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Organizing for Wastewater Activities at the Governorate Level

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Table of Contents

Introduction	1
Background	1
Organization of this Report	2
Proposed Model for Governorate Wastewater Organization	2
Mission of the Wastewater Organization	2
Organizational Issues	5
Staffing	6
Budget Concerns	8
Conclusion	10
Appendix A: Job Descriptions	12
Appendix B: Pertinent Laws and Decrees	28

Organizing for Wastewater Activities at the Governorate Level

INTRODUCTION

Background

The proper handling of wastewater is becoming an increasingly important topic in Egypt. Growing amounts of Egyptian funds and foreign grants are being spent to provide proper sanitary conditions for both cities and villages. Adequate wastewater disposal is essential, not only for the health of the populace, but also for the encouragement of economic development.

The design, construction, and operation and maintenance (O&M) of wastewater facilities require a level of knowledge on the part of governorate, city and village personnel that is currently not available. The National Organization for Potable Water and Sanitary Drainage (NOPWASD), operating under the Ministry of Housing and Reconstruction, is responsible for the planning and construction of wastewater treatment facilities funded through the Government of Egypt (GOE). Governorates have been responsible for planning and implementing wastewater projects funded through the LD II Project.

When construction of a facility is complete, the treatment and collection systems are turned over to the city or village, which is responsible for providing proper operation and maintenance. Evidence to date, although limited in terms of the number of facilities, clearly indicates that villages and cities are experiencing serious problems in maintaining facilities in workable condition.

As a result, it is essential that any governorate desiring additional wastewater facilities for its citizens must seriously consider how it can effectively organize to properly plan and oversee the wastewater disposal process. Five governorates have already taken steps to organize for the more effective handling of wastewater facilities: Beheira, Damietta, Qalubiya, South Sinai, and Kafr El Sheikh. Each has approached the problem in a slightly different way depending on its circumstances, needs, and capacities. Kafr El Sheikh has assigned the entire wastewater function to its independent water and wastewater company. South Sinai

has created a department of water and wastewater under the secretary general to oversee the planning and O&M of water and wastewater facilities. Damietta, Qalubiya, and Beheira have all created their own wastewater departments that report to their respective secretaries general and oversee the planning and service delivery of wastewater activities. Beheira has made a recent decision to turn all wastewater functions, including village and city O&M activities, over to its independent water company.

This report outlines a model governorate-level wastewater organization that can be utilized regardless of where the wastewater organization is located in the governorate structure—as a separate department, as a division of the department of housing, or as a division of an independent water and wastewater company. The model has been developed under the assumption that the actual operation and maintenance of the wastewater collection and treatment facilities will remain the responsibility of the cities and the villages in which they are located. It is designed to provide governorate officials with the organization and staffing information necessary to coordinate the planning and construction of wastewater facilities, monitor the operation and maintenance of those facilities, provide technical assistance and training, and alert governorate and GOE officials in a timely fashion whenever serious problems occur.

A more technically oriented model must be developed if a governorate organization is assigned the responsibility for the operation and maintenance of all wastewater facilities in addition to coordinating, and providing technical assistance, training, and monitoring.

Organization of this Report

The following discussion provides an overview of the mission and organizational issues, including staffing and budget concerns, pertinent to any governorate wastewater organization. Appendix A contains job descriptions for the various positions recommended for a governorate-level wastewater agency. Appendix B provides the texts of Law 26/1983, Law 16/1985, and the ministerial regulations for implementing these laws.

PROPOSED MODEL FOR GOVERNORATE WASTEWATER ORGANIZATION

Mission of the Wastewater Organization

The governorate wastewater organization model is designed to provide governorate officials with the necessary capacity to

oversee all wastewater disposal functions throughout the governorate. The tasks crucial to accomplish this goal are detailed below.

1. *Coordinate the planning of wastewater facilities.*

The governorate wastewater organization staff will work with NOPWASD; the departments of housing, development, planning, and finance; and markaz, city and village officials and staff to coordinate the planning of wastewater collection and disposal facilities in the governorate.

2. *Review the plans and specifications for wastewater facilities.*

The wastewater organization staff will work with NOPWASD and department of housing staff, in consultation with local wastewater personnel, to review plans and specifications for new wastewater facilities. In these reviews, the staff will use its knowledge and experience to anticipate possible O&M problems, determine if equipment standardization is possible, and ensure that the simplest and most appropriate technology has been chosen.

3. *Monitor the construction of wastewater facilities.*

The wastewater organization staff will maintain communication with NOPWASD, the Ministry of Housing and Reconstruction, and markaz, city and village staff during the construction of wastewater facilities in order to monitor construction; standardize parts and equipment; provide as-built drawings and equipment manuals; train plant personnel and ensure the provision of spare parts by the contractor; and provide a proper transition of the facilities to their new operators.

4. *Develop and monitor a plan for connecting buildings to sewer lines.*

Working with markaz, city, and village officials, the wastewater organization staff will develop an effective plan for connecting buildings to adjacent sewer collection lines, and will monitor the rate of new connections once the wastewater facilities are complete.

