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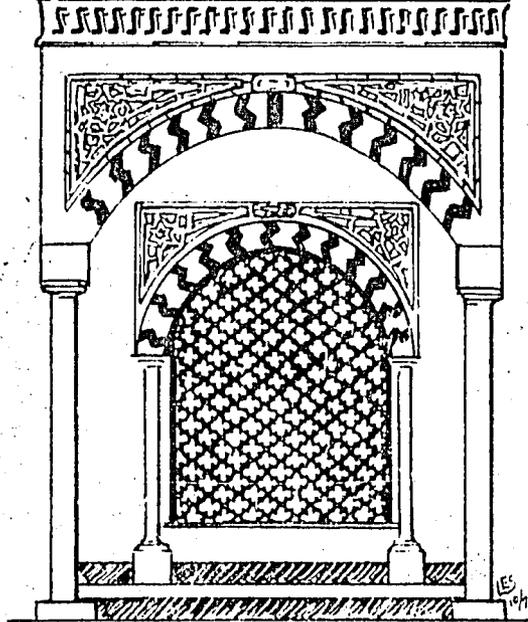
PN-AAH-79



ARAB REPUBLIC OF EGYPT
MINISTRY OF DEVELOPMENT
AND NEW COMMUNITIES

MANAGEMENT AND TARIFF STUDIES
RELATIVE TO WATER/SEWERAGE SYSTEMS

SEWERAGE UTILITY
INVENTORY & VALUATION
GREATER CAIRO/HELWAN
FINAL REPORT



بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ
وَجَعَلْنَا مِنَ الْمَاءِ كُلَّ شَيْءٍ حَيٍّ
صَدَقَ اللهُ الْعَظِیْمِ

BVI-ATK ASSOCIATES WITH SABBOUR ASSOCIATES

BLACK & VEATCH
INTERNATIONAL
CONSULTING ENGINEERS

A.T. KEARNEY, INC.
MANAGEMENT CONSULTANTS

SABBOUR ASSOCIATES
CONSULTING ENGINEERS

OCTOBER 1979

U.S.A.I.D. GRANT NO. 263-0025

SEWERAGE UTILITY
INVENTORY & VALUATION
GREATER CAIRO/HELWAN

FINAL REPORT

The Story of Our Cover:-

On our cover is a sketch of a sybil, which is a fountain. During the Ottoman Empire these were a common source of drinking water. A well is located at ground level and a balcony on the second level where children were taught the Koran. Usually located near mosques, sybils were built and then donated to the public by various benefactors.

Beneath the sketch is a quote from the Koran, "We made from water all living things".

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WATER AND SEWERAGE UTILITY INVENTORY AND VALUATION

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- 5.0 Depreciation Accounting
- 6.0 Depreciation Rates and Revenues
- 7.0 Property Records

Appendix 1, Inventory and Valuation, Greater
Cairo/Helwan Water Utility

Appendix 2, Inventory and Valuation, Greater
Cairo/Helwan Sewerage Utility

THIS VOLUME

Appendix 3, Inventory and Valuation,
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Appendix 5, Inventory and Valuation, Ismailia
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Appendix 7, Inventory and Valuation, Suez
Water and Sewerage Utility

CAIRO SEWERAGE SYSTEM
 INVENTORY AND VALUATION
 UTILITY PLANT IN SERVICE
 DECEMBER 31, 1978

The inventory and valuation contained herein covers the sewerage system presently owned and operated by the General Organization for Sewerage and Sanitary Drainage.

The valuations developed for these properties represents a reasonable estimate of value of the major facilities of the system. The values found are:

	Sewerage System LE
Reproduction Cost	476,110,800
Reproduction Cost Less Depreciation	266,243,400
Original Cost	126,505,150
Estimated Reserve for Depreciation on Original Cost	55,762,875

The inventory and valuation developed for the sewerage system may be used as a basis for establishing a record of the investment in utility properties. They may also be used for the determination of appropriate depreciation expense and depreciation reserves.

The inventory of the sewerage system includes all major facilities in service at December 31, 1978. It should not be considered as an exact, detailed, listing of all property units. As a result of the methods used, it is possible that the inventory contains omissions. When these are identified they should be added to the inventory by the operating utility.

Reference is made to the "Report on Water and Sewerage Inventory and Valuation", of which this Appendix is a part. In the Report, discussions are presented for the establishment and use of property records, property accounting systems, retirement accounting, depreciation accounting and depreciation rates and reserves. These recommendations supplement recommendations contained in the "Report on Management Systems - Management Information Systems" issued concurrently herewith. It is recommended that the operating utilities adopt and maintain the recommended systems. They will provide one element upon which sound management of the utilities can be based.

Abbreviations

AC	Alternating current
acre	4047 m ²
BOD	Biochemical oxygen demand
cm	Centimeter
cmd.	Cubic meter per day
cmh	Cubic meter per hour
COD	Chemical oxygen demand
DC	Direct current
ea	Each
Feddan	4,200 m ²
ha	Hectare or 10,000 m ²
hp	Horsepower
hr	Hour
hz	Hertz
kg	Kilograms
km	Kilometer
kVa	Kilovolt amperes
kW	Kilowatt
kWh	Kilowatt hour
lit/sec	Liter per second
lcd	Liter per capita per day
LE	Egyptian pound
lot	Lot or group, normally of a similar type of property
m.H	Mega hertz
m ²	Meter
m ²	Square meter
m ³	Cubic meter
mg	Milligrams
mg/l	Milligrams per liter
mm	Millimeter
mms	Milliemes
NA	Not available or not applicable
OC	Original cost
/	per
%	percent
pt	piastre
RC	Reproduction cost
RCLD	Reproduction cost less depreciation
R.p.m	Revolutions per minute
SS	Suspended solids
v	volt
yr	year

List of Commonly Used Expressions

ACR	Advisory Committee for Reconstruction
AWGA	Alexandria Water General Authority
ARE	Arab Republic of Egypt
CAPMAS	Central Agency for Public Mobilization and Statistics
GOGCWS	General Organization for Greater Cairo Water Supply
GOSSD	General Organization for Sewerage and Sanitary Drainage
IBRD	International Bank for Reconstruction and Development (World Bank)
MODANC	Ministry of Development and New Communities
MOHR	Ministry of Housing and Reconstruction
SCA	Suez Canal Authority
USA	United States of America
USAID	United States Agency for International Development
WHO	World Health Organization

GOSSD-CAIRO-HELWAN
INVENTORY OF UTILITY
PLANT IN SERVICE
December 31, 1978

	<u>OC</u> LE	<u>RC</u> LE	<u>RCLD</u> LE
<u>Combined Summary</u>			
TOTAL UTILITY :			
<u>Treatment Plants</u>			
Abou Rawash	1 025 000	1 725 000	1 287 000
Gabal Al Asfar	2 824 000	14 119 000	3 782 000
Khossous	4 497 000	14 650 000	11 504 000
Nahya	1 408 000	5 030 000	3 823 000
Zenein	8 338 000	28 750 000	22 483 000
Helwan			
Tebin			
Unclassified Plant	<u>5 134 027</u>		
Total Treatment Plants	23 226 027	64 274 000	42 879 000
<u>Network</u>			
Collection Plant	81 341 011	350 316 200	187 178 000
Pumping Plant	20 654 199	60 236 700	34 928 000
General Plant	<u>1 283 913</u>	<u>1 283 900</u>	<u>1 258 400</u>
Total Network	<u>103 279 123</u>	<u>411 836 800</u>	<u>223 364 400</u>
TOTAL UTILITY	126 505 150	476 110 800	256 243 400

GOSSD-CAIRO
INVENTORY OF UTILITY
PLANT IN SERVICE
December 31, 1978

	<u>OC</u> LE	<u>RC</u> LE	<u>RGLD</u> LE
<u>Summary</u>			
TOTAL UTILITY			
<u>Treatment Plants</u>			
Abou Rawash	1 025 000	1 0725 000	1 287 000
Gabal Al Asfar	2 824 000	14 119 000	3 782 000
Khossous	4 497 000	14 650 000	11 504 000
Nahya	1 408 000	5 030 000	3 823 000
Zenein	8 338 000	28 750 000	22 483 000
Total Treatment Plants	18 092 000	64 274 000	42 879 000
<u>Network</u>			
Collection Plant	78 693 900	342 138 300	180 607 000
Pumping Plant	19 798 599	58 235 700	33 529 000
General Plant	1 283 913	1 283 900	1 258 400
Total Network	99 776 412	401 657 900	215 394 400
TOTAL UTILITY	117 868 412	465 931 900	258 273 400

