الربيعة
للإستشارات الهندسية
Alrabiah
Consulting Engineers

ISO
QSCert
9001

Project Management
Capability Statement

Revision No. 01-23

الربيعة
للإستشارات الهندسية
Alrabiah
Consulting Engineers

Project Management
Capability Statement

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- JEDDAH
- JUBAIL
- YANBU

Revision No. 01-23

ISO QSCert 9001

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1. Summary

Alrabiah Consulting Engineers (ARE) was established in 1988 as a professional engineering firm in Dammam, Saudi Arabia. The company operates as a 100% Saudi consulting firm.

Alrabiah Consulting Engineers has shown steady growth through careful marketing and selective tendering of projects best suited to the range of services offered. “ARE” is able to offer Clients the full range of services and fields of expertise in general engineering works. These services range from the early planning and conceptual development through detailed design and analysis, preparation of contractual documents, appraisal of costs, to construction supervision and quality assurance.

Drawing on our substantial experience spanning a range of building, marine, airport, civil engineering projects and bridge structures and implementing this in the development of project specifications, combined with supervision of site activities, we aim to deliver the highest standards of service in the fields of civil and electro-mechanical engineering to a wide and varied client base here in Saudi Arabia.

Besides the above main services, the Company has forayed into specialized fields such as Value Engineering, Project Cost Analysis, Contract Administration, Arbitration, Claims Preparation and Risk Assessment & Analysis.

ARE is a leader in the field of structural investigation and rehabilitation, the core business on which the Company in Saudi Arabia was originally founded. We aim to provide our clients with a service of real value, providing solutions that will provide our clients very significant cost savings, especially in the longer term.

ARE is also successful in Project Management having undertaken many assignments including new build and complicated rehabilitation projects. ARE’s list of completed projects includes clients in the Private, Semi-government and Government sectors covering structures for Domestic, Commercial, Education, Retail, Defence, Leisure, Industrial/Petrochemical, Health and Transportation.

ARE also provides Project Management Services in alliance with: 1. “Michael Baker International (MBI) - USA” and 2. Citec Engineering Oy Ab – Finland (A Cyient Company), based on client requirements. Please see attached Appendix IV “Alliance with Engineering Company - MBI – USA” and Appendix V “Alliance with Engineering Company - Citec – Finland (A Cyient Company)”

2. Alrabiah's General Capabilities

"ARE" has developed a wealth of experience and expertise throughout a range of engineering fields. For any given project, a suitable team of specialists can be assembled to ensure the necessary experience and particular expertise is available for the collection, analysis and presentation of relevant data. "ARE" offers comprehensive services in a wide range of engineering activities including:

- Detailed Design of Buildings & Infrastructure
- Structural Assessment and Rehabilitation
- Project Management and Supervision
- Design Review and Service Lift Study
- Traffic and Transportation Studies
- Risk/HAZOP/RAM/BRA, etc. Studies

"ARE"'s head office and regional offices employ specialist engineers covering most engineering disciplines.

"ARE" is a leader in the field of structural investigation and rehabilitation. It aims to provide its clients with a service of real value, and providing solutions that will help its clients gain very significant cost savings, especially in the longer term.

3. The Project Management Capability

3.1 Project Management Services

3.1.1 Introduction:

Project Management services for all project phases provided through well established **procedures/processes and all** activities life span of projects begins with the conceptual design phase and ends with the defects liability and occupancy phase.

ARE is able to provide project managers with the unique background of years spent in design, costing and construction supervision before adopting this role. This enables them to blend the skills of architect, engineer, quantity surveyor, specialist services and contractor.

ARE provides full service for Project Management to follow the day-to-day site activities through experienced engineers, quantity surveyors and inspectors. The services provided can be comprehensive or limited as the needs dictate, but could include any of the following:

Project planning
Advice on acquisition of suitable sites
Project programming
Cost planning
Risk analysis
Optimisation of design and value engineering
Co-ordination of consultants
Design programming
Advice on tender strategy
Drafting contracts
Adjudication of tenders
Construction programme
Preparing variations
Advice on contractual matters

3.1.2 Objective:

To improve the predictability of capital project cost and schedule by establishing project control systems to monitor and predict project outcomes. Effective controls system identifies deviations from project plans and commitments early to eliminate surprises and allow for corrective action.

3.1.3 Project Management Approach:

It consists of the following:

Initiate ⇨ Plan ⇨ Implement ⇨ Monitor & Control ⇨ Close out

3.1.4 Project Management Team's Involvement

Our Project Management team covers the following process of activities:

Project Initiation & Studies Period

⇩

Design Period

⇩

Tendering & Contract

⇩

Construction *Period*

⇩

Defects Liability Period

The Scope of services of ARE for PMC covers the following (but not limited to):

- Development & Implementing of Project Management and Control Procedures
- Developing & Implementing Projects' Baseline Plan
- Contracts Management
- Budget & Cost Management
- Cost and Schedule forecasting
- Schedule Management
- Progress Monitoring and Control
- Risk Management
- Quality Management
- HSE Management
- Reporting
- Document Control
- Training and Transfer of Technology

3.1.5 Project Management Plan Development

PMC Procedures to be developed by "ARE" consist of:

- Project Management Procedure
- Project Controls Procedure
- Contracts Procedure
- Engineering Procedure
- Construction Procedure
- QA/QC Procedure
- Health & Safety Procedure
- Environmental Procedure
- Training Procedure

3.1.6 Organizational Work Structure

Please see attached Appendix I "Project Management Team (PMS) Organization Chart"

3.1.7 Project Documentation

ARE develop, implement, maintain Document Control System that covers:

- Contract Documents
- Correspondence/Minutes of Meetings
- Site Correspondence/Reports
- Drawings Logs
- Submittals

Note: All Projects Documents controlled through "Oracle's Primavera Contract Management Application"

Please see attached Appendix II "Project Documentation"

3.1.8 Project IT Network

Please see attached Appendix III "Project IT Network"

4. Projects References

Alrabiah Project Experience

Project Name	"Project Management Services" for HOP and Community Facilities
Client	SATORP
Location	Jubail
Year	2022 (Extended) - Ongoing
Project Value	OPEN

Saudi ARAMCO Total Refinery Co. Ltd. (SATORP) awarded "ARE" a 'PMS' contract extension to provide project management services during the design & construction of House Ownership Program and Community Building in their facility in Jubail. The works mainly involve checking the performance of design documents by the design consultant, and supervise the execution works by the construction contractor on site. The project has a potential to form a team of more than twenty engineers including Project Manager, Contracts Manager, Building Management Specialist, Sr. Scheduler, Sr. Material Engineer, etc. The works also include all disciplines viz. civil, architectural, landscaping, interior design, plumbing, sanitary, HVAC, FFS, FAS, electrical, etc.