5. ***Oversee the operation and maintenance of wastewater facilities.***

The wastewater organization staff will visit all wastewater collection and treatment facilities in the governorate, including sewage evacuation vehicle operations, on a regular basis. These visits ensure that the facilities and equipment are operated and maintained properly and that wastewater and sludge are disposed of in accordance with GOE standards. Personnel will prepare facility reports following each visit that indicate the level of O&M observed, and will distribute the reports to appropriate governorate and local officials. Serious problems will be brought to the immediate attention of the secretary general for necessary action.

Staff will have effluent samples from local facilities tested periodically to ascertain whether GOE standards are being met, and to ensure that the ongoing effluent testing programs are operating properly and providing satisfactory results.

6. ***Provide technical assistance to local wastewater personnel.***

During the course of their field visits, wastewater organization staff members will provide technical assistance to markaz, city, and village wastewater personnel regarding the proper operation and maintenance of equipment and facilities. Such activities might include helping to establish maintenance schedules, preparing designs for minor alterations, recommending procedures, and identifying training needs.

7. ***Provide training for local wastewater personnel.***

The wastewater organization staff will provide training for local wastewater personnel and/or will recommend other training resource agencies, as needed. Particular attention will be given to the training of local wastewater personnel prior to facility start-up.

8. ***Provide public information regarding wastewater issues.***

The wastewater organization staff will provide both written and oral information for local residents regarding the need for good sanitation, the importance of constructing and properly maintaining wastewater

facilities, and the need for cost recovery programs. When necessary, the wastewater agency staff members will appear before popular councils to address wastewater disposal issues and to answer questions.

9. *Assist local officials in developing wastewater budgets, staffing plans, and cost recovery schemes.*

The wastewater organization staff will assist markaz, city, and village wastewater personnel in developing budgets, staffing plans, and cost recovery schemes for local wastewater departments or agencies. Particular attention will be given to facilities in the planning stage or nearing the stage of O&M takeover by the local agencies.

10. *Develop and monitor a centralized purchasing and warehousing facility for wastewater equipment and supplies.*

The wastewater organization staff will work with appropriate governorate officials to develop and monitor an effective governorate purchasing and warehousing program for the parts, equipment, and supplies necessary to support local wastewater facilities. The purpose of the program will be to reduce costs for local agencies, to shorten delivery times, and to consolidate needs.

11. *Ensure good communication among governorate departments that play a role in creating and maintaining an effective wastewater program.*

The wastewater organization will develop and staff a governorate wastewater advisory committee, chaired by the secretary general, to discuss wastewater problems and solutions in monthly meetings. The committee should include representatives of the development, finance, housing, personnel, planning and contract, and purchasing departments. At least one representative from each village and city wastewater organization should be included. The general manager or other representative of the water company or water utility may also be included.

Organizational Issues

Regardless of where it is located in the governorate structure, the model governorate wastewater organization is designed to be a relatively small organization that provides planning, technical assistance, training, and monitoring activities for governorate wastewater facilities. Each governorate must

decide where the wastewater agency fits best in the overall governorate structure: as a separate department, as a division in the housing department, or as a division in an existing independent water company. The wastewater agency described in this model is *not* designed to be responsible for everyday operation and maintenance of wastewater facilities.

Governorate wastewater personnel need to be in the field visiting facilities and discussing problems for a high percentage of their working week. The key individual will be the *chief* of the organization, who should be technically competent, aggressive in meeting the challenges posed to his or her organization, and diplomatic in dealing with governorate and local officials.

The chief of the wastewater organization must have ready access to the secretary general—either directly or, if the organization is part of the housing department, through the director of the housing department.¹ This is necessary to ensure that serious sanitation problems arising from inadequate O&M of local wastewater facilities can be dealt with quickly and effectively.

The wastewater organization should have sufficient funds available to ensure that its personnel have adequate transportation for field trips. It should also have access to funds to provide laboratory testing of effluent and to purchase and stock wastewater equipment parts and supplies for local facilities. Finally, it will require funds to provide the necessary training for local wastewater personnel and to employ sanitary engineering consultants to assist with the diagnosis and correction of serious wastewater problems.

The governorate should consider establishing and maintaining salaries and fringe benefits sufficient to attract and retain qualified sanitary engineering personnel. Such personnel are expected to remain in short supply during the foreseeable future as Egypt expands its water and wastewater facilities.

Staffing

The wastewater organization will need a combination of civil, mechanical, and electrical engineering personnel to properly oversee the wastewater function. The number of engineers needed will depend upon the number of facilities existing, planned, or under construction in the governorate. Except for the chief, who has major management responsibilities, each engineer should be able to supervise at least three or four treatment facilities, in addition to overseeing collection and sewage evacuation systems and performing training duties.

¹ Or, if the wastewater organization is part of the independent water company, the chief must have access to the general manager of the company.