GOSSD-CAIRO
 INVENTORY OF UTILITY
 PLANT IN SERVICE
 December 31, 1978

OC

LE

RC

LE

RCLD

LE

Detailed Summary

ABOU RAWASH SEWAGE TREATMENT
 PLANT

Treatment and Disposal Plant

- Acct. 370-Land and Land Rights
- Acct. 371-Structures and Improvements
- Acct. 372-Treatment and Disposal Equipment

Total Treatment and Disposal Plant

General Plant

- Acct. 390-Structures and Improvements
- Acct. 391-Office Furniture and Equipment
- Acct. 392-Transportation Equipment
- Acct. 396-Power Operated Equipment

Total General Plant

TOTAL ABOU RAWASH SEWAGE
 TREATMENT PLANT

1 025 000

1 725 000

1 287 000

GOSSD-CAIRO
 INVENTORY OF UTILITY
 PLANT IN SERVICE
 December 31, 1978

ABOU RAWASH SEWAGE TREATMENT PLANT

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost</u> LE
<u>TREATMENT AND DISPOSAL PLANT</u>			
<u>Acct. 370-Land and Land Rights</u>			
Plant site		280 ha	
Total Acct. 370			
<u>Acct. 371-Structures and Improvements</u>			
Inlet structures	1940	1 ea	
Office building	1940	1 ea	
Power station	1940	1 ea	
Total Acct. 371			
<u>Acct. 372-Treatment and Disposal Equipment</u>			
Preliminary treatment			
Grit channels	1940	3 ea	
Primary treatment			
Settling basin, horizontal flow rectangular tanks with 4 bays (2 820 m ³) and Meider type traveling bridge scraper	1940	1 ea	
Secondary treatment			
Filter beds (21.5 m) radius, siphon fed central column distributor (2 660 m ³)	1940	4 ea	
Other treatment equipment			
Night storage tank Rectangular tank (3 890 m ³)	1940	1 ea	
Sludge pumping equipment	1940	1 lot	

GOSSD-CAIRO
 INVENTORY OF UTILITIES
 PLANT IN SERVICE
 December 31, 1978

ABOU RAWASH SEWAGE TREATMENT PLANT

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost LE</u>
TREATMENT AND DISPOSAL PLANT (Cont'd)			
<u>Acct. 372-Treatment and Disposal Equipment (Cont'd)</u>			
Other treatment equipment (Cont'd)			
Sludge drying beds			
Bed No. (1)	1940	1 ha	
Bed No. (2)	1954	3 ha	
Bed No. (3)	1970	13 ha	
Electric generating equipment			
(63 kW diesel engine (50 kVa alternator)	1940	1 ea	
Bypass lagoons (5 850 m ³)	1940	3 ea	
Total Acct. 372			

GOSSD-CAIRO
 INVENTORY OF UTILITY
 PLANT IN SERVICE
 December 31, 1978

ABOU RAWASH SEWAGE TREATMENT PLANT

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost LE</u>
GENERAL PLANT			
<u>Acct.390-Structures and Improvements</u>			
Staff quarters		32 flats	
Total Acct.390			
<u>Acct.391-Office Furniture and Equipment</u>			
Office furniture		1 lot	
Total Acct.391			
<u>Acct.392-Transportation Equipment</u>			
<u>Acct.396-Power Operated Equipment</u>			
Atlanta portable generator four wheeled wagon			
Total Acct.396			

GOSSD-CAIRO
INVENTORY OF UTILITY
PLANT IN SERVICE
December 31, 1978

OC	RC	RCLD
LE	LE	LE

Detailed Summary

GABAL AL ASFAR SEWAGE
TREATMENT PLANT

Treatment and Disposal Plant

Acct.370-Land and Land
Rights

Acct.371-Structures and
Improvements

Acct.372-Treatment and Disposal
Equipment

Total Treatment and
Disposal Plant

General Plant

Acct.390-Structures and
Improvements

Total General Plant

TOTAL GABAL AL ASFAR SEWAGE
TREATMENT PLANT

	2 824 000	14 119 000	3 782 000
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GOSSD-CAIRO
INVENTORY OF UTILITY
PLANT IN SERVICE
December 31, 1978

GABAL AL ASFAR SEWAGE TREATMENT PLANT

	<u>Year</u>	<u>Quantity</u>		<u>Original Cost</u> LE
TREATMENT AND DISPOSAL PLANT				
<u>Acct.370-Land and Land Rights</u>				
Plant site		1 850 ha		
Total Acct.370				
<u>Acct.371-Structures and Improvements</u>				
Generator house		1 ea		
Fuel storage tanks		1 lot		
Pumping station		1 ea		
Total Acct.371				
<u>Acct.372-Treatment and Disposal Equipment</u>				
Preliminary treatment Inlet chambers with manual raked screens with 10 mm bars and 30 mm centers		2 ea		
Primary treatment Hydrolitic tank, 12 bays, 4 030 m ³ Settling rectangular tanks, 5 bays, Meider type traveling bridge scrapper 10 710 m ³ 7 140 m ³		1 ea		
Secondary treatment Filter beds Rectangular beds, 13 620 m ³ of media rectangular traveling distributor siphon feed		1 ea		
Tertiary treatment				

GOSSD-CAIRO
INVENTORY OF UTILITY
PLANT IN SERVICE
December 31, 1978

GABAL AL ASFAR SEWAGE TREATMENT PLANT

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost LE</u>
TREATMENT AND DISPOSAL PLANT			
(Cont'd)			
<u>Acct. 372-Treatment and Disposal</u>			
<u>Equipment (Cont'd)</u>			
Other treatment equipment			
Night storage tank			
Rectangular tank ₃			
4 bays, 5 260 m ³		1 ea	
Stand by generator			
No.1-325 kW diesel engine			
336 kVa alternator		1 ea	
No.2-222 kW diesel engine			
222 kVa alternator		1 ea	
No.3-78 kW diesel engine			
220 V. DC generator		1 ea	
No.4-11 kW. AC motor,			
DC generator		1 ea	
Sludge pumping equipment			
Horizontal pumps			
(11 kW, 16 kW motor)		2 ea	
Sludge drying beds			
Bed No.1		7 ha	
Bed No.2		8 ha	
Sludge lagoon		1 ea	
Irrigated canals		1 lot	
Experimental treatment			
Works	1940	1 lot	
Total Acct. 372			

GOSSD-CAIRO
 INVENTORY OF UTILITY
 PLANT IN SERVICE
 December 31, 1978

GABAL AL ASFAR SEWAGE TREATMENT PLANT

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost</u> LE
GENERAL PLANT			
<u>Acct. 390-Structures and Improvements</u>			
Workshop		2 ea	
Laboratory building		1 ea	
Office building		1 ea	
Stores		1 ea	
Total Acct. 390			

GOSSD-CAIRO
INVENTORY OF UTILITY
PLANT IN SERVICE
December 31, 1978

OC LE	RC LE	RCLD LE
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Detailed Summary

KHOSSOUS SEWAGE TREATMENT
PLANT

Treatment and Disposal Plant

Acct.370-Land and Land
Rights

Acct.371-Structures and
Improvements

Acct.372-Treatment and Disposal
Equipment

Total Treatment and
Disposal Plant

General Plant

Acct.390-Structures and
Improvements

Acct.391-Office Furniture
and Equipment

Acct.392-Transportation
Equipment

Acct.394-Tools, Shop and
Garage Equipment

Acct.395-Laboratory
Equipment

Total General Plant

TOTAL KHOSSOUS SEWAGE
TREATMENT PLANT

4 497 000	14 650 000	11 504 000
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GOSSD-CAIRO
INVENTORY OF UTILITY
PLANT IN SERVICE
December 31, 1978

KHOSSOUS SEWAGE TREATMENT PLANT

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost LE</u>
TREATMENT AND DISPOSAL PLANT			
<u>Acct.370-Land and Land Rights</u>			
Plant site		7 ha	
Total Acct.370			
<u>Acct.371-Structures and Improvements</u>			
Chlorination house			
Pumping station	1976	1 ea	
Transformer house	1965	1 ea	
Total Acct.371			
<u>Acct.372-Treatment and Disposal Equipment</u>			
Preliminary treatment			
Inlet channels with inclined screens, 10 mm bars on 40 mm centers	1972	2 ea	
Detritus channels 186 m ³	1972	2 ea	
Primary treatment			
Settling tanks, Meider type traveling bridge scraper			
Tanks 1,5 3 725 m ³	1972	2 ea	
Tanks 2,3,4 3 580 m ³	1965	3 ea	
Secondary treatment			
Tertiary treatment equipment			
Chlorination equipment Chlorination injectors		3 ea	
Other treatment equipment			
Sludge pumps			
Vertical spindle pumps 435-576 m ³ /hr, 22-44 kW two speed motors	1965	4 ea	
Electric equipment	1965	1 lot	
Plant piping	1965	1 lot	
Total Acct.372			

