



## Jafar Omar Ababneh

### Job Title

Lead Geotechnical Engineer

### Nationality

Jordanian

### Date of Birth

1968

## Key Experience and Background

### Education

- Master of Science in Geotechnical Engineering, Jordan University of Science & Technology, 1994
- Bachelor of Science, Civil Engineering Major in Water Resources Engineering, Jordan University of Science & Technology, 1991

### Memberships and Professional Affiliation

- Bahrain Committee for Organizing Engineering Professional Practice (Category A Engineer)
- Bahrain Engineering Association- M
- American Society of Civil Engineers (M-ASCE)
- Geotechnical Institute (M-GI)
- International Society for Soil Mechanics and Geotechnical Engineering (M-ISSMGE)
- Jordan Engineering Association- Professional Qualifications and Accreditation Ranking- Highest Rank of Consultant Engineer in Civil Engineering- Geotechnical Engineering.
- Jordan Engineering Association (M-JEA)
- Federation of Arab Engineering
- Engineers Without Borders

### Area of Expertise

- Preparation and issue of site investigations, marine and concrete work specifications
- Design, analysis and assessment of all geotechnical related issues and data in terms of site investigation on and off shore
- Geotechnical Design of all related topics such as shallow and deep foundation, slope stability, Tunnels, Bridges, Liquefaction assessment, shoring, Ground Improvement, etc.
- Marine design, reclamation testing, slope stability, piling and foundation design
- Project management for reclamation, marine and infrastructure projects
- Design and analysis of project durability concrete concept. Mixes, verification trials, quality control of end product. In addition to rolled compacted concrete technology
- Assessment of existing concrete/ steel structures quality for durability and repair
- Instrumentations application in marine and civil engineering projects
- Water quality monitoring and analysis, pump and well yield estimation, geophysical testing and analysis
- Rock engineering, design and analysis of rock revetment (shore protection), testing and other rock engineering problems
- Piling on and offshore, design, analysis and testing, static, dynamic and NDT
- Shoring and dewatering design, jet grouting design, analysis and supervision
- Design and analysis of shallow and deep foundations
- Quay wall settlement monitoring and analysis, slip way design and bulk head design

### Length of Service with the Company

More than 3 year

### Years of Experience

24 years

## Relevance

Mr Omar is a Lead geotechnical, materials engineer and concrete and Marine specialist by profession with over 24 years of experience, twenty of which have been in the GCC and Jordan.

Mr. Omar is presently holding the position of Lead Geotechnical Engineer for all SSH offices. The most recent positions were, Design Manager for D&R of Island A in King Fahd Causeway. Earlier to that he was the Lead SI Engineer for the landmark project of Riyadh Metro.

Mr Omar has experience in delivering a wide range of services from bidding stage through to design and supervision stages in many fields including land development (dredging and reclamation), marine infrastructure, construction of bridges, tunnels, concrete, materials testing and assessment and all aspects of geotechnical engineering.

Mr Omar has published several papers in the field of concrete, marine, rock and geotechnical engineering. The papers are a reflection and documentation of case studies of the projects he was involved in. Mr. Omar has won Atkins Ground Engineering Network Award for The International Project Category for 2013.

He has experience working physically in Jordan, KSA, Bahrain, and UAE. He has been involved by site visit or remotely in projects in Oman, Qatar, UAE, Kuwait, Morocco, UK, Rwanda, Ethiopia, Sudan, Egypt and Iraq.

## Professional Experience

2015 – To date

**SSH**

**Lead Geotechnical Engineer**

**Some Selected Projects are listed briefly below**

**Design Manager for Island A Project- King Fahs Causeway Authority**

The project was Design and Build for Dredging and Reclamation of an Island of 1.0 Million M<sup>2</sup> areas with a volume of about 9.0Milliom M<sup>3</sup>, Marina, Quay wall, Revetment, ground Improvement, short cut and cover Tunnel (access beneath existing Causeway between KSA and Bahrain.

