



**Benha University**  
**Benha Faculty of Engineering**  
**Workshops, Laboratories, and**  
**Consultancy Unit**



## **Extensive Experience and Accomplished Work History**

### **Introduction:**

The Workshops, Laboratories, and Consultancy Unit at the Faculty of Engineering, Benha University, was established according to Ministerial Decree No. 1357 dated 3/12/1990. It is a special-purpose unit that offers various technical, educational, and consultancy services through its different departments:

1. **Workshops Department:** Manufacturing and maintenance of wooden and metal products.
2. **Laboratories Department:** Conducting various laboratory tests on engineering materials and products.
3. **Training Department:** Offering training courses in mechanical, electrical, and civil engineering fields.
4. **Consultancy Department:** Specializing in conducting engineering research and studies necessary for designing projects and engineering products, preparing tender documents, supervising implementation, as well as conducting inspections, preparing technical reports, and providing solutions to various engineering problems.

The unit includes many consultants with distinguished expertise in all engineering fields, who also have contributions and involvement in major consulting offices and houses of expertise in Egypt. They have contributed to the design and supervision of numerous major engineering projects both within Egypt and abroad, through the unit and beyond.

### **Areas of Expertise:**

#### **First: Workshops:**

- Design, manufacture, and maintenance of various wooden and metal products, such as office furniture, hall and auditorium equipment, gates, and fence units.



**Benha University**  
**Benha Faculty of Engineering**  
**Workshops, Laboratories, and**  
**Consultancy Unit**



**Second: Laboratories:**

- Conducting all necessary laboratory and field tests to study soil properties.
- Conducting all laboratory and field tests to determine the physical and mechanical properties required for evaluating and controlling the quality of concrete and its components, as well as reinforcement steel, metal materials, building units (bricks), and building stones. Additionally, conducting tests to determine the suitability of various engineering products.
- Surveying works for buildings and lands, preparing leveling networks, marking survey points, and monitoring building inclinations.
- Conducting tests to determine the characteristics of drinking water and wastewater, as well as monitoring the quality of produced water.
- Calibration lab for medical devices in hospitals and various medical centers.
- Environmental measurements lab, conducting studies on environmental impact.

**Third: Training:**

- Providing training courses for engineering students and engineers in the fields of computer applications, various design programs, and modern engineering techniques.
- Providing training courses for workers in water and wastewater treatment plants on operating and maintenance methods and solving operational problems.
- Offering courses in the design of solar energy plants and their various applications.
- Providing courses in various engineering disciplines.

**Fourth: Engineering Consultancy:**

- Conducting engineering studies and preparing design drawings for residential, administrative, industrial projects, and public facilities, as well as supervising their implementation.
- Preparing soil research reports to determine recommendations for designing and implementing underground structures, foundations, roads, airports, earthworks, and dewatering works.
- Designing concrete mixes.
- Conducting engineering inspections to evaluate and determine the structural safety of buildings and public facilities.
- Studying various engineering problems and providing solutions.



**Benha University**  
**Benha Faculty of Engineering**  
**Workshops, Laboratories, and**  
**Consultancy Unit**



- Conducting environmental impact assessments for various engineering projects.
- Strategic planning studies and setting future plans for infrastructure projects.

### **Portfolio of Completed Projects:**

Below are examples of the unit's past work over the last ten years:

- Preparation of soil research and compaction reports for various projects, such as the construction of the swimming pool complex at Benha Sports Club - Youth and Sports Directorate, Qalyubia - May 2013.
- Quality control tests for concrete, particularly compressive strength tests and tests to determine the suitability of cement and concrete aggregate. The unit conducts these tests for many companies operating in Qalyubia Governorate, such as Arab Contractors and Egyptian Contracting Company (formerly Mokhtar Ibrahim).
- Design of concrete mixes for various projects, such as the expansion project of the Tuukh wastewater treatment plant, contracted by Horus Engineering Works (Alex) - October 2012.
- Conducting non-destructive tests on concrete structures, such as core tests, Schmidt hammer tests, and loading tests. Examples of these tests include:
  - Loading test of the roof of the oil filling unit extension building at the Banha Company for Oils and Soaps - November 2011.
  - Schmidt hammer test on the reinforced concrete floor of the ground fire tank at Banha University Hospital, contracted by Al-Ansari Trading and Contracting - March 2011.
  - Core sample tests for the construction project of the Social Insurance Building in Qesna, contracted by Al-Sakhra Contracting Company - Qesna - April 2013.
- Inspection of various properties and structures to determine their structural safety and provide approved technical reports with proposals for repair or reinforcement if necessary. Examples of inspections conducted by the unit include:
  - Inspection and preparation of a technical report on the condition of property No. (8) Gamal Abdel Nasser Street and the surrounding properties at the site of license No. 65 for the year 2010 - Kafr Shukr - Qalyubia Governorate, at the request of the Kafr Shukr Local Unit - October 2011.