A minimum of four engineers will be needed: the chief, a mechanical engineer, an electrical engineer, and a civil engineer. In addition, the organization will require an office manager, clerical personnel, a supply specialist, a finance specialist, and a personnel specialist. The three specialists in supply, finance, and personnel could be part-time, depending on the number and size of local wastewater facilities. The skills of the personnel and finance specialists will be needed more in the start-up phase of local wastewater agencies to assist local officials in developing budgets, staffing, and preparing cost recovery schemes. The supply specialist will become increasingly important as more local wastewater facilities become operational and require parts and supplies. Figure 1 shows a possible organization chart for a governorate wastewater organization.

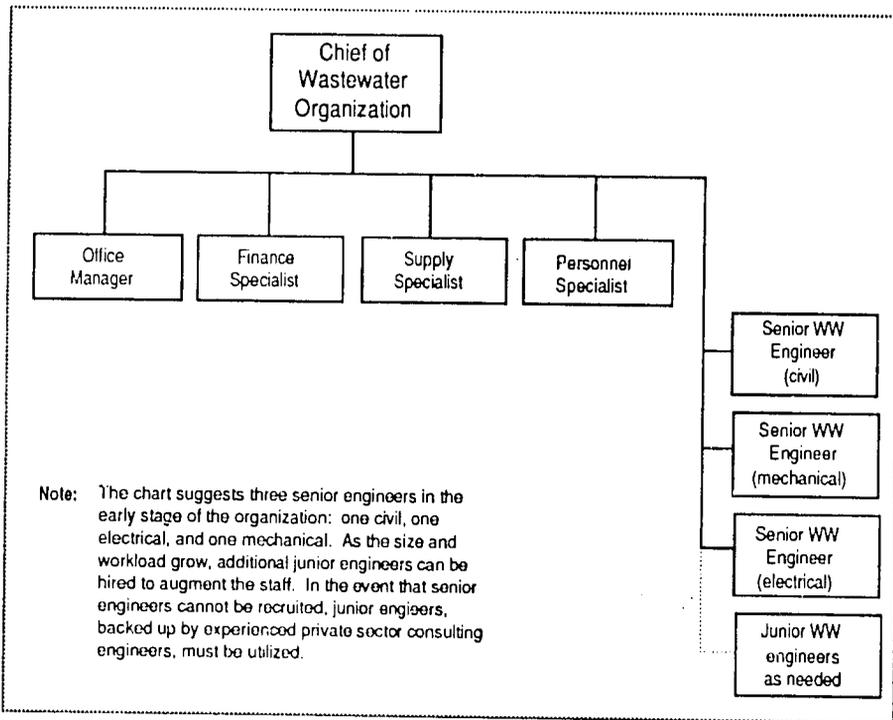


Figure 1: Suggested Organization Chart for Governorate Wastewater Organization

It is envisioned that the governorate will second individuals into the positions of finance and personnel specialists from other departments on a part- or full-time basis as the need for services fluctuates or until such time as the demands of the wastewater agency require permanent full-time positions.

Job descriptions have been developed for the various positions required for the governorate wastewater organization (with the exception of clerical support staff); these are provided in Appendix A.

Budget Concerns

It has not been possible to develop a detailed budget for a model wastewater organization because of the difficulty in obtaining accurate figures and because of the variations in the different governorates. In addition, the wastewater organization may receive funds from the Diwan Am budget rather than having a formal budget of its own. As a result, this report deals with budget concerns by identifying several categories of expenses that need to be considered by governorate officials in establishing effective wastewater organizations.

Salaries and Fringe Benefits. One of the key issues in establishing a governorate wastewater organization is the difficulty in recruiting experienced, qualified engineering personnel. Academic institutions in Egypt are just beginning to turn their attention to the training of sanitary engineers. Individuals who have received their training overseas and/or have practical experience in the emerging field of wastewater collection and treatment are in great demand and can command relatively high salaries with private sector engineering firms.

Some local and governorate engineers have had to learn about wastewater engineering on the job as they were confronted with the challenge of operating and maintaining facilities constructed in their jurisdictions. Generally, they have not had access to training opportunities and funds have not been made available in their agencies' budgets to send them to training courses.

One of the disadvantages of transferring individuals into a new wastewater organization is that the individuals may lose opportunities for promotion. Also, they may not have access to various incentive payments that they received in previous, and generally larger, departments.

Salaries should be higher in governorate wastewater organizations in order to attract and retain qualified sanitary engineers. Particular attention should be given to, and funds provided for, incentive payments and promotional opportunities.

Individuals working in governorate wastewater organizations may be required to answer emergency calls at night or on weekends when a facility stops operating or encounters a serious operating problem. Provisions should be made in the budget for overtime payments, when required.

Careful consideration should be given by the governorate to the salary and benefit provisions of Law 26, 1983 as amended by Law 16/1985. This legislation provides for an increase of up to 60 percent in salary for wastewater personnel because of work-related hazards. It also allows for up to 50 hours of overtime a month—a potential of 25 percent over the normal 36-hour work week. The provision of day meals or payment for day meals is also allowed. Appendix B contains copies of these laws and of the prime minister's implementing regulations.