Alrabiah Project Experience

Project Name	"Project Management Services" for Business & Community Projects
Client	Khafji Joint Operations
Location	Khafji
Year	2013
Project Value	OPEN

The Khafji Joint Operations (KJO) appointed "ARE" to provide project management services for the supervision of the design and construction of various buildings, bridges, roads, facilities, infrastructure to be built in their facility in Khafji. The works mainly involve checking the performance of design documents by the design consultant, and supervise the execution works by the construction contractor on site. The project is being executed by a team of about 26 engineers including Project Manager, Project Controls Specialist, Contracts Manager, Building Management Specialist, Sr. Scheduler, Sr. Material Engineer, etc. The works also include all disciplines viz. civil, architectural, landscaping, interior design, plumbing, sanitary, HVAC, FFS, FAS, electrical, etc

Alrabiah Project Experience

Project Name	AlRuq'ee Border Exit Facilities " Project Management"
Client	Ministry of Finance, Riyadh
Location	AlRuq'ee
Year	2012
Project Value	SR 50,665,000

The Ministry of Finance appointed "ARE" to provide project management services for the supervision of the construction of various buildings, roads, facilities, infrastructure to be built in Al-Ruq'ee Border Exist. The works mainly involved checking whether the execution on site is undertaken as per the project contract documents. The activities included preparation of monthly reports, conduct regular meetings, inspection of all activities on site, approval of materials, etc. The project was being executed by a team of 66 engineers including Project Manager and engineers from all disciplines viz. civil, architectural, landscaping, plumbing, sanitary, HVAC, FFS, FAS, electrical, etc

Alrabiah Project Experience

Project Name	Buildings in Taif University, "Project Management"
Client	Taif University,
Location	Taif
Year	2012
Project Value	SR 2,975,000

The Taif University appointed "ARE" to provide project management services for the supervision of the construction of various buildings, roads, facilities, infrastructure to be built in Taif University. The works mainly involved checking whether the execution on site was undertaken as per the project contract documents. The activities included preparation of monthly reports, conduct regular meetings, inspection of all activities on site, approval of materials, etc. The project was being executed by a team of 17 engineers including Project Manager and engineers from all disciplines viz. civil, architectural, landscaping, plumbing, sanitary, HVAC, FFS, FAS, electrical, etc.

Alrabiah Project Experience

Project Name	Ministry of Finance Buildings in Khadra, " Design and Supervision"
Client	Ministry of Finance, Riyadh
Location	Khadra
Year	2012 – Ongoing
Project Value	SR 7.75 Million

The Ministry of Finance appointed "ARE" to do the comprehensive design of the various different facilities to be built in Khadra (Saudi - Yemen Border) area for the MOF staff. The buildings comprised of various facilities for staff, administration, housing compound, office facilities, customs building, border checking facilities, security systems, etc. The work involved development of the client's conceptual design to working drawings, planning issues, and preparation of tender documents for construction. "ARE" is also involved in tender assessment and also supervision of the structures that are being designed for execution..

Alrabiah Project Experience

Project Name	Ministry of Finance Saudi Qatar Border in Odaid - Facilities, "Design and Supervision"
Client	Ministry of Finance, Riyadh
Location	Odaid
Year	2012
Project Value	SR 650 Million

The Ministry of Finance appointed "ARE" to do the comprehensive design of the various different facilities to be built in Odaid area for the MOF staff.

The buildings comprised of various facilities for staff, administration, housing compound, office facilities, customs building, border checking facilities, security systems, etc. The work involved development of the client's conceptual design to working drawings, planning issues, and preparation of tender documents for construction. "ARE" was also involved in tender assessment and also supervision of the structures that are being designed for execution.

Alrabiah Project Experience

Project Name	*Various Projects in Madinah Region, "Site Supervision"*
Client	*Ministry Environment, Water and Agriculture*
Location	*Madinah*
Year	*2019 - Ongoing*
Project Value	*SR 13.1 Million*

The Ministry Environment, Water and Agriculture (MEWA) appointed "ARE" to provide project management services for the supervision of various projects in different towns/villages in the Madinah region including Khaibar Faqat, Oula, Mahad, Wadi Al Fara, Hanakiyah, Mandasah and Al Silsilah Bi Khaibar. The works mainly involve supervising whether the execution on site is undertaken as per the project contract documents. The activities include preparation of monthly reports, conduct regular meetings, inspection of all activities on site, approval of materials, etc. The works also include all disciplines viz. civil, mechanical, piping, landscaping, plumbing, surveying, electrical utilities, etc.

Alrabiah Project Experience

Project Name	Engineering Services Contract for 3 years "General Engineering Services"
Client	ARAMCO Gulf Operations Co. (AGOC), Khafji
Location	Khafji
Year	2012
Project Value	SR 4 Million

The ARAMCO Gulf Operations Co. (AGOC), appointed "ARE" to provide general engineering services for the comprehensive design of the various buildings, bridges, roads, facilities, infrastructure to be built in Khafji. The works involve development of the client's conceptual design to working drawings, planning issues, and preparation of tender documents for construction. The works also include all disciplines viz. civil, architectural, landscaping, interior design, plumbing, sanitary, HVAC, roads, FFS, FAS, electrical, etc.

Alrabiah Project Experience

Project Name	Architectural & Technical Studies and Monitoring of Works for the Extension of the University of Bangui (Central African Republic) " Design and Supervision"
Client	Ministry of Economy (CAR)
Location	Bangui, Central African Rep.
Year	2020 – Ongoing
Project Value	SR 3 Million

The Central African Republic has obtained funds from the Saudi Fund for Development (SDF) to finance the project. The project is the construction of two (2) blocks capable of accommodating 600 students each, a new university residence and a boundary wall. The consultancy services include detailed design of all disciplines, and construction management/supervision.

Alrabiah Project Experience

Project Name	Architectural & Technical Studies and Monitoring of Works for the Rehabilitation of the Marie Jeanne CARON High School in Bangui (Central African Republic) " Design and Supervision"
Client	Ministry of Economy (CAR)
Location	Bangui, Central African Rep.
Year	2020 – Ongoing
Project Value	SR 1.077 Million

The Central African Republic with funds from the Saudi Development Fund (SDF) to finance the Project. The project is rehabilitation of two main buildings and their equipment to accommodate 3,000 students, and construction of a perimeter wall. The consultancy services include detailed design of all disciplines, and construction management/supervision.

Alrabiah Project Experience

Project Name	Construction and Equipment of a Polyclinic Hospital with 250 beds in Central African Republic " Design and Supervision"
Client	Ministry of Economy (CAR)
Location	Bangui, Central African Rep.
Year	2020 – Ongoing
Project Value	SR 2.975 Million

The Central African Republic has obtained funds from the Saudi Development Fund (SDF) to finance the Project. The project is construction and equipping of a 250-bed Polyclinic Hospital. The consultancy services include detailed design of all disciplines, and construction management/supervision.

