

Arab Republic of Egypt

EGYPT INFRASTRUCTURE IMPROVEMENTS PROJECT

EGYPTIAN UTILITIES MANAGEMENT

Environmental Assessment

Scoping Statement

For

FAYOUM GOVERNORATE

HAWARRAT EL MAQTA VILLAGE

QASR EL JABALI VILLAGE

**Fayoum Drinking Water and Sanitation Company
(FWWCO)**

**US Agency for International Development (USAID)
USAID Project No. 263-0270**

CDM International Inc.

In association with



Dr. Ahmed Abdel-Warith
Consulting Engineers

May 2007





Three residents of Qasr El Jabali

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Acronyms and Abbreviations

AAW	Dr. Ahmed Abdel-Warith Consulting Engineers
CDM	CDM International Inc.
GOE	Government of Egypt
USAID	United States Agency for International Development
DI	Ductile Iron
EA	Environmental Assessment
ED/CM	Engineering Design and Construction Management
EIS	Environmental Impact Statement
FM	Force Main
FWWCO	Fayoum Drinking Water and Sanitation Company
HCC	House Connection Chamber
ID	Identification Number
HHS	Households
LE	Egyptian Pounds
MH	Manhole
PS	Pump Station
RCP	Reinforced Concrete Pipe
RR	Railroad
uPVC	Unplasticized Polyvinyl Chloride
VC	Vitrified Clay
WTP	Water Treatment Plant
WWISP	Water and Wastewater Institutional Support Project
WWTP	Wastewater Treatment Plant
\$	United States Dollars

Weights and Measures

BOD ₅	5-day biochemical oxygen demand
COD	Chemical Oxygen Demand
Feddán	A unit of area equal to 4,200m ²
Hectare	A unit of area equal to 10,000m ²
lpcd	Liters per capita per day
lps	Liters per second
m	Meter
m ³ /hour	Cubic meters per hour
mg/L	Milligrams per liter
mm	Millimeters
m/s	Meter per second
NTU	Normal Turbidity Units
°C	Temperature in degrees Celsius
ug/L	Micrograms per Liter
uS/cm	Microsiemens per centimeter – unit of measure of conductivity. Equal to micromhos/cm in U.S. system of measurements
km	Kilometer

EGYPT INFRASTRUCTURE IMPROVEMENTS PROJECT ENVIRONMENTAL ASSESSMENT

FAYOUM GOVERNORATE

HAWARRAT EL MAQTA VILLAGE QASR EL JABALI VILLAGE

ENVIRONMENTAL SCOPING STATEMENT

1. Introduction

The USAID-funded Egypt Infrastructure Improvements Project is preparing to implement wastewater control measures in two Fayoum villages: Hawarrat El Maqta and Qasr El Jabali. The project is undertaken for the Government of Egypt (GOE) through its implementing agency, the Fayoum Drinking Water and Sanitation Company (FWWCO), and the United States Agency for International Development (USAID).

Figure 1 is a map of the Fayoum, showing the locations of the two subject villages. The Fayoum lies approximately 100 km south by southwest of Cairo, and 30 km west of the Nile city of Beni Suef.

Background data and information for the proposed remedial activities set out in the following sections are based largely on the report, “Middle Egypt Water and Wastewater Master Planning Project: Environmental Assessment of First Stage Investment Program, Governorate of Fayoum, Egypt” (Harza, 2001). The photographs taken elsewhere in Egypt are used herein to illustrate conditions found and operations proposed.

2. Environmental Setting

The Fayoum Region is one of the oldest agricultural areas of the world. It is an oasis, a fertile, watered region surrounded by desert. Unlike most oases, however, its water comes not from springs but from the nearby Nile River via the Bahr Youssef Canal.

The climate in the Fayoum region is arid. Average annual rainfall is less than 14 mm, and typically occurs in the winter months. While monthly mean temperatures range from 15°C in January to 29°C in July.

The soils of the Fayoum depression are mainly derived from lacustrine deposits. Soil drainage varies from adequate in higher elevations, to poor in lower elevations. Groundwater is typically slightly saline and is fed by infiltration from canals, drains, and seepage from surface irrigation.

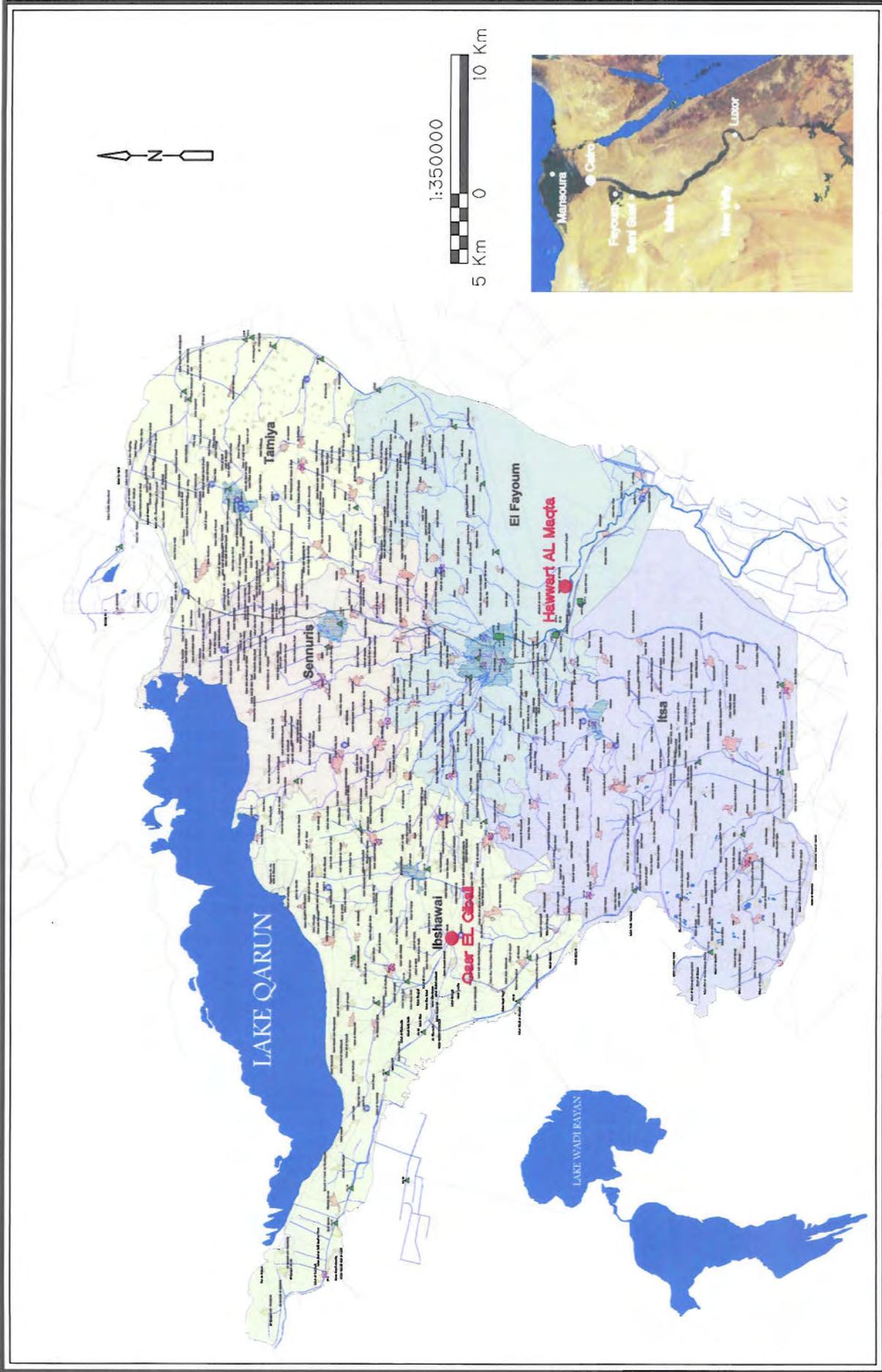


FIGURE 1. - LOCATION MAP FAYOUM GOVERNORATE

Biological diversity is relatively high despite the intensity of human activity in the region. The major terrestrial habitats are agricultural land and desert. Wildlife is able to exploit the cultivated and fallow areas and the uncultivated riparian areas along canals and drains.

Aquatic habitats of the Fayoum region include freshwater canals, fresh and brackish drain ditches, and the Saline Lake Qarun. Canals, drains, and Lake Qarun provide home to a variety of fish, amphibians, reptiles, wetland birds and mammals, and a variety of hydrophilic plants.

Land use. Agriculture remains the dominant activity and land use of the Fayoum Region. Developed areas (villages and hamlets) lie within or adjacent to the agricultural areas. Other land uses include agricultural processing industries (refineries, mills, gins, slaughterhouses, and tanneries), brick making, ceramics, and other lesser service industries that cater to the needs of the local community.

Water and wastewater. Over 90 percent of the approximately 2,400 Mm³/yr of fresh water that enters the Fayoum through the Bahr Youssef Canal is used for irrigation. Much of the arable land in the Fayoum suffers from a high water table. High groundwater is largely a result of inefficient irrigation practices and the fact that the Fayoum lies over a shallow, relatively impermeable clay lens. The resulting water table lies within 1.5 meters of the soil surface in most areas. Surface pooling is common in and around low-lying areas and is problematic near many settlements where ponded groundwater and wastewater pose potential human and environmental health risks (Figure 2).

Approximately 94 percent of the population in the Fayoum receives service from the regional water distribution system either directly through house connections, or indirectly via neighbors and community tap-stands. Those not receiving water from the regional system acquire water either from hand-pumps drawing water from shallow wells, or from surface water bodies of questionable water quality (Figure 3).

Water pollution is a growing issue of concern in the region. Water pollution results from point and non-point runoff, discharges of partially treated or untreated domestic sewage and septage, industrial effluents, and solid wastes. The major concern with agricultural runoff is pesticides and other agrochemical products. Nutrients and biochemical oxygen demand (BOD) are major pollutants from treated and untreated wastewater that is discharged to the drainage system. Industrial facilities, especially various mills and processors of agricultural products produce waste streams with high BOD. Solid waste comes in many forms from common domestic refuse to carcasses of dead farm animals.

Reticulated wastewater collection and centralized wastewater treatment facilities service the capital cities and selected urban centers. Fayoum City has a relatively high level of sewer connection (85 percent of the population).

However, reticulated wastewater collection does not service smaller villages and ezbas (farm estates) where most of the rural population resides. The vast majority of this population relies upon on-site “soakaway” and septic tank systems. Field surveys have revealed that onsite systems are generally poorly constructed and maintained. As such, these systems are prone to failure. Failure of onsite systems results in seepage of untreated wastes into groundwater, surface overflow, and subsequent pooling of untreated wastes in and around dwellings and commercial buildings. Furthermore septic tanks must be pumped frequently, particularly in



Figure 2. A pool of stagnant water near residential buildings, due to a high water table (Nile Delta village).



Figure 3. Typical hand-pump on 27-m deep well, in a Nile Delta village.

areas having a high water table. Onsite systems are privately maintained. Often, septic waste evacuated by commercial and private tank trucks is illegally discharged to vacant areas, drains, and even canals serving as water supplies for potable and agricultural use. Unmanaged septic wastes often result in increased exposure of the population to untreated wastewater. Such exposure greatly increases potential human and environmental health risks. Onsite systems are therefore inappropriate for densely settled villages such as Hawwarat El Maqta and Qasr El Jabali.

3. The Infrastructure Improvements Project

As noted above, Fayoum City and some other urban areas are already served by sewerage networks. Next, sewerage is to be provided to smaller towns and villages as funds become available. The two such villages in the present project are Hawarrat Al Maqta and Qasr El Jabali, located in Figure 1. These villages were identified as part of the First Stage Investment Plan developed in the Strategic Master Plan, Fayoum Governorate, September 2000, by Harza Environmental Services and funded by USAID.

Hawarrat El Maqta is to receive a wastewater system with gravity sewers, a pump stations, and force mains which will convey its wastewater to the Kohafa Wastewater Treatment Plant that serves Fayoum City. Hawarrat El Maqta's population is projected to reach 26,223 by 2022.

Figure 4 shows the proposed sewerage plan for the village, and the proposed pump station sites and the force main route to the Kohafa WWTP. The proposed sewerage covers an area that is divided by the Bahr Youssef Canal and the Hassan Wassef Canal into three (3) distinct areas. Geotechnical information has shown that the subgrade is rock throughout a good portion of the service area.