The governorate needs to work with the Central Agency for Organization and Administration to develop incentives in terms of salary increases or promotions that will encourage individuals to attend training programs on their own time. Similar incentives should be provided to encourage employees to obtain degrees or certification.

Training Costs. Funding should be considered for training both governorate wastewater organization and local wastewater facility personnel. Equipment, such as overhead projectors, portable sound systems, slide projectors, and screens may be required unless already available through other governorate departments. Funds should be available to send local personnel to schools such as the Damanhour Center operated by NOPWASD, or to academic institution programs. Money should be provided for both short-term courses and academic credit programs.

As an alternative, training funds for the local wastewater personnel could be included in the local agency budgets. The essential point is that adequate training funds must be budgeted, particularly during the start-up period for new facilities, to ensure adequate O&M.

Transportation. Funds for acquiring and properly maintaining sufficient vehicles are needed to ensure that engineering staff can travel frequently to local facilities to provide necessary technical assistance, training, and oversight. Without adequate transportation, the major purposes of the wastewater agency cannot be accomplished effectively. For example, if the organization has only one vehicle and all the engineers must travel together to various locations, the time of valuable and scarce engineering personnel has been wasted.

An alternative to buying vehicles would be for the governorate to provide funds to allow the engineering staff to hire taxis.

Consulting Services. Funds should be provided to employ a private sanitary engineering firm to assist the governorate

wastewater staff with training, diagnosing difficult treatment plant problems, and planning additional treatment facilities. Such assistance will be particularly helpful during the formative stages of the wastewater agency by helping to devise a work plan and by providing technical assistance to the relatively inexperienced engineering staff.

Testing Services. Funds should be provided to permit the governorate wastewater staff to utilize the services of a laboratory to test effluent samples from local treatment plants when difficult problems are encountered or pollution is suspected.

Equipment. Funds sufficient to provide testing and record-keeping equipment for the governorate wastewater organization personnel should be considered. Computers may be desirable to facilitate ordering and inventory control for centralized purchasing and warehousing of equipment and supplies for local wastewater agencies. Engineering personnel will need various types of testing equipment for measuring flows, taking samples, and testing pumps and motors. Expensive equipment such as sewer cleaning apparatus, which villages cannot afford, should be purchased by the wastewater organization and rented to smaller communities on an as-needed bases.

Radios or portable telephones may be necessary to allow key engineering staff to respond rapidly in emergencies. Access to telephones or radio equipment should be considered for treatment facilities so that local personnel can quickly report emergency problems to the governorate wastewater organization.

Initial Purchase of Equipment and Supplies. The governorate should allocate sufficient funds for ordering and warehousing parts, equipment, and supplies to support O&M at the local wastewater facilities. This expenditure would be largely a one-time allocation, since the local agencies would reimburse the revolving fund account each time they ordered and received something from the centralized stores. Additional one-time fund allocations might have to be considered as the number of local wastewater facilities grow.

CONCLUSION

The planning and monitoring of wastewater facilities by a governorate wastewater organization is a complex and sophisticated undertaking. It will require technical and managerial skills, an adequate budget and strong support from the secretary general and the governor to succeed. Simply creating a department or organization and appointing a few individuals to staff it will not achieve the goals.

As with any new entity, the governorate wastewater organization will need careful planning and nurturing to successfully meet the expectations of the governorate leadership. The proper planning, construction, operation and maintenance of wastewater facilities is of great importance in terms of the health of a governorate's citizens and the success of its economic development. It deserves priority attention from the governorate's leaders and the dedication of sufficient resources.

Failure to ensure adequate O&M for vital and expensive wastewater facilities and the resulting waste of scarce monetary resources will discourage future investment in such facilities by both the GOE and foreign donors. Everyone shares a stake in the creation of strong, viable wastewater organizations at the governorate level.

APPENDIX A

JOB DESCRIPTIONS

Chief of Governorate Wastewater Organization	13
Senior Wastewater Engineer	16
Junior Wastewater Engineer	18
Supply Specialist	20
Finance Specialist	22
Personnel Specialist	24
Office Manager	26

CHIEF OF GOVERNORATE WASTEWATER ORGANIZATION

General Description of Position

The Chief of the governorate wastewater organization is responsible for administering the organization. This includes supervising and training the unit personnel; developing work schedules, budgets, and reports for the organization; keeping superiors, including the secretary general, aware of emerging wastewater problems; and providing oversight, technical assistance, training, and evaluation activities for markaz and village wastewater facilities and personnel.