**As Lead Engineer: Geotechnical, Marine, Material and Concrete Specialist**

**Involved in more than 200 Projects below is a short list of some:**

- AMAS (North Manama Housing Project) – Bahrain: Review of Bridges Pile Design, Replace Project Manager when on leave.
- Bahrain Garden Avenue Hilton Hotel: Design of Piling, Review of shoring and dewatering Works, Draft noise and vibration specification, review all concrete works Mix design
- Kuwait New Maternity Hospital
- AL Safir Hurghada Hotel, Egypt
- Flag Island and Access Bridge – Kuwait
- Taiba Sheraton Hotel- Medina – KSA.
- Al Ula Winter Camp- Tantora Festival – Al Ula – KSA, the work involved foundation Design for all tents ( VIP, Royal, main stage camp (foundation for Mirror Wall), Strom water system (Interception).
- Hessa Mubarak Development – High Rise Towers – Kuwait
- Ghala Mixed Used Development- Muscat – Oman
- Alila Resort Expansion- Oman (on mountain cliff 2000 m above sea level Resort)
- Kiglali Mixed Used Development - Rwanda
- Shaft Design (35 shafts) with Tunnel Boring Machine (2.0 m diameter) for Sewage pipeline- Bahrain
- Kuwait Oil Company (KOC)- Housing City Project- Kuwait – Assessment of Cavities and provide recommendation
- Dubai Creek Development- Dubai- UAE
- RAK Address Hotel- Ras Al Khaima- UAE

2004 – 2014

**WS Atkins, Bahrain & Dubai**  
**Lead Site Investigation Engineer**  
**Senior Geotechnical/Materials/Marine Engineer**  
**Acting Resident Engineer**

**Riyadh Metro Project Package 3**

Lead Engineer managing a site team of 5 geologists and geotechnical engineers, coordinating progress with the contractor joint venture and liaising with designers located in Dubai and Madrid.

Work involves cut and cover Tunnels, Viaduct sections (Mono Pile Bridges), Tunnel Boring Machine and at ground section. Design of shaft for TBM machines and Metro substation are part of scope.

**Durrat Al Bahrain Resort Project**

13 Islands of 38Mcm of reclaimed fill with revetment protection of 2,4M ton of various sizes of rock. 13 bridge connections and infrastructure for the villas. Senior Material Engineer responsible for preparation, revision and commenting on all the specifications. Preparation of concrete works specification. Review of D&R method statements. Supervision of the production of all the rock revetments from the quarry.

Production of concrete for the bridges (precast and in situ), reclamation testing and accepting reclaimed fill by reclamation testing program. Ensuring the borrow area material is suitable. Supervising the piling works and analysis of the testing. Analysed and organised all activities that are part of quality control plan. Carried out water quality monitoring, readings with insitu probes and analysis for the beach lagoons.

**Bahrain Bay Development Project Phase 1 and 2**

Senior Material and Geotechnical Engineer responsible for many projects within the frame of this development.

These main components of the project were:

- Marine Project: Dredging and reclamation of 2 Mcm of sand, pre-cast of more than 5,000 concrete blocks for the

construction of quay walls, approval of more than 200,000 tonnes of rock backfill behind the q-wall and as foundation material beneath it.

- Piling works (340 piles of more than 20m in length and 1.2 m in diameter) for both Arcapita Bank Headquarter and Four Seasons Hotel.
- Bridge Works Project: included piling and abutments construction.
- Infrastructure Project: The early stages of the geotechnical investigation for the project, supervising all the testing, sorting the results and feedback to UK design office. Involved in the piling and marine contract as Materials Engineer. Approved and amended the concrete mix design for the quay walls, review and approve the fill material in the reclamation, reviewed and approved all the rock material beneath and behind the quay wall, evaluation of the unsuitable material beneath the quay wall.

Other projects:

- **Durrat Marina and Golf Course**
- **Bahrain Bay Development Project**
- **Arcapita Head Quarter Project**
- **Manama Lagoon GI Project**
- **Marsa Al Seef Land Development and Durrat Marina Slip way and Temporary causeways**
- **Nurana Infrastructure GI data assessment**
- **East Hidd infrastructure and housing - GI data assessment and interpretation**
- **Wadi Al Buhair Housing - Front end engineering input for geotechnical consideration report**
- **Mclaren and Food and Beverage at Bahrain World Trade Centre Piling Design,**
- **Elevated Storage Reservoir loading analysis at Bahrain**

financial

- 90m Tatweer Wells Water Base Monitoring, drilling and geophysical testing supervision
- Mahboula Tower, Kuwait
- Ettihad Village, Abu Dhabi
- Bombay Mill, India
- Royal Resort Project, Morocco
- Dannat Resort Development, KSA
- Dammam III Industrial City, KSA
- Tamimi Site development, KSA

2002 – 2004

**Posford Haskoning, Bahrain  
Senior Material Engineer**

**Khalifa Bin Salman Port and Industrial Area at Hidd, New Port of Bahrain**

The roles fulfilled were Senior Materials Engineer and Resident Engineer. Responsible for approval of different concrete mixes and all materials to be used in the civil works. Managed quality control as per BS, ACI standards and the project specifications for concrete works in situ or pre-cast. Concrete works comprise of more than 220,000CM of all types of concrete.