Figure 5 is a satellite photo of the same territory. Comparison of Figures 4 and 5 shows that the proposed force main route follows established roads for the entire 4-km distance from pump station to treatment plant.

Qasr El Jabali, whose population is projected to reach 32,716 by 2022, is to receive gravity sewers, a pump station, and a force main to convey its effluent to a nearby wastewater treatment plant.

The proposed sewerage network is shown in green on Figure 6. The outline of the built-up area shown in blackline in Figure 6 corresponds closely with the built-up area visible in Figure 7, a satellite photo of the village and its surroundings. From comparison of Figure 6 with Figure 7, it appears that the proposed sewerage will serve essentially all of the village's built-up areas. The village is bisected by the El Nazla Canal.

At present the plan is to convey the wastewater to the Ibshaway WWTP, some 3 km to the east of the village. That plant is the only one nearby with the capacity to absorb the flows from Qasr El Jabali, in addition to the flow it already receives from Ibshaway City.

A pipeline route from the village to the Ibshaway WWTP would likely run north to Route 206, turn east to cross the nearby wadi with Route 206, then turn south to reach the treatment plant. This route, entirely along established roads, would be nearly 7 km long however a direct route across the Wadi Drain will be investigated during design.

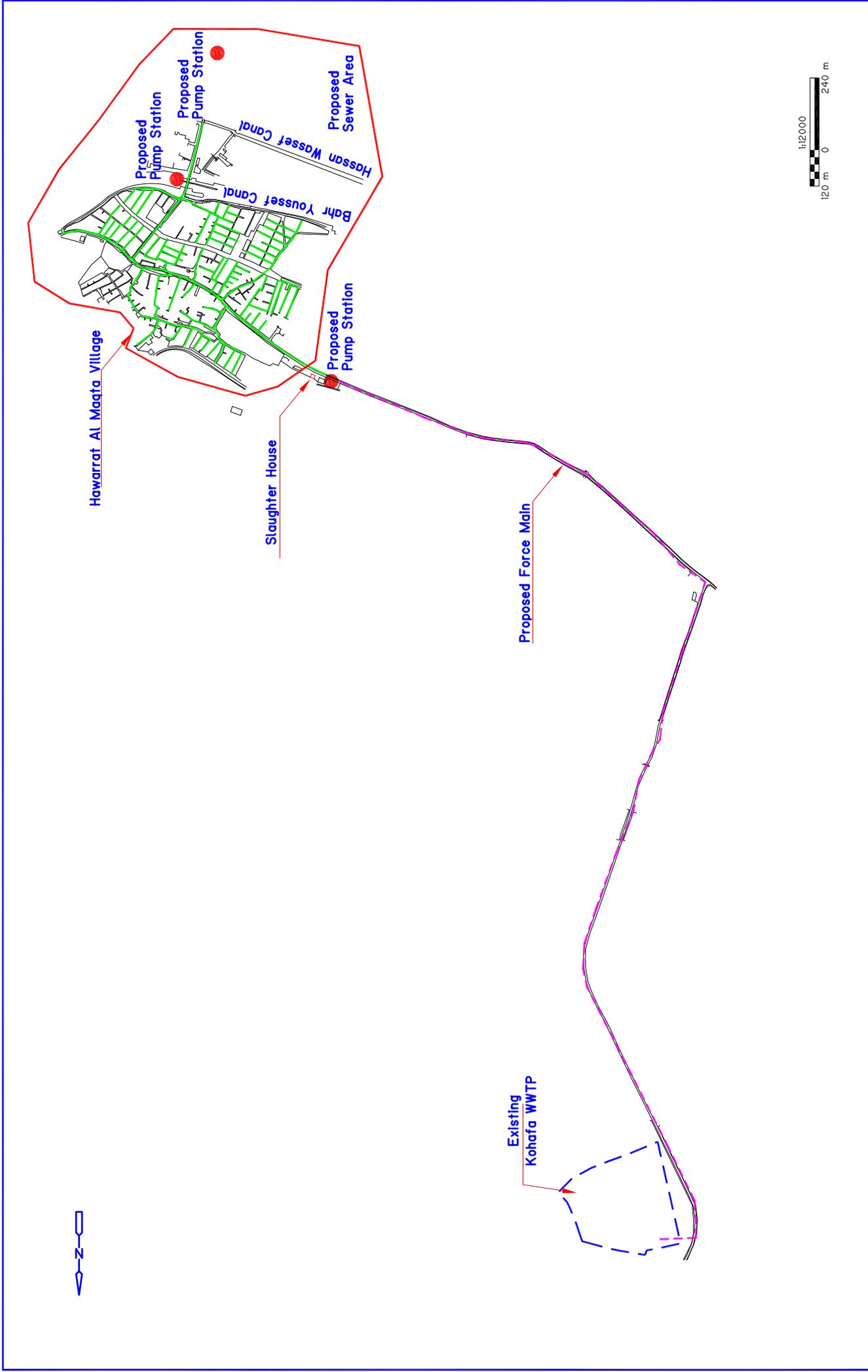


FIGURE 4. - HAWARRAT AL MAQTA VILLAGE - FAYOUM MARKAZ



**FIGURE 5. - OVERHEAD VIEW OF HAWARRAT AL MAQTA VILLAGE
SHOWING PROXIMITY TO KOHAFA WWTP**

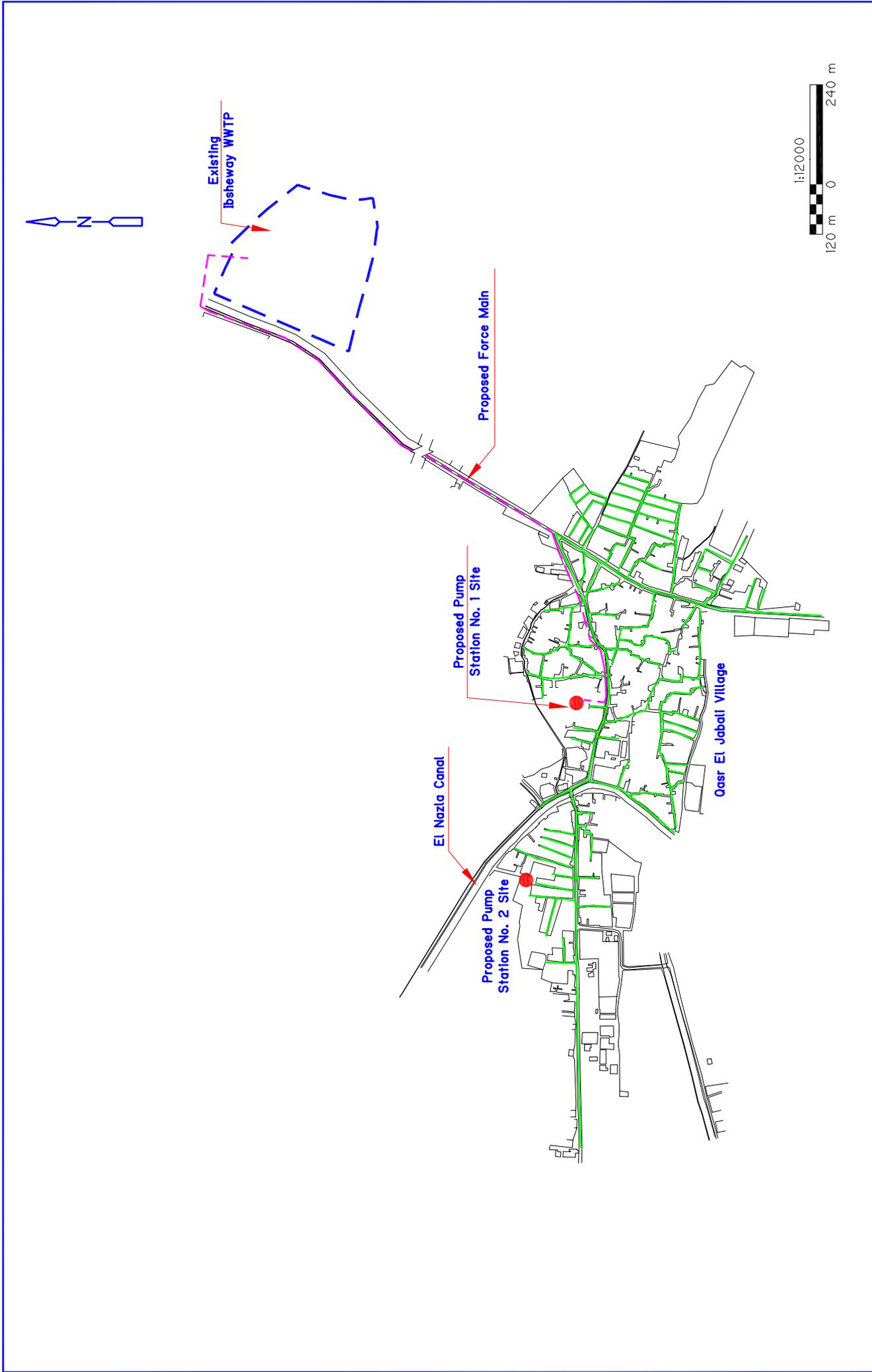


FIGURE 6. - QASR EL JABALI VILLAGE - IBSHAWAY MARKAZ

A direct pipeline route from Qasr El Jabali to the Ibshaway WWTP would be only 3 km long, but Figure 7 shows that it would have to cross a stream in the bottom of a down-cut wadi, whose appearance is very likely similar to that of the Batts Drain elsewhere in the Fayoum (Figure 8). Roads along such an alignment are few. The potential impacts of construction not along roads, and crossing the stream, and negotiating the steep banks on either side of the wadi would have to be balanced against the saving of nearly 4 km of construction along established roadways.

An alternative plan would be to pipe the wastewater to the Shwashna WWTP, about 3.6 km northwest of the village. The route is served by a direct main road. However, the Shwashna plant is presently undersized for its present service area, let alone the addition of flows from Qasr El-Jabali.

Figure 9 shows typical installation of a buried force main in a trench, with an indication of the degree of temporary disturbance to be expected of such an operation.

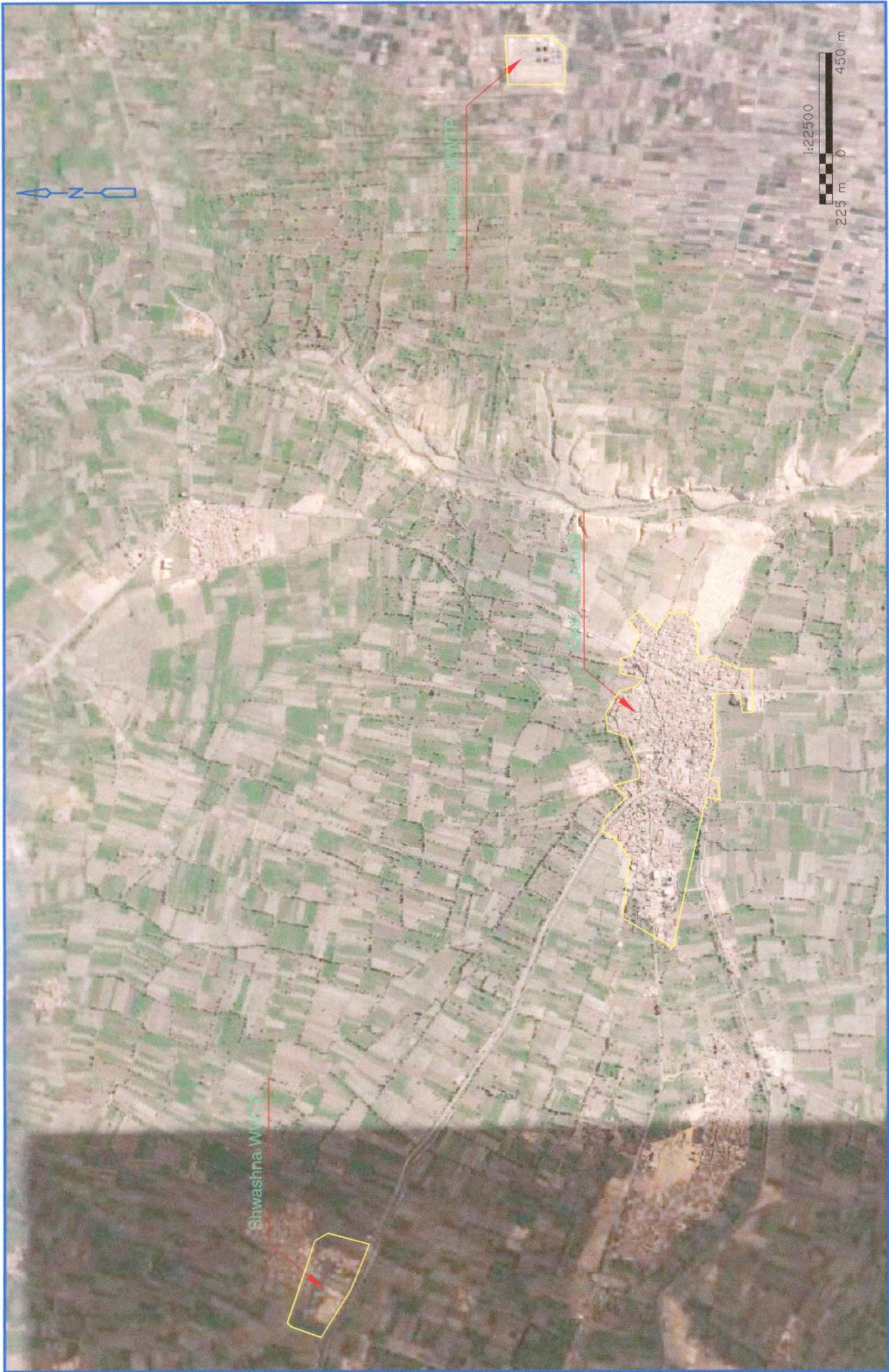


FIGURE 7. - OVERHEAD VIEW OF QASR EL JABALI VILLAGE SHOWING LOCATION OF IBSHAWYA AND SHWASHNA WWTPS



Figure 8. The Batts Drain, in its down-cut valley surrounded by gullied higher ground.