Alrabiah Project Experience

Project Name	King Abdullah Project for Waad Al-Shamaal City Development "General Engineering Services"
Client	Ma'aden
Location	Ras Al Khair
Year	2013 – Ongoing
Project Value	SR 2 Million

The Saudi Mining Co. (Ma'aden), appointed "ARE" to provide general engineering services for the comprehensive design of the various housing and infrastructure facilities including bridges, roads, facilities, infrastructure to be built in Ras Al-Khair. The works involved development of the client's conceptual design to working drawings, planning issues, and preparation of tender documents for construction. The works also included all disciplines viz. civil, architectural, landscaping, interior design, plumbing, sanitary, HVAC, roads, FFS, FAS, electrical, etc.

Alrabiah Project Experience

Project Name	Construction Supervision of Boys & Girls School "Project Management & Site Supervision"
Client	Knowledge Enrichment Co.
Location	Dammam - KSA
Year	2015
Project Value	SR 2,350,000

Knowledge Enrichment Co. appointed "ARE" to provide supervision services for the construction of a Boys & Girls School, in Dammam.

The works mainly involved checking whether the execution on site is undertaken as per the project contract documents. The activities include preparation of monthly reports, conduct regular meetings, inspection of all activities on site, approval of materials, etc. The project is being executed by a team of engineers including all disciplines viz. civil, architectural, mechanical, electrical, etc.

Alrabiah Project Experience

Project Name	Construction of AlFozan Autism Center " Design & Site Supervision"
Client	Fozan Al Fozan
Location	Al Khobar - KSA
Year	2016
Project Value	SR 1.7 Million

Fozan Al Fozan Co. appointed "ARE" to prepare IFC design package & provide supervision services for the construction of Autism Center in Khobar.

The building comprised of various facilities for staff, administration, children's hostel facilities (boys & girls), halls, training facilities, etc. The design work involved detailed design and preparation of IFC package to invite potential bidders for the construction of the facility. The works included all disciplines viz. civil, landscaping, plumbing, sanitary, HVAC, FFS, FAS, electrical, etc.

The Supervison works mainly involved checking whether the execution on site is undertaken as per the project contract documents. The activities include inspection of all activities on site, approval of materials, etc. The project is being executed by a team of engineers including all disciplines viz. civil, architectural, mechanical, electrical, etc.

Alrabiah Project Experience

Project Name	Multi Cargo Storage Building in King Abdulaziz Port, Dammam "Site Supervision"
Client	Saudi Customs - Riyadh
Location	Dammam
Year	2018 – Ongoing
Project Value	SR 1,180,000

"ARE" were appointed for the supervision of the completion works for the Development of Multi Cargo Storage Building in King Abdulaziz Port, Dammam.

Alrabiah Project Experience

Project Name	Women's Arts Faculty Building and Stadium in KFU, Al Hassa " Site Supervision"
Client	King Faisal University, Al Hassa
Location	Al Hassa
Year	2013 – Ongoing
Project Value	SR 10,512,000

King Faisal University appointed "ARE" to provide construction management services for the supervision of the construction of arts faculty building and stadium for women, in Al Hassa. The works mainly involved checking whether the execution on site is undertaken as per the project contract documents. The activities included preparation of monthly reports, conduct regular meetings, inspection of all activities on site, approval of materials, etc. The project was being executed by a team of engineers including Project Manager and engineers from all disciplines viz. civil, architectural, mechanical, electrical, etc.

Alrabiah Project Experience

Project Name	Rehab. of High Point Reservoirs (R1C4, R1C5, R2C6, R2C6) "Site Supervision"
Client	SWCC
Location	Al Kharj - KSA
Year	2017
Project Value	SR 3,100,000

Prince Sultan Air Base in Kharj, Secondment of Staff
Michael Baker International appointed "ARE" to provide secondment services for the construction of Prince Sultan Air base in Kharj.

The works mainly involved checking whether the execution on site is undertaken as per the project contract documents. The activities include inspection of all activities on site, approval of materials, etc.

Alrabiah Project Experience

Project Name	Prince Sultan Air Base, Kharj "Site Supervision"
Client	Michael Baker International (MBI) - USA
Location	Al Kharj
Year	2017
Project Value	SR 2,400,000

Prince Sultan Air Base in Kharj, Secondment of Staff
Michael Baker International appointed "ARE" to provide secondment services for the construction of Prince Sultan Air base in Kharj.

The works mainly involved checking whether the execution on site is undertaken as per the project contract documents. The activities include inspection of all activities on site, approval of materials, etc.

Alrabiah Project Experience

Project Name	Repair Request No. 47698, of Storage Area "Study & Design"
Client	SWCC – Al Khobar
Location	Al Khobar - KSA
Year	2017
Project Value	SR 298,500

SWCC Khobar Plant appointed "ARE" to IFP design package for the warehouse building, to be built in Khobar.
The building comprised of various facilities for staff, administration, etc. The work involved site survey, site investigations, preparation of design drawings and complete tender package. The works included all disciplines viz. civil, architectural, landscaping, plumbing, sanitary, HVAC, FFS, FAS, electrical, etc.

Alrabiah Project Experience

Project Name	SREDF Building in Al Hassa "Site Supervision"
Client	SREDF, Riyadh
Location	Al Hassa
Year	2002
Project Value	SR 1,312,800

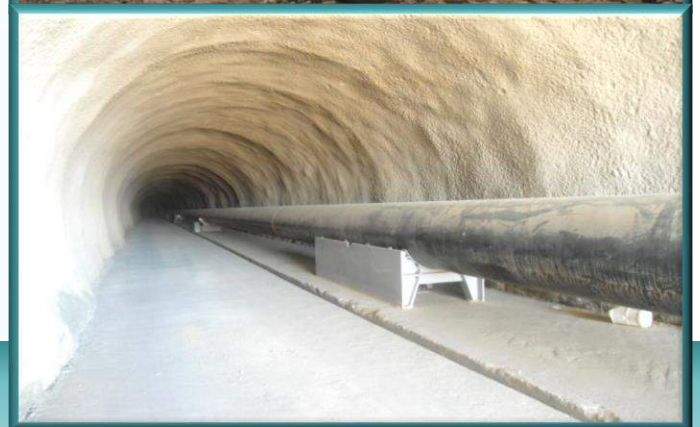
The Saudi Real Estate Development Fund (SREDF) appointed "ARE" to provide construction management services for the supervision of their building in Al Hassa. The works mainly involved checking whether the execution on site was undertaken as per the project contract documents. The activities included preparation of monthly reports, conduct regular meetings, inspection of all activities on site, approval of materials, etc. The project was being executed by a team of engineers including Project Manager and engineers from all disciplines viz. civil, architectural, mechanical, electrical, etc.

