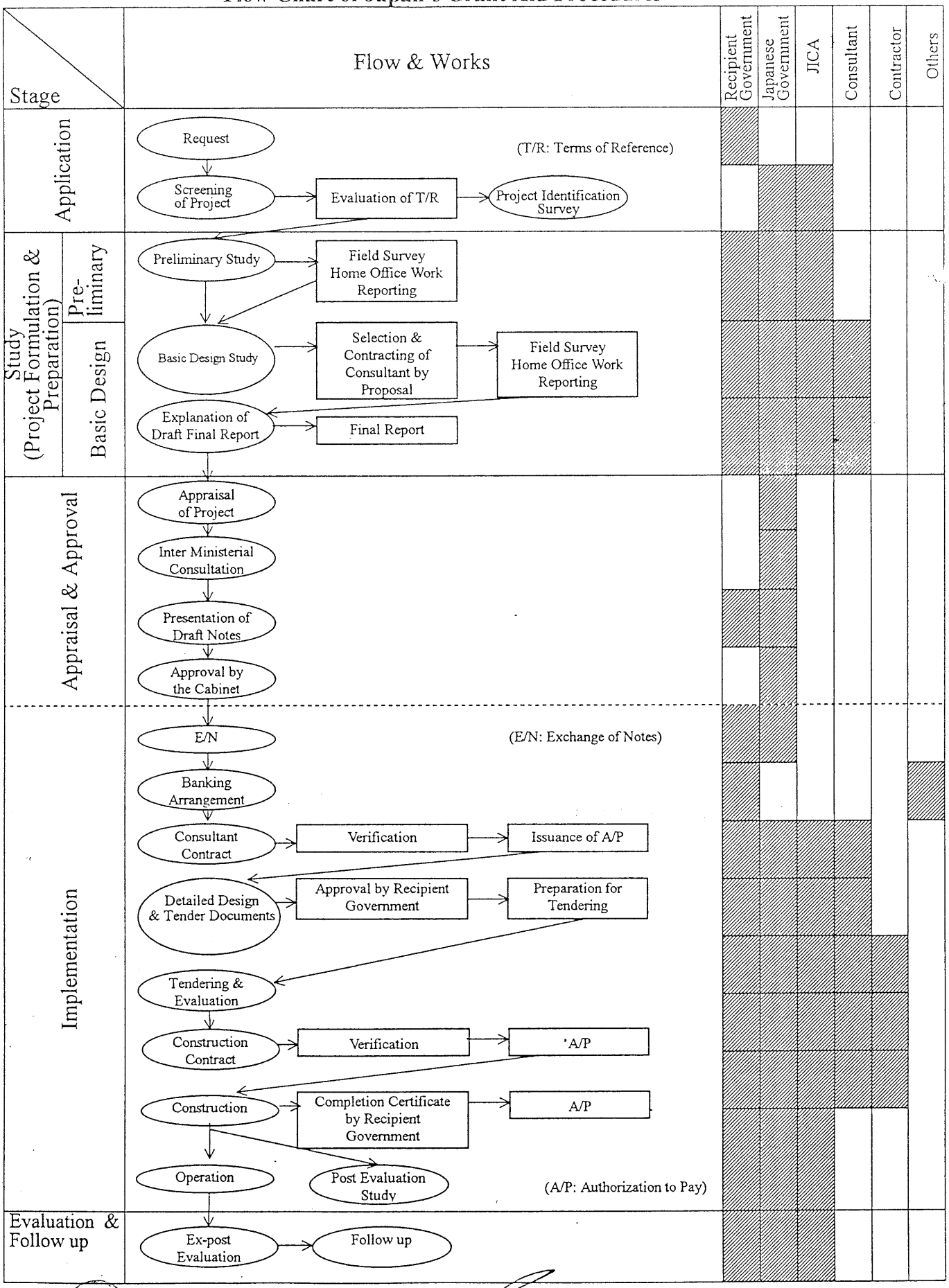
(8) Re-export
The products purchased under the Grant Aid should not be re-exported from the recipient country.

(9) Banking Arrangements (B/A)

a) The Government of the recipient country or its designated authority shall open an account in the name of the Government of the recipient country in a bank in Japan (hereinafter referred to as "the Bank"). The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under the contracts verified.

b) The payments will be made when the Bank presents payment requests to the Government of Japan under an Authorization to Pay issued by the Government of the recipient country or its designated authority.

Flow Chart of Japan's Grant Aid Procedures



Annex - V

Major Undertaking to be taken by Each Government

No.	Items	To be covered by Grant Aid	To be covered by Recipient Side
1	To secure land		●
2	To Clear, level and reclaim the site when needed		●
3	To construct gates and fences in and around the site		●
4	To construct the parking lot	●	
5	To construct roads		
	1) Within the site	●	
	2) Outside the site		●
6	To construct the buildings	●	
7	To provide facilities for the distribution of electricity, water supply, drainage and other incidental facilities		
	1) Electricity		
	a. The distributing line to the site		●
	b. The drop wiring and internal wiring within the site	●	
	c. The main circuit breaker and transformer	●	
	2) Water supply		
	a. The city water distribution main to the site		●
	b. The supply system within the site (receiving and elevated tanks)	●	
	3) Drainage		
	a. The city drainage main (for storm, sewer and others) to the site		●
	b. The drainage system (for toilet sewer, ordinary waste, storm drainage and others) within the site	●	
	4) Gas supply		
	a. The city gas main to the site		●
	b. The gas supply system within the site	●	
	5) Telephone system		
	a. The telephone trunk line to the main distribution frame/panel (MDF) of the building		●
	b. The MDF and the extension after the frame/panel	●	
	6) Furniture and Equipment		
	a. General furniture		●
	b. Project Equipment	●	
8	To bear the following commissions to a bank in Japan for the banking services based upon the B/A		
	1) Advising commission of A/P		●
	2) Payment commission		●
9	To ensure unloading and customs clearance at port of disembarkation in recipient country		
	1) Marine (Air) transportation of the products from Japan to the recipient country	●	
	2) Tax exemption and custom clearance of the products at the port of disembarkation		●
	3) Internal transportation from port of disembarkation to the project site	●	
10	To accord Japanese nationals whose services may be required in connection with the supply of the products and the services under the verified contract such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.		●
11	To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contract.		●
12	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant		●
13	To bear all the expenses , other than those to be borne by the Grant, necessary for construction of the facilities as well as for the transportation and installation of the equipment		●

(نموذج ٢٢-٢٠٠٠ م)

بسم الله الرحمن الرحيم
"وجعلنا من الماء كل شئ حي"
صدق الله العظيم

الهيئة العامة
لمرفق مياه القاهرة الكبرى
مكتب رئيس مجلس الإدارة

Date: July 24, 2000

Mr. Shigeru OTAKE
Leader of JICA Basic Study Team

Ref.: The Project for Improvement for Water Supply System in the Northern Pyramids Area in Giza City

Dear Sir,

We appreciate your study for the above mentioned Project aiming the improvement of Water Supply System in the Northern Pyramids Area.

We, General Organization for Greater Cairo Water Supply (GOGCWS), inform you hereby that we construct and complete the Water Transmission Main (planned 23km approx. with 1600 mm pipes in diameter) between Embaba Water Treatment Plant and King Faisal Street in the Northern Pyramids Area as the attached map and tentative schedule and we have already started the preparation of basic design and survey.

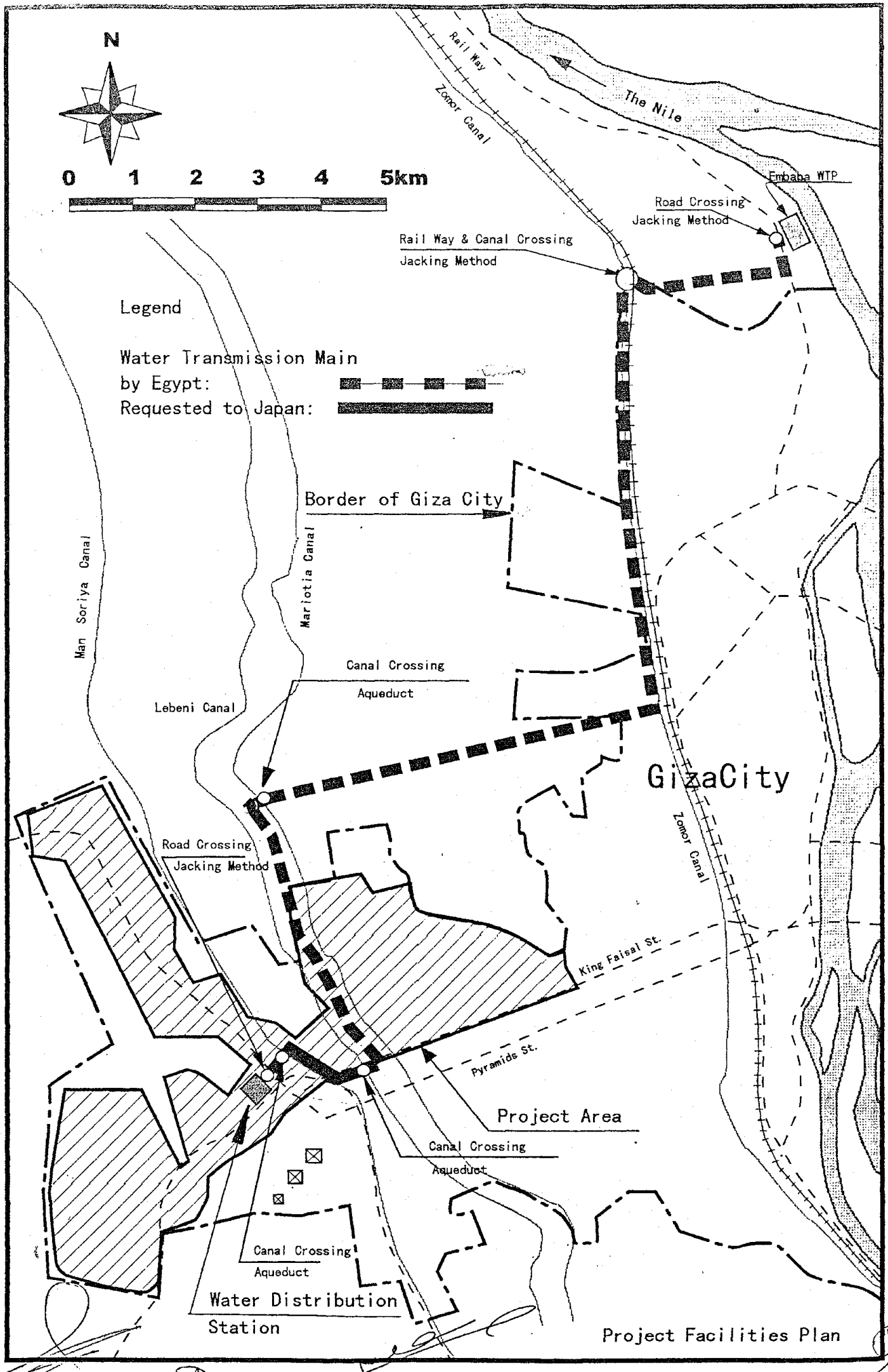
The transmission main project is included in the Forth Five Years Plan 1997/98—2001/02 at the code number 257601 and we are allocated the budget for transmission mains by the Egyptian Central Government at the amount of LE 20 million for this fiscal year 2000/01.