Figure 9. Typical trench for buried pipeline installation (Nile Delta village).

4. The Environmental Assessment Process

For every USAID project there must be an Environmental Assessment (EA). The EA is a process used to identify and predict the environmental consequences of a newly planned activity and to assist in planning appropriate measures to reduce the adverse effects, and to maximize environmental benefits, before permitting the activity to proceed.

The EA is a practical and valuable means for guiding decision makers in charge of project implementation. It provides the decision makers with reasonably accurate information concerning existing environmental conditions, potentially significant environmental impacts and possible mitigation measures, monitoring programs, opportunities for environmental enhancement and environmental management plans.

The fundamental steps in the Environmental Assessment of a project are the Scoping Session, the Scoping Statement, the Environmental Assessment Report, and environmental monitoring of the project.

For a proposed project, “Scoping” is an EA activity which:

- Identifies those attributes of the environment for which there are concerns, and
- Provides a plan that enables the EA team to focus on those attributes.

Scoping is a shared responsibility where the proponent government agencies, the Luxor Governorate, USAID, and the public, all have a role. The Scoping Session is part of this process.

The Scoping Session is a meeting of key individuals involved with the project, including representatives from:

- the funding agency (USAID),
- the implementing agency, FWWCO,
- the funding agency’s engineers,
- appropriate Egyptian national ministries (e.g. Housing, Agriculture),
- the Governorate,
- the Markaz,
- the Village,
- and interested local persons such as farmers, landowners, and businesspeople.

In the Scoping Session, usually held early in the project time schedule, the engineers tell what they intend to design and build, for whom, and where. The engineers also list the environmental impacts, good and bad, that can be anticipated, and to be dealt with properly. The other attendees are invited to add their own concerns and observations to the list, and so bring them to the attention of the government, the funding agency, and the engineers.

The **Environmental Scoping Statement** summarizes the proceedings of the Scoping Session (i.e. who was invited, who attended, and the environmental issues presented, raised, and discussed). The Scoping Statement sets the direction for the full EA report.

The Scoping Statement is formally reviewed by USAID. Once it is approved, engineering work on the project can begin, and the Environmental Assessment team can proceed to develop the full Environmental Assessment Report.

The **Environmental Assessment Report** shall describe this project, its beneficial and adverse impacts upon the local environment, and upon the health and well-being of the local residents. Based on the technical information gathered in past and present studies, and on the comments and questions raised in the Scoping Session, the Environmental Assessment Report is to:

- rate the environmental issues according to their importance,
- investigate further those issues deemed most important,
- recommend ways to minimize or at least mitigate the most significant of the foreseen adverse impacts,
- recommend ways to take advantage of the beneficial impacts,
- and
- outline a scope and schedule for environmental monitoring.

A proposed outline for the Environmental Assessment Report may be found in Appendix E.

Ongoing monitoring of the project shall follow a scope and schedule to be set out in the EA Report.

5. Scoping Activities

5.1 Meetings with Government Agencies

The following government agencies and others were consulted by the team during this environmental process and/or during the study phase:

- Fayoum's Office of the Governor
- FWWCO Office of Chairman and representatives
- The Fayoum Village representatives
- Representatives of the Fayoum Drinking Water and Sanitation Project
- Representatives from the Ministry of Water Resources and Irrigation

5.2 Scoping Session

5.2.1 Presentation of the Project

The scoping session was held on 2 May 2007 at 11:00 am in the Conference Hall of the Fayoum Governorate Building in Fayoum City. Copies of the Environmental Scoping Meeting agenda were prepared in English and Arabic (Appendix B) and distributed to participants at the meeting. The presentation was delivered predominately in Arabic; English

presentations were translated into Arabic. The General Secretary Etman Mohamed Etman and the Fayoum Drinking Water and Sanitation Company Chairman, Mahmoud Massoud, provided introductory comments to open the meeting. The CDM Project Manager, Rick Minkwitz, then described the Egypt Infrastructure Improvements Project and the purpose of the Environmental Assessment process. CDM/AAW Deputy Project Manager, Moustafa Tayeb, and EA Specialist, Dr Ashraf El-Sayed Ismail gave a powerpoint presentation describing the Fayoum Wastewater Village projects, the EA process and the potentially significant environmental issues. Comments, all verbal, were received following the presentation and have been summarized herein. During the comment portion of the program, the Fayoum Governor, Mohamed Magdy Kupasi, joined the session and provided comments with respect to the village wastewater projects as well as impressing on all parties the importance of the Lake Qarun Watershed work. The Scoping Session meeting was closed by the Governor.

5.2.2 Environmental Issues Mentioned in the Presentation

Potential environmental effects that were identified, whether positive or negative, are listed below.

- The project is intended and expected to provide a more healthful and attractive residential environment.
- There will be a reduction in the cost and effort to dispose of wastewater: a positive socioeconomic impact on the villagers.
- Employment opportunities will be created for skilled, semiskilled and unskilled laborers during construction and operation & maintenance.
- Consider the potential impact of construction activities on antiquities and on other services.
- Consider public safety, traffic control and interruptions during construction including interruptions of water or electric utility services.
- Where new pump stations are to be located, assess the impacts on land use, energy consumption and traffic control.
- Consider operation and maintenance activities at these new pump stations, e.g. problems of noise.

5.2.3 Comments Received at the Scoping Session

Coordination between USAID and FWWCO

Comment: There is need to have full cooperation between USAID and the Fayoum Water and Wastewater Company (FWWCO) to maximize the benefits of environmental management for Fayoum Governorate, which has a priority as a closed basin.

Response: There is coordination between USAID and the Fayoum Water and Wastewater Company for the current project and any upcoming projects.

Other villages subject to subsurface water problems

Comment: Other villages suffer from subsurface water problems and stagnant water in the residential areas. They, too, need to have wastewater collection systems as soon as possible.

Response: The villages to be sewerred have been given a priority in the NOPWASD program of 20 billion LE over 5 years for rural areas of Egypt.

Water bodies receiving wastewater effluent

Comment: What would be the receiving water bodies of the wastewater effluents from both villages?

Response: Hawarrat Al-Maqta will receive a wastewater system with gravity sewers, house connections, pump stations, and a force main which will convey its wastewater directly to the Kohafa Wastewater Treatment Plant that serves Fayoum City. The effluent from the Kohafa WWTP will discharge into El-Batts drain.

Qasr El-Jabali is to receive gravity sewers, house connections, pump stations and a force main. A decision still must be made as to whether the force main would convey the raw effluent to the Shwashna WWTP or to the Ibshaway WWTP. In either case, the treatment plant effluent will discharge into the Wadi drain.

The wastewater treated and disposed into the drainage system will therefore meet the quality required by Law 48.

Concerns about crossing irrigation canals

Comment: As the proposed route of the force main will have to cross irrigation canals such as the Bahr Youssef and Hassan Wasef Canals, there is a potential for leakage into and pollution of the irrigation canals by wastewater.

Response: Before implementation and during design, all aspects and related decrees of Law 48 are considered in the design of the crossing structure. All approvals and acceptances for such a crossing structure must be in place before construction.

The implementation of the force main crossing the irrigation canal should follow the required procedures. Normally, the crossing will be underneath the canal to avoid any pollution due to possible leakage from the force main.

Comment: The hydraulic structure used for force main to cross the irrigation canals should be monitored by a panel from Ministry of Water Resources and Irrigation and Fayoum Water and Wastewater Company.

Response: It is normal procedure to have a monitoring panel that includes representatives from the Ministry of Water Resources and Irrigation and the Fayoum Water and Wastewater Company.

Quality of the treated effluents

Comment: We should be sure that the quality of the treated effluents meets the requirements of Egyptian regulations.

Response: There is a regular program to monitor the quality of the treated effluents at both wastewater treatment plants.

Compensation for loss

Comment: Some of the agricultural land will be subject to damage, with an adverse impact on its crop production. There is a need to compensate the farmers due to loss of crops due to implementation of the proposed work.

Response: The Ministry of Agriculture and Land Reclamation (MALR) define the compensation rate per unit for each crop. Accordingly the compensation can be paid for each impacted farmer.

Concerns about bad construction

Comment: Of previous sanitation projects implemented over the past 6 years, three suffered evidences and complaints of bad construction. The community is afraid of having such a case for the new proposed projects.

Response: The invited contractors will be private companies. No governmental companies will be invited. There are many measures to assure that the work proceeds according to the defined implementation schedule and the signed contract.

Priority for Lake Qarun

Comment: Lake Qarun plays an important role for the Fayoum region. Many industries and economic activities depend heavily on the quality of Lake Qarun. Improving the environmental condition of the lake should take a high priority in the program.

Response: Other activities have been proposed to improve the water quality of Lake Qarun. These activities include construction of instream wetland systems at three sites in major Fayoum drains.

5.2.4 Written Statements Received

There were no written statements, comments, or questions received.

5.3 Significant Issues to be Addressed in the Environmental Assessment

The significant issues to be addressed in the Environmental Assessment include:

- There will be an improvement in public health.
- There will be improvement in the form of a lowered water table within the residential areas.
- Consider the potential impact of construction activities on antiquities.
- Consider public safety, traffic control and interruptions during construction including interruptions of water or electric utility services.
- Where sewer or force main routes cross streams, canals, or drains, ensure that the design and the quality of construction minimize the possibility of leakage into the water body.
- If it happens that unsewered areas remain adjacent to sewer areas, provide manhole access in the sewers nearest such areas for the convenience of septage haulers who need to discharge their loads.
- Construction permits for both temporary and permanent construction activities will need to be established to ensure the project is viable and to address periods when cultivation will not be possible.

5.4 Issues to be Eliminated from Further Consideration

Issues that can be eliminated from further consideration include:

- Economic benefits from employment during construction and operation/maintenance of facilities, as well as the benefit of having a new wastewater system rather than individual onsite systems, will be very limited.
- Sufficient land for the required pump stations is available and their impact both during construction and operation on the surrounding areas will be negligible.

5.5 Schedule for Preparing the Environmental Analysis

The Environmental Assessment process will commence with the issuance of this Scoping Statement. Considering the nature of each of these villages and the fact that the Strategic Master Plan and Environmental Assessments completed in 2000 and 2001, respectively, by Harza sufficient information is available to provide an environmental analysis.

5.6 Proposed Approach to Address Significant Issues

Significant issues will be addressed as follows:

- Coordination among FWWCO, NOPWASD, the contractors, and other participants will be established during the design phase to determine areas of conflict between construction and other land use to determine permit requirements.
- Provisions of the Antiquities Law will be incorporated into contract documents to ensure that any antiquities located during construction will be handled as required.