**Benha University**  
**Benha Faculty of Engineering**  
**Workshops, Laboratories, and**  
**Consultancy Unit**



- Inspection of the internal departments building at Shebin El-Qanater Central Hospital and the proposed repair and reinforcement method, including identifying causes, preparing work estimates, technical specifications, and the estimated value - Health Directorate - Qalyubia Governorate - February 2012.
- Inspection and preparation of a technical report to determine the condition of ten houses in the village of Taha, Benha Center - Qalyubia Governorate, before the implementation of sewage branches, contracted by Arab Contractors - January 2011.
- Design and supervision of repair, maintenance, and development works of the swimming pool at Banha Sports Stadium - Youth and Sports Directorate in Qalyubia Governorate - August 2007.
- Design of the repair works for the upper tank of the El-Bustan water station in Qanatir El-Khairia - Local Unit of Qanatir El-Khairia - December 2008.
- Preparation of tender documents and supervision of the implementation of the restoration project of the technical institute in Camp Shizar with a cost of 8 million EGP - Alexandria - Ministry of Higher Education.
- Comprehensive design (architectural, structural, sanitary, and electromechanical works) and preparation of tender documents for the National Council for Women building in Banha, with a height of 12 floors and an area of 1200 m<sup>2</sup> - Qalyubia Governorate.
- Design of restoration and rehabilitation works for Benha Psychiatric Hospital and preparation of tender documents - Health Directorate - Qalyubia Governorate - October 2011.
- Design and preparation of tender documents for the sewage network of Namoul village, Qalyubia Governorate.
- Design and preparation of tender documents for the sewage network of Kom Ashfin village, Qalyubia Governorate.
- Design and preparation of tender documents for the sewage network of Senhara village, Qalyubia Governorate.
- Design and supervision of the implementation of the undercrossing under the Tawfiqi canal for a water pipeline inside Farouga in Qanatir El-Khairia.
- Design and preparation of tender documents for sewage and industrial wastewater networks and an industrial wastewater treatment plant for the Al-Shorouk Industrial Zone project - Qalyubia Governorate.
- Design and preparation of tender documents for sewage and industrial wastewater networks and an industrial wastewater treatment plant for the Al-



**Benha University**  
**Benha Faculty of Engineering**  
**Workshops, Laboratories, and**  
**Consultancy Unit**



Safa Industrial Zone project in Abu Zabaal - Khanka Center - Qalyubia Governorate.

- Development of the internal sewage network for Kafr Saad University City at Benha University.
- Design and preparation of tender documents for the infrastructure systems of the Faculty of Computers and Information building at Benha University - currently underway.
- Review, technical and financial adjudication, and supervision of the implementation of two swimming pool complexes for juniors at both Benha Sports Club and Bahtim Sports Club with a cost of about 7 million EGP - Youth and Sports Directorate in Qalyubia Governorate - currently underway.
- Design, preparation of tender documents, and supervision of the implementation of the air conditioning project for the covered halls at Banha Sports Stadium, with a cost of about 7 million EGP - Youth and Sports Directorate in Qalyubia Governorate - currently underway.
- Design, preparation of tender documents, and supervision of the implementation of the project to develop the main football field at Banha Sports Stadium, including the track and stands, with a cost of about 15 million EGP - Youth and Sports Directorate in Qalyubia Governorate - currently underway.
- Design, preparation of tender documents, and supervision of the implementation of the security and protection project at Banha Sports Stadium, with a cost of about 6 million EGP - currently in the bidding stage.
- Design and preparation of tender documents for the lighting project of the subsidiary field at Banha Sports Stadium - Youth and Sports Directorate in Qalyubia Governorate, with an estimated cost of about 13 million EGP - currently in the bidding stage.
- Design and supervision of the implementation of the water purification plant project using the Nanofiltration system with a capacity of 70,000 m<sup>3</sup> per day in Tabuk, Saudi Arabia - tender documents are being prepared.
- Design and supervision of the implementation of the Olympic swimming pool project at Banha Sports Stadium - Youth and Sports Directorate in Qalyubia Governorate - a contract has been signed with the directorate, and documents are being prepared.
- Design and supervision of the implementation of the project to complete the stands at Banha Sports Stadium - Youth and Sports Directorate in Qalyubia Governorate - a contract has been signed with the directorate, and documents are being prepared.