GOSSD-CAIRO
INVENTORY OF UTILITY
PLANT IN SERVICE
December 31, 1978

KHOSSOUS SEWAGE TREATMENT PLANT

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost LE</u>
GENERAL PLANT			
<u>Acct. 390-Structures and Improvements</u>			
Workshop	1965	1 ea	
Office building and laboratory building	1978	1 ea	
Total Acct. 390			
<u>Acct. 391-Office Furniture and Equipment</u>			
Office furniture	1965	1 lot	
Total Acct. 391			
<u>Acct. 392-Transportation Equipment</u>			
Trucks		1 ea	
Total Acct. 392			
<u>Acct. 394-Tools, Shop and Garage Equipment</u>			
Small tools and work Equipment		1 lot	
Total Acct. 394			
<u>Acct. 395-Laboratory Equipment</u>			
Total Acct. 395	1978	1 lot	

GOSSD-CAIRO
INVENTORY OF UTILITY
PLANT IN SERVICE
December 31, 1978

OC
LE

RC
LE

RCLD
LE

Detailed Summary

NAHYA SEWAGE TREATMENT PLANT

Treatment and Disposal Plant

Acct.370-Land and Land
Rights

Acct.371-Structures and
Improvements

Acct.372-Treatment and Disposal
Equipment

Total Treatment and
Disposal Plant

TOTAL NAHYA SEWAGE
TREATMENT PLANT

	1 408 000	5 030 000	3 823 000
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GOSSD-CAIRO
INVENTORY OF UTILITY
PLANT IN SERVICE
December 31, 1978

NAHYA SEWAGE TREATMENT PLANT

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost</u> LE
TREATMENT AND DISPOSAL PLANT			
<u>Acct. 370-Land and Land Rights</u>			
Plant site		4 ha	
Total Acct. 370			
<u>Acct. 371-Structures and Improvements</u>			
Pumping station		1 ea	
Office building		1 ea	
Water pump house		1 ea	
Total Acct. 371			
<u>Acct. 372-Treatment and Disposal Equipment</u>			
Preliminary treatment			
Inlet chamber with manual raked bar screen		2 ea	
Grit chamber 87 m ³		2 ea	
Primary treatment			
Settling tanks with four bays (4 150 m ³ , traveling bridge scrapper		1 ea	
Secondary treatment			
Tertiary treatment			
Chlorination equipment		1 lot	
Other treatment equipment			
Sludge pumping and equipmen			
Vertical spindle pump sets (160 m ³ /hr, 12 kW motor)		2 ea	
Horizontal pump set (216 m ³ /hr, 25 kW motor)		1 ea	

GOSSD-CAIRO
 INVENTORY OF UTILITY
 PLANT IN SERVICE
 December 31, 1978

NAHYA SEWAGE TREATMENT PLANT

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost</u> <u>LE</u>
TREATMENT AND DISPOSAL PLANT (Cont'd)			
<u>Acct. 372-Treatment and Disposal Equipment (Cont'd)</u>			
Other treatment equipment (Cont'd)			
Plant water supply			
Well		3 ea	
Well pump		3 ea	
Elevated tank (100 m ³ 35 m to overflow)		1 lot	
Plant piping		1 lot	
Electric equipment		1 lot	
Total Acct. 372			

GOSSD-CAIRO
 INVENTORY OF UTILITY
 PLANT IN SERVICE
 December 31, 1978

<u>OC</u>	<u>RC</u>	<u>RCLD</u>
<u>LE</u>	<u>LE</u>	<u>LE</u>

Detailed Summary

ZENEIN SEWAGE TREATMENT PLANT

Treatment and Disposal Plant

- Acct.370-Land and Land Rights
- Acct.371-Structures and Improvements
- Acct.372-Treatment and Disposal Equipment

- Total Treatment and Disposal Plant

General Plant

- Acct.390-Structures and Improvements
- Acct.391-Office Furniture and Equipment
- Acct.394-Tools, Shop and Garage Equipment
- Acct.395-Laboratory Equipment

TOTAL ZENEIN SEWAGE TREATMENT PLANT	8 338 000	28 750 000	22 483 000
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GOSSD-CAIRO
INVENTORY OF UTILITY
PLANT IN SERVICE
December 31, 1978

ZENEIN SEWAGE TREATMENT PLANT

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost LE</u>
TREATMENT AND DISPOSAL PLANT			
<u>Acct.370-Land and Land Rights</u>			
Plant site		37 ha	
Total Acct.370			
<u>Acct.371-Structures and Improvements</u>			
Sludge pumping house		1 ea	
Air compressor house		1 ea	
Water supply pump house		1 ea	
Total Acct.371			
<u>Acct.372-Treatment and Disposal Equipment</u>			
Preliminary treatment			
Inlet chamber		1 ea	
Mechanical raked screens		3 ea	
Grit channels(790 m ³) capacity		6 ea	
Grit suction dredgers		2 ea	
Grease removal tank (1 250 m ³)		2 ea	
Flow measurement flumes		3 ea	
Settling tank (36 m diam, 3 780 m ³) with half bridge scrappers		2 ea	
Pre-aeration tanks (258 m ³)		2 ea	
Air diffuser equipment		2 ea	
Primary treatment			
Settling tanks (36 m diam, 3 070 m ³) with mechanical half bridge scrappers and sludge hopper		8 ea	

GOSSD-CAIRO
INVENTORY OF UTILITY
PLANT IN SERVICE
December 31, 1978

ZENEIN SEWAGE TREATMENT PLANT

	<u>Year</u>	<u>Quantity</u>	<u>Original</u>
			<u>Cost</u>
			<u>LE</u>
TREATMENT AND DISPOSAL PLANT (Cont'd)			
<u>Acct.372-Treatment and Disposal</u>			
<u>Equipment (Cont'd)</u>			
Secondary treatment			
Aeration tanks (10 950 m ³) with 18 aeration channels and 5 aeration channels		4 ea	
Air diffuser equipment		4 ea	
Air flow meters		4 ea	
Final setting basins (36 m diam, 3 670 m ³) with mechanical half bridge scrapper		8 ea	
Other treatment equipment			
Sludge pumping station			
Primary sludge pumps		3 ea	
Returned activated sludge pumps		4 ea	
Sludge disposal pump (720 m ³ /hr, 75 kW motor)		5 ea	
Air compressor equipment			
Centrifugal compressors (30 000 m ³ /hr, 650 kW direct coupled motors)		9 ea	
Emergency generators			
(1 250 kVa, 1 492 kW) diesel engine		3 ea	
(625 kVa, 612 kW) diesel engine		2 ea	
Plant water supply			
Wells		2 ea	
Well pumps		2 ea	
Booster pumps (1 460 R.p.m)		6 ea	
Water cooling equipment		1 lot	

GOSSD-CAIRO
INVENTORY OF UTILITY
PLANT IN SERVICE
December 31, 1978

ZENEIN SEWAGE TREATMENT PLANT

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost LE</u>
TREATMENT AND DISPOSAL PLANT (Cont'd)			
<u>Acct. 372-Treatment and Disposal Equipment (Cont'd)</u>			
Other treatment Equipment (Cont'd)			
Plant piping		1 lot	
Sludge piping		1 lot	
Compressed air distribution mains		1 lot	
Electric equipment		1 lot	
Fuel storage tanks		1 lot	
Total Acct. 372			

GOSSD-CAIRO
INVENTORY OF UTILITY
PLANT IN SERVICE
December 31, 1978

ZENEIN SEWAGE TREATMENT PLANT

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost LE</u>
GENERAL PLANT			
<u>Acct. 390-Structures and Improvements</u>			
Mechanical workshop		1 ea	
Staff housing		1 ea	
Administration and laboratory building		1 ea	
Total Acct. 390			
<u>Acct. 391-Office Furniture and Equipment</u>			
Office furniture		1 lot	
Total Acct. 391			
<u>Acct. 394-Tools, Shop and Garage Equipment</u>			
Small tools and work equipment		1 lot	
Total Acct. 394			
<u>Acct. 395-Laboratory Equipment</u>			
Total Acct. 395		1 lot	

GOSSD-CAIRO
INVENTORY OF UTILITY
PLANT IN SERVICE
December 31, 1978

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OC LE	RC LE	RCLD LE
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Detailed Summary