Alrabiah Project Experience

Project Name	BSF Branch in Saudi ARAMCO Dhahran
Client	Banque Saudi Fransi
Location	Dhahran
Year	2011
Project Value	SR 396,540

The Banque Saudi Fransi appointed "ARE" to provide Construction management services for the supervision of the Interior Design works planned within the BSF branch facility in Saudi ARAMCO Dhahran, North Park area. The works mainly involved supervising whether the execution on site was undertaken as per the project contract documents. The activities included preparation of monthly reports, conduct regular meetings, inspection of all activities on site, approval of materials, etc. The works also included all disciplines viz. architectural, interior design, civil, mechanical, piping, plumbing, electrical utilities, etc.

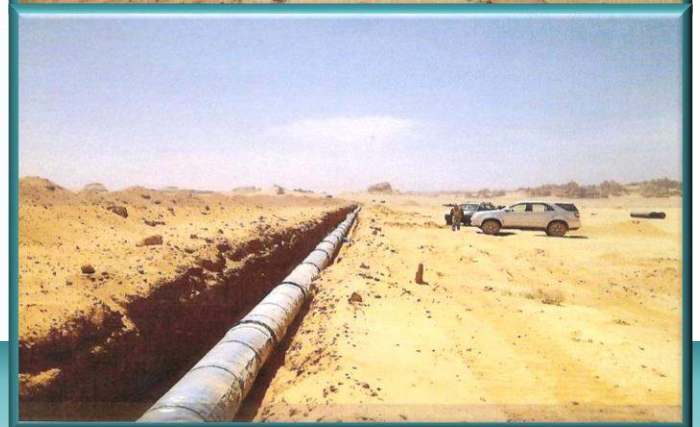
Alrabiah Project Experience



Project Name	SWCC Shuqaiq (2), Water Transmission System "Site Supervision"
Client	ILF, Riyadh
Location	Shuqaiq - KSA
Year	2007
Project Value	SR 700 Million

"ARE" was appointed to supervise the laying of the pipelines from Shuqaiq Desalination plants to various small villages. The works mainly involve checking whether the execution on site is undertaken as per the contract documents. The activities include preparation of monthly reports, conduct regular meetings, inspection of all activities on site, approval of materials, etc.

Alrabiah Project Experience



Project Name	*Pipe Lines for Water Supply in the Regions of Al-Oula in Madinah Al-Munawwarah "Site Supervision"*
Client	*Ministry of Water & Electricity*
Location	*Madinah Munawawarah - KSA*
Year	*2009*
Project Value	*SR 520 Million*

The Ministry of Water & Electricity appointed "ARE" to provide Construction management services for the supervision of the laying of pipe lines from Al-Oula town (about 300 km North of Madinah Munawwarah) to various villages between Al-Oula & Madinah Munawwarah. The works mainly involved supervising whether the execution on site is undertaken as per the project contract documents. The activities included preparation of monthly reports, conduct regular meetings, inspection of all activities on site, approval of materials, etc. The works also include all disciplines viz. civil, mechanical, piping, landscaping, plumbing, surveying, electrical utilities, etc.

Alrabiah Project Experience

Project Name	*Pipe Lines for Irrigation Facilities and Storm Water Drainage Systems "Site Supervision"*
Client	*Ministry of Agriculture*
Location	*Al Hassa - KSA*
Year	*2010 - 2014*
Project Value	*SR 150 Million*

The Ministry of Agriculture in Hassa appointed "ARE" to provide Construction management services for the supervision of the laying of pipe lines within the city of Hassa town (about 200 km North of Dammam). The works mainly involve supervising whether the execution on site is undertaken as per the project contract documents. The activities include preparation of monthly reports, conduct regular meetings, inspection of all activities on site, approval of materials, etc. The works also include all disciplines viz. civil, mechanical, piping, plumbing, surveying, electrical utilities, etc.

Alrabiah Project Experience

Project Name	*Installation of Halon Gas System in KFIP "Site Supervision"*
Client	*Saudi Ports Authority*
Location	*Yanbu- KSA*
Year	*2012*
Project Value	*SR 352,000*

"ARE" was appointed to carry out the supervision of the installation of Halon Gas System in the King Fahd Industrial Port, Yanbu. The works mainly involve checking whether the execution on site is undertaken as per the project contract documents. The activities included preparation of monthly reports, conduct regular meetings, inspection of all activities on site, approval of materials, etc.

PIPING SYSTEMS

Waste Water Piping, Dammam - KSA

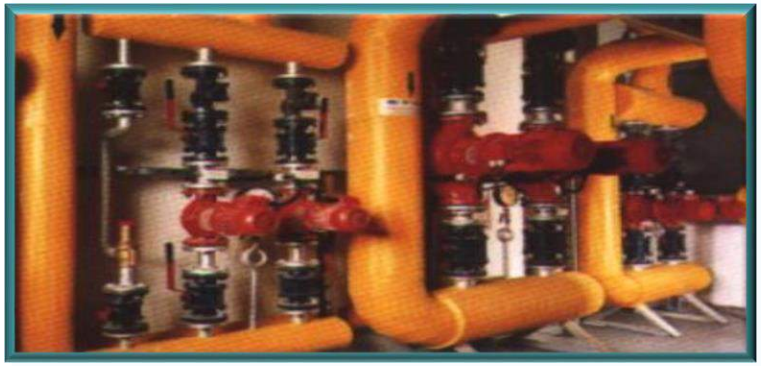
Conversion of Open Irrigation Channels into Pipelines, Al Hassa - KSA

Khursaniyah Gas Plant, Jubail - KSA

MECHANICAL UTILITIES

GPYW Sports Complex, Al – Hassa - KSA

King Fahd Naval Base, Jubail - KSA

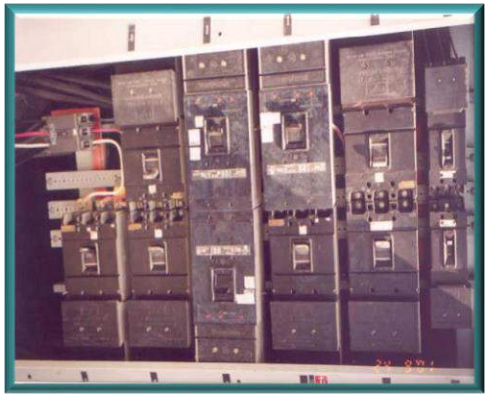


Sub – Station, Jeddah - KSA

Jeddah Islamic Port - KSA

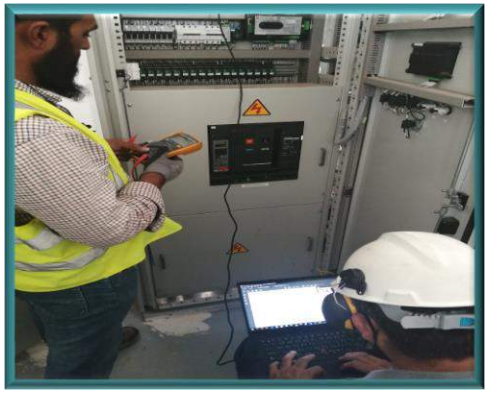
ELECTRICAL & ELECTRONICS UTILITIES

Security System PTZ Camera for Yanbu Commercial Port, Yanbu - KSA



King Faisal Naval Base, Jubail - KSA

Security Lighting System for Yanbu Commercial Port, Yanbu - KSA



Various projects of MEWA, Madinah - KSA

Alrabiah Project Experience

Project Name	Upgrading Sewage System in Jubail Commercial Port "Study, Design & Supervision"
Client	Saudi Ports Authority
Location	Jubail
Year	2007
Project Value	SR 1,877,000

Alrabiah Consulting Engineers Co. were appointed to carry out the study, design and supervision of a comprehensive Sewage system in the Jubail Commercial Port.