Samir

Sincerely yours,

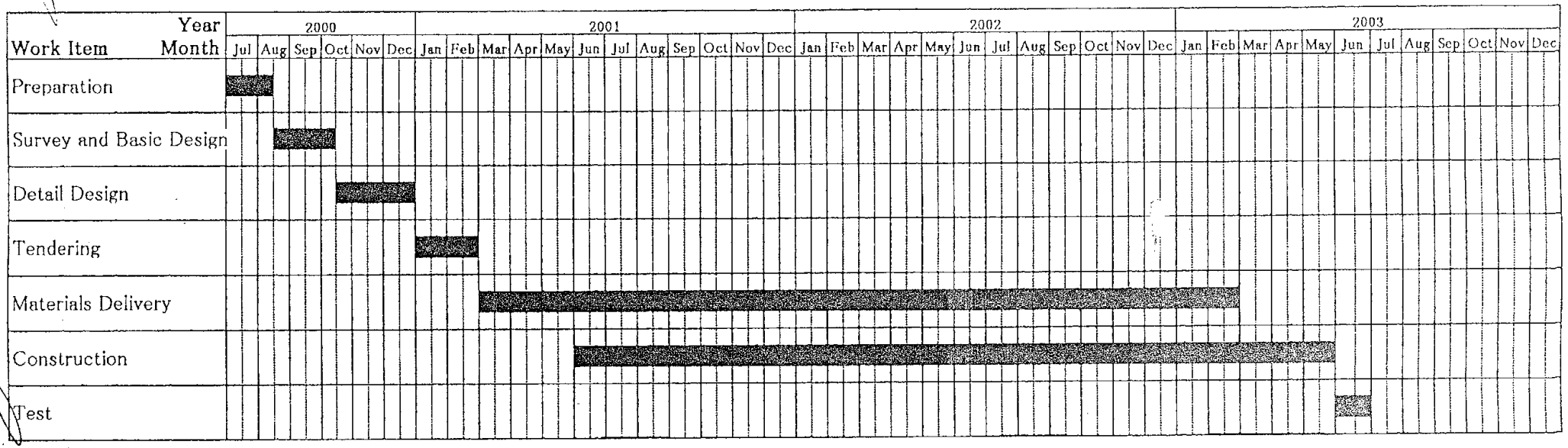
H. elshahawy
24/7/2000

Gen. Eng. Hassanen Haafez El Shahawy
Chairman
General Organization for
Greater Cairo Water Supply
The Arab Republic of Egypt


N
0 1 2 3 4 5km
Rail Way
Zomor Canal
The Nile
Embaba WTP
Road Crossing
Jacking Method
Rail Way & Canal Crossing
Jacking Method
Legend
Water Transmission Main
by Egypt:
Requested to Japan:
Border of Giza City
Man Soriya Canal
Mariotia Canal
Canal Crossing
Aqueduct
Lebeni Canal
GizaCity
Road Crossing
Jacking Method
Zomor Canal
King Faisal St.
Pyramids St.
Project Area
Canal Crossing
Aqueduct
Canal Crossing
Aqueduct
Water Distribution
Station
Project Facilities Plan

Tentative Schedule of construction of Water Transmission Main between Embaba WTP and Northern Pyramids Area

Made on July 24, 2000



Made by

Samir
24/7

Samir Hassan Mohamed
General Manager of Project Department
General Organization for Greater Cairo Water Supply

2. 事業化審査調査（現況確認補足調査）時

MINUTES OF DISCUSSIONS
ON
IMPLEMENTATION REVIEW STUDY
ON
THE PROJECT FOR IMPROVEMENT OF WATER SUPPLY SYSTEM
IN THE NORTHERN PYRAMIDS AREA IN GIZA CITY
IN THE ARAB REPUBLIC OF EGYPT

In July 2000, the Japan International Cooperation Agency (JICA) dispatched the Basic Design Study Team on the Project for Improvement of Water Supply System in the Northern Pyramids Area in Giza City (hereinafter referred to as "the Project") to the Arab Republic of Egypt (hereinafter referred to as "Egypt"), and through discussions, field survey, and technical examination of the results in Japan, JICA has prepared the Outline of the Basic Design for the Implementation Review Study on the Project (hereinafter referred to as "the Study").

In order to explain and to consult Egyptian side on components of the Outline of the Basic Design, JICA sent to Egypt the Implementation Reviewing Team, which is headed by Mr. Shigeru OTAKE, Project Monitoring and Coordination Division, Grant Aid management Department, JICA (hereinafter referred to as "the Team"), and is scheduled to stay in Egypt from June 20 to 29, 2001.

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

Cairo, June 28, 2001

Mr.Shigeru Otake Leader Implementation Reviewing Team, JICA	Mr. Medhat Ebrahim Draz Mayor of Giza City Giza Governorate The Arab Republic of Egypt	Gen. Eng. Hassanen Al Shahawy Chairman General Organization for Greater Cairo Water Supply (GOGCWS) The Arab Republic of Egypt

(Witness)

Mrs. Sanaa' Hegazy
Undersecretary for Asia & Australia Sub-Sector
Ministry of International Cooperation
The Arab Republic of Egypt

ATTACHMENT

1. Components of the Outline of the Basic Design

The Egyptian side has agreed and accepted in principle the components of the Outline of the Basic Design proposed by the Team.

2. Japan's Grant Aid Scheme

The Egyptian side has understood the system of Japan's Grant Aid Scheme as explained by the Team and will take the necessary measures described in ANNEX-V of the Minutes of Discussions signed on the 25 July, 2000 by both sides.

3. Further Schedule of the Study

(1) Based on the Minutes of Discussions and technical examination of the study results, JICA will prepare the draft report and dispatch a mission in order to explain its contents in September, 2001.

(2) In case that the contents of the draft report are acceptable in principle by the Egyptian side, JICA will complete the final report and send it to the Government of Egypt around November, 2001.

4. Other relevant issues

The followings were discussed and confirmed by both sides

(1)Construction of new transmission main between Embaba treatment plant and the Project Area:

The Egyptian side (GOGCWS) will construct a new transmission main between Embaba treatment plant and the Project Area by the end of September, 2003 in order to supply enough water.

The construction schedule and budget allocation plan is attached as Annex 1.

The Egyptian side (GOGCWS) agreed to submit the document showing 2001/2002 budget for the construction of above-mentioned new transmission main by the Egyptian side (GOGCWS) to the Embassy of Japan in Egypt and JICA Egypt Office by the end of July, 2001.

(2) Provision of piping materials for water distribution network:

The Team explained that the Japanese side would procure fittings and valves for water distribution main (200 ~ 400 mm x 12.5km). The Egyptian side (Giza City) agreed to procure the straight pipes for water distribution main (200 ~ 400 mm) and all the water distribution branch pipes (100~150mm).

The Egyptian side (Giza City) will complete the laying works of distribution pipe system by the end of May, 2004. The construction schedule is attached as Annex 2.

For fitting and valves, the Egyptian side (Giza City) requested the Japanese side to include those required for the construction pipe line between water distribution station and the existing water distribution mains along Alexandria Desert Road caused by the site relocation.

(3) Aqueduct over the Lebeni drain:

As the result of the discussion and site survey, it was found that the place of which the aqueduct is required over the Lebeni drain on the water transmission main was filled up and the aqueduct would not be necessary. Therefore, the Team requested the Egyptian side (GOGCWS) to conduct the construction of the water transmission main in this place. The Egyptian side (GOGCWS) agreed to construct the water transmission main in the above-mentioned place.

(4) The site of the water distribution station:

The Egyptian side requested the relocation of the water distribution station and the extension of the water transmission main shown as attached in Annex 3.

As the result of the site survey, the both sides agreed to confirm the newly proposed site is suitable for the construction of water distribution station.

The Egyptian side agreed to do the followings before the commencement of construction by Japanese side.