Construction of 3,800 reinforced pre-cast concrete blocks with average size of 60CM to form about 1,800m long and about 17m height port Q- wall. The concrete used for the Q-wall blocks are of normal and severe exposure reinforced concrete.

In addition to more than 50,000 CM in-situ mass concrete to form about 7000m of sea and port wave wall. In situ concrete covers the jetty beams, piles, Q- wall beams, slabs and other concrete items. Prepared and designed appropriate spreadsheets and programs to save, sort and analyse all the data related to the quality control of concrete production.

Managed the Pile Dynamic Tests and Static Pile Load Tests made in

the project in order to define the driving set and the final set of piles. Supervise the cut-off and welding works for the UC sections and piles.

Managed controlled filling and reclamation of the silt trap area. The silt trap is the location in which some 1.7 MCM of unsuitable material (silt content >10% as per project spec's) was proposed to be dumped in and then to be capped with about 1.6m thick of suitable material (silt content <10%). The silt material to be well distributed in the 1,050X1,300m area so that no accumulation of silt is permitted and no mud wave formation to be allowed. The procedure was monitored and assessed with a series of test pits, settlement plates and boreholes.

Foundation investigation and prepared seabed treatment to the foundation of the proposed quay wall which will be the backbone and the major structure of the current phase of the new port. Supervised and analysed reclamation testing regime results for CPT, SPT, Field and lab various types of density testing and PSD to confirm the suitability of the hydraulic fill.

2001 – 2002

**SAFCO (Soil and Foundation Company), Jeddah, KSA  
Senior Material & Geotechnical Engineer  
As Design Manager**

I have developed and produced many Geotechnical Interpretative and Design reports for all sort of projects.

1999 – 2001

**SARCO (Saudi Archirodon), Jeddah, KSA  
Quality Control Engineer and Coordinator, Office & Site Engineer/Marine, Geotechnical Engineer**

**Shoiaba Power Plant Project**

Material & Geotechnical Engineer for SARCO managing the Intake and Out-fall Channel Protection Works, ponds (disposal areas for chemical and human by products) back-filling, treatment and construction including the use of synthetic material (geo-textile,

geo-grid, soil reinforcement etc.), handling The soil improvement for the fuel storing tanks by stone column method (Vibro-flotation) and then performed the SPT and Plate Load test and supervised the Field Density tests for the improved foundation. Performed trial tests for soil improvement via several methods i.e. vibro compaction and dynamic compaction. Other responsibilities included: slope stability analysis; pile driving; sheet piling Installation; dewatering and jet grouting.

**1995 – 1999**

**Ministry of Water & Irrigation/Jordan Valley Authority/Directorate of Dams, Amman, Jordan  
Office Engineer, Head of Instrumentation & Water Quality Section, Site Engineer seconded to Mott McDonald as Assistant Material Engineer**

#### **Karameh Dam Project**

Assistant Material & Geotechnical Engineer supervising the earth and rock fill field and laboratory testing for the embankment and the installation of instrumentation for the dam embankment (upstream / downstream) to ensure the stage construction sequence and safety of the embankment material. Instrumentation comprises of pneumatic and standpipe piezometers, hydro-pneumatic settlement cells, double fluid Settlement system, survey beacons for settlement monitoring, magnetic extensometers and digital accelerographs.

Data analysis and interpretation then download the reading from the above instruments and others into these prepared spreadsheets. Assisted in the preparation of the monthly report for instrumentation and stability of the embankment and then preparing the report solely. In a later stage I took over the water quality section, organising it with computer-based spreadsheet and models for data storing and analysis.

Assistant Material Engineer responsible for inspection and supervision of the installation and testing made in the field or in the laboratory for the earth and rock works (rip-rap) beside other tests,

concrete, asphalt and anchor bars. Reviewed and checked the project bar bending schedules.

#### **Kafrein Dam Project**

Assistant Material Engineer responsible for inspection and supervision of the installation and testing made in the field or in the laboratory for the earth and rock works (rip-rap) beside other tests, concrete, asphalt and anchor bars. Reviewing and checking the project bar bending schedules.

**1994 – 1995**

**Ministry of Public Works and Housing  
Site Engineer/Training Engineers Program/Highway Engineer**

**1991 – 1994**

**Jordan University of Science and Technology, Irbid,  
Jordan**

Teaching and Research Assistant in Civil Engineering Department in the field of geotechnical, rock and water resources (hydrology, hydraulics and sanitary engineering).