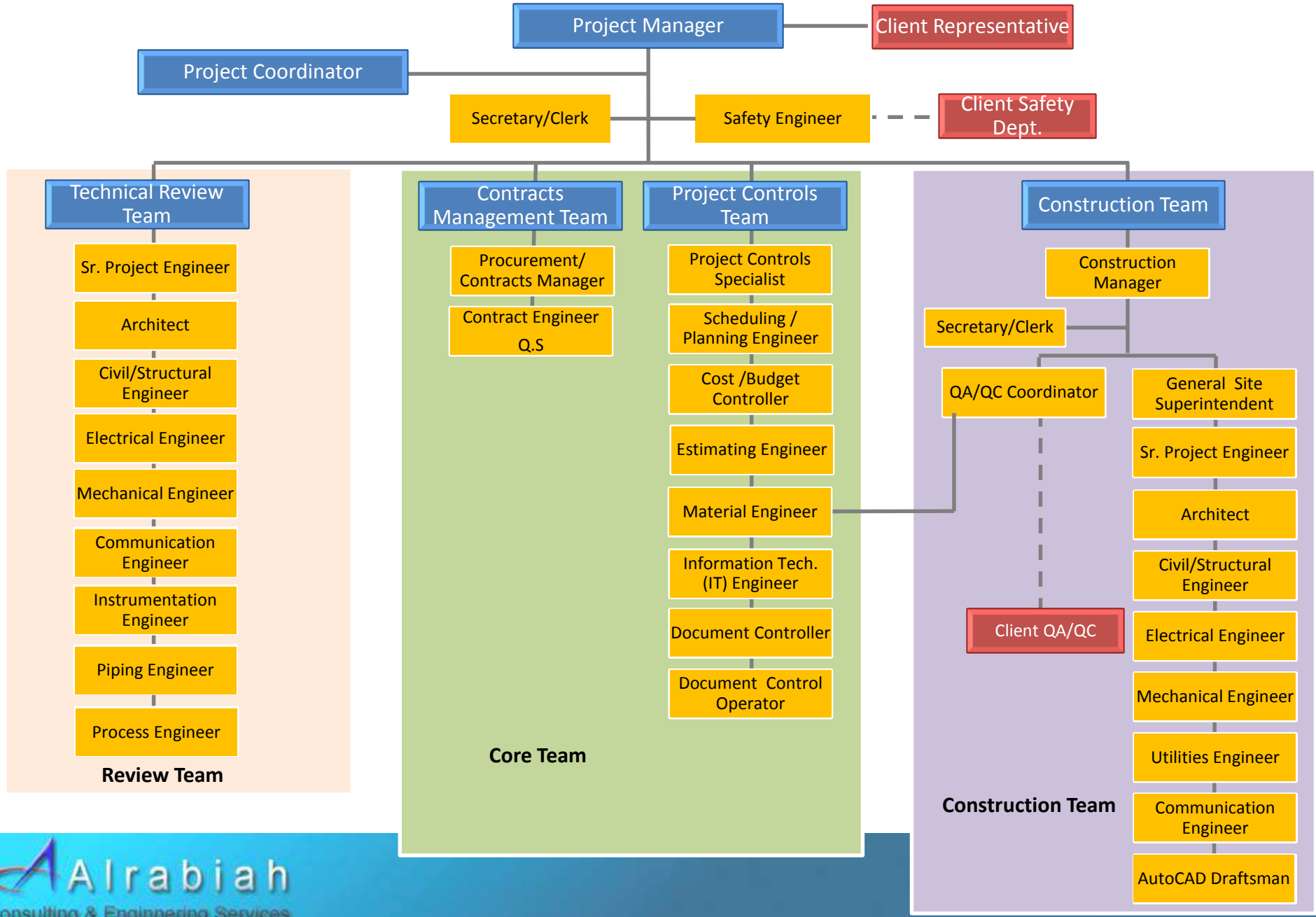
The works involved investigation of the existing facilities, and preparation of design for up gradation and renovation of the existing sewage system, including preparation of tender documents, supervision of the execution of the up gradation works by the Contractor, as well as the supervision during the maintenance period.