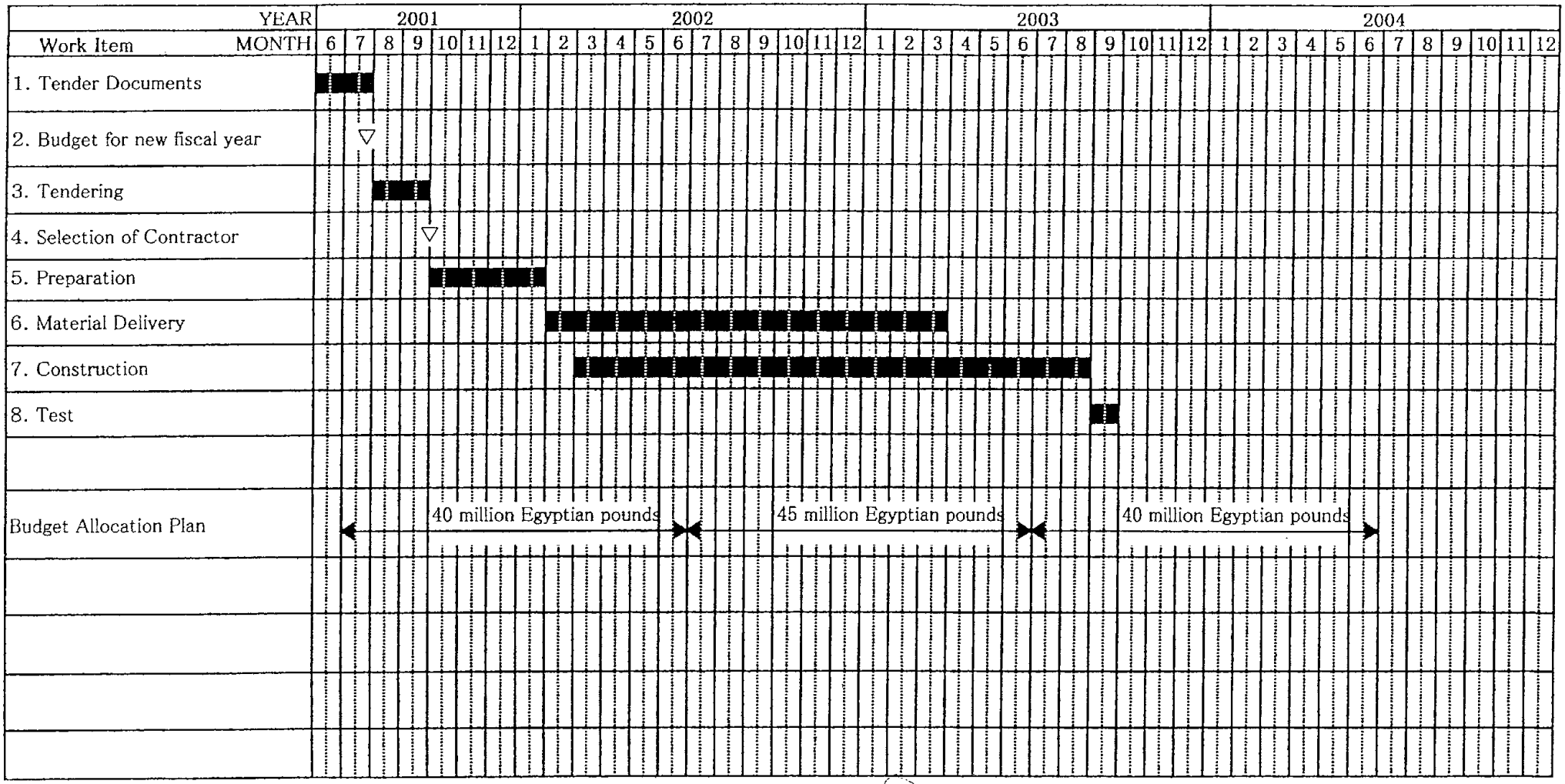
a. To execute the land acquisition for the newly proposed site of approximately 100m x 100m and access road approximately 15m in width and 100m in length from Alexandria Desert Road to the site, where the earthwork of the site and the surrounding area required for the appropriate construction site for the water distribution station shall be executed

b. To complete the land reclamation required for the construction of water distribution station, considering necessary safety measures including formation of the safety slope of the surrounding area of the site

ANNEX – 1

Tentative construction schedule and budget allocation plan of Water Transmission Main between Embaba WTP and Northern Pyramids Area

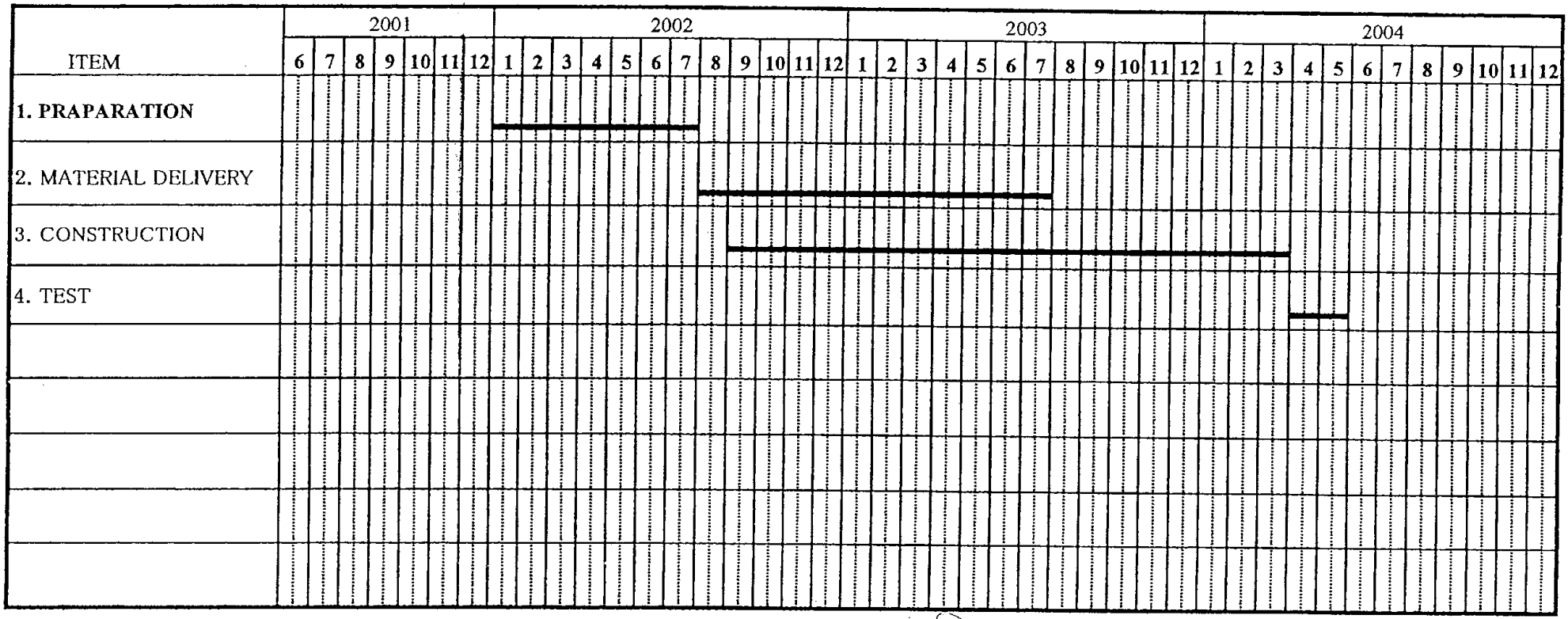
Made on June 28,2001

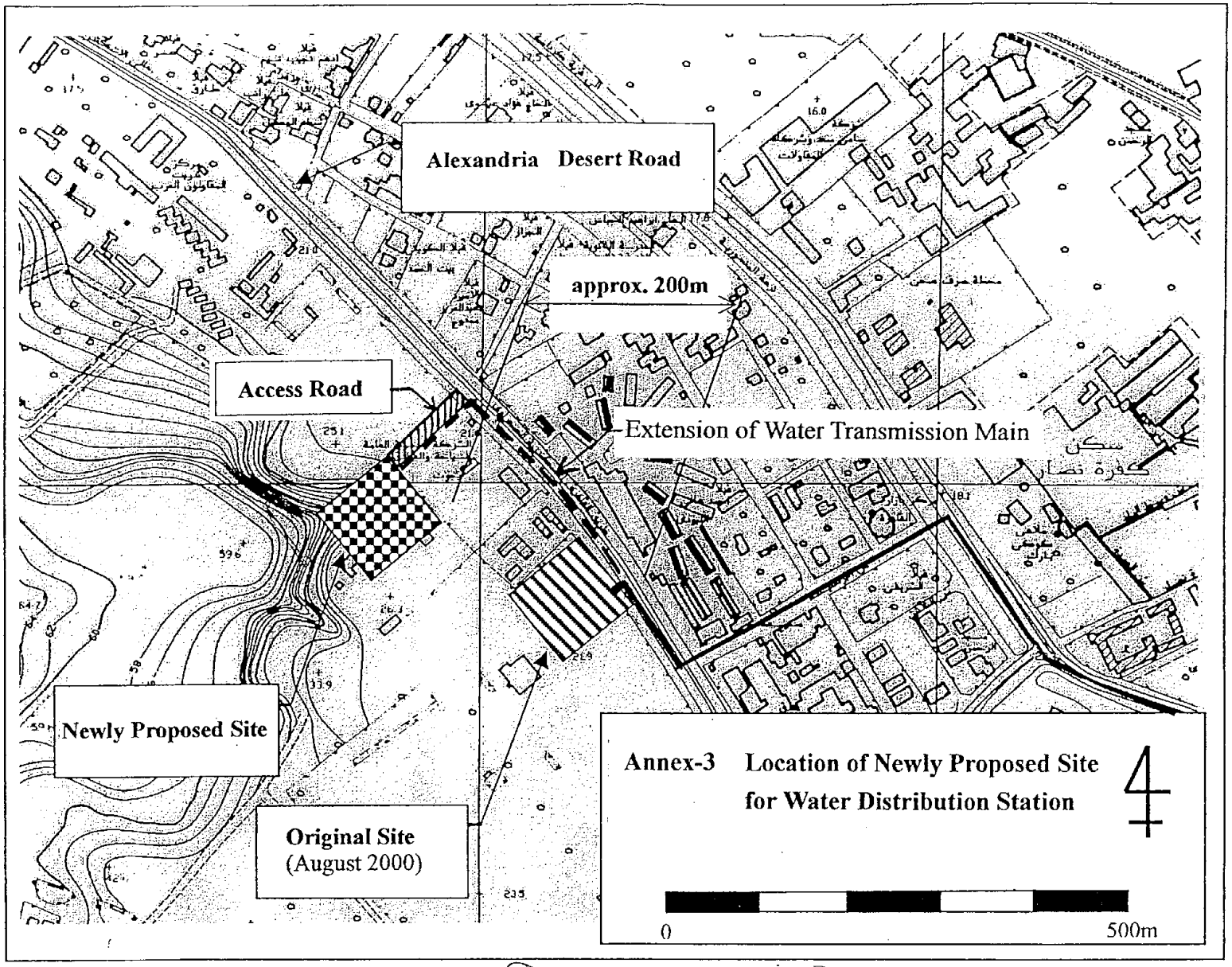


ANNEX-2

TENTATIVE CONSTRUCTION SCHEDULE FOR WATER DISTRIBUTION PIPING SYSTEM

June 28,2001




Alexandria Desert Road
approx. 200m
Access Road
Extension of Water Transmission Main
Newly Proposed Site
Original Site
(August 2000)
Annex-3 Location of Newly Proposed Site
for Water Distribution Station
4
0
500m

3. 基本設計概要説明調査時

MINUTES OF DISCUSSIONS
ON
IMPLEMENTATION REVIEW STUDY
(EXPLANATION ON DRAFT REPORT)
ON
THE PROJECT FOR IMPROVEMENT OF WATER SUPPLY SYSTEM
IN THE NORTHERN PYRAMIDS AREA IN GIZA CITY
IN THE ARAB REPUBLIC OF EGYPT

In June 2001, the Japan International Cooperation Agency (JICA) dispatched the Implementation Review Study Team on the Project for Improvement of Water Supply System in the Northern Pyramids Area in Giza City (hereinafter referred to as "the Project") to the Arab Republic of Egypt (hereinafter referred to as "Egypt"), and through discussions, field survey, and technical examination of the results in Japan, JICA has prepared a draft report of the Basic Design Study (hereinafter referred to as "the Study").