NETWORK

Collection Plant

Acct.352-Collection Sewers			
352.1-Force	10 544 600	37 272 800	25 272 000
352.2-Gravity	62 989 900	286 813 200	146 875 000
352.3-Special Collection Structures	2 269 400	3 602 300	2 998 000
Acct.353-Services to Customers	2 890 000	14 450 000	5 462 000
Total Collection Plant	78 693 900	342 138 300	180 607 000

Pumping Plant

Acct.360-Land and Land Rights			
Acct.361-Structures and Improvements	2 603 725	5 580 500	4 201 000
Acct.362-Receiving Wells	1 637 412	4 934 600	4 032 000
Acct.363-Electric Pumping Equipment	13 764 562	38 756 100	21 751 000
Acct.364-Diesel Pumping Equipment	83 400	417 000	115 000
Acct.365-Other Pumping Equipment	1 709 500	8 547 500	3 430 000
Total Pumping Plant	19 798 599	58 235 700	33 529 000

GOSSD-CAIRO
INVENTORY OF UTILITY
PLANT IN SERVICE
December 31, 1978

27

OC	RC	RCLD
LE	LE	LE

Detailed Summary

NETWORK (Cont'd)

General Plant

Acct.389-Land and Land Rights	246 400	246 400	246 400
Acct.390-Structures and Improvements	532 100	532 100	527 000
Acct.391-Office Furniture and Equipment	207 200	207 200	202 000
Acct.392-Transportation Equipment	289 811	289 800	275 000
Acct.393-Stores Equipment			
Acct.394-Tools,Shop and Garage Equipment	8 402	8 400	8 000
Acct.395-Laboratory Equipment			
Acct.396-Power Operated Equipment			
Acct.397-Communication Equipment			
Total General Plant	1 283 913	1 283 900	1 258 400
 TOTAL NETWORK	 99 776 412	 401 657 900	 215 394 400

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NETWORK.

	<u>Year</u>	<u>Quantity</u>		<u>Original Cost LE</u>
COLLECTION PLANT				
<u>Acct.352-Collection Sewers</u>				
<u>Acct.352.1-Collection Sewers-</u>				
<u>Force</u>				
250 mm		8 250 m		
300 mm		81 250 m		
350 mm		1 875 m		
400 mm		6 250 m		
500 mm		9 500 m		
600 mm		10 000 m		
625 mm		5 000 m		
900 mm		27 500 m		
1 170 mm		9 250 m		
1 200 mm		6 250 m		
1 500 mm		<u>28 250 m</u>		
		193 375 m		
Various Size	1978	1 lot		
Total Acct.352.1				10 544 600

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	NETWORK	<u>Year</u>	<u>Quantity</u>	<u>Original Cost</u> LE
COLLECTION PLANT (Cont'd)				
<u>Acct.352-Collection Sewers</u> (Cont'd)				
<u>Acct.352.2-Collection Sewers-</u> <u>Gravity</u>				
Clay Pipe Sewers				
125 mm			8 600 m	
150 mm			21 600 m	
175 mm			323 000 m	
200 mm			162 800 m	
225 mm			838 600 m	
250 mm			11 500 m	
300 mm			120 200 m	
375 mm			50 300 m	
450 mm			24 600 m	
500 mm			4 100 m	
600 mm			42 200 m	
Concrete Pipe Sewers				
750 mm			23 200 m	
900 mm			14 700 m	
1 600 mm			16 700 m	
Brick and Concrete Sewers				
Circular Sewers				
1 000 mm			5 000 m	
1 200 mm			3 800 m	
1 250 mm			5 400 m	
1 500 mm			9 100 m	
1 800 mm			3 200 m	
2 100 mm			1 000 m	
Horseshoe Sewers				
900 x 800 mm			5 600 m	
1 200 x 1 000 mm			4 900 m	
1 250 x 1 250 mm			2 000 m	
1 400 x 1 200 mm			3 600 m	
1 500 x 1 440 mm			800 m	
1 600 x 1 540 mm			5 300 m	
1 900 x 1 800 mm			4 700 m	
2 000 x 1 900 mm			4 900 m	
Manholes				
On sewers to 500 mm			89 100 ea	
On sewers over 500 mm			1 600 ea	
Sewers and Manholes	1978		1 lot	
Total Acct.352.2				62 989 900

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NETWORK

	<u>Year</u>	<u>Quantity</u>		<u>Original Cost LE</u>
<u>COLLECTION PLANT (Cont'd)</u>				
<u>Acct.352-Collection Sewers</u>				
(Cont'd)				
<u>Acct.352.3-Special Collecting</u>				
<u>Structures</u>				
Nile Siphon	1965			
Inlet works				
Stilling chamber				
Valve chamber				
Chlorination chamber				
Headworks housing with				
hand raked screens				
and control penstocks				
Screen and grit				
removal building				
with mechanical				
raked screens,				
screening dis-				
integrators and				
grit settlement				
channels				
Emergency outlets				
Two 450 mm pipes				
and 750 x 900 mm				
culvert				
Siphon				
Two 1 200 mm welded				
steel pipes		475 m		
3 750 mm prestressed				
concrete tunnel with				
lighting forced				
ventilating system,				
walkways, access				
ladders and related				
equipment				
Outlet works				
Collection chamber				
Siphon collector				
Grit Traps				
Types A and B grit traps				
with control valves		17 ea		

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	<u>Year</u>	<u>Quantity</u>	<u>Original Cost</u> LE
<u>COLLECTION PLANT (Cont'd)</u>			
<u>Acct.352-Collection Sewers</u> (Cont'd)			
<u>Acct.352.3-Special Collecting</u> <u>Structures (Cont'd)</u>			
Canals			
El Muheit Drain			
Nahya Drain			
Belbase Drain			
Khossous Drain			
Gabal Al Asfar Drain			
Emergency Canal			
Headworks with two			
150 x 25 m settling			
tanks		1 lot	
Trapezodial channel			
3 m wide x 1.5 m deep	1940	11.5 km	
Trapezodial channel			
5 m wide x 1.5 m deep	1959	11.5 km	
Miscellaneous Structures	1978	1 lot	
Total Acct.352.3			2 269 400
<u>Acct.353-Services to Customers</u>			
Total Acct.353		.70 000 ea	2 890 000

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NETWORK

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost</u> I.E.
PUMPING PLANT			
<u>Acct.360-Land and Land Rights</u>			
Ameria station site			
Giza station site			
Souk Al Samak station site	1965		
Ein Shams station site	1914		
Gamaa station sit	1960		
Ramlet Boulak	1970		
Halabi	1965		
Hoad el Zohoor	1965		
Mesafer Khana	1968		
Faggala	1960		
Sabri	1960		
Shorafa	1960		
Aly Shaarawi	1965		
Hammamat el Kubba	1973		
Sennary	1960		
Ewaa el Mohagreen	1973		
Alf Maskan	1965		
Maspiro	1972		
Azbakiah	1968		
Khan el Khalili			
Abdeen	1962		

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NETWORK

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost</u> LE
PUMPING PLANT (Cont'd)			
<u>Acct. 360-Land and Land Rights</u>			
<u>(Cont'd)</u>			
Haddarah	1968		
Willcocks (Old)	1960		
Willcocks (New)	1973		
Omar el Khayam	1965		
El Zohriah	1962		
United Socity			
El Gorn	1963		
El Salam (Old)	1962		
El Salam (New)	1974		
El Awkaf (Old)	1962		
El Awkaf (New)	1974		
El Moualemeen	1969		
El Mohandeseen	1958		
Nadi el Seid	1964		
Nahya	1965		
Boulak El Dakrour	1969		
Nasr el Din	1968		
Studio Nahhas	1962		
El Omrania	1961		
Abou Horaira	1972		
El Manasterly	1968		

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NETWORK

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost LE</u>
PUMPING PLANT (Cont'd)			
<u>Acct.360-Land and Land Rights</u>			
<u>(Cont'd)</u>			
El Tahrir (Old)	1962		
El Tahrir (New)	1970		
Talaat Harb (Old)	1962		
Talaat Harb (New)	1977		
Kasr el Dubara	1965		
Sakaeen	1972		
Dakhliah	1963		
Ginan el Zohary	1963		
Kadri	1969		
Sayeda Zeinab	1965		
Mobtadaian	1969		
Bagala	1963		
Kasr el Aini	1965		
Dayoura	1968		
Abou el Saoud	1968		
Emam el Shafei	1968		
Emam el Lethi	1971		
Maadi	1968		
Kom Ghorab	1963		
Manyal	1962		
Hassouna	1968		