Duties and Responsibilities

1. Oversees the work of the wastewater organization and its employees.
2. Develops work schedules, budgets, reports, purchasing procedures, a management information system, and other administrative systems for the wastewater organization.
3. Prepares monthly reports for his or her superiors, including the secretary general, covering the activities of the wastewater organization and the condition and problems in the village, city, and markaz wastewater collection and treatment facilities.
4. Prepares immediate reports on serious problems in village, city, and markaz wastewater facilities for delivery to superiors (including the secretary general) that recommend quick action to alleviate problems before they become more serious.
5. Develops and participates in an ongoing training program for the wastewater organization employees and for village, city, and markaz wastewater personnel.
6. Participates in field visits to local wastewater facilities, including sewage evacuation vehicle operations, to determine the adequacy of operation and maintenance activities, and prepares field trip reports on the findings together with recommendations for improvements.
7. Maintains effective communication with local officials including village, city, and markaz engineers and chiefs regarding the progress, needs, and problems of the local wastewater facilities.
8. Takes occasional effluent samples for testing from local wastewater facilities to ensure standards are met and checks that the routine reports on wastewater samples taken by employees of the local facilities are received by appropriate governorate and GOE representatives.

9. Ensures that plans and specifications for new wastewater facilities in the governorate are reviewed by the governorate wastewater organization engineering staff in consultation with local wastewater personnel, prior to the start of construction.
10. Monitors construction management programs in any local jurisdiction which is building new wastewater treatment or collection facilities.
11. Develops and monitors a cooperative, governorate-level, purchasing and warehousing program for wastewater equipment, spare parts, and supplies in order to facilitate the proper operation and maintenance of local wastewater facilities.
12. Works with local officials to develop and implement local wastewater cost recovery programs so that wastewater revenues can be retained in local special funds to support O&M program costs, and also to assist local officials in developing effective budgets and financial procedures.
13. Develops cooperative relationships with appropriate governorate- and national-level agencies in order to build the capacity of local wastewater organizations in the governorate, and to expedite the planning and construction of wastewater facilities.
14. Works with appropriate governorate and GOE officials, as well as with contractors and private sector engineering firms, to promote the use of standardized wastewater equipment and facilitate joint purchasing by local facilities.
15. Assists local officials and wastewater staff in developing solutions for small-scale additions and renovations for local wastewater facilities.
16. Develops and implements a public information program to inform the local government officials and the citizens of the governorate about the importance of wastewater facilities and their proper operation to the health and well-being of the community.
17. Staffs a wastewater advisory committee that will meet on a monthly basis with the secretary general to discuss common problems and improve communication on wastewater issues. The committee should include the directors of housing, finance, contracts and purchasing, planning, and personnel; the general manager of the water company (if appropriate); and the managers of one city and one village wastewater treatment facility.

Qualifications

The individual shall have the following qualifications:

Education: A bachelor's degree in civil, mechanical, or electrical engineering, preferably in sanitary engineering. A master's degree is desirable.

Experience: A minimum of 10 years of experience in civil, mechanical, or electrical engineering, at least half of which should be in the operation and maintenance of wastewater collection and treatment systems. A master's degree in sanitary engineering may be substituted for four years of wastewater experience.

A minimum of three years of supervisory experience including training, report preparation, budgeting, and scheduling.

Other: The individual should be able to work with a minimum of supervision, be aggressive in approaching the development of the wastewater organization, and be diplomatic in his or her relationships with governorate and local officials.

SENIOR WASTEWATER ENGINEER

General Description of Position

The Senior Wastewater Engineer is responsible for overseeing the operation and maintenance of markaz and village wastewater collection and treatment systems, including septic tank pumping and disposal operations, and for the preparation of reports on his or her findings and recommendations.

Duties and Responsibilities

1. Makes scheduled trips to visit and evaluate markaz and village wastewater collection and treatment facilities, including sewage evacuation vehicle systems, to determine the adequacy of operation and maintenance.
2. Prepares field trip reports indicating findings and recommendations to improve wastewater collection and treatment facilities visited.
3. Prepares special reports regarding situations that require immediate attention because of serious problems or health-threatening conditions.
4. Maintains effective communication with local officials including village, city, and markaz engineers and chiefs regarding the progress, needs, and problems of the local wastewater facilities.
5. Conducts training sessions for markaz, city, and village wastewater collection and treatment personnel, including sewage evacuation vehicle and effluent disposal staff.
6. Collects occasional wastewater effluent samples from local treatment facilities for testing to ensure GOE standards are met and routine wastewater samples are collected and tested properly by the local wastewater personnel.
7. Reviews plans and specifications for new wastewater facilities, in consultation with the local wastewater personnel, prior to the start of the tendering process.
8. Visits and monitors construction sites of wastewater collection and treatment facilities.
9. Assists local wastewater personnel in purchasing wastewater equipment, parts, and supplies, and in utilizing the governorate's joint purchasing and warehousing program.
10. Works with appropriate local, governorate, and GOE officials to encourage the standardization of wastewater equipment for new

and renovated wastewater facilities in order to facilitate joint purchasing.

11. Works with local officials to facilitate the use of cost recovery schemes for wastewater O&M programs.
12. Works with local officials to develop and present public information programs on wastewater and related health issues.
13. Assists local wastewater personnel in developing solutions for small-scale extensions or renovations for local wastewater facilities.
14. Works with local wastewater officials to develop a list of O&M equipment, such as tools and testing apparatus, that should be available at specific local facilities.