Reference

- “Middle Egypt Water and Wastewater Master Planning Project: Environmental Assessment of First Stage Investment Program, Governorate of Fayoum, Egypt,” prepared for the U.S. Agency for International Development Mission to Egypt by Harza Environmental Services, Inc. in association with Camp Dresser & McKee International, Inc., Environmental Quality International, and Engineering Consultants Group S.A, Project Number: 263-0270, Contract Number: 263-C-00-99-00008-00, July 2001.
- “Middle Egypt Water and Wastewater Master Planning Project: Strategic Master Plan, Governorate of Fayoum, Egypt,” prepared for the U.S. Agency for International Development Mission to Egypt by Harza Environmental Services, Inc. in association with Camp Dresser & McKee International, Inc., Environmental Quality International, and Engineering Consultants Group S.A, Project Number: 263-0270, Contract Number: 263-C-00-99-00008-00, September 2000.

APPENDIX A. List of government agencies and other organizations consulted by the environmental team

- Fayoum's Office of the Governor
- FWWCO Office of Chairman and representatives
- The Fayoum Village representatives
- Representatives of the Fayoum Drinking Water and Sanitation Project
- Representative from the Ministry of Water Resources and Irrigation

APPENDIX B. List of Invitees to Scoping Session

The Office of the Governor through the Fayoum's General Secretary invited attendees via telephone calls to the various senior representatives who then passed along invitations to others within the organization or the community.

APPENDIX C. List of Participants at Scoping Session

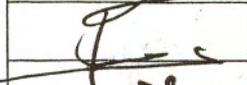
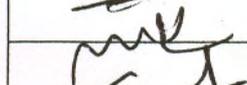
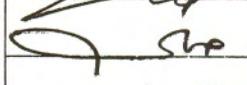
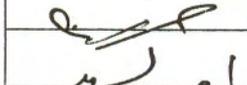
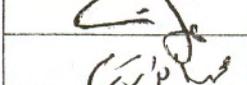
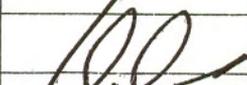
Attendance Sheet for Scoping Session

Meeting Date : 2 May 2007

Venue : Fayoum Governorate

	Name	Job Title	Signature
	Mohamed Magdy Kupasi	His Excellency the Governor of Fayoum	
1	Hamdy Mohamed A.Abdul Rehman	Local Council Secretary, Hawart El-Makta	
2	Wagieh Helmi Khalil	Maintenance Chief, Hawara	
3	Ragab Abdul Megied	Procurement Rep, local Council	
4	Atif Abdul Tawab	Youth Admin, Hawart El-Makta	
5	Samia Marouf Ali	Public Awareness Dep. Manager, FWWCo.	
6	Mohamed Roubi El-Sayed	Wastewater General Dep., Fayoum	
7	Ahmed Marzouk Abdel Fattah	Wastewater General Dep., Fayoum	
8	Nawal Wissa Ghatas	Environmental Affairs' Manager, Sanoris	
9	Wagieh Nagieb	FWWCo.	
10	El-Amir Riyad Mohamed	Utility Manager, Local Council, Hawara	
11	Attia Abdel Hai Ahmed	Finance Manager, Local Council, Hawara	
12	Hassan Ahmed Abd Rabou	GM, Information Center	
13	El-Sayed Abdel Aal	Chief, \Manzala Village	
14	Mahir Nagieb	Local Council Secretary	
15	Afkar El-Rouby	Public Relation, Fayoum Governorate	
16	Wissam Farahat Shakir	Researcher, Governorate Production Dep	
17	Ahmed Shawki Osman	Researcher, Governorate Production Dep	
18	Mohamed H. Abdel Tawab	Environmental Manager, Abshowai	
19	Ahmed Abdel Fdeel Sawi	GM, Wastewater Tech Support	
20	Sayed Diab Ali	Branch Environmental Manager, El-Nazla	
21	Abdulla Mohamed Abdulla	Citizen	
22	Sayed Abdul Sattar Gouda	Senior English language Teacher	
23	Mohamed Abul Basit	Citizen	
24	Tarek El-Sayed	Public Relation	
25	Waleed Ramadan Mohamed	Teacher	
26	Awad Kamel Ahmed	Local Council Member	
27	Abdel Muez Abdul Moniem	Driver	
28	Esam Yousef Mahmoud	Council Member	
29	Mohamed Abdel Sattar	Teacher	
30	Saad Embab	Environment & Seashores, Police Chief	
31	Ibrahim Farg Alla	Local Council Staff	
32	Samia Galal	Agriculture Eng, Fayoum Drainage	
33	Alla El-Din Saad Sulaiman	Dutch Project Manager	
34	Hamad Ibrahim Ali	Citizen, Kasr El-Gebali	
35	Abdulla Serag Mohamed	Legal Marriage Authority, Kasr El-Gebali	
36	Nasr El-Din Abdalla	Mosque leader, Kasr El-Gebali	
37	Gamal Hassan Ahmed	Environment Authority, Hawara	
38	Mohamed Ahmed Abdel Hafiz	Engineering Dep., Hawara	
39	Badr El-Din Ahmed Abdel Aal	Land Acquisition Dep, Hawara	
40	Saleh Salem Ahmed	Land Acquisition Dep, Hawara	
41	Gamal Nagi Abdul Hamid	Maintenance Tech, Local Council , Hawara	
42	Hossam Shabaan Mohamed	Environment Evaluation, Envi. Dep. Governorate	
43	Ahmed El-Sayed mahmoud	Agriculture Eng, Fayoum Drainage	

	Name	Job Title	
44	Ahmed Bakr Ali	GM, FWWCo.	
45	Abdel Nabi Ismail	Under Secretary, Colleague of Science	
46	Mohamed Anwar Ahmed	Plant Section Head, Colleague of Science	
47	Shabaan Ahmed Ali	Public Relation, Governorate	
48	Asem Mohamed Abdel Megied	Public Relation, Governorate	
49	Moustafa Mahmoud Yousef	Qaroun Fishing Community Chief	
50	Mohamed Wadie Mohamed	GM, Fishing Dep.	
51	Ahmed Fouad Ahmed	GM, Fayoum Irrigation Authority	
52	Owais Said Abdalla	Dep. Manager, Governorates Environment	
53	Hassan Mohamed Hussein	Deputy Ministry of Agriculture	
54	Saber Ramadan Abdel Halim	Building Construction Technician, Hawara EI-Makta	
55	Eisa Hassan Hussein	Industrial Security Manager, FWWCo.	
56	Hashim bakri Abdel Tawab	Trench Evacuator, Local Council, Hawart EI-Makta	
57	Mohamed Ali Fouad	Pavement Section Manager, Hawara EI-Makta	
58	Atif Mohamed Abdel Tawab	Youth Community, Hawara EI-Makta	
59	Ayman Gamal	Information& Decision Support Center	
60	Ali Sayed Shabaan	FWWCo.	
61	Zaidan Osman Zaidan	GM, Wastewater Treatment, FWWCo.	
62	Hussein Eid Morsi	Operation Sector Manager, FWWCo.	
63	Sabah Vahmed Ramadan	Projects Execution Dep. Manager	
64	Farag Ali Ahmed	GM, Tech Support, Fayoum Potable Water Co.	
65	Nagwa Ahmed	GM, Financial Directive	
66	Mohsen Amin Mousa	Chief, Local Council Hawart EI-Makta	
67	Shabban Abdel Naeem	Local Council Staff	
68	Mohamed Ahmed Abdel Baqi	Responsible, Cultivated Land Violation	
69	Abdel Hamid Mohamed	Labor	
70	Saber Salama	Citizen	
71	Mohamed Abdel Tawab	Labor	
72	Abdel Hamid Sayed Mohamed	Labor	
73	Halim Labib	Labor	
74	Nadi Ibrahim	Labor	
75	Hussein Abou Taleb, Dr.	Health Manager	
76	Salah Nadi Abdel Rahman	GM, Wadi EI-Nil Fishing Region	
77	Younis EI-sayed Abdel Salam	Deputy, Ministry of Irrigation, Fayoum	
78	Enas Mohamed Abdel Aziz	TV Reporter	
79	Mahmoud Masoud	Chairman, FWWCo.	
80	Etman Mohamed Etman	General Secretary, Fayoum Governorate Governorate Consultant, EIIP project	
81	Hussein Moharam	Coordinator	
82	Jeremy Gustafson	USAID	
83	Atif Abdel Sayed	USAID	
84	Richard Rousseu	USAID	
85	Mosutafa Mohamed EI-Tayeb	CDM/AAW	
86	Richard Minkwitz	CDM/AAW	
87	Ashraf EI-Sayed	CDM/AAW	
88	Philip Farag Mechael	CDM/AAW	

التوقيع	الوظيفة	الاسم
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	مدير	عبدالمجيد بن عبدالمطلب
	مدير	عبدالمجيد بن عبدالمطلب
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APPENDIX D. Proposed Outline of the Environmental Assessment Report

ENVIRONMENTAL ASSESSMENT REPORT	
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1.1 Background	
1.2 Proposed action	
1.3 Environmental regulatory procedures	
1.3.1 Egyptian environmental legislation	
1.3.2 USAID environmental procedures	
2. Project Description	
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2.2 Layout and description of proposed facilities	
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2.4 Operation activities	
3. Environmental Setting	
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4. Environmental Effects	
4.1. Background	
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4.3. Cultural and aesthetic environmental impacts	
4.4. No-action alternative	
5. Mitigation, Monitoring and Management	
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List of EA preparers	
Scoping Report	
Public NGOs correspondence	

APPENDIX E. Scoping Session Agenda – English/Arabic

Arab Republic of Egypt

EGYPT INFRASTRUCTURE IMPROVEMENTS PROJECT

EGYPTIAN UTILITIES MANAGEMENT

Environmental Assessment

Environmental Scoping Meeting

For

**Fayoum Governorate
Villages of Hawarrat Al Maqta
and Qasr El Jabali**

**Fayoum Water and Wastewater Company
(FWWCO)**

**US Agency for International Development (USAID)
USAID Project No. 263-0270**

CDM International Inc.

In association with



Dr. Ahmed Abdel-Warith
Consulting Engineers



March 2007

FAYOUM GOVERNORATE
ENVIRONMENTAL SCOPING MEETING
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2. Project Descriptions	3
3. Environmental Considerations and Key Issues	7
4. Experience in Fayoum	7
5. Preliminary Impact Assessment of the Proposed Sewerage System for Hawarrat Al-Maqta and Qasr El-Jabali	9
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Figure 2 –Overhead View of Hawarrat Al Maqta Village
Showing Proximity to Kohafa WWTP.

Figure 3 – Hawarrat Al Maqta Village – Fayoum Markaz

Figure 4- Qasr El Jabali Village – Ibshaway Markaz.

Figure 5- Photos

**EGYPT INFRASTRUCTURE IMPROVEMENTS
PROJECT
ENVIRONMENTAL ASSESSMENT**

FAYOUM GOVERNORATE

**HAWARRT EL-MAQTA VILLAGE
QASR EL-JABALI VILLAGE**

ENVIRONMENTAL SCOPING MEETING

1. Introduction

This paper and this meeting are to describe two of the wastewater control measures we propose to construct in the Fayoum Governorate. The projects are undertaken for the Government of Egypt (GOE) through the Fayoum Water and Wastewater Company (FWWCO) and the United States Agency for International Development (USAID).

Background data and information for the proposed remedial activities were gathered and reported in the Environmental Assessment for First Stage Improvements Project, Fayoum Governorate (Harza, July 2001).

A map of Fayoum Governorate locating the two (2) Villages is shown in Figure 1.

Hawarrat Al-Maqta is located in the southeast corner of the Governorate in Fayoum markaz Qasr El-Jabali is located in Ibshaway markaz on the west side of the Governorate. The two villages are approximately 20km. apart.