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NETWORK

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost</u> LE
PUMPING PLANT (Cont'd)			
<u>Acct. 360-Land and Land Rights</u>			
<u>(Cont'd)</u>			
Mamalik	1962		
Noubar	1962		
Kasr Mohammed Aly	1952		
Maatouk	1963		
Ezbet Wahba	1963		
Eskan el Zawia el Hamra	1968		
El Zawia el Hamra	1972		
Khalafawi	1975		
Ideal	1968		
Zolfokar	1968		
Sharabia	1963		
Massara	1963		
Geziret Baaran	1957		
Taweel	1965		
Total Acct. 360			

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NETWORK

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost LE</u>
PUMPING PLANT (Cont'd)			
<u>Acct.361-Structures and Improvements</u>			
Ameria			
Pump house No.1 Mass concrete sub- structures, brick superstructure	1928	1 ea	
Pump house No.2 R.C. substructures, brick superstructures	1950	1 ea	
Pump house No.3 R.C. caisson, R.C. framed super- structures	1965	1 ea	
Pump house No.4 R.C. caisson, R.C. framed super- structures	1976	1 ea	
Electrical switchgear building		1 ea	
Transformer building		1 ea	
Generator house	1928	1 ea	
Giza			
Pump house No.1 Concrete sub- structures and superstructures	1936	1 ea	
Pump house No.2 R.C. framed super- structures, concrete substructures	1969	1 ea	
Pump house No.3 R.C. framed super- structures, concrete substructures	1967	1 ea	
Electrical switchgear building	1969	1 ea	
Transformer building	1969	1 ea	

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NETWORK

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost LE</u>
PUMPING PLANT (Cont'd)			
<u>Acct. 361-Structures and Improvements</u>			
<u>(Cont'd)</u>			
Souk Al Samak			
Pump house No.1			
Mass concrete sub- structures, R.C. superstructures	1965	1 ea	
Pump house No.2			
Mass concrete sub- structures, R.C. superstructures	1973	1 ea	
Ein Shams			
Pump house No.1			
Mass concrete sub- structures, brick superstructures	1914	1 ea	
Pump house No.2			
R.C. caisson, R.C. framed superstructures	1974	1 ea	
Gamaa			
Pump house			
R.C. superstructure, interlocking sheet pile, R.C. substructures	1960	1 ea	
Miscellaneous Structures	1978	1 lot	
Total Acct. 361			2 603 725

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NETWORK

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost LE</u>
PUMPING PLANT (Cont'd)			
<u>Acct.362-Receiving Wells</u>			
Ramlet Boulak Above ground motor room, R.C. circular wet and dry well, R.C. superstructures	1970	1 ea	
Halabi Below ground pump house, R.C. circular wet and dry well	1965	1 ea	
Hoad el Zohoor Below ground pump house, R.C. circular wet and dry well	1965	1 ea	
Mesafer Khana Above ground motor room, R.C. circular wet and dry well	1968	1 ea	
Faggala (Old) Below ground pump house, R.C. circular wet and dry well	1960	1 ea	
Sabri Below ground pump house	1960	1 ea	
Shorafa Below ground pump house, R.C. circular wet and dry well	1960	1 ea	
Aly Shaarawi Above ground motor room, R.C. circular wet and dry well	1965	1 ea	

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NETWORK

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost LE</u>
PUMPING PLANT (Cont'd)			
<u>Acct.362-Receiving Wells</u>			
(Cont'd)			
Hamamat el Kubba Above ground motor room, R.C. circular wet and dry well	1973	1 ea	
Sennary Above ground motor room, R.C. circular wet and dry well	1960	1 ea	
Ewaa el Mohagreen Partially above ground pump house and separate circular wet well	1973	1 ea	
Alf Maskan Above ground motor room, R.C. circular wet and dry well	1965	1 ea	
Maspiro Below ground pump house, R.C. circular wet and dry well	1972	1 ea	
Azbakiah Above ground motor room, R.C. circular wet and dry well	1968	1 ea	
Khan el Khalili Below ground pump house, R.C. circular wet and dry well		1 ea	
Abdeen Below ground pump house, R.C. circular wet and dry well	1962	1 ea	

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NETWORK

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost</u>
PUMPING PLANT (Cont'd)			
<u>Acct. 362-Receiving Wells</u>			
<u>(Cont'd)</u>			
Haddarah Below ground pump house, R.C. circular wet and dry well	1968	1 ea	
Willcocks (Old) Below ground pump house, R.C. circular wet and dry well	1960	1 ea	
Willcocks (New) Below ground pump house, R.C. circular wet and dry well	1973	1 ea	
Omar el Khayam Below ground pump house, R.C. circular wet and dry well	1965	1 ea	
El Zohriah Below ground pump house, R.C. circular wet and dry well	1962	1 ea	
United Society Below ground pump house		1 ea	
El Gorn Below ground pump house, R.C. circular wet and dry well	1963	1 ea	
El Salam (Old) Below ground pump house, R.C. wet and dry well	1962	1 ea	
El Salam (New) Below ground pump house	1974	1 ea	

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NETWORK

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost LE</u>
PUMPING PLANT (Cont'd)			
<u>Acct.362-Receiving Wells</u>			
(Cont'd)			
El Awkaf (Old) Above ground motor room, wet and dry well	1962	1 ea	
El Awkaf (New) Above ground motor room, wet and dry well	1974	1 ea	
El Moualemeen Above ground motor room, wet and dry well	1969	1 ea	
El Mohandeseen Below ground pump house, wet and dry well	1958	1 ea	
Nadi el Seid Above ground motor room, R.C. circular wet and dry well	1964	1 ea	
Nahya Above ground motor room, wet and dry well	1965	1 ea	
Boulak El Dakrour Above ground motor room, R.C. circular wet and dry well	1969	1 ea	
Nasr el Din Above ground motor room, wet and dry well	1968	1 ea	

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NETWORK

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost LE</u>
PUMPING PLANT (Cont'd)			
<u>Acct. 362-Receiving Wells</u>			
(Cont'd)			
Studio Nahhas Below ground pump house, R.C. circular wet and dry well	1962	1 ea	
El Omrania Below ground pump house, wet and dry well	1961	1 ea	
Abou Horaira Above ground motor room, wet and dry well	1972	1 ea	
El Manasterly Above ground motor room, wet and dry well	1968	1 ea	
El Tahrir (Old) Partially above ground pump house	1962	1 ea	
El Tahrir (New) Above ground motor room, wet and dry well	1970	1 ea	
Talaat Harb (Old) Wet and dry well	1962	1 ea	
Talaat Harb (New) Above ground motor room, wet and dry well	1977	1 ea	

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NETWORK

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost</u> T.F.
PUMPING PLANT (Cont'd)			
<u>Acct. 362-Receiving Wells</u> (Cont'd)			
Kasr el Dubara Above ground motor room, R.C. wet and dry well, 9.0 m caisson, R.C. super- structure	1965	1 ea	
Sakaeen Above ground motor room, R.C. circular dry well	1972	1 ea	
Dakhliah Below ground pump house, R.C. circular wet and dry well	1963	1 ea	
Ginan el Zohary Above ground motor room, R.C. structure, wet and dry circular wells	1963	1 ea	
Kadri Above ground motor room, rectangular wet and dry well	1969	1 ea	
Sayeda Zeinab Above ground motor room, R.C. circular caisson 8.0 m diam, R.C. structure	1965	1 ea	
Mobtadaian Above ground motor room, R.C. wet and dry wells 7.0 caisson, R.C. structure	1969	1 ea	

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NETWORK

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost LE</u>
PUMPING PLANT (Cont'd)			
<u>Acct. 362-Receiving Wells</u> (Cont'd)			
Bagala Above ground motor room, circular dry and wet well	1963	1 ea	
Kasr el Aini Above ground motor room, R.C. wet and dry well, 9.0 m diameter, R.C. structure	1965	1 ea	
Dayoura Above ground motor room, wet and dry well, R.C. super- structures, with three mechanical raked screens and two grit chambers	1968	1 ea	
Abou el Saoud Above ground motor room, R.C. wet and dry wells, R.C. superstructure	1968	1 ea	
Emam el Shafei Above ground motor room, wet and dry wells, in 7.0 diameter caisson, R.C. structure	1968	1 ea	
Emam el Lethi Above ground motor room, wet and dry wells in circular caisson, R.C. structure	1971	1 ea	