Qualifications

The individual should have the following qualifications:

- Education:* A bachelor's degree in civil, mechanical or electrical engineering, preferably in the area of sanitary engineering. A master's degree is desirable.
- Experience:* A minimum of five years of experience in civil, mechanical, or electrical engineering, preferably in the operation and maintenance of wastewater collection and treatment facilities.
- Other:* The ability to write clear and concise reports, work with a minimum amount of supervision, and deal diplomatically with local officials and wastewater personnel.

JUNIOR WASTEWATER ENGINEER

General Description of Position

The Junior Wastewater Engineer is an entry-level position for an individual with academic training in sanitary engineering or a related field, but little or no experience in wastewater collection and treatment. This individual assists the senior wastewater engineers in monitoring the operation and maintenance of markaz, city, and village wastewater facilities and in preparing reports. The position is designed to facilitate continuing professional sanitary engineering training that will allow individuals to be promoted to the position of senior wastewater engineer.

Duties and Responsibilities

1. Visits markaz, city, and village wastewater facilities, including sewage evacuation vehicle operations, and assists senior wastewater engineers in evaluating facility operation and maintenance and in preparing reports that detail any findings and recommendations.
2. Assists with, and sometimes conducts, training sessions for local wastewater personnel.
3. Collects effluent samples from local wastewater treatment facilities for testing.
4. Visits and monitors wastewater collection and treatment facilities under construction.
5. Assists local wastewater personnel in purchasing and utilizing equipment, parts, and supplies through the governorate's joint wastewater purchasing and warehousing program.
6. Works with appropriate local, governorate, and GOE officials, as well as with contractors and engineering firms, to encourage the use of standardized wastewater equipment and joint purchasing.
7. Maintains effective communication with local officials including village, city, and markaz engineers and chiefs regarding the progress, needs, and problems of the local wastewater facilities.
8. Works with local officials to facilitate the use of cost recovery schemes for wastewater O&M programs.
9. Works with local officials to develop and present public information programs on wastewater and related health issues.
10. Continues formal and informal training in order to qualify for promotion to the position of senior wastewater engineer.

Qualifications

- Education:* A bachelor's degree in civil, mechanical or electrical engineering, preferably in the area of sanitary engineering. A master's degree is desirable.
- Experience:* A minimum of one year of civil, mechanical or electrical engineering experience, preferably in wastewater O&M. A master's degree may be substituted for one year of experience.
- Other:* The ability to write clear and concise reports, work with a minimum amount of supervision, and deal diplomatically with local officials and wastewater personnel.

SUPPLY SPECIALIST

General Description of Position

The Supply Specialist is responsible to the chief of the governorate wastewater organization for the development and monitoring of an effective purchasing and warehousing program for parts, equipment, and supplies for local wastewater facilities.

Duties and Responsibilities

1. Confers with local wastewater personnel and with staff of the governorate wastewater organization for the purpose of developing a list of parts, equipment, and supplies necessary for the proper operation and maintenance of local wastewater facilities.
2. Works with the governorate contract and purchasing department (or the department of housing, if it is responsible for central water and wastewater parts supply) to develop an effective system for ordering, inventorying, and warehousing parts, equipment, and supplies for local wastewater facilities.
3. Works with local wastewater officials and appropriate governorate officials to develop a plan for stocking wastewater parts, equipment, and supplies at the appropriate government level. The plan will be based on O&M responsibility, frequency of use, costs, and lead time in ordering and delivering.
4. Assists local wastewater officials in ordering and stocking parts, equipment, and supplies for local wastewater facilities as needed.
5. Monitors the ordering and stocking of parts, equipment, and supplies for local wastewater facilities to ensure that the system is working effectively and on a timely basis, and brings any problems to the attention of the chief of wastewater organization and appropriate governorate purchasing officials.
6. Advises the governorate wastewater organization staff regarding the necessary specifications for standardizing parts and equipment. Advises on equipment that is not reliable because of excessive repairs and parts.

Qualifications

The individual shall have the following qualifications:

Education: Training in the use of computers and in purchasing and inventory control is desirable.

Experience: A minimum of five years of experience in purchasing, inventory control and related activities, and the ability to use a typewriter. A knowledge of the use of computers for purchasing and inventorying purposes is desirable.

FINANCE SPECIALIST

General Description of Position

The Finance Specialist is responsible to the chief of the governorate wastewater organization to provide financial technical assistance and training to the local wastewater agencies in the development of budgets, financial procedures, and cost recovery schemes. The Finance Specialist is also responsible for monitoring the finances of the local wastewater agencies and reporting on the findings.