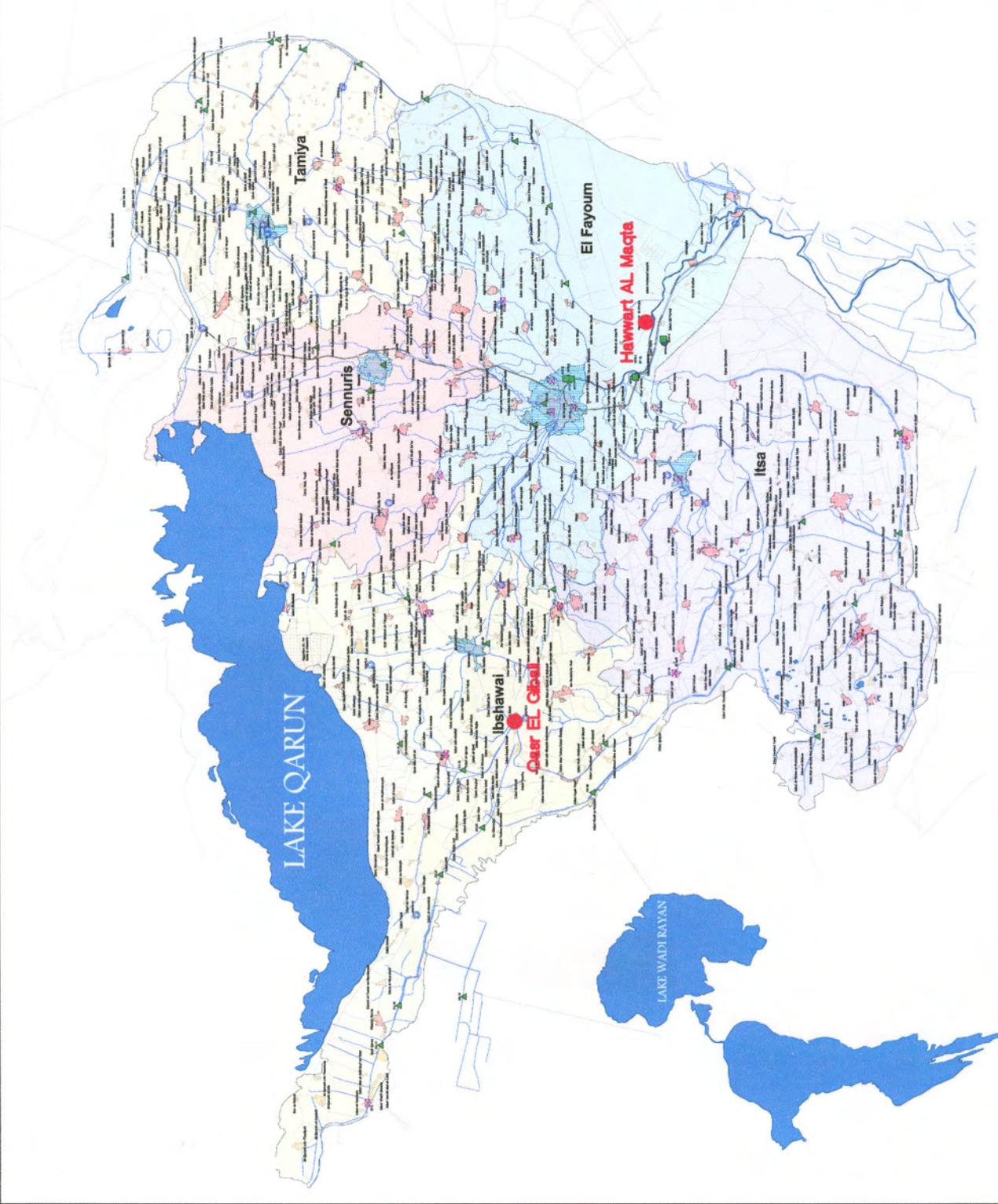


FIGURE 1. - LOCATION MAP FAYOUM GOVERNORATE

2. Project Descriptions

The Hawarrat Al-Maqa project areas is shown in Figure 2, as is the Kohafa Wastewater Treatment Plant that serves Fayoum City. Figure 2 shows that the project area is adjacent to the Kohafa WWTP .

Hawarrat Al-Maqa is to receive a wastewater system with gravity sewers, house connections, pump stations, and a force main which will convey its wastewater directly to the Kohafa Wastewater Treatment Plant that serves Fayoum City. Hawarrat Al-Maqa's population is projected to reach 28,000 by 2025. (See Figure 3). The village is dissected by two (2) major canals; the Bahr Youssef and the Hassan Wassif. Considerations for properly negotiating the pipelines under these canals will be given high priority.

Qasr El-Jabali is to receive gravity sewers, house connections, pump stations and a force main. Decisions regarding the force main routing to either the Shwashna or the Ibshaway Wastewater Treatment Plants need to be finalized. However, the force main from Qasr El-Jabali to the Ibshaway Wastewater Treatment Plant will need to pass beneath the Wadi Drain. The population of Qasr El-Jabali is projected to reach 35,000 by 2025. (See Figure 4).



FIGURE 2. - OVERHEAD VIEW OF HAWARRT AL MAQTA VILLAGE SHOWING PROXIMITY TO KOHAFA WWTP

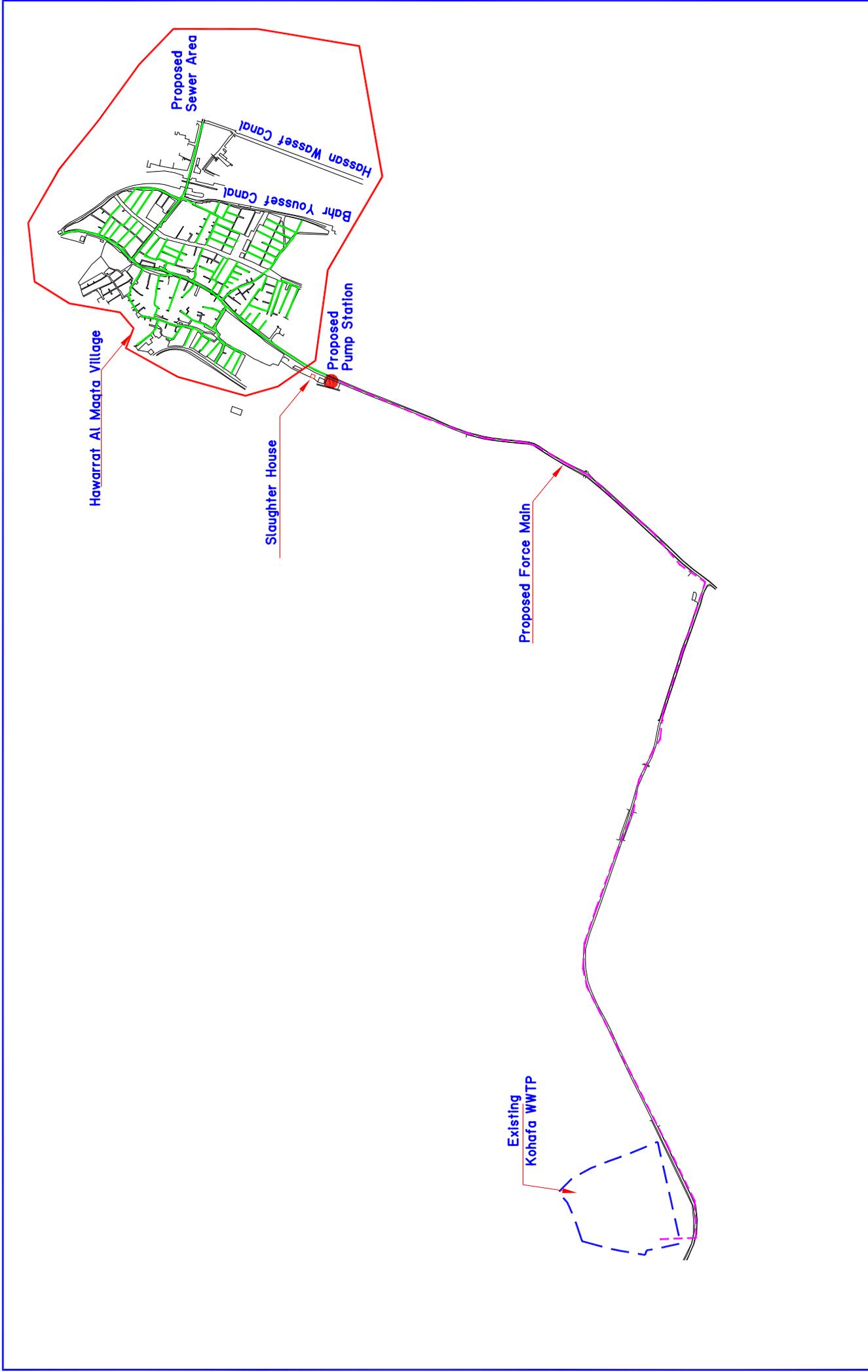


FIGURE 3. - HAWARRAT AL MAQTA VILLAGE - FAYOUM MARKAZ

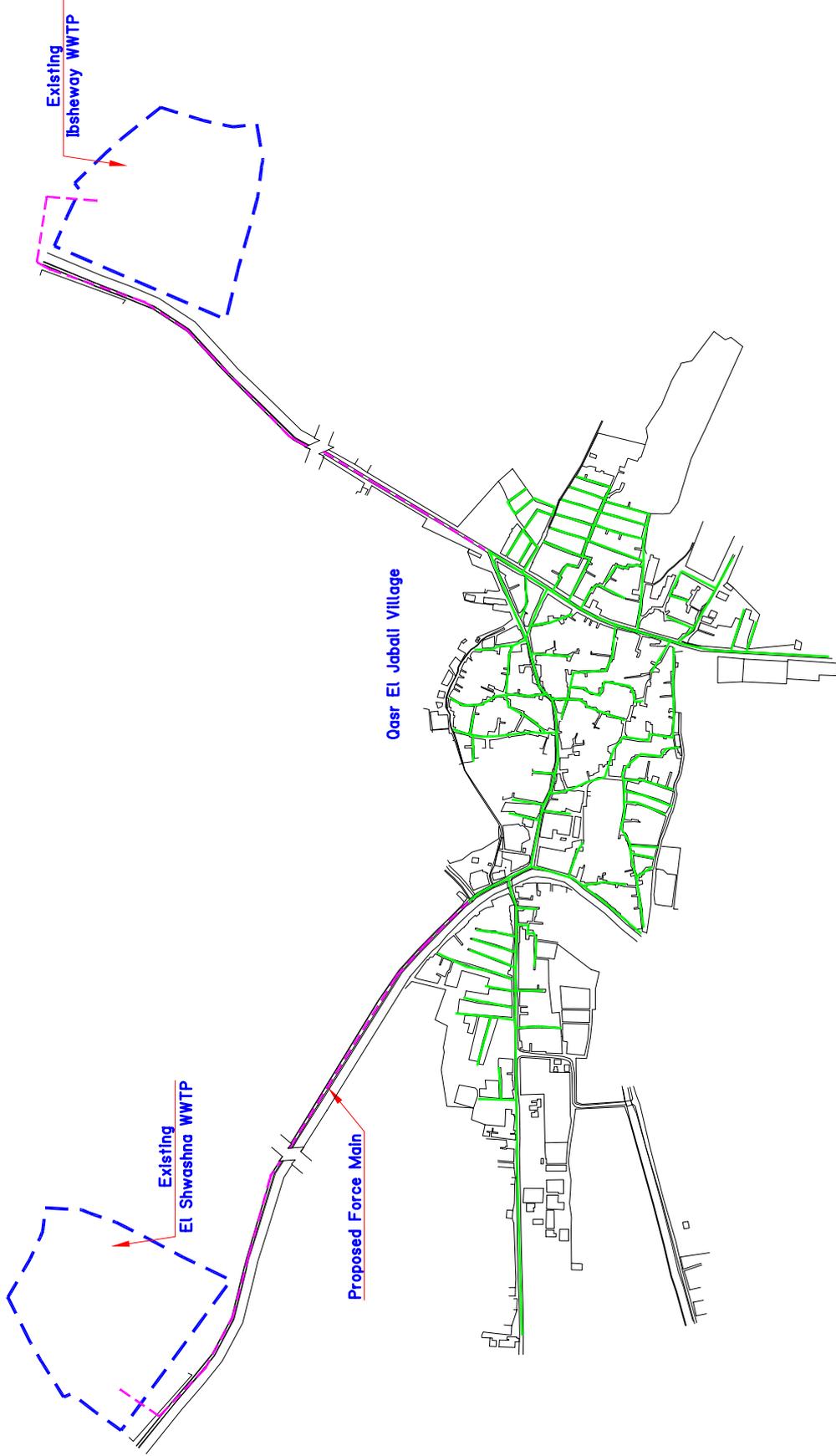


FIGURE 4. - QASR EL JABALI VILLAGE - IBSHAWAY MARKAZ

3. Environmental Considerations and Key Issues

This USAID-funded Project is conducting an Environmental Assessment (EA) of the proposed remedial activities for Hawarrat Al-Maqa Village and Qasr El-Jabali Village. (Figure 5 provides photos of the Project Areas). An EA is a process used to identify and predict the environmental consequences of a newly planned activity and to assist in planning appropriate measures to reduce the adverse effects and maximize environmental benefits before such activities are allowed to go ahead. It is a practical and valuable means for aiding decision makers for project implementation.