In order to explain and to consult the Egyptian side on components of the draft report, JICA sent to Egypt the Implementation Reviewing Team (Explanation on Draft Report), which is headed by Mr. Mikio Nakamura, Resident Representative, JICA Egypt Office (hereinafter referred to as "the Team"), and is scheduled to stay in Egypt from September 11 to 20, 2001.

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

Cairo, September 19, 2001

Mr. Mikio Nakamura
Leader
Implementation Reviewing
Team, JICA

Mr. Medhat Ebrahim Draz
Mayor of Giza City
Giza Governorate
The Arab Republic of Egypt

Gen. Eng. Hassanen Al Shahawy
Chairman
General Organization for Greater
Cairo Water Supply (GOGCWS)
The Arab Republic of Egypt

(Witness)
Sanaa Hegazy

Mrs. Sanaa' Hegazy
Undersecretary for Asia & Australia Sub-Sector
Ministry of Planning and International Cooperation
The Arab Republic of Egypt

ATTACHMENT

1. Components of the Outline of the Basic Design

The Egyptian side has agreed and accepted in principle the components of the draft report proposed by the Team.

2. Japan's Grant Aid Scheme

The Egyptian side has understood the system of Japan's Grant Aid Scheme as explained by the Team and will take the necessary measures described in ANNEX-V of the Minutes of Discussions signed on July 25, 2000 by both sides.

3. Further Schedule of the Study

JICA will complete the final report and send it to the Government of Egypt around November, 2001.

4. Other Relevant Issues

The followings were discussed and confirmed by both sides.

(1) Budget of Giza City for the Project

The Egyptian side (Giza City) explained that they have already got the code number (No.3264) in the current Five Year Plan (1997/1998 to 2001/2002) for water supply projects in Giza City as attached in Annex-1 and they are allowed to use this code number for the works to be done by Giza City for the Project as attached in Annex-2.

Giza City agreed that, if this code number is changed in the new Five Year Plan (2002/2003 to 2006/2007), they will submit the document showing the new code number for the Project issued by Ministry of Planning and International Cooperation (MOPIC) to the Embassy of Japan in Egypt and JICA Egypt Office by the end of July, 2002.

Giza City also agreed to submit the document showing that they have requested to MOPIC for the budget allocation for the Project to the Embassy of Japan in Egypt and JICA Egypt Office by the end of November 2001.

(2) Demarcation of preparation work for Water Distribution Station

Demarcation of preparation work between Giza City and GOGCWS regarding Water Distribution Station has been confirmed as follows.

① Land Acquisition : GOGCWS
② Existing Facilities Removal : GOGCWS
③ Land Preparation Work : Giza City

(3) Land acquisition for access road to Water Distribution Station

The Egyptian side (Giza City) stated that they have already started the procedure for the land acquisition of the access road to Water Distribution Station for the Project submitting a letter to General Authority for Survey as attached in Annex-3.

Giza City explained that the land acquisition of the access road will be executed in the same manner as the procedure applied for the land acquisition of Water Distribution Station No.1 and No.2 in the previous Japanese Grant Aid project for Improvement of Water Supply System at the Southern Pyramids Area in Giza City completed in 2000 as explained in Note 1 of Annex-2.

(4) Land acquisition for Water Distribution Station

The Egyptian side (GOGCWS) explained that the land for Water Distribution Station has already been granted by Ministry of Defense to GOGCWS for the Project.

The Egyptian side (GOGCWS) submitted to the Team a letter from Ministry of Defense to GOGCWS dated September 13, 2001 as attached in Annex-4 confirming that the land for Water Distribution Station shall be used permanently for public utility (Water Distribution Station for the Project).

S.H

Annex-1 Letter from MOPIC to Giza City for the Code Number

[Arabic Original]

بسم الله الرحمن الرحيم

هيئة التخطيط

السيد الاستاذ / احمد عفت فودة

السكرتير العام لمحافظة الجيزة

تحية طيبة وبعد ...

اتشرف باحاطة سيادتكم علما بان السيد الاستاذ / وزير الدولة للتخطيط والتعاون الدولى وافق لمحافظة الجيزة على مايلى :

١ - زيادة اعتمادات نشاط شبكات مياه الشرب (كود رقم ٣٢٦٤) المدرج فى الخطة الخمسية ٩٧/٩٨ - ٢٠٠١/٢٠٠٢ لديوان عام المحافظة بمبلغ ٢٠١,١٤٣ مليون جنيه مصرى (منها ١٥ مليون جنيه أرض ، ١٣٧,٦٣٧ مليون جنيه تشييدات ، ٢٨,٥٠٦ مليون جنيه آلات ومعدات ، ٢٠ مليون جنيه رسوم جمركية) موزعة على النحو التالى :

١١٩,١٤٣ مليون جنيه منح اجنبية ممولة من الحكومة اليابانية قدرها ٤,٢١ مليار ين يابانى على اساس ان ١٠٠ ين تعادل ٢,٨٣ جنيه مصرى .

٨٢,٠٠٠ مليون جنيه نقد محلى (بنك الاستثمار) حصة الجانب المصرى (المقابل المحلى للمنحة) .

٢ - زيادة اعتمادات النشاط المشار اليه بعاليه والمدرج فى خطة ديوان عام المحافظة للعام المالى ٩٧/٩٨ بمبلغ ٥٦,١٥٨ مليون جنيه منح اجنبية (منها ٣٨,٦٦٩ مليون جنيه تشييدات ، ١٧,٤٨٩ مليون جنيه آلات ومعدات) ممولة من الحكومة اليابانية ، حتى تتمكن المحافظة من تطوير مياه الشرب بمنطقة جنوب مدينة الجيزة .

وتفضلوا بقبول فائق الاحترام ...

رئيس هيئة

تخطيط اقليم القاهرة الكبرى

نادية هانم زكى صادق

هشام / ...

[English Translation]

MINISTRY OF PLANNING

Date: March 22nd, 1998
Ref: 150/March 22nd

Mr. Ahmed Effat Fouda
General Secretary
Giza Governorate

Dear Sir,

Please be advised that the Minister of Planning and International Cooperation has approved the following in favor of Giza Governorate:

1- Increase the allocations of Potable Water Networks activities (Code No. 3264) that is included in the five year plan 1997/98 ~ 2001/02 of Giza Governorate with total amount of 201.143 million Egyptian Pounds (of which 15 million Egyptian Pounds for land, 137.637 million Egyptian Pounds for constructions, 28.506 million Egyptian Pounds for machinery and equipment, and 20 million Egyptian Pounds for customs duties) distributed as follows:

   - 119.143 million Egyptian Pounds as foreign donations from the Japanese Government, corresponding to 4.21 billion yen, provided that 100 yen equals 2.83 Egyptian Pounds.

   - 82 million Egyptian Pounds as local funds (Investment Bank) representing the allocation of the Egyptian side (local allocations).

2- Increase the allocation of the above-mentioned activity that is included in the annual plan of Giza Governorate 1997/98 with 56.458 million Egyptian Pounds as foreign donations (of which 38.969 million Egyptian Pounds for constructions, and 17.489 million Egyptian Pounds for machinery and equipment) financed by the Japanese Government, so that Giza Governorate can develop Potable Water Supply in southern area of Giza City.

Best regards

Ms. Nadia Hanem Zaki Sadek
Chairperson, Organization for Greater Cairo Region Planning

Annex-2 Works to be done by Giza City for the Project

No.	Works to be done by Giza City
①	Land acquisition of access road to Water Distribution Station (#1)
②	Preparation work of the access road
③	Land reclamation for the site of Water Distribution Station
④	Landscaping and construction of fence and gate
⑤	Procurement of piping materials for water distribution main and branch line other than those supplied by the Japanese side
⑥	Construction of water distribution branch lines
⑦	Construction of water distribution mains from Water Distribution Station to the existing distribution mains
⑧	Installation of house connections and fire hydrants
⑨	Installation of electric power receiving facilities
⑩	Construction of drainage facility from Water Distribution Station to the existing sewer line

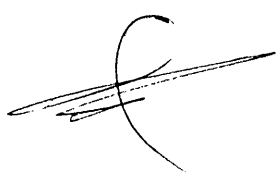
Note 1. The procedure for the land acquisition of the access road to Water Distribution Station is as follows.

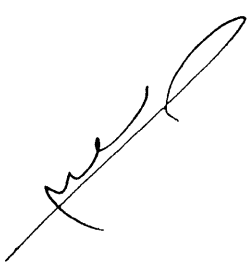
① After the Exchage of Notes for the Project, Giza City receives the Prime Minister decree for the land acquisition for the public utility (the access road to Water Distribution Station for the Project).