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NETWORK

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost LE</u>
PUMPING PLANT (Cont'd)			
<u>Acct.362-Receiving Wells</u>			
(Cont'd)			
Maadi			
Above ground motor room, R.C. rectangular wet and dry wells, R.C. superstructure with three mechanically raked screens	1968	1 ea	
Kom Ghorab			
Above ground motor room, wet and dry wells in 7.0 m circular caisson, R.C. structure	1963	1 ea	
Manyal			
Below ground pump house, R.C. circular wet and dry well	1962	1 ea	
Hassouna			
Above ground motor room, R.C. circular wet and dry well, R.C. structure	1968	1 ea	
Mamalik			
Submersible pump installed in manhole	1962	1 ea	
Noubar			
Above ground motor room, R.C. circular wet and dry well	1962	1 ea	
Kasr Mohammed Aly			
Above ground motor room, R.C. circular wet and dry well	1952	1 ea	

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NETWORK

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost LE</u>
PUMPING PLANT (Cont'd)			
<u>Acct. 362-Receiving Wells</u>			
(Cont'd)			
Maatouk Above ground motor room, R.C. circular wet and dry well	1963	1 ea	
Ezbet Wahba R.C. circular wet and dry well	1963	1 ea	
Eskan el Zawia el Hamra Above ground motor room, R.C. circular wet and dry well	1968	1 ea	
El Zawia el Hamra Above ground motor room, R.C. circular wet and dry well	1972	1 ea	
Khalafawi Below ground R.C. wet well	1975	1 ea	
Ideal Above ground motor room, R.C. circular wet and dry well	1968	1 ea	
Zolfokar Below ground pump house, R.C. circular wet and dry well	1968	1 ea	
Sharabia Above ground motor room, R.C. circular wet and dry well	1963	1 ea	

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NETWORK

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost LE</u>
PUMPING PLANT (Cont'd)			
<u>Acct.362-Receiving Wells</u> (Cont'd)			
Massara			
Above ground motor room,R.C. circular wet and dry well	1963	1 ea	
Geziret Badran			
Below ground pump house,R.C. circular wet and dry well	1957	1 ea	
Taweel			
Above ground motor room,R.C. circular wet and dry well	1965	1 ea	
Total Acct.362			1 637 412
<u>Acct.363-Electric Pumping Equipment</u>			
ieria			
Pump house No.1			
Pump (800 lit/sec)	1936	2 ea	
Pump (800 lit/sec) and motor (550 kW)	1958	3 ea	
Pump house No.2			
Pump (1 000 lit/sec) and motor (855 kW)	1974	2 ea	
Pump house No.3			
Pump (1 200 lit/sec, and motor (970 kW)	1964	2 ea	
Pump house No.4			
Pump (1 200 lit/sec) and motor (1 060 kW)	1974	2 ea	
Ancillary equipment			
Mechanically raked screens	1963	2 ea	
Mechanically raked screens	1967	2 ea	

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NETWORK

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost LE</u>
PUMPING PLANT (Cont'd)			
<u>Acct. 363-Electric Pumping Equipment</u> (Cont'd)			
Ameria (Cont'd)			
Ancillary equipment			
Screening disintegrator	1973	2 ea	
Air lift grit removers	1967	2 ea	
Electric equipment, 11 kV supplies		4 ea	
Generator, diesel driven 1 300 kVa alternators	1928	1 ea	
Giza			
Pump house No.1			
Pump (500 lit/sec) and motor (200 kW)	1952	3 ea	
Pump house No.2			
Pump (1 200 lit/sec) and motor (220 kW)	1969	7 ea	
Pump house No.3			
Pump (550 lit/sec) and motor (427 kW)	1967	2 ea	
Ancillary equipment			
Mechanically raked screens, robot-disintegrator suction lift dredger	1969	2 ea	
Electric equipment 11 kV supply	1969	2 ea	
Souk: Al Samak			
Pump house No.1			
Pump (1 200 lit/sec) and motor (445 kW)	1963	2 ea	
Pump (780 lit/sec) and motor (445 kW)	1963	1 ea	

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NETWORK

	Year	<u>Quantity</u>	<u>Original Cost</u> LE
PUMPING PLANT (Cont'd)			
<u>Acct. 363-Electric Pumping Equipment</u> <u>(Cont'd)</u>			
Souk Al Samak (Cont'd)			
Pump house No.2			
Pump (1 200 lit/sec) and motor (445 kW)	1967	3 ea	
Ancillary equipment			
Mechanically raked screens	1967	3 ea	
Vertical lift, hand clearance screens	1963	2 ea	
Electric equipment, 11 kV supply	1963	3 ea	
Ein Shams			
Pump house No.2			
Pump (1 200 lit/sec) and motor (670 kW)	1974	3 ea	
Ancillary equipment			
Hand raked screens	1914	2 ea	
Electric equipment, 11 kV supply	1974	2 ea	
Gamma			
Pump (411/306 lit/sec) and motor 140/70 kW)	1960-65	5 ea	
Ancillary equipment			
Hand raked screens	1960	1 ea	
Electric equipment, 300 kV supply	1960	1 lot	
Ramlet Boulak			
Centrifugal pump (40 lit/sec)		3 ea	
Submersible pump	1970	1 ea	
Halabi			
Centrifugal pump (25 lit/sec)		1 ea	
Submersible pump	1965	2 ea	

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	<u>Year</u>	<u>Quantity</u>	<u>Original Cost</u> LE
PUMPING PLANT (Cont'd)			
<u>Acct.363-Electric Pumping Equipment</u> (Cont'd)			
Hoad el Zohoor			
Centrifugal pump (60 lit/sec)		3 ea	
Submersible pump	1965	1 ea	
Mesafer Khana			
Centrifugal pump (50 lit/sec)		2 ea	
Submersible pump	1968	1 ea	
Faggala (Old)			
Centrifugal pump (40 lit/sec)		3 ea	
Submersible pump	1960	2 ea	
Sabri			
Centrifugal pump (50 lit/sec)	1960	3 ea	
Shorafa			
Centrifugal pump (80 lit/sec)		1 ea	
Submersible pump		1 ea	
ABS 30 kW submersible	1960	1 ea	
Aly Shaarawi			
Centrifugal pump (50 lit/sec)		3 ea	
Submersible pump	1965	1 ea	
Hammamat el Kubba			
Centrifugal pump		2 ea	
Submersible pump	1973	5 ea	
Sennary			
Centrifugal pump	1960	3 ea	
Ewaa el Mohagreen			
Electric self priming pumps	1973	2 ea	

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	<u>Year</u>	<u>Quantity</u>	<u>Original Cost</u> LE
PUMPING PLANT (Cont'd)			
<u>Acct.363-Electric Pumping Equipment</u>			
<u>(Cont'd)</u>			
Alf Maskan			
Centrifugal pump (50 lit/sec)		3 ea	
Submersible pump	1965	1 ea	
Maspiro			
Centrifugal pump (100 lit/sec)	1972	3 ea	
Azbakiah			
Centrifugal pump (60 lit/sec)		3 ea	
Submersible pump	1968	2 ea	
Khan el Khalili			
Centrifugal pump (50 lit/sec)			
Abdeen			
Centrifugal pump (60 lit/sec)		2 ea	
Submersible pump	1962	3 ea	
Haddarah			
Centrifugal pump (60 lit/sec)		2 ea	
Submersible pump	1968	1 ea	
Willcocks (Old)			
Centrifugal pump (60 lit/sec)		2 ea	
Submersible pump	1960	2 ea	
Willcocks (New)			
Centrifugal pump Pump (100 lit/sec)	1973	2 ea	
Omar el Khayam			
Centrifugal pump (60 lit/sec)		1 ea	
Submersible pump	1965	2 ea	

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NETWORK

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost LE</u>
PUMPING PLANT (Cont'd)			
<u>Acct. 363-Electric Pumping Equipment</u>			
<u>(Cont'd)</u>			
El Zohriah Centrifugal pump (70 lit/sec)	1962	2 ea	
United Society Centrifugal pump (15 lit/sec)	1964	2 ea	
El Gorn Centrifugal pump Submersible pump	1963	3 ea 2 ea	
El Salam (Old) Centrifugal pump	1962	3 ea	
El Salam (New) Centrifugal pump (40 lit/sec) Submersible pump	1974	3 ea 1 ea	
Al Awkaf (Old) Centrifugal pump Submersible pump	1962	2 ea 1 ea	
Al Awkaf (New) Centrifugal pump (40 lit/sec) Submersible pump	1974	4 ea 1 ea	
El Moualemeen Centrifugal pump	1969	4 ea	
El Mohandeseen Centrifugal pump (33/42 lit/sec) Submersible pump	1958	2 ea 2 ea	
Nadi el Seid Centrifugal pump (180 lit/sec) Submersible pump	1964	1 ea 2 ea	