5. Appendices

Appendix I

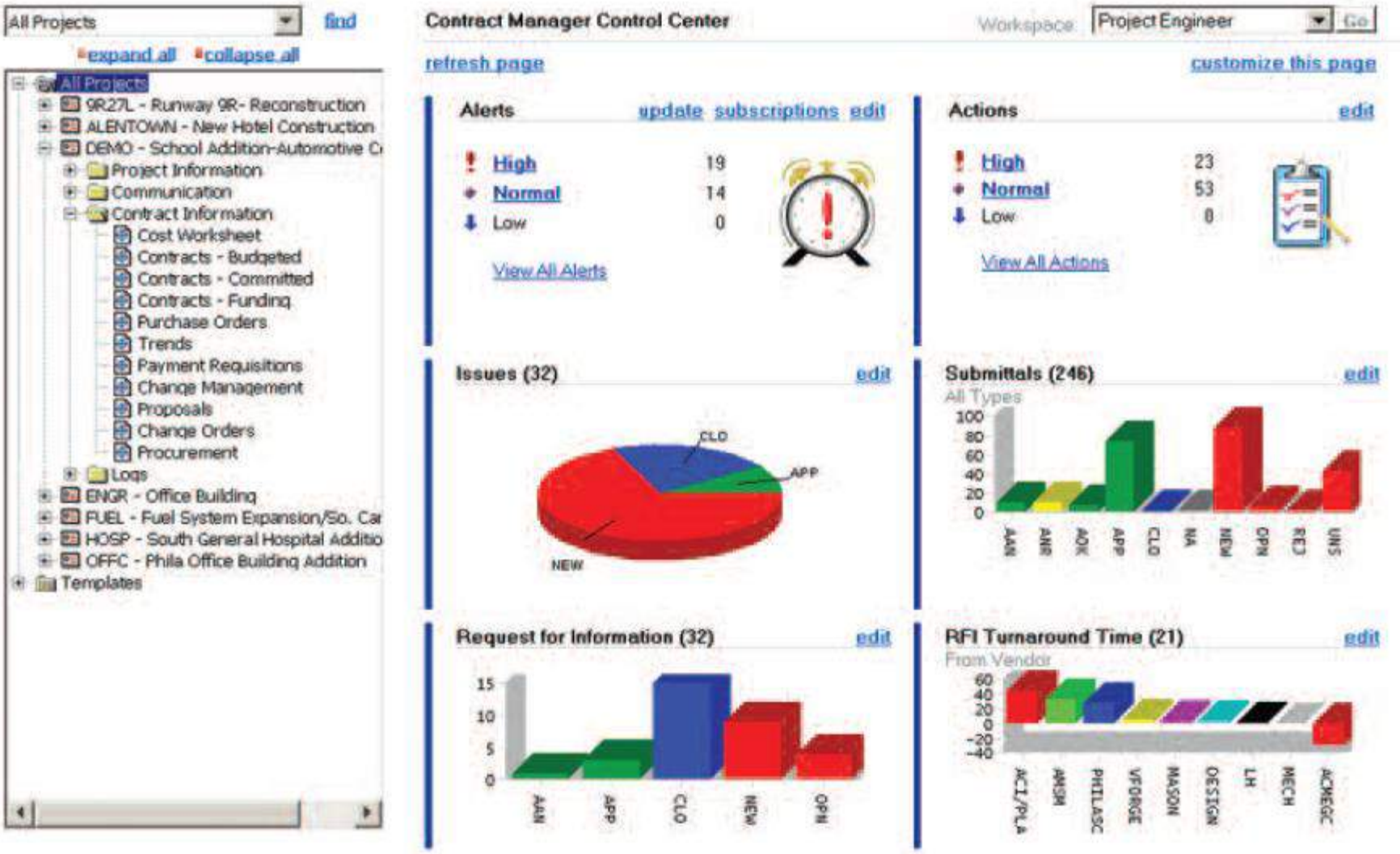
Project Management Team - Organization Chart

Project Management Team (PMS) Organization Chart



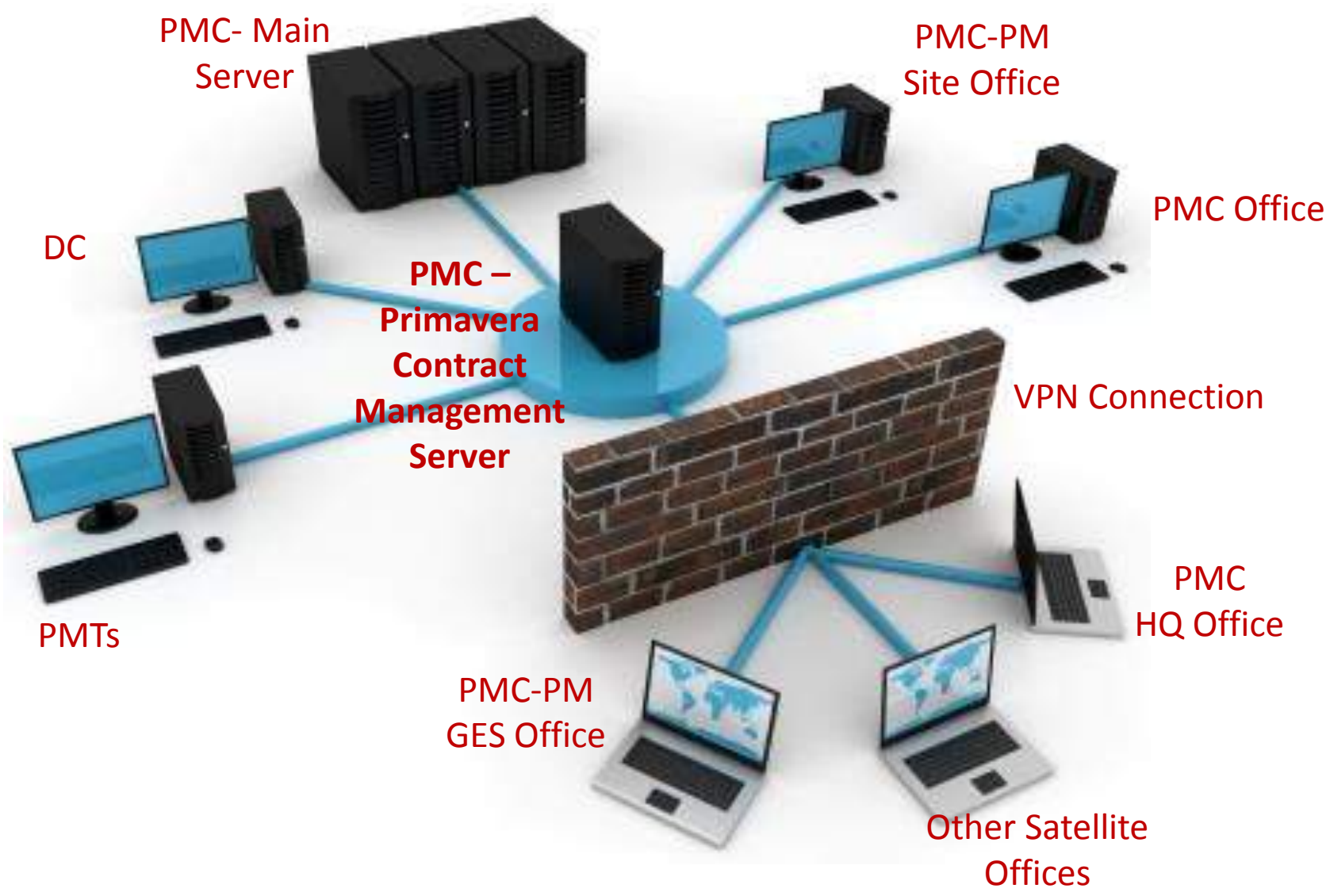
Appendix II
Project Documentation

Project Documentation



Appendix III
Project IT Network

Project IT Network



Appendix IV

Alliance with Engineering Company

MBI - USA

Michael Baker
INTERNATIONAL

We Make a Difference

Program Management and Construction Management Services for the Reconstruction of the Market Street Elevated

Philadelphia, Pennsylvania

Client

Southeastern Pennsylvania Transportation Authority (SEPTA)
1234 Market Street, 9th Floor
Philadelphia, Pennsylvania 19107-3780

Completion Date

2009

Project Costs

$710,000,000 (Construction)
$11,822,628 (Fee)

Michael Baker's Role

- Program management support
- Construction management
- Construction inspection services

As a member of a five-firm program management team, Michael Baker provided program management support, construction management, and construction inspection services for the reconstruction of the Market Street Elevated.