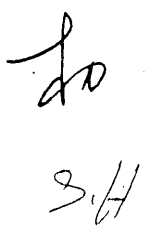
② With the Prime Minister decree, Giza City is allowed to execute the land acquisition whoever is the landowner for the land and pay the cost for the land to General Authority for Survey according to their evaluation.

③ Immediately after the above-mentioned steps are completed, Giza City starts the required works for the access road for the Project.

④ General Authority for Survey refunds the owners of the land later on after checking their documents.







ıex-3 Letter from Giza City to General Authority for Survey for the Land Acquisition of Access Road to Water Distribution Station

[Arabic Original]

الوحده المحليه لمدينه الجــــــيزه

الادارات الهندسيه

اداره الاملاك ونزع الملكـــــــــيه

السيد المهندس/ مدير عام مديريه المساحه

بالجـــــــــــيزه

تحيه طيبه ... وبعد

الحاقا لكتابنا رقم ٣٠٣٩١م بتاريخ ٢٠٠١/٨/٦ بشأن موافاه سيادتكم بثلاث لوحـــــات مساحيه مقياس رســــم ١:٢٥٠٠ موقع عليه خزان المياه وكذلك الطريق المزمع اجراء نزع ملكيـــــته ام بطريق مصر اسكندريه الصحــــــراوي لانشاء محطة مياه من المعونــــــه اليابانيه.

برجــــــاء سرعه عمل المعاينه اللازمه وتحديد المساحات المراد نزع ملكيته وكذا اســــــم المالك وكذا قيمه المبالــــــغ المطلوبه لنزع الملكيه حتـــــى يمكن تدبير ـــــــــــــالمبالغ بالســـــم ... والمبالغ المطلوبه وذلك طبقا لقانون نزع الملكيه رقم ١٠ لسنه ١٩٩٠.

مع اعتبار ان الموضوع عاجل وهـــــام

وتفضلوا بقبول فائق الاحـــــــــترام ...

وكيل اول الـــــــوزاره

رئيس مدينه الجـــــيزه

السيد المهندس/ مدير عام التثمين

الهيئه العامه للمســـــــاحه

تحيه طيبه ... وبعد

المسطر بعاليه صـــــــوره ماتحــــــررالى السيد المهندس/ مدير عـــــــام مديريه المساحه وذلك بخصوص الارض المراد نزع ملكيتها.

برجـــــــاء التكرم بموافاتنا بقيمه المبالغ المطلوبــــــه لنزع الملكيه حـــــــتى يمكن تدبير المبالغ المطلوبه.

وتفضلوا بقبول فائق الاحـــــــــترام ...

وكيل اول الـــــــوزاره

رئيس مدينه الجـــــيزه

[English Translation]

Giza City
Engineering Directorate
Property and Land Acquisition Directorate

Att : Mr. Eng. General Manager of Survey Directorate at Giza

Reference is made to our letter No. 391/3m dated 6 May 2001 regarding sending three topographic maps of scale 1:2,500 showing the location of the water reservoir and the access road, which we request to have its property at Cairo-Alexandria desert road to construct pump station through Japanese Grant.

You are kindly requested to do the necessary survey and to determine the required area to be obtained and also the name of the owner and the cost for the land property so that we will be able to issue the necessary cheque by your name and of the requested amount as per land acquisition law No. 10 for the year 1990.

Your kind attention will be highly appreciated.

Regards

First Deputy Minister
Mayor of Giza City

Att : Mr. General Manager of Land Evaluation, the General Authority for Survey

Please find in the above a copy of our letter to Mr. Eng. General Manager of Survey Directorate regarding the land which we require its property.

You are kindly requested to inform us of the required amount of money so that we can allocate for land property.

First Deputy Minister
Mayor of Giza City

Date : 29 May 2001

Annex-4 Letter from Ministry of Defence to GOGCWS

[Arabic Original]

جمهورية مصر العربية

بسم الله الرحمن الرحيم

الأمانة العامة لوزارة الدفاع

رقم القيد : ٢٥٦/١٥٧/٢٧ ٩٧٤٢

التاريخ : ٢٠٠١/٩/١٢

(٨)

السيد المهندس/ حسنين الشهاوى

رئيس مجلس ادارة مرفق مياه القاهرة الكبرى

تحية طيبة وبعد ...

الحاقا لكتابنا رقم ٥٩٠١ بتاريخ ٢٠٠١/٢/٢١ بشأن تخصيص مساحة ٥٠ x ٥٠ متر (بدون مقابل) من أراضى القوات المسلحة الواقعة بنادى الرماية بالهرم لصالح اقامة خزان ومحطة رفع مياه لخدمة منطقة الهرم، وايماءا لكتاب سيادتكم بتاريخ ٢٠٠١/٢/٢٦ بشأن طلب زيادة المساحة لتكون ١٠٠ x ١٠٠ متر بما يمكن تنفيذ كافة عناصر المشروع.

يرجى التفضل بالاحاطة بأن السيد القائد العام للقوات المسلحة وزير الدفاع والانتاج الحربى قد أمر بالاستجابة لطلب سيادتكم تحقيقا للصالح العام ولخدمة المنطقة وصدرت الموافقة على السماح للمرفق باستغلال مساحة ١٠٠ x ١٠٠ متر الموضحة بالخريطة المرفقة للغرض المشار اليه عاليه وبصفة دائمة على أن يقوم بتلافى أى تداخلات مع منشآت قائمة أو تنفيذ منشآت بديلة مماثلة.

وقد رأيت الكتابة لسيادتكم للتكرم بالتنبيه باجراء التنسيق اللازم مع نادى الرماية بالهرم لتحديد المساحة المذكورة على الطبيعة ودراسة موقف أى منشآت متداخلة بها.

وإنتهز هذه الفرصة لأعرب عن لسيادتكم عن استعداد القوات المسلحة لتقديم كل معاونة صادقة للمرفق فى إطار المصلحة القومية.

وتفضلوا بقبول فائق الاحترام .

مع وافر التحية .،،

لواء أح / ماجد أحمد فـــــرج

أمين عام وزارة الدفـــــاع

[English Translation]

ARAB REPUBLIC OF EGYPT
MINISTRY OF DEFENSE
GENERAL SECRETARIAT

NOTE VERBAL: 27/157/6C3
DATE: Sep. 13th, 2001

Eng. Hassanen Al Shahawy,
Chairman, General Organization
For Greater Cairo Water Supply,

Dear Eng. Shahawy,

Reference to your letter (No. 5901, dated February 21st, 2001) concerning the allocation of an area (50m x 50m) – for free – surrounding the Shooting Club and possessed by the Army in order to establish a Water Reservoir and a Pump Station to render its service to the Pyramids Area, and reference to your letter (dated February 26th, 2001) concerning the request of increasing the surface area to 100m x 100m in order to implement all the components of the project.

Please be advised that the General Commander of the Military Force and the Minister of Defense and Military Armament has approved your request by permanently exploiting and utilizing the area (100m x 100m) shown in the attached map in favor of the public interest, given that the project should not interfere with existing facilities. In case the project should demolish existing facilities, establishing of new ones is a must.

Hence, you are kindly requested to coordinate with the Shooting Club in the Pyramids Area in order to specify the above-mentioned area on site and identify the existing facilities over there.

Finally, I would like to seize this opportunity to express the Army's willingness to cooperate with GOGCWS in favor of the public interest.

Thanks for your cooperation.

Best regards,

General Staff. Maged Ahmed Farag
General Secretary of the Ministry of Defense

資料-6　事業事前評価表

事業事前評価表

1. 協力対象事業名

エジプト・アラブ共和国　ギザ市ピラミッド北部地区上水道整備計画

2. 我が国が援助することの必要性・妥当性

(1) 我が国は、エジプトが、(1)中近東地域の大国であり、政治的安定と穏健な外交政策を維持しつつ、中東和平プロセスをはじめ中近東地域の平和と安定の達成に向け重要な役割を果たしていること、(2)市場指向型経済に向けた努力が顕著で、民主化、人権、報道の自由の分野で改善されるべき点はあるものの、ODA 大綱上総じて望ましい方向に向かっていること、(3)我が国との関係が緊密であること、(4)高い人口増加率、貧困・失業者増大等の問題を抱えており、援助需要が大きいこと等の理由に基づき、積極的に援助を実施している。我が国は、エジプトにおける開発の現状と課題、開発計画等に関する調査・研究及び 92 年 2 月に派遣した経済協力総合調査団及びその後の政策協議等におけるエジプト側との政策対話、ならびに国別援助計画を踏まえ、以下の分野を援助の重点分野としている。

(イ) 経済・社会基盤の整備、産業の振興
(ロ) 農業生産の拡大
(ハ) 保健・医療の充実、社会福祉の向上
(ニ) 人材育成、教育の充実
(ホ) 環境の保全、生活環境の向上

(2) 現在実施中の第４次経済社会開発５ヶ年計画（1997/98-2001/02 年）において、送配水管網の整備、配水池の整備等が重点目標として掲げられている。

(3) 当該国の社会・経済事情については、資料－４の「エジプト・アラブ共和国の社会・経済事情」参照。

3. 協力対象事業の目的（プロジェクト目標）

ギザ市で最も送配水管網整備が遅れ、給水状態が劣悪なピラミッド北部地区において、2010 年を目標年次とした送配水システムを整備することにより、住民へ安定した安全な水供給を行う。

4. 協力対象事業の内容

(1) 対象地域（以下、計画地という）
ギザ市ピラミッド北部地区

(2) アウトプット
- 水源となるインババ浄水場からの送水幹線約 27.72km
- 計画地における配水場（1 箇所）
- 計画地内の配水管網整備

(3) インプット
- 水源となるインババ浄水場からの送水幹線約 27.72km のうち、約 2.72km
- 送水幹線上における推進工事（3 箇所）及び水管橋設置（2 箇所）
- 計画地における配水場の建設（1 箇所）
- 計画地内の配水管網整備機材 1 式（直管以外の異形管及び弁類）