Duties and Responsibilities

1. Meets with markaz, city, and village officials involved in planning for wastewater collection and treatment facilities to provide technical assistance and training regarding annual budgets, accounting records, utility charges, and cost recovery schemes.
2. Regularly visits local wastewater organizations to monitor their financial operations and to provide technical assistance and training for financial matters with a particular emphasis on cost recovery procedures, including billing and collecting.
3. Develops and presents regular financial training programs to groups of local wastewater personnel.
4. Reviews financial reports from local wastewater agencies, on at least a quarterly basis, in order to determine the need for training and technical assistance.
5. Provides technical assistance and training to local wastewater agencies to help them evaluate and utilize computerized systems for budgeting, purchasing, billing, and collecting.
6. Maintains close communication with markaz and governorate financial departments to monitor the financial viability and records of local wastewater agencies.
7. Prepares monthly reports for the chief of the governorate wastewater organization regarding findings and recommendations on the finances of the local wastewater agencies, with particular emphasis on cost recovery.

Qualifications

The individual shall have the following qualifications:

Education: A bachelor's degree in accounting or a related field.

Experience: A minimum of five years of financial experience in accounting, budgeting or fiscal management. Training experience is desirable. Knowledge of the use of computers for financial applications is required.

PERSONNEL SPECIALIST

General Description of Position

The Personnel Specialist is responsible to the chief of the governorate wastewater organization for the development of staffing plans for local wastewater agencies, for providing technical assistance to improve personnel procedures, for developing and monitoring training efforts for local wastewater personnel, and for implementing incentives to recruit and retain local wastewater personnel.

Duties and Responsibilities

1. Meets with markaz, city, and village officials involved in planning for wastewater collection and treatment facilities to provide technical assistance and training for the development and implementation of staffing plans and personnel procedures. Where necessary, assists local officials in obtaining Ministry of Finance and Tanzim w' Idara approval of these staffing plans.
2. Regularly visits local wastewater organizations to monitor their personnel and training procedures and to provide technical assistance and training for improving personnel administration.
3. Develops and presents training programs in personnel administration to appropriate local wastewater employees as needed.
4. Reviews training needs of local wastewater personnel and recommends training programs.
5. Assists local wastewater agencies to develop incentive and fringe benefit programs for recruiting and retaining qualified personnel.
6. Develops and maintains a list of institutions and agencies offering wastewater training programs which can be utilized by governorate and local wastewater personnel.
7. Prepares monthly reports on local wastewater personnel and training activities for the chief of the governorate wastewater organization and other appropriate officials, and makes recommendations for improvements.
8. Checks safety procedures at wastewater facilities and recommends changes as appropriate.

Qualifications

The individual shall have the following qualifications:

Education: A bachelor's degree in personnel administration, business administration, public administration or a related field.

Experience: A minimum of five years of personnel experience such as career counseling, training and evaluation. A working knowledge of the use of computers for the maintenance of personnel and training records is desirable.

OFFICE MANAGER

General Description of Position

The Office Manager is responsible to the chief of the governorate wastewater organization for administering the office, supervising any clerical support staff, publishing reports, maintaining records, scheduling vehicles, and handling telecommunications.

Duties and Responsibilities

1. Receives and distributes mail to governorate wastewater organization personnel.
2. Supervises and/or handles incoming and outgoing telephone calls and faxes.
3. Selects, trains, and supervises clerical support staff needed for the organization.
4. Schedules the use of vehicles for the organization.
5. Oversees or performs the preparation and filing of reports and records produced by the organization.
6. Oversees or performs the preparation and maintenance of any necessary financial records for the organization.
7. Assists the chief of the wastewater organization, as necessary, in preparing and monitoring the budget.
8. Makes appointments for organization staff members upon request.
9. Maintains personnel files for organization staff members.
10. Oversees or performs the preparation of correspondence and faxes for the organization staff members.
11. Develops and maintains computerized office records, if appropriate.

Qualifications

The individual shall have the following qualifications:

Education: Secretarial and/or bookkeeping training is desirable.
College training in administration is desirable.

Experience: A minimum of three years of secretarial and/or bookkeeping experience and the ability to type at least 25 words per minute. Familiarity with computers is desirable.

Other: The ability to supervise clerical support staff and to deal diplomatically with organization staff members and local officials. The individual will be expected to be able to work with a minimum of supervision.

APPENDIX B

Pertinent Laws and Decrees

Law 26/1983	29
Law 16/1985	31
Prime Ministerial Decree 955/1983	32
Prime Ministerial Decree 956/1983	34

Arab Republic of Egypt
People's Assembly

LAW 26/1983

Sewerage and Sanitary Drainage Personnel Organization

In the name of the people
President of the Republic

The People's Assembly has ratified the following law:

Article I: This law covers permanent and temporary workers at national and public organizations and local governmental units who work in sewerage and sanitary drainage areas.

These individuals are also covered by the laws, decrees, and regulations related to civil servants with regard to issues other than those included in this law, or where other such rules are more generous to the worker.

Article II: Workers covered by this law are entitled to health and hazard pay up to a maximum of 60 percent of their basic salary, depending on the work circumstances and risks the worker is subject to and according to the rules, positions, and rates to be decreed by the Prime Minister.