Acting as an extension of the client's staff, the program management team was responsible for construction contract development and coordination; design review and coordination; development, review, and coordination of a master schedule and multiple construction contract schedules; community relations; construction management and inspection; quality assurance and documentation; and overall review and management of all aspects of the program.

Constructed in 1907, the Market Street Elevated carries the "Blue Line" of the elevated and subway system, which runs from the city center through West Philadelphia to the western suburbs. It is patronized by approximately 178,000 commuters per day on weekdays, and is the most heavily used line of the transit system. Michael Baker prepared and implemented an intricate construction sequencing plan in which the spans of the elevated were replaced during 19 weekend closures while allowing normal weekday service.

The reconstruction of the Market Street Elevated involved the services of 13 prime contractors and, during much of the reconstruction, there were three multi-prime construction projects and two single-prime construction projects under construction concurrently.

Michael Baker filled significant positions on the program management team, including principal-in-charge, construction manager, program office engineer, and program senior accountant for all contracts. Michael Baker staff served as construction supervisors, lead inspectors, field inspectors, fabrication yard inspectors, and geotechnical support for multiple contracts. Michael Baker provided senior resident engineers and resident engineers for the Cobbs Creek, Guideway, and Foundations contracts.

Michael Baker
INTERNATIONAL

We Make a Difference

Broadway Pier Cruise Ship Terminal Facility

San Diego County, California

Client

Pinnacle Communities
15 Enterprise, Suite 250
Aliso Viejo, California 92656

Project Costs

$28,000,000 (Construction)
$400,000 (Fee)

MBI's Role

- Construction Management Services for New World Class Cruise Ship Terminal
- Constructability Reviews
- Cost Estimating
- Construction Controls
- Inspection
- Resident Engineering
- Interagency Coordination

As a consultant to Arcadis, Michael Baker International (MBI) provided Construction Management services for the removal and disposal of the current terminal embarkation platform; seismic retrofit of and structural improvements to the Broadway pier; and construction of a 52,070 square foot, LEED silver certified cruise terminal facility.

The new terminal will meet the demands of the Port of San Diego's growing cruise business. The facility's features include passenger and baggage security screening, cruise line ticketing and offices, Customs, inspection and interview space, passenger waiting area, a working north apron, and integration of a movable passenger access gangway. Project management efforts also involve LEED coordination with the District and project architectural team to incorporate many sustainable features, including a photovoltaic system.

MBI's work was focused on the pier upgrades, including constructability reviews, cost estimating, construction controls, inspection, resident engineering, and interagency coordination.

Michael Baker
INTERNATIONAL

We Make a Difference

Route 52 Causeway Replacement Project

Ocean City and Somers Point, New Jersey

Michael Baker provided comprehensive engineering services for the replacement of the Route 52 Causeway and the reconstruction of approximately 2.8 miles of Route 52 from Route 9 in Somers Point to Bay Avenue in Ocean City. Michael Baker's services included bridge and roadway design, construction management and inspection, environmental permitting, lighting design, traffic and intelligent transportation system (ITS) design, utility relocation, and community outreach.

One of the largest projects ever undertaken by the client, the Route 52 Causeway Replacement included approximately 7,000 feet of new and widened roadway construction and a new 3,500-square-foot Visitor Center with associated utilities. Michael Baker was an integral part of the construction management team that delivered the first phase contract eight months ahead of schedule.

Client

New Jersey Department of Transportation (NJDOT)
1035 Parkway Avenue
P.O. Box 600
Trenton, New Jersey 08625-0617

Completion Date

Estimated: 2015

Project Costs

$400,000,000 (Construction)
$64,666,715 (Fee)

Michael Baker's Role

- Project management
- Bridge design
- Roadway design
- Environmental permitting
- Lighting design
- Traffic design
- Utility relocation design
- ITS design
- Building design
- Drainage design
- Landscape design
- Right-of-way services
- Construction support services
- Community outreach
- Website development
- Construction management
- Construction inspection

Originally constructed in 1933, the Causeway was a four-lane, undivided highway with 10-foot-wide travel lanes and no shoulders on a low-level embankment, with four structures over Great Egg Harbor Bay, Ship Channel, and Beach Thorofare Intracoastal Waterway (ICWW). Route 52 provides the major access to Ocean City from Somers Point and serves as the emergency evacuation route. All four bridges had severely deteriorated, and could no longer accommodate increased highway and marine traffic around the popular resort towns. There was a high accident rate on the causeway due to the traffic congestion, narrow lanes, and lack of shoulders to accommodate breakdowns. During storms, waves washing over the two low trestle bridges made them impassable.

The department initiated planning for the replacement of the causeway in 1992. The four bridges were replaced with two high-level, fixed-span bridges over Ship Channel and the Intracoastal Waterway, with two 12-foot-wide lanes in each direction, eight-foot-wide shoulders, and 10-foot-wide pedestrian and bicycle lanes. The project also included

construction of the relocated Ocean City Visitors' Center on a scenic overlook, fishing piers, boat ramps, parking lots, and improvements to the Somers Point Historic District. The Route 52 traffic circle in Somers Point was replaced with a signalized intersection with turning lanes and pedestrian and bicycle crossings, and Route 52 (MacArthur Boulevard) was widened to include a center turn lane to improve access to adjoining businesses. Through a series of contracts, Michael Baker has provided engineering and environmental services for the project since 2002.

Agency and Stakeholder Coordination, Environmental Impact Statement, and Community Outreach. The planning stage and National Environmental Protection Act process involved extensive agency, stakeholder, and public involvement. Also, because the Route 52 Causeway is so heavily traveled, and due to the required right-of-way acquisition, the project required extensive public involvement efforts to generate public support. Michael Baker facilitated four public information meetings, two in Ocean City and two in Somers Point. Michael Baker prepared presentations, displays, and other materials to elicit public comment regarding the project. Michael Baker developed two public project websites; http://www.state.nj.us/transportation/commuter/roads/route52, to keep the public apprised of the status of the project; and http://www.njcommuter.com, to alert the public to traffic delays during construction.

Alternatives Analysis and Design. Michael Baker evaluated several alternatives for the replacement of the causeway, including precast segmental box bridges, spliced prestressed I-girders, and conventional prestressed I-girders, to provide replacement bridges, approximately 2.2 miles long, with access to Garretts Island and the new visitors' center on Rainbow Island via driveways. Michael Baker ultimately designed and prepared bid packages with alternate designs that included conventional prestressed I-girder superstructures. The selected prestressed I-girders superstructures are supported on a variety of pier types. For the high-level bridges, the piers consisted of a single bow tie-shape pier shaft that supported Y-shaped pylons. For the low-level bridges, the piers consisted of two-column bents supporting an inverted-T pier cap for aesthetic and hydraulic reasons. All the piers are supported on large, square, prestressed concrete piles and suspended footings. Instead of bascule bridges, the new bridges will provide an underclearance of 55 feet at ship channel and the Intracoastal Waterway, necessitating the relocation of the navigable channels for both waterways.