The EA provides the decision makers with reasonably accurate information concerning existing environmental conditions, potentially significant environmental impacts and possible mitigation measures, monitoring programs, opportunities for environmental enhancement and environmental management plans.

“Scoping” is an EA activity which:

- Identifies those attributes of the environment for which there are concerns; and
- Provides a plan that enables the EA team to be focused on those attributes.

Scoping is a shared responsibility where the proponent government agencies, the Fayoum Governorate and USAID, and the public, all have a role. The Scoping Meeting is part of this process.

Because one of the project areas lie adjacent to the Kohafa WWTP , environmental considerations can be expected to be very similar to those in the Kohafa area, and much of the environmental conditions reported in the Environmental Assessment for the Kohafa WWTP will apply to Hawarrat Al-Maqa as well. Nevertheless, we apply the scoping process to these two specific projects to look for any new issues of concern, either in the new project areas themselves, or that became evident in the work at the nearby Kohafa WWTP.

4. Experience in Fayoum

Field surveys conducted under the USAID Middle Egypt Utilities Environmental Assessment (Harza, 2000) revealed that onsite systems are generally poorly constructed and maintained. As such, these systems are prone to failure. Failure of onsite systems results in seepage of untreated wastes into groundwater, surface overflow, and subsequent pooling of untreated wastes in and around dwellings and commercial buildings. Furthermore septic tanks must be pumped frequently, particularly in areas having a high water table. Onsite systems are privately maintained. Often, septic waste evacuated by commercial and private tank trucks is illegally discharged to vacant areas, drains, and even canals serving as water supplies for potable and agricultural use. Unmanaged septic wastes resulted in increased exposure of the residents and the population at large to untreated wastewater. Such exposure greatly increased potential human and environmental health risks. Onsite

systems were therefore inappropriate for that area due to the large population served and the resulting density of onsite systems.

Figure 5



QASR EL JABALI



HWARRAT AL MAQTA



TYPICAL CONSTRUCTION SITE



WATER PONDING IN STREET

The same criticisms of onsite wastewater systems in densely populated areas also applies to Hawarrat El-Maqa and Qasr El-Jabali, and in this stage of works sewerage and conveyance to treatment are to be provided to them as well.

5. Preliminary Impact Assessment of the Proposed Sewerage System for Hawarrat Al-Maqa and Qasr El-Jabali

Expected Positive impacts

Provision of wastewater collection in areas of the Fayoum Governorate that are currently without service is expected to reduce or eliminate septic seepage, overflow, and surface pooling of partially treated septic wastes. This should lead to:

- Improved groundwater and surface water quality, hence reduced exposure to water-borne diseases, hence improved domestic hygiene and overall public health.
- A lowered groundwater table, which not only reduces the exposure to water-borne diseases, but also reduces the incidence of damage to the foundations and walls of buildings.
- Employment of a small number of local laborers during operation of the collection system, force main, and pump station.
- A reduction in the cost and effort to dispose of wastewater.

Possible negative impacts include:

- Disposal of increased volumes of wastewater to the Kohafa and Ibshaway or Shwashna Wastewater Treatment Plants , and disposal of treated wastewater and residual solids;
- Costs associated with operation and maintenance of the proposed collection and conveyance system.

No appreciable negative impacts of the Proposed Project are expected in the following areas:

- Land use and regional planning;
- Economic resources;
- Air quality effects;
- Geology and hydrogeology;
- Climate;
- Terrestrial and aquatic ecology; and
- Aesthetic and archaeological resources.

Expected positive impacts during construction

- Employment opportunities will be created for a small number of skilled, semiskilled and unskilled laborers during construction of the collection systems and force mains.

Possible negative impacts during construction

- The proposed project will occupy existing streets and roadways of Hawarrat Al-Maqta and Qasr El-Jabali. Land-use impacts will be temporary during project construction and are not in conflict with other planning for regional development.
- Consider the potential impact of construction activities on antiquities (should any be found in these areas).
- Consider public safety, traffic control and interruptions during construction, including interruptions of water or electric utility services.

On balance, the Proposed Projects should provide substantial benefits. Still, the project should be undertaken with the following **Mitigation measures** where appropriate:

- Proper phase-scheduling of the work to minimize short-term negative impacts;
- Spill prevention, control and cleanup measures for existing onsite systems disturbed during construction of the proposed project
- Spill prevention, control and cleanup measures for fuel and hazardous chemicals;
- Dust and noise abatement during construction;
- Diversion, damming, or other mitigation for canals or drains that must be crossed during construction;
- Trench shoring or other measures to prevent undermining existing structures during construction;
- Construction measures such as limiting use of heavy machinery in or adjacent to canals and drains or use of erosion control measures to minimize effects on surface water quality due to silting;
- Appropriate use of signage and barriers to protect public safety in areas where construction occurs in accessible areas;
- Planning and coordination with local utilities to prevent or minimize disruptions of services and other utilities;

- Coordination with the Supreme Council of Antiquities (SCA) to prevent unnecessary disruption of any archaeological resources that may be discovered;
- If it happens that unsewered areas remain adjacent to sewer areas, provision of manhole access in the sewers nearest such areas for the convenience of septage haulers who need to discharge their loads.

Monitoring

- There should be routine leak detection surveys of new force mains.

6. Outline of the Environmental Assessment Report

In the next few months we plan to prepare an “Environmental Assessment Report” describing this project, its beneficial and adverse impacts upon the local environment, and upon the health and well-being of the people who live here.

The Environmental Assessment will be based on the technical information we have gathered so far, and the comments and questions that you bring to this meeting, the Environmental Scoping Session. In this meeting, we will tell you what we plan to do and how we plan to do it. We also must listen to your ideas and information.

The Environmental Assessment Report will be arranged according to the outline shown on the next page.

References

- U. S. Agency for International Development, Mission to Cairo, Egypt. Middle Egypt Water and Wastewater Master Planning Project: Environmental Assessment of First Stage Investment Program , Governorate of Fayoum , Egypt. Harza Environmental Services, Inc. in association with Camp Dresser & McKee International, Inc., Environmental Quality International, and Engineering Consultants Group S.A., April, 2001.

(PROPOSED OUTLINE)
ENVIRONMENTAL ASSESSMENT REPORT

Executive Summary (Arabic and English)

1. Introduction

1.1 Background

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4.4. No-action alternative

5. Mitigation, Monitoring and Management

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5.4. Cultural and aesthetic environment

Appendices

List of EA preparers

Scoping Report

Public NGOs correspondence

جمهورية مصر العربية
مشروع تطوير البنية التحتية في مصر
محافظات مصر الوسطى

ورشه العمل

دراسة التأثيرات البيئية

أعمال صرف صحي
قرية هواره المقطع
قرية قصر الجبالى
محافظه الفيوم

شركة الفيوم لمياه الشرب و الصرف الصحي

الوكالة الأمريكية للتنمية الدولية

مشروع رقم ٢٣٦-٠٢٦٣

CDM كامب دريسر أند ماكى العالمية

بالاشتراك مع

AAW الهيئة الاستشارية - الدكتور أحمد عبد الوارث -

مهندسون استشاريون



مارس ٢٠٠٢

مشروع تطوير البنية التحتية فى مصر أعمال صرف صحى

هواره المقطع
قصر الجبالى
محافظة الفيوم

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مشروع تطوير البنية التحتية في مصر
أعمال صرف صحي
محافظة الفيوم
هواره المقطع
قصر الجبالى

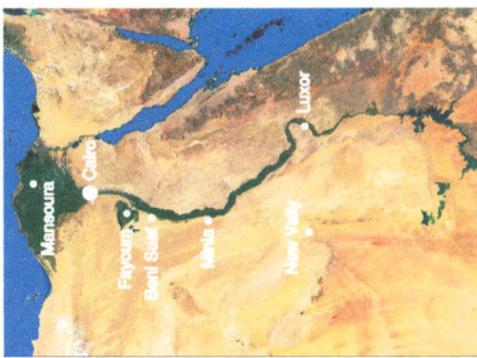
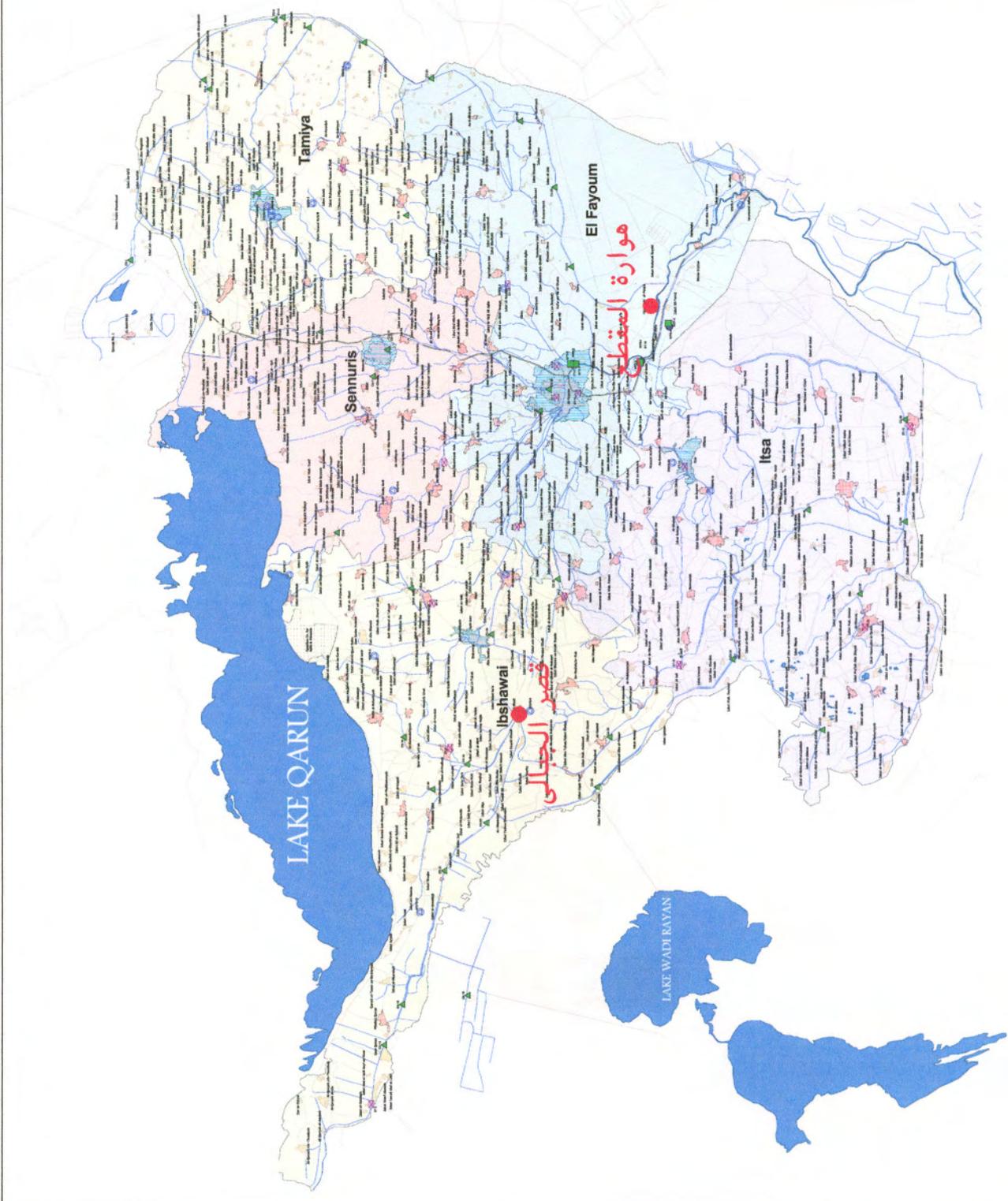
دراسة التأثيرات البيئية

١. المقدمة

تهدف هذه الدراسة وورشه العمل المنعقدة إلى شرح وتوضيح ومناقشة التأثيرات البيئية المتوقعة وتقييمها نتيجة تنفيذ أعمال الصرف الصحي بالقري التابعة لمحافظة الفيوم ضمن برنامج مشروع تطوير البنية التحتية في مصر الذي يتم بتمويل من الوكالة الأمريكية للتنمية الدولية USAID بمشاركة شركة المياه والصرف الصحي بالفيوم ممثل للحكومة المصرية.

تعتمد هذه الدراسة على كل البيانات والمعلومات التي تم تجميعها وأيضا التي تضمنها تقرير الدراسات البيئية لمشروع التطوير للمرحلة الأولى لمحافظة الفيوم (تقرير هارزا - يوليو ٢٠٠١).