Article III: Workers covered by this law and whose jobs require their presence at work sites are entitled to a meal or a monthly cash allowance specified by the rules and for the positions decreed by the Prime Minister.

Article IV: The worker is entitled to additional wages when work hours exceed six daylight hours/day at the rate of 25 percent of monthly wages, and at the rate of 50 percent of monthly wages if work hours exceed six night-time hours/day. This applies only if the total overtime is not less than 50 hours per month; otherwise additional wages shall be reduced to match the actual number of overtime hours.

Article V: A prime ministerial decree shall be issued on financial and morale incentives for sewerage and sanitary drainage workers, based on performance rates.

Article VI: If service is terminated by a worker who performs difficult work because of full disability or death related to work, his pension will be calculated according to his last wages and whatever pay raises he would have received up to the highest rate in his position level (at least 10 allowances) or until the age of retirement, whichever comes first.

Difficult work will be defined by a decree from the Minister of Insurance.

Article VII: This law is to be promulgated in the official paper, and is effective July 1, 1983.

This law is to be stamped with the State stamp and will be enforced as a State law.

Issued at the Republic's Presidency
on the 9th of Sha'aban 1403H (22/5/1983)

(Hosni Mubarak)

LAW 16/1985

To Amend Some Rules of Law 26/1983 Related to Sewerage and Sanitary Drainage Personnel Organization

In the name of the people
President of the Republic

The People's Assembly has decided the following law and has issued it:

Article I: The following text will be substituted for the text of item No. 1 of Article No. 1 of Law 26/1983 related to Sewerage and Sanitary Drainage Personnel Organization:

"The rules of this law cover permanent and temporary workers in national and public organizations, governmental agencies, and local government units who work in sewerage, sanitary drainage, and potable water."

Article II: This law will be promulgated in the official paper and is effective the day following its promulgation.

This law will be stamped with the State stamp and will be enforced as a State law.

Hosni Mubarak

PRIME MINISTERIAL DECREE NO. 955/1983

**Awarding Health and Hazard Allowance to Sewerage
and Sanitary Drainage Workers**

The Prime Minister

After reference to:

- The Constitution
- Law 47/1973, related to Legal Departments
- Law 47/1978, related to Civil Servant Organizations, and
- Law 26/1983, related to Sewerage and Sanitary Drainage Personnel Organization

has decreed:

Article I: Workers covered by the rules of Law 26/1983 are awarded an allowance because of the health risks and hazards of their positions, according to the following conditions and rates based on the worker's basic wages:

- 60 percent for workers involved in diving, clearing, suction work, manual collecting, and sludge collecting and aeration
- 50 percent for workers occupying various positions at pumping stations, treatment plants, lifters, bypasses, networks, force mains, repair works, vehicle pools, laboratories, gardens and tree planting areas at stations
- 25 percent for personnel working in financial, administrative, legal, clerical, and support staff positions at sewerage and sanitary drainage unit headquarters.

Article II: The following should be observed when awarding this allowance:

- a) A worker delegated to one of the positions covered by the rules of this law is entitled to the allowance rate specified for that position throughout the delegation period.
- b) The allowance is payable to workers who are in or called into the reserve army, at the rates specified for their positions.
- c) This allowance is treated just as wages with respect to vacations, reduction, or full or partial suspension of payment.

d) This allowance is payable together with any other payable allowances, with the exception of the full dedication allowance decreed by Law 47/1973.

Article III: Workers who were receiving health and hazard pay, at the effective date of this decree, that exceeded the allowance it awards will be paid the same allowance as before, provided such payments do not exceed the legal maximum.

Article IV: This decree will be promulgated in Al Waka'ea El Misriya and is effective the date of promulgation.

Issued by the Council of Ministries Headquarters
on 22 Ze El Hegga, 1403H (29/9/1983)

Dr. Fouad Mohye El Deen
Council of Ministers Secretary General

PRIME MINISTERIAL DECREE NO. 956/1983

**Awarding a Cash Payment for Meals for Some Sewerage
and Sanitary Drainage Workers**

The Prime Minister

After reference to:

- The Constitution
- Law 47/1978, related to Civil Servant Organizations, and
- Law 26/1983, related to Sewerage and Sanitary Drainage Personnel Organization

has decreed:

Article I: Workers covered by the referenced Law 26/1983, the nature of whose work requires their presence at work sites, will be awarded a cash payment for a meal, as follows:

- Monthly payment of LE 15 for workers in diving, clearing, suction, manual collection, sludge collection, and aeration works.
- Monthly LE 10 for workers at pumping stations, treatment plants, bypasses, lifters, networks, force mains, remedial works, vehicle pool, laboratories, gardening and tree planting areas at stations, and financial, administrative, and clerical services at sewerage and sanitary drainage agencies.

Article II: This decree will be promulgated in El Waka'ea El Misriya and is effective the date of promulgation.

Issued at the Council of Ministers Headquarters
on 22 Ze El Hegga 1403H (29 September, 1983)