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NETWORK

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost LE</u>
PUMPING PLANT (Cont'd)			
<u>Acct.363-Electric Pumping Equipment</u>			
(Cont'd)			
Nahya			
Centrifugal pump (40 lit/sec)	1965	4 ea	
Boulak El Dakrour			
Centrifugal pump (40 lit/sec)	1969	4 ea	
Nasr el Din			
Centrifugal pump (50 lit/sec)		2 ea	
Submersible pump	1968	2 ea	
Studio Nahhas			
Centrifugal pump (32 lit/sec)		1 ea	
Submersible pump	1962	2 ea	
El Omrania			
Centrifugal pump		3 ea	
Submersible pump	1961	1 ea	
Abou Horaira			
Centrifugal pump		3 ea	
Submersible pump	1972	3 ea	
El Manasterly			
Centrifugal pump		4 ea	
Submersible pump	1968	1 ea	
El Tahrir (Old)			
Centrifugal pump		3 ea	
Submersible pump	1962	1 ea	
El Tahrir (New)			
Centrifugal pump (32 lit/sec)	1970	4 ea	

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NETWORK

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost LE</u>
PUMPING PLANT (Cont'd)			
<u>Acct. 303-Electric Pumping Equipment</u>			
<u>(Cont'd)</u>			
Talaat Harb (Old)			
Centrifugal pump		3 ea	
Submersible pump	1962	1 ea	
Talaat Harb (New)			
Centrifugal pump (40 lit/sec)	1977	4 ea	
Kasr el Dubara			
Centrifugal pump (150/114 lit/sec) and motor (44/22 kW)	1965	4 ea	
Sakaeen			
Centrifugal pump (50 lit/sec)	1972	4 ea	
Dakhliah			
Centrifugal pump (50 lit/sec)	1963	3 ea	
Submersible pump		1 ea	
Ginan el Zohary			
Centrifugal pump (50 lit/sec)	1963	3 ea	
Kadri			
Centrifugal pump (361 lit/sec) and motor (150 kW)	1969	4 ea	
Sayeda Zeinab			
Centrifugal pump (200 lit/sec) and motor (33 kW)	1965	3 ea	
Mobtadaian			
Centrifugal pump (50 lit/sec)		4 ea	
Submersible pump	1969	1 ea	

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NETWORK

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost</u> T.F
PUMPING PLANT (Cont'd)			
<u>Acct.363-Electric Pumping Equipment</u> (Cont'd)			
Bagala			
Centrifugal pump (50 lit/sec)		3 ea	
Submersible pump	1963	1 ea	
Kasr el Aini			
Centrifugal pump (150/114 lit/sec) and motor (44/22 kW)	1965	3 ea	
Dayoura			
Centrifugal pump (1 200 lit/sec) and motor (220 kW)	1968	5 ea	
Abou el Saoud			
Centrifugal pump (50 lit/sec)		3 ea	
Submersible pump	1968	2 ea	
Emam el Shafei			
Centrifugal pump (80/35 lit/sec)		3 ea	
Submersible pump	1968	1 ea	
Emam el Lethi			
Centrifugal pump (50 lit/sec)	1971	2 ea	
Maadi			
Centrifugal pump (417 lit/sec) and motor (150 kW)	1968	6 ea	
Kom Ghorab			
Centrifugal pump (50 lit/sec)		3 ea	
Submersible pump	1963	1 ea	

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NETWORK

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost LE</u>
PUMPING PLANT (Cont'd)			
<u>Acct. 363-Electric Pumping Equipment</u>			
<u>(Cont'd)</u>			
Manyal			
Centrifugal pump (100 lit/sec)		2 ea	
Submersible pump	1962	1 ea	
Hassouna			
Centrifugal pump (40 lit/sec)		3 ea	
Submersible pump	1968	2 ea	
Mamalik			
Submersible pump	1962	1 ea	
Noubar			
Centrifugal pump (100 lit/sec)		2 ea	
Submersible pump	1962	1 ea	
Kasr Mohammed Aly			
Centrifugal pump (200 lit/sec)		1 ea	
Submersible pump	1952	2 ea	
Maatouk			
Centrifugal pump (50 lit/sec)		3 ea	
Submersible pump	1963	1 ea	
Ezbet Wahba			
Centrifugal pump (30 lit/sec)		3 ea	
Submersible pump	1963	1 ea	
Eskan el Zawia el Hamra			
Centrifugal pump (60 lit/sec)		4 ea	
Submersible pump	1968	1 ea	
El Zawia el Hamra			
Centrifugal pump (50 lit/sec)	1972	3 ea	

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NETWORK

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost</u> LE
PUMPING PLANT (Cont'd)			
<u>Acct.363-Electric Pumping Equipment</u> <u>(Cont'd)</u>			
Khalafawi			
Centrifugal pump (50 lit/sec)		3 ea	
Submersible pump	1975	2 ea	
Ideal			
Centrifugal pump (50 lit/sec)		4 ea	
Submersible pump	1968	1 ea	
Zolfokar			
Centrifugal pump (50 lit/sec)		2 ea	
Submersible pump	1968	1 ea	
Sharabia			
Centrifugal pump (50 lit/sec)		2 ea	
Submersible pump	1963	2 ea	
Maasara			
Centrifugal pump (50 lit/sec)		2 ea	
Centrifugal pump (60 lit/sec)		1 ea	
Submersible pump	1974	1 ea	
Geziret Badran			
Centrifugal pump (11 lit/sec)		1 ea	
Submersible pump	1957	2 ea	
Taweel			
Centrifugal pump (1 200 lit/sec) and motor (220 kW)	1968	3 ea	
Miscellaneous Pumping Equipment	1976	1 lot	
Total Acct.363			13 76 562

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NETWORK

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost</u>
PUMPING PLANT (Cont'd)			
<u>Acct.364-Diesel Pumping Equipment</u>			
Giza			
Pump house No.1			
Pump (335 lit/sec) and engine (180 kW)	1936	2 ea	
Ein Shams			
Pump house No.1			
Pump (916 lit/sec) and engine (670 kW)	1948	1 ea	
Pump (600 lit/sec) and engine (443 kW)	1952	2 ea	
Ewaa el Mohagreen			
Mobile pump		1 ea	
Total Acct.364			83 400

Acct.365-Other Pumping Equipment

Compressed Air Stations

Maarouf

Compressor

(1 300 lit/sec)
and engine (260 kW)

4 ea

Compressor

(1 390 lit/sec)
and motor (430 kW)

3 ea

Old Cairo

Compressor

(1 300 lit/sec)
and engine (260 kW)

1 ea

Compressor

(855 lit/sec)
and engine (185 kW)

1 ea

Compressor

(1 125 lit/sec)
and motor (250 kW)

1 ea

Compressor

(2 360 lit/sec)
and motor (395 kW)

2 ea

GOSSD-CAIRO
INVENTORY OF UTILITY
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NETWORK

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost</u> L.E
PUMPING PLANT (Cont'd)			
<u>Acct.365-Other Pumping Equipment</u>			
<u>(Cont'd)</u>			
Compressed Air Stations			
(Cont'd)			
Shoubra			
Compressor			
(1 300 lit/sec)			
and engine (260 kW)		1 ea	
Compressor			
(855 lit/sec)			
and engine (185 kW)		2 ea	
Compressor			
(1 125 lit/sec)			
and motor (250 kW)		1 ea	
Compressor			
(2 360 lit/sec)			
and motor (395 kW)		2 ea	
Compressed Air Piping			
300 mm			
250 mm			
200 mm			
150 mm			
100 mm			
		56 390 m	
Ejectors Stations			
Northern Zone			
21 stations, 42 ejectors,			
0.68-2.27 m ³		1 lot	
Southern Zone			
26 stations, 52 ejectors			
0.23-3.41 m ³		1 lot	
Central and Eastern Zones			
35 stations, 69 ejectors,			
0.23-2.27 m ³		1 lot	
Total Acct.365			L 709 500

GOSSD-CAIRO
 INVENTORY OF UTILITY
 PLANT IN SERVICE
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NETWORK

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost LE</u>
<u>GENERAL PLANT</u>			
<u>Acct. 389-Land and Land Rights</u>	1978	1 lot	246 400
<u>Acct. 390-Structures and Improvements</u>	1978	1 lot	532 100
<u>Acct. 391-Office Furniture and Equipment</u>	1978	1 lot	207 200
<u>Acct. 392-Transportation Equipment</u>	1978	1 lot	289 811
<u>Acct. 393-Stores Equipment</u>		1 lot	
<u>Acct. 394-Tools, Shop and Garage Equipment</u>	1978	1 lot	8 402
<u>Acct. 395-Laboratory Equipment</u>		1 lot	
<u>Acct. 396-Power Operated Equipment</u>		1 lot	
<u>Acct. 397-Communication Equipment</u>		1 lot	