الخريطة المرفقة لمحافظة الفيوم توضح موقع القريتين المقترحتين . قرية هواره المقطع تقع فى الركن الجنوبي الشرقي من مركز مدينة الفيوم . وقرية قصر الجبالى تقع في مركز أبشواى من الناحية الغربية للمحافظة. والقريتين على بعد حوالى ٢٠ كيلومتر .



شكل ١- موقع عام لمحافظة الفيوم

٢. وصف أعمال المشروع:

يوضح الشكل رقم (٢) قرية هواره المقطع حيث تظهر محطة معالجة الصرف الصحي بقحافه التي تخدم مدينة الفيوم . كما يوضح الشكل رقم (٢) قرب محطة معالجة الصرف الصحي القائمة بقحافة من المنطقة التي يخدمها المشروع.

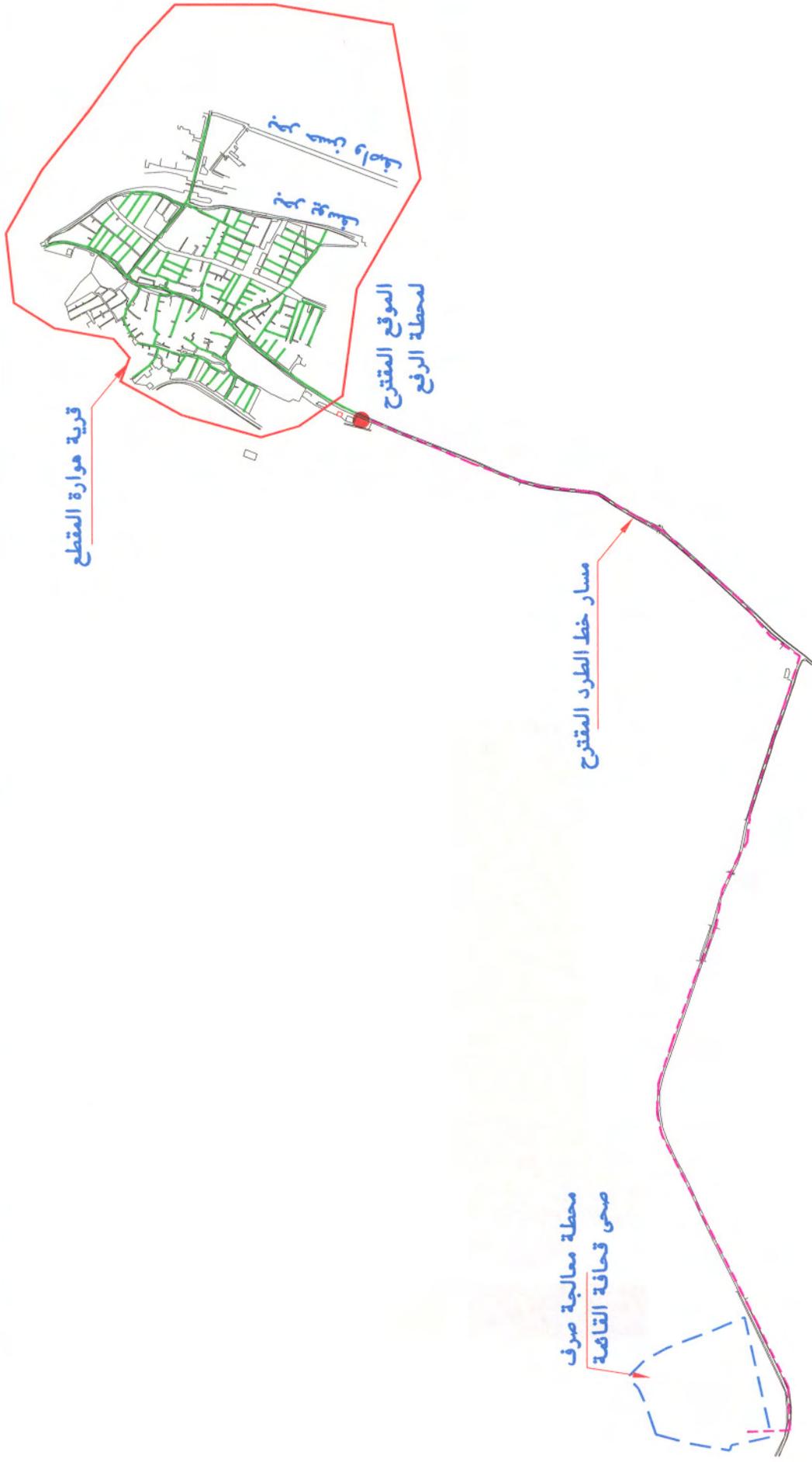
ويشتمل نظام الصرف الصحي لقرية هواره المقطع على شبكة تجميع بالأنحدار الطبيعي ومحطة رفع وخط طرد ، وصلات منازل حيث يتم ضخ الصرف الصحي الى محطة معالجة الصرف الصحي القائمة بقحافة التي تخدم مدينة الفيوم.

ويبلغ تعداد قرية هواره المقطع حوالي ٢٨٠٠٠ نسمة عام ٢٠٢٥ ويقسم القرية ترعتين رئيسيتين هما بحر يوسف وبحر حسن واصف وسوف يتم دراسة إمكانية عمل عدايتين لخطوط الصرف الصحي لهذين البحرين.

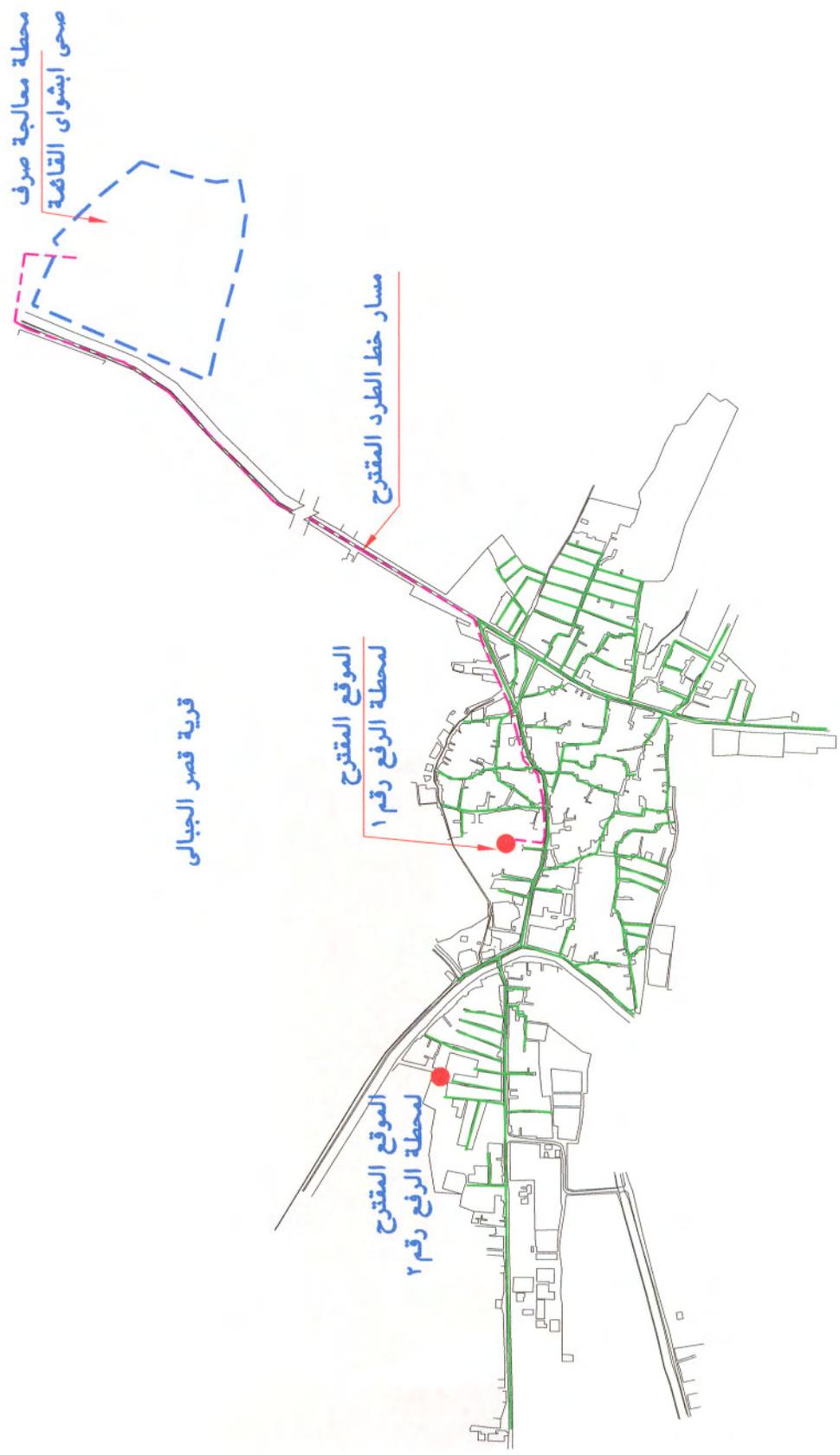
أما قرية قصر الجبالي فيبلغ تعدادها ٣٥٠٠٠ نسمة في عام ٢٠٢٥ ويتم خدمتها بنظام صرف صحي يشمل على خطوط تجميع بالانحدار الطبيعي ومحطة رفع وخط الطرد والوصلات المنزلية. ويتم ضخ الصرف الصحي إلي محطة معالجة القائمة هذا وسوف يتم مناقشة والتأكد على موقع محطة المعالجة الذي يتم الصرف الصحي عليه، إذا ما كانت محطة معالجة صرف صحي الشواشنة أم محطة معالجة صرف صحي أبشواى - الأمر الذي يتحدد عليه مسار خط الطرد علما بأن الربط على محطة معالجة أبشواى تحتاج الى عمل عداية عبر عداية لمصرف الوادى - كما بالشكل رقم (٤).



شكل رقم ٢ - الشكل العام لتقريبه هوارة المقطع



شكل رقم ٣ - المخطط العام لقرية هواره المقطع محافظة الفيوم



شكل رقم ٤- المخطط العام لقرية قصر الجبالي مركز ابشواى

٣. الاعتبارات البيئية والمحاور الأساسية

يواكب تنفيذ المشروع الذي يتم تمويله بواسطة كلا من الوكالة الأمريكية للتنمية الدولية (USAID) بمشاركة الحكومة المصرية عمل دراسات التأثيرات البيئية المختلفة نتيجته تنفيذ أعمال الصرف الصحي المقترحة في كلا من قريتي هواره المقطع وقصر الجبالي . وتهدف دراسة إجراءات التأثيرات البيئية الى تقييم الآثار المتوقعة نتيجة تنفيذ المشروعات المقترحة والمساعدة في اتخاذ كافة الاحتياطات اللازمة للحد من أى أضرار مستقبلية وضمان تعظيم الفوائد الممكنة قبل الشروع في تنفيذ هذه المشروعات وتعتبر هذه وسيلة ذات قيمة وعملية لمساعدة صناعي القرار في أعداد التخطيط والقيم والتنفيذ السليم والمناسب لهذه المشروعات .

يقدم التقييم البيئي أيضا لصانعي القرار معلومات كافية ودقيقة عن الحالة البيئية الحالية، وعن التغييرات المؤثرة المحتملة وبرامج المتابعة المطلوبة وإمكانيات تحسين البيئة وخطط الإدارة البيئية المصاحبة للمشروع المقترح .

يتضمن مجال أنشطته التأثيرات البيئية المهام الآتية :

- تحديد الخصائص البيئية موضع الاهتمام .
- أعداد خطة لفريق دراسة التأثيرات البيئية والتركيز علي هذه الخصائص .

تشارك محافظة الفيوم مع كافة الوزارات والجهات والهيئات المعنية ومع الوكالة الأمريكية للتنمية الدولية (USAID) والمواطنين المقيمين بمنطقة الدراسة كلا بدوره في أعداد دراسة التقرير البيئي وبناء عليه فإن ورشه العمل هذه تعد جزء هام لا يتجزأ في إعداد هذه الدراسة .