(4) 総事業費
概算事業費 89.78 億円（日本側 46.09 億円、エジプト側 43.69 億円）

(5) スケジュール
実施設計を含め 28 ヶ月の工期を予定

(6) 実施体制
エジプト国 ギザ市及び大カイロ上水道庁

5. プロジェクトの成果

(1) プロジェクトにて裨益をうける対象の範囲及び規模
ギザ市ピラミッド北部地区（約 24km^2）、裨益人口約 685 千人（2010 年）

(2) 事業の目的（プロジェクト目標）を示す成果指標
計画地における一人一日最大給水量の 240 ﾘｯﾄﾙ／人日が達成される。

項　　目	2001 年（実施前）	2010 年（実施後）
一日給水量	31,000m^3／日	164,370m^3／日
一人一日給水量	50～100 ﾘｯﾄﾙ／人日	240 ﾘｯﾄﾙ／人日
給水圧（管路末端）	0.5～1.0 kg/cm^2	2.0 kg/cm^2 以上
全溶解性物質（TDS）	井戸給水場で最高約 1,700mg/L	WHO 基準の 1,000mg/L 以下
（参考）人口	413,700 人	684,800 人

(3) その他の成果指標
① 主な給水源となっている汚染の進んだ井戸から、水質の安全な浄水場に水源が転換される。
② 配水管網が未整備な地域に、配水管が整備される。
③ 計画地の一部の地域では、給水不足を補うために、住民が水売業者から水道水の 400 倍の価格で水を購入しているが、その必要がなくなる。

項　　目	2001 年（実施前）	2010 年（実施後）
給水源	主に汚染の進んだ井戸	浄水場
配水管網の整備	2.4km^2 が未整備であり、未給水人口は、約 72,000 人である。	2.4km^2 の未整備地域が解消され、給水人口が 72,000 人増加する。
給水量確保のための対策（水購入への支出）	水売人から水道水の 400 倍の価格で水を購入することよって確保している。	安価な公共水道料金で、十分な量の浄水の確保が可能となる。

6. 外部要因リスク

(1) 送配水管網及び配水場の管理体制
大カイロ上水道庁（GOGCWS）は、本計画施設専任の運転・維持管理要員を専任し、運営・維持管理体制を整え、適正に本計画施設を運営する必要がある。

(2) 先方（GOGCWS）負担の送水幹線工事
必要な送水幹線約 27.72km のうち、25km は先方（GOGCWS）負担で建設する。GOGCWS は、これを所定の工期までに完了させる必要がある。

(3) 先方（ギザ市）負担の配水管布設工事
配水池から既存配水本管への配水本管接続工事及び計画地の配水管及び各戸への給水管接続工事は、資機材の調達を含めギザ市が負担する（一部の異形管及び弁類の調達は、日本が負担）。ギザ市は、同工事を所定の工期までに完了させる必要がある。

7. 今後の評価計画

(1) 事後評価に用いる成果指標
・インババ浄水場から配水場への送水量（m^3/日）
・配水場から計画地への配水量（m^3/日）
・計画地の給水量（m^3/日）
・計画地の給水原単位（ﾘｯﾄﾙ/人日）

(2) 評価のタイミング
計画目標年度（2010 年）

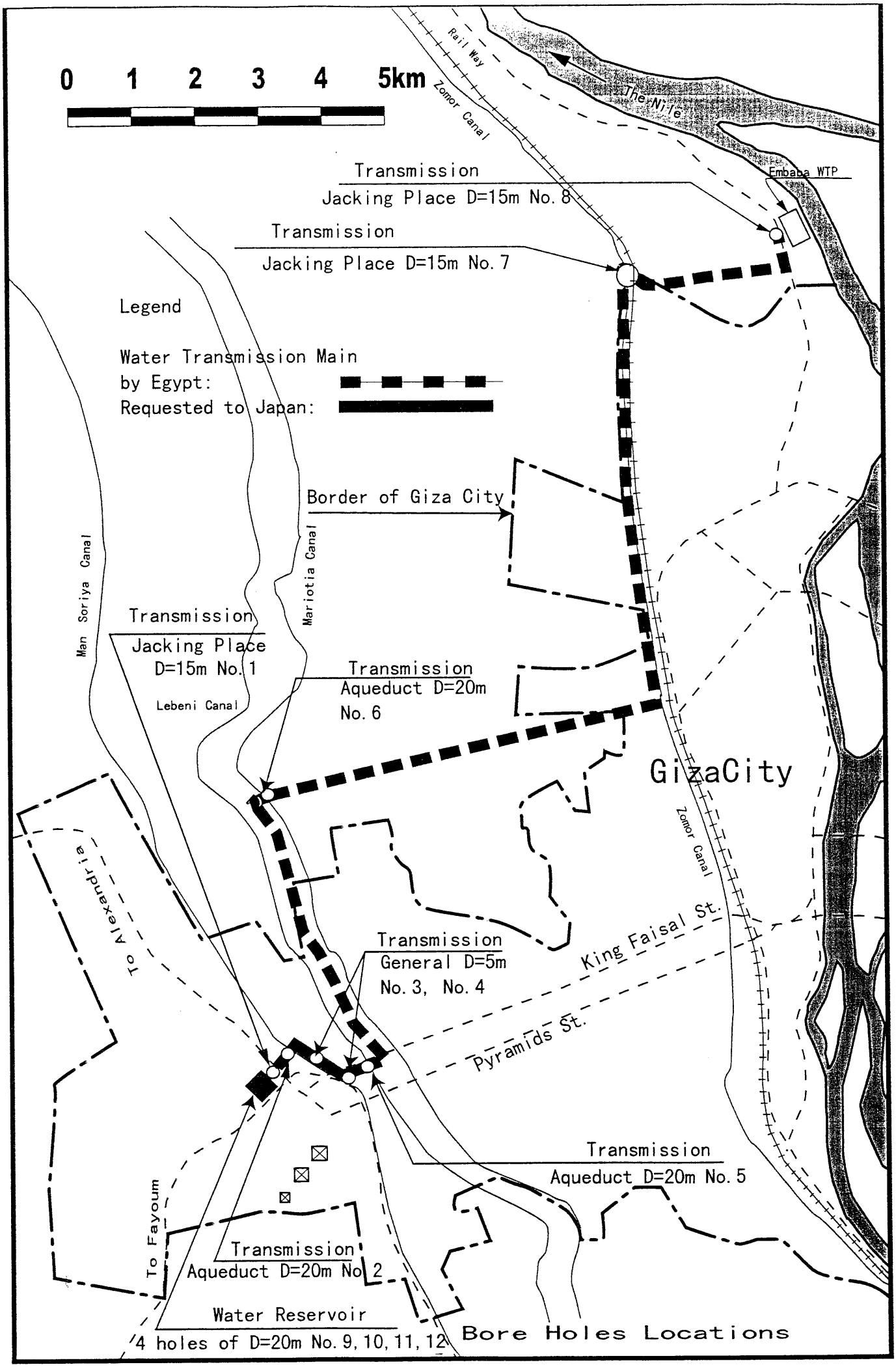
資料－７　参考資料／入手資料リスト

収集資料リスト

調査名：エジプト・アラブ共和国　ギザ市ピラミッド北部地区上水道整備計画

番　号	名　称	形態 図書・ビデオ 地図・写真等	オリジナル ・コピー	発　行　機　関	発　行　年
1	1／5000地形図　E－15	A1　地図	オリジナル	「エ」国統計局：CAPMAS	1993年
2	1／5000地形図　E－16	A1　地図	オリジナル	「エ」国統計局：CAPMAS	1993年
3	1／5000地形図　E－17	A1　地図	オリジナル	「エ」国統計局：CAPMAS	1993年
4	1／5000地形図　F－14	A1　地図	オリジナル	「エ」国統計局：CAPMAS	1993年
5	1／5000地形図　F－15	A1　地図	オリジナル	「エ」国統計局：CAPMAS	1993年
6	1／5000地形図　F－16	A1　地図	オリジナル	「エ」国統計局：CAPMAS	1993年
7	1／5000地形図　F－17	A1　地図	オリジナル	「エ」国統計局：CAPMAS	1993年
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

資料－８　ボーリング調査結果


0 1 2 3 4 5km
Rail Way
Zomor Canal
The Nile
Embaba WTP
Transmission
Jacking Place D=15m No. 8
Transmission
Jacking Place D=15m No. 7
Legend
Water Transmission Main
by Egypt:
Requested to Japan:
Border of Giza City
Man Soriya Canal
Mariotia Canal
Transmission
Jacking Place
D=15m No. 1
Lebeni Canal
Transmission
Aqueduct D=20m
No. 6
GizaCity
Zomor Canal
To Alexandria
Transmission
General D=5m
No. 3, No. 4
King Faisal St.
Pyramids St.
Transmission
Aqueduct D=20m No. 5
To Fayoum
Transmission
Aqueduct D=20m No. 2
Water Reservoir
4 holes of D=20m No. 9, 10, 11, 12
Bore Holes Locations

CROSS SECTION

Borehole No. (1)

Client : ARC Design and Consulting Engineering

Location : Project for Improvement of Water Supply System in Northern Pyramids Area in Giza city

Depth in meter	Sample Symbol	Sample number	Layers Log	Layers Elevation	SPT / 30 Cm test or Qu	Soil description and classification	Sub soil water Level
1	●	1				Fill, Light brown cohesionless calcareous sandy gravel contains traces of silt	
2	●	2		2.00	43		
3	●	3			46		
4	●	4			48		
5	●	5			56	Light brown cohesionless calcareous fine to medium sand	
6	●	6			54		
7	●	7			54		
8	●	8		8.00	66		
9	●	9			75		9.30 m
10	●	10			71		
11	●	11			68	Light brown cohesionless calcareous medium to fine sand	
12	●	12			82		
13	●	13			81		
14	●	14			83		
15	●	15		15.00	90		

Note : The elevations and depths were measured from the ground surface level

CROSS SECTION

Borehole No. (2)

Client : ARC Design and Consulting Engineering

Location : Project for Improvement of Water Supply System in Northern Pyramids Area in Giza city