**Benha University**  
**Benha Faculty of Engineering**  
**Workshops, Laboratories, and**  
**Consultancy Unit**



- Design and supervision of the implementation of the project to coordinate the general site at Banha Sports Stadium - Youth and Sports Directorate in Qalyubia Governorate - a contract has been signed with the directorate, and documents are being prepared.
- Operating rooms of the Faculty of Medicine Hospital - Benha University.
- Preparation of an estimate for the renewal and upgrade of sewage lift stations (Batta) - Benha Center.
- Preparation of an estimate for the renewal and upgrade of sewage lift stations in (Shebin El-Qanater) Branch.
- Preparation of an estimate for the renewal and upgrade of sewage lift stations in (Qanatir El-Khairia) Branch.
- Estimation of the costs for fire and smoke control works for the General Surgery building at Benha University Hospital.
- Structural study for the training hall building for the Water and Wastewater Company in Monufia.
- Restoration and development works (Old Chemistry Building at the Faculty of Agriculture in Moshtohor, Benha University).
- Supervision of the development project of the surgery building at Benha University Hospitals.
- Supervision of the completion of the unified operations phase II (Equipping surgical capsules on the first floor of the residence building and the internal medicine building).
- Implementation of the surveillance cameras installation project at the university campus in Moshtohor, including the Faculty of Agriculture, Faculty of Veterinary Medicine, and the university dormitory.
- Design and preparation of tender documents and implementation for the entrance gates of cities in the governorate - Qalyubia.
- Supervision of the renewal and upgrade of sewage networks in Batta village for the Water and Wastewater Company in Qalyubia.
- Evaluation works for the road paving project for the Directorate of Roads and Transportation in Gharbia.
- Supply and installation of HVAC equipment for Benha University Faculty of Commerce – English Section.
- Construction of a solar power plant at the English Section building, Faculty of Commerce – Benha University.
- Testing of Kafr Mois station for the Water and Wastewater Company in Qalyubia.



**Benha University**  
**Benha Faculty of Engineering**  
**Workshops, Laboratories, and**  
**Consultancy Unit**



- Testing of the elevators for the Engineering Enterprise for Import and Export – Hawn Elevators.
- Operation and maintenance works for Benha University Hospital.
- Supervision of the development of a multi-purpose sports field at Banha City Youth Center.
- Technical evaluation of Qalyubia roads.
- Technical report on Shubra Slaughterhouse.
- Compaction testing for embankment soil for Nasr Buildings and Constructions Company (EGICO).
- Construction of the exams building, guest house, and central library at Benha University in Kafr Saad, contracted by Al-Fath Construction and Development Company.
- Concrete mix design for the Faculty of Law building, contracted by Al-Fath Construction and Development Company.
- Compaction of the fill layer under the sanitary sewer buildings in Tuukh, Oghour El-Sughra project, contracted by Arab Contractors.
- Compaction testing for the exams building of the Faculty of Law, contracted by Al-Fath Construction and Development Company.
- Technical report on the concrete mix design for Millionia village in Port Said - North Sinai, contracted by Capital Ready Mix Concrete Company.
- Technical study and necessary tests for the maintenance of Geita Upper Bridge, Ministry of Water Resources and Irrigation.
- Sample testing for the Upper Speed Bridge project in Banha, contracted by National Construction Company (SAMCO).
- Preparation of a report and test certificate for the triple spur, contracted by the Holding Company for Water and Wastewater.
- Soil and foundation study and design of a pile curtain for Zahraa Maadi, contracted by Degla Real Estate Investment Company.
- Technical report on the testing of (GRP) covers for the sanitary sewer system in Zakaria Mohieddin village - Kafr Shukr, contracted by Anwar Mohamed Nabawi General Contracting.
- Approval of the suitability of engineering drawings, contracted by Protection and Control Group.
- Tensile test sample for steel reinforcement, contracted by Dyaa Consult Office for Engineering Consultations.
- Dam compaction project for Qelzam villages.
- Core testing for the Medina Monawara project in Shebin El-Kom, Monufia, contracted by Deyf Ahmed Real Estate Investment Company.



**Benha University**  
**Benha Faculty of Engineering**  
**Workshops, Laboratories, and**  
**Consultancy Unit**



- Results of soil compaction tests for the construction of the chlorine cylinders building at the main treatment plant in Qelzam village.
- Preparation of a report on the specifications of the filtered water station in Dgwi, contracted by Eitos Company.
- The treatment plant project for Sesi in Shebin El-Qanater, contracted by the Holding Company for Water and Wastewater.
- Compaction testing for the treatment plant in Oghour El-Sughra, contracted by Arab Contractors.
- Testing for the residential building project (Awad Ahmed Awad).
- Technical report on the results of compaction tests for the fill layer at the Faculty of Physical Education.
- Removal of the minaret of Sidi Yahya Allam Mosque - Qanater El-Khairia, Directorate of Endowments, Qalyubia.
- Tensile strength tests for steel samples, contracted by Khidr Contracting and Industry Company.
- Inspection of the canopy at the 25 January School building, Benha Educational Administration.
- Testing of crushed stone and sand samples used in the base layer - Minyet El-Sabaa Road, contracted by Military Production Construction Company.
- Crushing of stone samples from the layers of the sewage project site in Siwa, contracted by the Arab Organization for Industrialization.
- Completion of field compaction works for the sewage project in Shebin El-Qanater, contracted by Nasr Buildings and Constructions Company (EGICO).
- Core testing for the Medina Monawara project in Shebin El-Kom – Monufia, contracted by Deyf Ahmed Real Estate Investment Company.