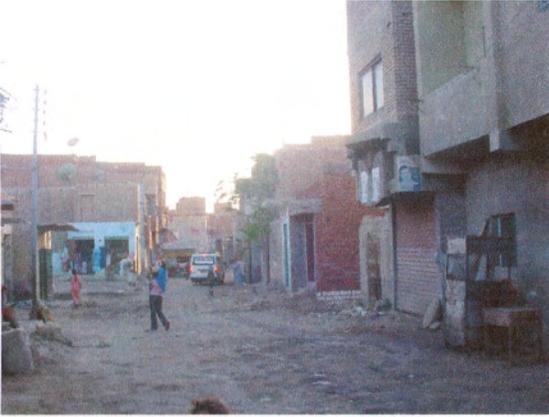
ولأن أحد منطقتي المشروع تقع بالقرب من محطة معالجة الصرف الصحي بقحافة فإن التأثيرات البيئية تكون مماثلة تماما لمحطة معالجة صرف صحي قحافة وتكون معظم التأثيرات البيئية مطابقة لما جاء في التقرير الصادر بخصوص محطة معالجة صرف صحي بقحافة.

ومع هذا وسوف يت أدرج المنطقتين المرشحتين ضمن ورشة العمل المقترحة لمعرفة أى مستندات أو موضوعات جديدة يمكن اعتبارها سوء في موقعي المشروع أو أى أعمال بالقرب من محطة معالجة صرف صحي قحافة.

٤. الخبرة في أعمال الصرف الصحي في الفيوم

وقد أوضحت دراسة المخطط العام لمشروع مدن وسط الصعيد (تقرير هارزا - عام ٢٠٠٠) الذي تم برعاية الوكالة الأمريكية للتنمية الدولية أن نظام الصرف الصحي القائم بشكل عام غير جيدة من حيث التنفيذ والصيانة والتشغيل وبالتالي فهو عرضة للانحيار .

وأنهيار نظام الصرف الصحي الداخلي يؤدي الى تسرب مياه الصرف الصحي الملوثة الى باطن التربة ووصولها الى المياه الجوفية والى طفق المياه السطحية بالشوارع والطرق وايضا تتجمع المياه الراكدة وتبقى هذه المياه لفترات طويلة داخل وحول المباني السكنية والتجارية .



قصر الجبالي



هواره المقطع



نموذج موقع لاعمال تنفيذ



بركة مياة راكدة

هذا بالإضافة الى أنه من الضروري نزع وتفريغ الخزانات بشكل دورى منتظم وخصوصا فى المناطق التى بها منسوب المياه الجوفية مرتفع .تتم صيانة نظام الصرف الصحى الداخلى بواسطة الأهالى - ويتم تفريغها بواسطة سيارات الكسح الحكومية أو الخاصة التى تقوم بتفريغ حمولتها بشكل غير قانونى سواء فى مناطق غير أهلة قريبة أو مصارف وأحيانا فى الترع التى يتم استخدامها فى أغراض الشرب أو رى الزراعات . علما بأن عدم الأعتاد على نظام الصرف الصحى بشكل علمى مدروس وأمن يعرض الأهالى المقيمين وبشكل كبير إلى التلوث بمياه الصرف الصحى الخام . وبالتالي يعرضهم جميعا الى مخاطر صحية وبيئية . وعليه فإن نظام الصرف الصحى الداخلى يعد نظام غير مناسب وغير آمن لمثل هذه المناطق الأهلة بكثافة سكانية.

تتطبق ظروف نظام الصرف الصحى الداخلى للمناطق ذات الكثافة السكانية المذكورة على قرىتي هواره المقطع وقصر الجبالى - وبناء عليه فى هذه المرحلة لابد من تطبيق النظام الأامن لتجميع ونقل الصرف الصحى لهذه القرى الى محطات المعالجة .

٥. التأثيرات الأولية لنظام تجميع الصرف الصحى المقترحة لقرىتي هواره المقطع وقصر الجبالى

التأثيرات الإيجابية المتوقعة :

أن توفير خدمة الصرف الصحى فى محافظة الفيوم الغير مخدومة حاليا يؤدى الى التخلص من خزانات التحليل بمشاكلها والطفح فى الشوارع والطرق وتجميع المياه الراكدة الملوثة حول المبانى والمحلات التجارية. ويؤدى أيضا الى :

- تحسن نوعية المياه الجوفية والسطحية مما يقلل احتمالات التعرض للأمراض التى تسببها المياه الراكة ويحسن النظافة الشخصية والصحة العامة للمواطنين .
- تخفيض منسوب المياه الجوفية التى ليس فقط تمنع الفرد من الإصابة بالأمراض التى تسببها المياه الراكة ولكن أيضا تحافظ على أساسات وقواعد المبانى والحوائط وتحفظها من الأنهيار
- إيجاد فرص عمل لعدد محدود خلال فترة التنفيذ لأعمال الشبكات ومحطات الرفع وخطوط الطرد المقترحة.
- خفض التكلفة والجهد المصاحبة لأعمال التخلص من مياه الصرف الصحى .

التأثيرات السلبية المحتملة

- زيادة كميات الصرف الصحى التى يتم ضخها الى محطة معالجة الصرف الصحى بمدينة قحافة وأبشواى وأيضا التخلص من المياه المعالجة بالإضافة للتخلص من الفضلات الصلبة .
- التكلفة المصاحبة لأعمال التشغيل والصيانة لنظام الصرف الصحى المقترح .

عدم وجود تأثيرات سلبية متوقعة للمشروع المقترح فى المجالات التالية:

- أستعمالات الأراضى والتخطيط الأقليمى .

- المصادر أقتصادية .
- التأثير على نوعية الهواء .
- الجيولوجية والهيدروجولوجية.
- الطقس .
- الكائنات البرية والحية والمائية .
- المصادر الجمالية والأثرية .

التأثيرات الأيجابية المتوقعة خلال فترة التنفيذ

- توفر فرص عمل قد تكون محدودة للعمالة الماهرة والفنيين والعمالة الغير ماهرة خلال فترة تنفيذ المشروعات .

التأثيرات السلبية المحتملة خلال فترة التنفيذ

- المتوقع خلال تنفيذ هذه المشروعات أن يصاحبها أشغالات للطرق القائمة والمسارات فى قرىتى هواره المقطع وقصر الجبالى - وتتم فقط هذه الأشغالات خلال فترة التنفيذ ولن تتعارض أو تؤثر على المخططات العمرانية المحلية أو الأقليمية .
- احتمال أن يؤثر التنفيذ على آثارقائمة (أن وجدت) .
- اعتبارات سلامة و أمن المواطنين وأنظام حركة المرور وعدم اضطراب خدمات المياه والكهرباء وغيره ، مع الأعتبار أن هذه المشروعات المقترحة ستوفر مميزات هائلة للمواطنين - الأ أنه لابد من الأخذ فى الأعتبار كل الأجراءات الأحتياطية المناسبة .
- أيضا يتيح تنفيذ هذه المشروعات مزايا أخرى كبيرة . ولذا يستلزم الأمر أن تتم أحد الأجراءات المخففة التالية عند الضرورة :
- أن يتم تخطيط أعمال تنفيذ المشروع على "مراحل عمل" لتقليل التأثيرات السلبية المصاحبة المؤقتة.
- منع الطفح لنظام الصرف الصحى الداخلى وأتخاذ الأجراءات للتحكم والنظافة لها فى حالة التطرق لها خلال التنفيذ .
- تفتادى ومنع الطفح وأتخاذ كافة الأجراءات اللازمة للتحكم والتخلص من الوقود والمواد الكيمائية الخطرة التى قد تكون مستعملةفى منطقة العمل.
- التخلص من الغبار والضوضاء خلال التنفيذ .
- عمل تحويل أو سدود أو أى أحتياطات أخرى فى حالة تنفيذ عدايات للقنوات أو الترع أو المصارف المطلوب مرور مواسير الصرف الصحى عبرها .
- عمل تثبيت لجوانب الحفر أو أى أجراءات ضرورية لتفتادى أى تأثير أو التعرض لأنهباء للمنشآت القائمة خلال فترة التنفيذ .

- اتخاذ إجراءات تنفيذية هامة مثل تفادي استخدام المعدات الثقيلة داخل أو بجوار الترع والمسارات المائية واتخاذ كل إجراءات لمنع انهيار الجوانب وأرضية هذه الترع لتقليل تأثيرها على نوعية المياه الجارية وتفادي حدوث عكارة أو روبة بها.
- الاستخدام الأمثل لاحتياطات الأمن والسلامة مثل الشرائط الجاهزة أو البراميل الملونة للحفاظ على الأفراد في مناطق العمل التي يكثر بها أستعمالات الأفراد .
- التخطيط والتنسيق مع أدارت المرافق المختلفة لمنع أو تقليل أى أضرار أو اضطرابات قد تحدث في الخدمات أو المرافق الأخرى.
- التنسيق مع المجلس الأعلى للآثار لمنع أى تأثيرات على أى نوع من الآثار قد تكون موجودة أو قد يتم اكتشافها في منطقة العمل خلال التنفيذ.
- فى حالة وجود مناطق سكنية مجاورة غير مخدومة بشبكة صرف صحى يجب تنفيذ غرف تفتيش فى أقرب مكان وبأعماق مناسبة لهذه المناطق الغير مخدومة وذلك لأمكانية الربط عليها أو الصرف عليها بواسطة عربات الكسح .

المراقبة والمتابعة

- لابد مع إجراء كشف عن التسرب بشكل دورى منتظم على خطوط الطرد الجديدة
- إجراء كشف عن الأنسداد فى شبكة الأنحدار بشكل دورى منتظم .

٦. الخطوط العريضة لتقرير دراسة التأثيرات البيئية

من المخطط له خلال الشهور القليلة القادمة الانتهاء من أعداد تقرير دراسة التأثيرات البيئية ويتضمن شرح للمشروع ويتناول أيضا المنافع والأضرار المترتبة علي أعمال تنفيذ المشروع وتأثيرها على البيئة وكذلك علي الصحة العامة وعائداتها علي المواطنين بالمنطقة .

يتم أعداد دراسة التأثيرات البيئية للمشروع بناء على المعلومات الفنية التي يتم تجميعها من الدراسات السابقة والمصادر الأخرى وأيضا الملاحظات والمناقشات والمقترحات والتوصيات التي تتم خلال ورشه العمل وكل الاجتماعات المتعلقة بهذا المشروع .

وخلال هذا الاجتماع الموسع سوف يتم عرض أفكارنا والاستماع إلى الآراء والمعلومات والمقترحات الأخرى من كافة ممثلي الجهات المشاركة في هذا الاجتماع .

وسوف يحتوي تقريردراسة التأثيرات البيئية الخطوط العريضة الموضحة فى نهاية هذا التقرير :

المراجع

- الوكالة الأمريكية للتنمية الدولية فى مصر - المخطط العام لمياه الشرب والصرف الصحي لمدن وسط الصعيد : تقرير الدراسات البيئية وبرنامج المرحلة الأولى للخطة الأستثمارية لمحافظة الفيوم : هارزا للخدمات البيئية بالأشتراك مع CDM والبيئة النوعية العالمية والمجموعة الأستشارية الهندسية (ابريل ٢٠٠١) .

(المحتويات المقترحة)

المحتويات المقترحة لتقرير التقييم البيئي

١- المقدمة

- ١-١ عام
- ٢-١ النشاطات المقترحة
- ٣-١ القوانين والتشريعات البيئية
- ١-٣-١ القوانين والتشريعات البيئية المصرية
- ٢-٣-١ الإجراءات البيئية للوكالة الأمريكية للتنمية الدولية

٢- وصف المشروع

- ١-٢ عام
- ٢-٢ مخططات وصف مكونات المشروع المقترحة
- ٣-٢ أنشطة التنفيذ
- ٤-٢ أنشطة التشغيل

٣- التوصيف البيئي

- ١-٣ عام
- ٢-٣ التأثير البيئي الطبيعي
- ٣-٣ البيئة الإجتماعية والإقتصادية
- ٤-٣ البيئة الثقافية والأثرية

٤- التأثير البيئي

- ١-٤ عام
- ٢-٤ التأثير البيئي الطبيعي
- ٣-٤ التأثير البيئي الثقافي والجمالي
- ٤-٤ البدائل المحدودة

٥- تخفيف الآثار الجانبية والمراقبة والأدارة

- ١-٥ عام
- ٢-٥ التأثير البيئي الطبيعي
- ٣-٥ البيئة الإجتماعية والإقتصادية
- ٤-٥ البيئة الثقافية والأثرية

ملاحق

- قائمة بفريق العمل لتقرير الدراسات البيئية
- تقرير المجال البيئي للمشروع
- مشاوره الجهات الغير حكومية