Depth in meter	Sample Symbol	Sample number	Layers Log	Layers Elevation	SPT / 30 Cm test or Qu	Soil description and classification	Sub soil water Level
1	●	1				Fill, Dark brown cohesive calcareous clayey silty sand	
2	●	2		2.00	21	contains traces of limestone fragments	
3	●	3			20	Brown slightly cohesive calcareous fine to medium	
4	●	4			24	sand contains some silt	
5	●	5		4.45	60		
6	●	6			65		
7	●	7			69		7.70 m
8	●	8			62		
9	●	9			71	Light brown cohesionless calcareous poorly	
10	●	10			78	graded fine to medium sand contains traces of silt	
11	●	11			30		
12	●	12			38		
13	●	13			50/9		
14	●	14			50/13		
15	●	15		14.45	50/8		
16	●	16			50/9		
17	●	17			50/12	Light brown cohesionless calcareous poorly	
18	●	18			50/9	graded medium to fine sand	
19	●	19			50/8		
20	●	20		20.00	50/10		

Note : The elevations and depths were measured from the ground surface level

CROSS SECTION

Borehole No. (3)

Client : ARC Design and Consulting Engineering

Location : Project for Improvement of Water Supply System in Northern Pyramids Area in Giza city

Depth in meter	Sample Symbol	Sample number	Layers		SPT / 30 Cm test or qu	Soil description and classification	Sub soil water Level
			Log	Elevation			
1	●	1				Fill, brown slightly cohesive calcareous silty sand contains some gravel (concrete fragments)	
2	●	2					
3	●	3		3.00	31		
4	●	4			43	Brown cohesionless calcareous fine to medium sand contains traces of silt	
5	●	5		5.00	50		
6							
7							
8							
9							
10							

Note : The elevations and depths were measured from the ground surface level

CROSS SECTION

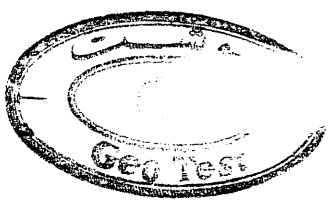
Borehole No. (4)

Client : ARC Design and Consulting Engineering

Location : Project for Improvement of Water Supply System in Northern Pyramids Area in Giza city

Depth in meter	Sample Symbol	Sample number	Layers: Log	Layers: levation	SPT / 30 Cm test or qu	Soil description and classification	Sub soil water Level
1	●	1		1.00	22	Fill, Greyish brown slightly cohesive calcareous sandy gravel (concrete fragments)contains some silt	
2	●	2			35	Light brown cohesionless calcareous	
3	●	3			41	medium to fine sand	
4	●	4			45		
5	●	5		5.00	48		
6		6					
7		7					
8		8					
9		9					
10		10					

Note : The elevations and depths were measured from the ground surface level



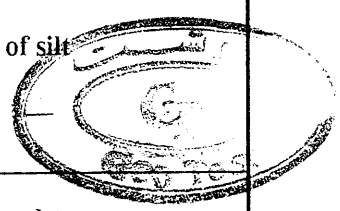
CROSS SECTION

Borehole No. (5)

Client : ARC Design and Consulting Engineering

Location : Project for Improvement of Water Supply System in Northern Pyramids Area in Giza city

Depth in meter	Sample Symbol	Sample number	Layers Log	Layers Elevation	SPT / 30 Cm test or Qu	Soil description and classification	Sub soil water Level
1	●	1					
2	●	2				Fill, Light greyish brown slightly cohesive calcareous	
3	●	3				gravelly (brick, limestone and mortar fragments)	
4	●	4				organic silty clay	4.70 m
5	●	5		5.00			
6	■	6				Dark brown cohesive calcareous silty clay	
7	■	7			1.97	contains some sand	
8	■	8		8.00	18		
9	●	9					
10	■	10			28	Dark brown cohesive calcareous clayey silt	
11	■	11				contains some sand	
12	■	12			25		
13	●	13			34		
14	●	14			33		
15	●	15		15.00	30		
16	●	16			66	Light brown cohesionless calcareous	
17	●	17			72	medium to fine sand contains traces of silt	
18	●	18			96		
19	●	19		19.00	100		
20	●	20		20.00		Light brown integrated calcareous sandstone	



Note : The elevations and depths were measured from the ground surface level

CROSS SECTION

Borehole No. (6)

Client : ARC Design and Consulting Engineering

Location : Project for Improvement of Water Supply System in Northern Pyramids Area in Giza city

Depth in meter	Sample Symbol	Sample number	Layers: Log	Layers: Elevation	SPT / 30 Cm test or Qu	Soil description and classification	Sub soil water Level
1	●	1				Fill, Light greyish brown slightly cemented calcareous	
2	●	2		2.00		gravelly(limestone fragments) silty sand	
3	■	3			25		
4	■	4					
5	■	5			17	Dark brown cohesive calcareous silty clay	
6	■	6					6.15 m
7	■	7			34		
8	■	8			2.85		
9	■	9			32		
10	■	10		9.40	26		
11	●	11			27	Greyish brown cohesive silicious silty sand contains	
12	●	12		12.45	21	some clay	
13	●	13			10		
14	●	14				Dark grey cohesive silicious clayey silt contains	
15	●	15			21	some sand	
16	●	16					
17	●	17		17.40	26		
18	●	18			95	Light brown cohesionless silicious medium to fine	
19	●	19			50/11	sand contains traces of silt	
20	●	20		20.00	58		

Note : The elevations and depths were measured from the ground surface level

CROSS SECTION

Borehole No. (7)

Client : ARC Design and Consulting Engineering

Location : Project for Improvement of Water Supply System in Northern Pyramids Area in Giza city

Depth in meter	Sample Symbol	Sample number	Layers Log	Layers Elevation	SPT / 30 Cm test or Qu	Soil description and classification	Sub soil water Level
1	●	1		1.00		Fill, Brown to reddish brown cemented disintegrated calcareous silty sandy gravel (brick and limestone fragments)	
2	●	2				Fill,Brown cemented disintegrated calcareous gravelly (brick and limestone fragments) silty clay contains some sand	
3	●	3		3.00			
4	▮	4			22	Dark brown cohesive calcareous clayey silt contains traces of sand	
5	●	5					
6	●	6			26		
7	▮	7			0.55 / 31		7.15 m
8	▮	8		7.45	28		
9	●	9			27	Brown slightly cohesive calcareous silty sand contains some clay	
10	●	10		9.45	21	Light grey cohesionless silicious medium to fine sand contains some silt	
11	●	11		11.00	19		
12	▮	12				Dark grey cohesive silicious silty clay	
13	▮	13			24		
14	▮	14					
15	▮	15		15.00			

Note : The elevations and depths were measured from the ground surface level

CROSS SECTION

Borehole No. (8)

Client : ARC Design and Consulting Engineering

Location : Project for Improvement of Water Supply System in Northern Pyramids Area in Giza city

Depth in meter	Sample Symbol	Sample number	Layers: Log	Layers: Elevation	SPT / 30 Cm test orQu	Soil description and classification	Sub soil water Level
1	●	1				Fill, Brown to reddish brown cemented disintegrated calcareous silty sandy gravel (brick , mortar and limestone fragments) contains traces of clay	
2	●	2					
3	●	3		3.00			
4	●	4				Dark brown cohesive calcareous clayey silt contains traces of sand	
5	■	5			8		
6	■	6					
7	■	7			18		
8	■	8		7.45			
9	■	9			2.80 / 25	Dark brown cohesive calcareous silty clay	8.40 m
10	■	10		10.00			
11	■	11			22	Greyish brown cohesive slightly calcareous sandy clayey silt	
12	■	12		12.00			
13	●	13			18	Light greyish brown slightly cohesive calcareous fine to medium sand contains some silt	
14	●	14			30		
15	●	15		15.00	25		

Note : The elevations and depths were measured from the ground surface level

CROSS SECTION

Borehole No. (9)

Client : ARC Design and Consulting Engineering

Location : Project for Improvement of Water Supply System in Northern Pyramids Area in Giza city

Depth in meter	Sample Symbol	Sample number	Layers Log	Layers Elevation	SPT / 30 Cm test or Qu	Soil description and classification	Sub soil water Level
1	●	1				Fill, Dark brown cohesive calcareous silty clay	
2	●	2				contains some sand and traces of limestone fragments	
3	●	3		3.00	43		
4	●	4			55		
5	●	5			57		
6	●	6			56		
7	●	7			52		
8	●	8			48		
9	●	9			48	Light brown cohesionless calcareous poorly	
10	●	10			62	graded fine to medium sand	
11	●	11			63		
12	●	12			86		
13	●	13		13.00	33		
14	●	14			43	Brown slightly cohesive calcareous silty fine sand	
15	●	15		15.00	41		
16	●	16			41	Brown cohesive calcareous silty clay contains traces	
17	●	17		17.00	50/8	of sand	
18	●	18			50/12	Light brown cohesionless calcareous medium	
19	●	19			50/8	to fine sand	
20	●	20		20.00	50/8		

Note : The elevations and depths were measured from the ground surface level

CROSS SECTION

Borehole No. (10)

Client : ARC Design and Consulting Engineering

Location : Project for Improvement of Water Supply System in Northern Pyramids Area in Giza city

Depth in meter	Sample Symbol	Sample number	Layers Log	Layers Elevation	SPT / 30 Cm test or Qu	Soil description and classification	Sub soil water Level
1	●	1				Fill, Dark brown cohesive calcareous silty clay	
2	●	2		2.00	49	contains some sand and traces of limestone fragments	
3	●	3			49		
4	●	4			55		
5	●	5			57		
6	●	6			62		
7	●	7			62		
8	●	8			69		
9	●	9			76	Light brown cohesionless calcareous poorly	
10	●	10			78	graded fine to medium sand	
11	●	11			50/8		
12	●	12			50/10		
13	●	13			50/9		
14	●	14		14.00	54		
15	●	15		15.00	50/12	Brown slightly cohesive calcareous silty fine sand	
16	●	16			50/14		
17	●	17			50/10	Light brown cohesionless calcareous medium	
18	●	18			50/11	to fine sand	
19	●	19			50/9		
20	●	20		20.00	50/10		