GOSSD-HELWAN
 INVENTORY OF UTILITY
 PLANT IN SERVICE
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<u>OC</u> LE	<u>RC</u> LE	<u>RCLD</u> LE
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Summary

TOTAL UTILITY

Treatment Plants

Helwan	Not in Service
Tebin	Under Construction
Total Treatment Plants	

Network

Collection Plant	2 647 111	8 177 900	6 571 000
Pumping Plant	855 600	2 001 000	1 399 000
General Plant			
Total Network	<u>3 502 711</u>	<u>10 178 900</u>	<u>7 970 000</u>
TOTAL UTILITY	3 502 711	10 178 900	7 970 000

GOSSD-HELWAN
 INVENTORY OF UTILITY
 PLANT IN SERVICE
 December 31, 1978

OC
LE

RC
LE

RCLD
LE

Detailed Summary

HELWAN SEWAGE TREATMENT PLANT

Pumping Plant

Acct.361-Structures and
 Improvements

Acct.363-Electric Pumping
 Equipment

Total Pumping Plant

Treatment and Disposal Plant

Acct.372-Treatment and Disposal
 Equipment

Total Treatment and
 Disposal Plant

TOTAL HELWAN SEWAGE
 TREATMENT PLANT

Not in Service

GOSSD-HELWAN
INVENTORY OF UTILITY
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HELWAN TREATMENT PLANT

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost</u> LE
PUMPING PLANT			
<u>Acct. 361-Structures and Improvements</u>			
Pumping station Concrete pump house with wet and dry well	1965	1 ea	
Total Acct. 361			
<u>Acct. 363-Electric Pumping Equipment</u>			
Pumping station Pumps (250 lit/sec) and motors (210 kW)	1965	2 ea	
Pumps (250 lit/sec) and engines	1965	1 ea	
Electric equipment	1965	1 lot	
Total Acct. 363			
 TREATMENT AND DISPOSAL PLANT			
<u>Acct. 372-Treatment and Disposal Equipment</u>			
Inlet chamber, manually raked screens		1 ea	
Inlet chamber, four chambers		1 ea	
Distribution structures Primary sedimentation tanks with full bridge scraper		1 ea	
Filters, rotary distributor		4 ea	
Final sedimentation tanks with full bridge scraper		4 ea	
Night storage tank		2 ea	
Sludge drying beds		1 ea	
Total Acct. 372			

GOSSD-HELWAN
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 PLANT IN SERVICE
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OC
LE

RC
LE

RCLD
LE

Detailed Summary

TEBIN TREATMENT PLANT

Treatment and Disposal Plant

Acct.370-Land and Land
 Rights

Acct.371-Structures and
 Improvements

Acct.372-Treatment and Disposal
 Equipment

Total Treatment and
 Disposal Plant

TOTAL TEBIN TREATMENT PLANT Under Construction

GOSSD-HELWAN
INVENTORY OF UTILITY
PLANT IN SERVICE
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TEBIN TREATMENT PLANT

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost LE</u>
<u>TREATMENT AND DISPOSAL PLANT</u>			
<u>Acct. 370-Land and Land Rights</u>			
Tebin plant site		3 ha	
Total Acct. 370			
<u>Acct. 371-Structures and Improvements</u>			
Total Acct. 371			
<u>Acct. 372-Treatment and Disposal Equipment</u>			
Inlet chambers, manually raked screens		1 ea	
Grit channel		2 ea	
Primary settling tanks with half bridge scraper		1 ea	
Aeration tanks, motor driven paddles		4 ea	
Return sludge pumps		4 ea	
Final settling tanks		8 ea	
Sludge drying beds		1 lot	
Power generator equipment diesel engine (30 kVa)		2 ea	
Total Acct. 372			

GOSSD-HELWAN
INVENTORY OF UTILITY
PLANT IN SERVICE
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	OC LE	RC LE	RCLD LE
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Detailed Summary

NETWORK

Collection Plant

Acct. 352-Collection Sewers			
352.1-Force	1 469 011	3 970 300	3 657 000
352.2-Gravity	940 100	3 357 600	2 333 000
Acct. 353-Services to Customers	238 000	850 000	581 000
Total Collection Plant	2 647 111	8 177 900	6 571 000

Pumping Plant

Acct. 360-Land and Land Rights			
Acct. 361-Structures and Improvements	164 496	400 200	338 000
Acct. 363-Electric Pumping Equipment	691 104	1 600 800	1 061 000
Total Pumping Plant	855 600	2 001 000	1 399 000

General Plant

Acct. 389-Land and Land Rights			
Acct. 390-Structures and Improvements			
Acct. 391-Office Furniture and Equipment			
Acct. 392-Transportation Equipment			

GOSSD-HELWAN
 INVENTORY OF UTILITY
 PLANT IN SERVICE
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OC	RC	RCLD
LE	LE	LE

Detailed Summary

NETWORK (Cont'd)

General Plant (Cont'd)

Acct.393-Stores Equipment
 Acct.394-Tools,Shop and
 Garage Equipment
 Acct.395-Laboratory Equipment
 Acct.396-Power Operated
 Equipment
 Acct.397-Communication
 Equipment

Total General Plant

TOTAL NETWORK	3 502 711	10 178 900	7 970 000
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GOSSD-HELWAN
INVENTORY OF UTILITY
PLANT IN SERVICE
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NETWORK

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost</u> LE
COLLECTION PLANT			
<u>Acct. 352-Collection Sewers</u>			
<u>Acct. 352.1-Collection Sewers-</u>			
<u>Force</u>			
200 mm		1 000 m	
300 mm		500 m	
450 mm		14 990 m	
400 mm		7 000 m	
700 mm		7 000 m	
Total Acct. 352.1			1 469 011
<u>Acct. 352.2-Collection Sewers-</u>			
<u>Gravity</u>			
Clay pipe sewers 175 mm		53 000 m	
Manholes		1 325 ea	
Total Acct. 352.2			940 100
<u>Acct. 353-Services to Customers</u>			
		10 000 ea	
Total Acct. 353			238 000
 PUMPING PLANT			
<u>Acct. 360-Land and Land Rights</u>			
Helwan main pumping station Station site		1 lot	
Old Eskan pumping station Station site		1 lot	
New Eskan pumping station Station site		1 lot	
Tebin pumping station Station site		1 lot	
Total Acct. 360			

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NETWORK

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost</u> I.F.
PUMPING PLANT (Cont'd)			
<u>Acct.361-Structures and Improvements</u>			
Helwan main pumping station Circular concrete pump house with wet and dry well	1972	1 ea	
Old Eskan pumping station Concrete pump house with wet and dry well		1 ea	
New Eskan pumping station Concrete pump house with wet and dry well	1976	1 ea	
Tebin pumping station Concrete pump house with wet and dry well		1 ea	
Total Acct.361			164 496

Acct.363-Electric Pumping Equipment

Helwan main pumping station Vertical spindle (250 lit/sec) centrifugal pump (250 kW motor)	1974	2 ea	
Vertical spindle (250 lit/sec) centrifugal pump (210 kW motor)	1972	1 ea	
Electric equipment	1972	1 lot	
Old Eskan pumping station Pumps (40 lit/sec) and motors	1963	4 ea	
Electric equipment	1963	1 lot	

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NETWORK

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost</u> LE
PUMPING PLANT (Cont'd)			
<u>Acct. 363-Electric Pumping Equipment</u>			
<u>(Cont'd)</u>			
New Eskan pumping station			
Pumps (40 lit/sec) and motors (45 kW)	1976	4 ea	
Electric equipment	1976	1 lot	
Tebin pumping station			
Pumps (70 lit/sec) and motors (90 kW)	1964	4 ea	
Pumps (50 lit/sec) and motors (75 kW)	1964	4 ea	
Electric equipment	1964	1 lot	
Total Acct. 363			691 104

GOSSD-HELWAN
INVENTORY OF UTILITY
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NETWORK

	<u>Year</u>	<u>Quantity</u>	<u>Original Cost</u> <u>LE</u>
GENERAL PLANT			
<u>Acct.389-Land and Land Rights</u>			
<u>Acct.390-Structures and Improvements</u>			
<u>Acct.391-Office Furniture and Equipment</u>			
<u>Acct.392-Transportation Equipment</u>			
<u>Acct.393-Stores Equipment</u>			
<u>Acct.394-Tools,Shop and Garage Equipment</u>			
<u>Acct.395-Laboratory Equipment</u>			
<u>Acct.396-Power Operated Equipment</u>			
<u>Acct.397-Communication Equipment</u>			