Note : The elevations and depths were measured from the ground surface level

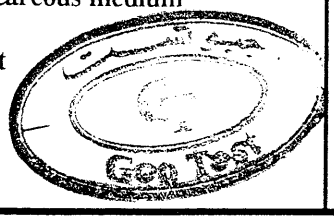
CROSS SECTION

Borehole No. (11)

Client : ARC Design and Consulting Engineering

Location : Project for Improvement of Water Supply System in Northern Pyramids Area in Giza city

Depth in meter	Sample Symbol	Sample number	Layers Log	Layers Elevation	SPT / 30 Cm test or Qu	Soil description and classification	Sub soil water Level
1	●	1				Fill, Dark brown cohesive calcareous gravelly (brick	
2	●	2		2.00	51	and rock fragments)sand contains some silt	
3	●	3			44		
4	●	4			54		
5	●	5			51		
6	●	6			58		
7	●	7			64		
8	●	8			58		
9	●	9			68	Light brown cohesionless calcareous poorly	
10	●	10			75	graded medium to fine sand	
11	●	11			71		
12	●	12			79		
13	●	13			71		
14	●	14		14.00	81		
15	●	15		15.00	37	Brown slightly cohesive calcareous silty sand contains	
16	●	16			31	traces of clay	
17	●	17			50/8	Light brown cohesionless calcareous medium	
18	●	18			50/8	to fine sand contains some silt	
19	●	19			50/8		
20	●	20		20.00	50/10		



Note : The elevations and depths were measured from the ground surface level

CROSS SECTION

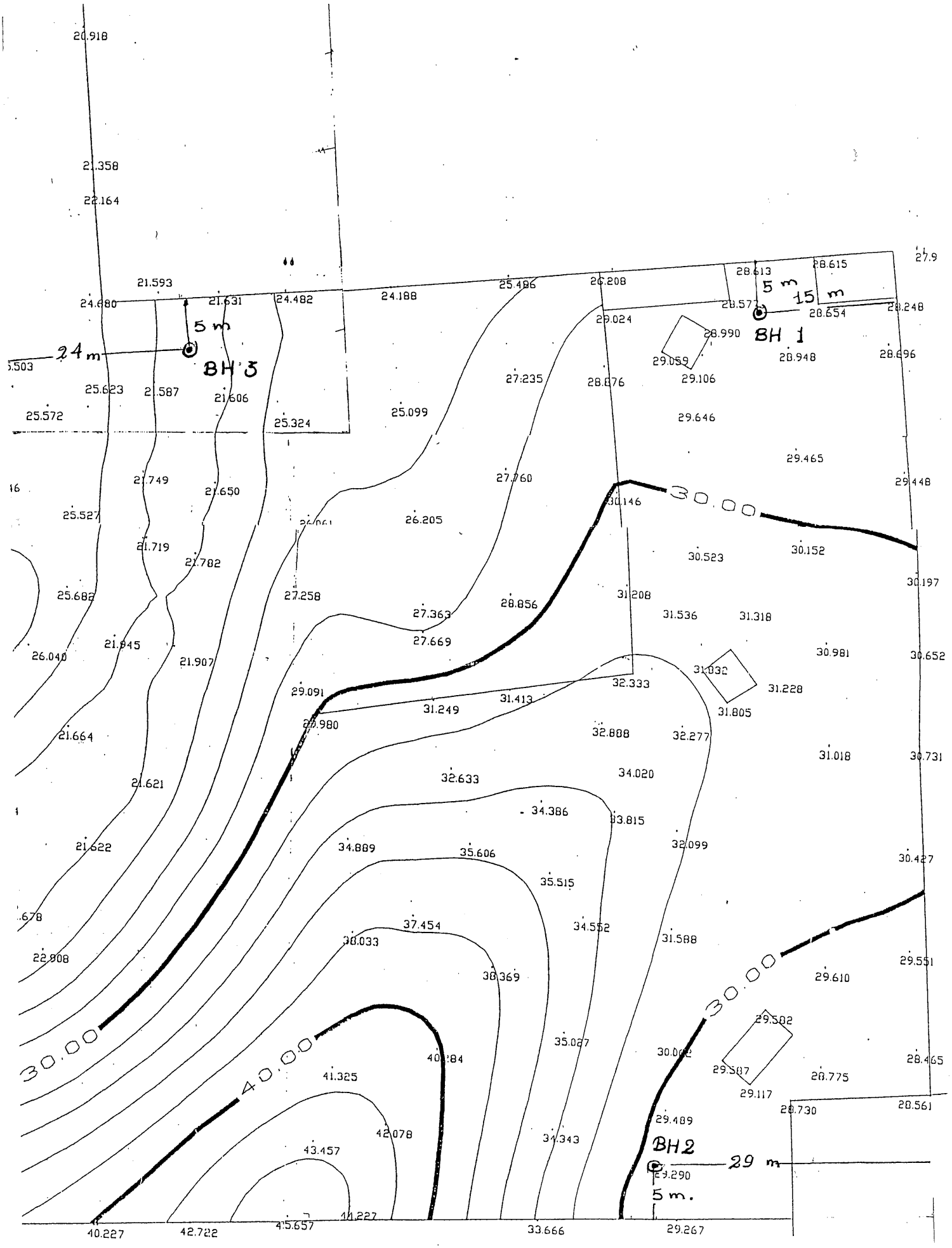
Borehole No. (12)

Client : ARC Design and Consulting Engineering

Location : Project for Improvement of Water Supply System in Northern Pyramids Area in Giza city

Depth in meter	Sample Symbol	Sample number	Layers Log	Layers Elevation	SPT / 30 Cm test or Qu	Soil description and classification	Sub soil water Level
1	●	1				Fill, Brown silghtly cohesive calcareous silty sand	
2	●	2		2.00	39		
3	●	3			45		
4	●	4			50	Light brown cohesionless calcareous poorly	
5	●	5			53	graded fine to medium sand	
6	●	6			54		
7	●	7			69		
8	●	8			65		
9	●	9			59		
10	●	10		10.00	68		
11	●	11			72		
12	●	12			65		
13	●	13			71		
14	●	14			75	Light brown cohesionless calcareous poorly	
15	●	15			81	graded medium to fine sand	
16	●	16			85		
17	●	17			50/8		
18	●	18			50/12		
19	●	19			50/10		
20	●	20		20.00	50/10		

Note : The elevations and depths were measured from the ground surface level


BH 3
24 m
5 m
BH 1
5 m
15 m
BH2
29 m
5 m.
30.000
40.000
30.000

CROSS SECTION

Borehole No. (1)

Laboratory No. 19

Date:May,23,2001

Client : ARC Design and Consulting Engineering

Location : Project for Improvement of Water Supply System in Northern Pyramids Area in Giza city

Depth in meter	Sample Symbol	Sample number	Layers Log	Layers Elevation	SPT / 30 Cm test or Qu	Soil description and classification	Sub soil water Level
1	●	1		1.00		Fill, Brown slightly cemented calcareous gravelly (brick mortar fragments) sand contains some silt	
2	●	2			43		
3	●	3			31		
4	●	4			33		
5	●	5			42	Light brown cohesionless calcareous medium to fine sand contains traces of silt and gravel	
6	●	6			42		
7	●	7		7.00	28		
8	●	8			33	Brown slightly cemented calcareous medium to fine sand contains some silt	
9	●	9			38		
10	●	10		10.00	50/14		
11	●	11			50/15		
12	●	12			50/14	Brown slightly cemented calcareous silty fine and medium sand	
13	●	13			50/12		
14	●	14			50/14		
15	●	15		15.00	50/12		

Note : The elevations and depths were measured from the ground surface level

CROSS SECTION

Borehole No. (2)

Client : ARC Design and Consulting Engineering

Laboratory No. : 19
Date:May.23,2001

Location : Project for Improvement of Water Supply System in Northern Pyramids Area in Giza city

Depth in meter	Sample Symbol	Sample number	Layers Log	Layers Elevation	SPT / 30 Cm test or Qu	Soil description and classification	Sub soil water Level
1	●	1		1.00		Light brown cohesionless calcareous gravelly sand contains some silt	
2	●	2			42		
3	●	3			44	Light brown cohesionless calcareous	
4	●	4			66	poorly graded medium to fine sand	
5	●	5			39		
6	●	6			61		
7	●	7			67		
8	●	8		8.00	71		
9	●	9			72		
10	●	10			71	Light yellowish brown cohesionless	
11	●	11			78	calcareous poorly graded fine to medium	
12	●	12			73	sand contains traces of silt	
13	●	13			50/15		
14	●	14			87		
15	●	15			50/12		
16	●	16			50/15		
17	●	17			50/12		
18	●	18			50/12		
19	●	19			50/11		
20	●	20		20.00	50/12		

Geo Test

Note : The elevations and depths were measured from the ground surface level

CROSS SECTION

Borehole No. (3)

Laboratory No. : 19
Date : May,23,2001

Client : ARC Design and Consulting Engineering

Location : Project for Improvement of Water Supply System in Northern Pyramids Area in Giza city

Depth in meter	Sample Symbol	Sample number	Layers Log	Layers Elevation	SPT - 30 Cm test or Qu	Soil description and classification	Soil Water Level
1	●	1		1.00		Light brown cohesionless calcareous gravelly sand contains traces of silt	
2	●	2			33		
3	●	3			41	Light brown cohesionless calcareous poorly	
4	●	4			31	graded medium to fine sand contains traces	
5	●	5			58	of silt	
6	●	6			51		
7	●	7		7.00	57		
8	■	8			2.2 kg/cm2		
9	■	9			1.7 kg/cm2	Dark brown cemented disintregrated calcareous	
10	■	10			2.6 kg/cm2	clayey silt contains some sand	
11	■	11			3.2 Kg/cm2		
12	■	12		12.00	2.9 kg/cm2		
13	■	13			3.4 kg/cm2	Dark brown cemented disintregrated calcareous	
14	●	14		14.00		sandy clayey silt	
15	●	15		15.00	50/12	Light brown cohesionless calcareous graded sand contains some gravel	
16	●	16			50/15		
17	●	17			50/14	Light brown cohesionless calcareous	
18	●	18			50/13	medium to fine sand	
19	●	19			50/14		
20	●	20		20.00	50/13		

Note : The elevations and depths were measured from the ground surface level