Construction Sequencing. The Route 52 Causeway is an emergency evacuation route, as well as a key arterial, and cannot be closed during construction. Further, the entire project is over environmentally regulated areas and construction has had to be scheduled around numerous environmental timing restrictions. Therefore, the causeway was constructed in two construction contracts, A and B, which are sequenced through several stages to minimize the traffic and environmental impacts. During the construction of Contract A, about 1.1 miles of the low-level bridge of the northbound causeway was constructed to the east of the existing causeway while maintaining normal traffic on the existing causeway. After traffic was shifted to the northbound bridge through temporary ramp connections, the low-level bridge of the southbound causeway was constructed. The construction of Contract A was completed in July 2009.

In Contract B, the remainder of the bridge structure was constructed. The utility relocation plans were implemented and the new visitors' center was constructed on the bridge's scenic overlook. The channels were dredged for relocation, and associated roadway work was performed at the causeway touchdown points at Bay Avenue in Ocean City and the Somers Point Circle. Extensive maintenance and protection of traffic was required for the construction of the causeway over the Intracoastal Waterway at the approach to Ocean City during this stage, which was performed only during the off-season from mid-September to mid-May. The remaining construction involved roadway widening and elimination of the traffic circle in Somers Point, which was completed independently of the bridge.

Sustainable Design, Aesthetics, and Enhancements. The stakeholder and public involvement efforts led to the incorporation of several aesthetic and recreational features. In addition to the shared-use path on the causeway, the design included new pedestrian and bicycle improvements for access to the bridge from towns, the historic district, restaurants, docks and parks. The Ocean City Visitors' Center was relocated and reconstructed as part of the new bridge's scenic overlook; Michael Baker's alternative to purchasing or leasing expensive real estate within the city. The visitors' center building was designed in accordance with Green principles and included solar panels and geothermal heating and cooling design.

ITS and Traffic Engineering. Michael Baker performed intelligent transportation system (ITS) engineering as part of the design services. ITS integration is essential to expediting traffic flow and managing incident response along this highly traveled facility, which is subject to flooding and is also the primary evacuation route to and from Ocean City. Additionally, the ITS design included hardware, such as closed-circuit television cameras, to provide surveillance to meet the recommendation of the homeland security report prepared for the project.

Construction Management and Construction Inspection. Michael Baker provided construction management and construction inspection for Contracts A and B. Michael Baker's services included quality reviews to verify that all work performed by the contractor was in conformance with the contract drawings and job specifications and management of all construction schedules, updates, and baselines, using Primavera Project Planner. Construction inspection services included daily inspection and reporting for all structural work, including marine construction, precast concrete piles, pier footings, pier columns, pier caps, concrete diaphragms, deck slabs, reinforcing steel, structural steel, installation of prestressed pretensioned concrete beams, and various roadway items, such as hot-mix asphalt paving, roadway embankments, traffic control, drainage, concrete columns, retaining walls, channel dredging, and highway lighting.

Value-Added.

As a result of the repackaging of the first contract to include the conventional prestressed I-girder alternative, Michael Baker was able to eliminate a portion of the bridge over the Rainbow Island and replace it with roadway embankment using VibroCore concrete columns. This saved $70 million.

To keep the Route 52 Causeway open to four lanes of traffic after it was posted due to significant deterioration, Michael Baker was able to quickly develop plans to retrofit the deteriorated railing and to install continuous electronic sensing devices on the bridges to monitor the bridges against any excessive movements. This allowed for construction to continue while minimizing impact on traffic. This saved significant time, money, and impact to the entire summer tourist season in Ocean City.

Michael Baker successfully negotiated with the environmental regulatory agencies to allow for pile driving to continue within the seasonal restrictions as long as the piles were within closed cofferdams. This process saved about eight months for the construction schedule of Contract A, and about eight months for Contract B.

Michael Baker
INTERNATIONAL

We Make a Difference

Relief and Reconstruction Program Construction Management Services

Michael Baker, through the Stanley-Michael Baker-Hill, LLC (SBH) joint venture, provided diverse program management and construction management services to the Project and Contracting Office (PCO) of the U.S. Army Corps of Engineers, Gulf Region Division (Corps). The services were for the development of a construction management program that expedites the rebuilding of Iraq's infrastructure while fostering the revitalization of Iraqi engineering and construction capabilities.

The tasks performed by the SBH team supported the newly established Corps' office for construction in the Gulf Region, including three District locations. This office is responsible for design-build task orders in the oil, transportation, security and justice, public works, electrical, and communications sectors that constitute the $18.6 billion reconstruction program for Iraq.

Client

U.S. Army Corps of Engineers,
Middle East District (formerly TAC)
P.O. Box 2250
Winchester, Virginia 22604-1450

Completion Date

2012

Project Costs

$18,600,000,000 (Construction)
$104,702,841 (Fee)

Michael Baker's Role

- Program Management
- Construction Management Plan
- Quality Assurance Services
- Information Management/Communication Technology Software System
- Iraq Banking Modernization Advice and Support

As program manager, Michael Baker/SBH was responsible for construction management program development and implementation. Michael Baker performed a Requirements Gap Analysis and then analyzed the features and requirements of the PCO's existing Program Management Plan. The Program Management Plan analysis provided input for the establishment of a construction management progress reporting system. Specifically, it helped promote the successful integration of data generated under the progress reporting system into the PCO's locally developed asset management database.

Close coordination with the Programs Directorate was required to establish a standardized project delivery process for the PCO's design-build program. This included identifying and standardizing essential elements of all documents used in the process.

Information management/communications service needs were another very important focus under this assignment. Michael Baker created an Automated Information System compatible with various systems used by

the Corps across districts. Associated duties included conducting an IT Gap Analysis to determine future information technology software and hardware needs, and establishing a project controls strategy that encompassed the PCO's existing systems. Michael Baker crafted a deployment strategy to resource-load the construction management database to accommodate the numerous project schedules – in excess of 2300 – developed earlier by the Coalition Provisional Authority.

To promote efficient, cost-effective human resource planning and task allocation, Michael Baker examined the Programs Directorate's organizational structure and identified the personnel resources required for implementing the construction management plan and managing the PCO's ambitious construction program. As part of this effort, a recruiting strategy was established that promoted the hiring of Iraqi nationals.

Project Features

- PCO's Program Management Plan/Master Plan Integration
- Standardized Project Delivery Process for Design-Build Program
- Proactive Recruitment Program Involving Local Nationals
- Automated Information System Creation Compatible with PCO's Systems and Softwares
- IT Gap Analysis
- IT Deployment Strategy
- Project Controls Strategy
- P3 Scheduling
- MAXIMO® Asset Management

Appendix V

Alliance with Engineering Company

CITEC – FINLAND

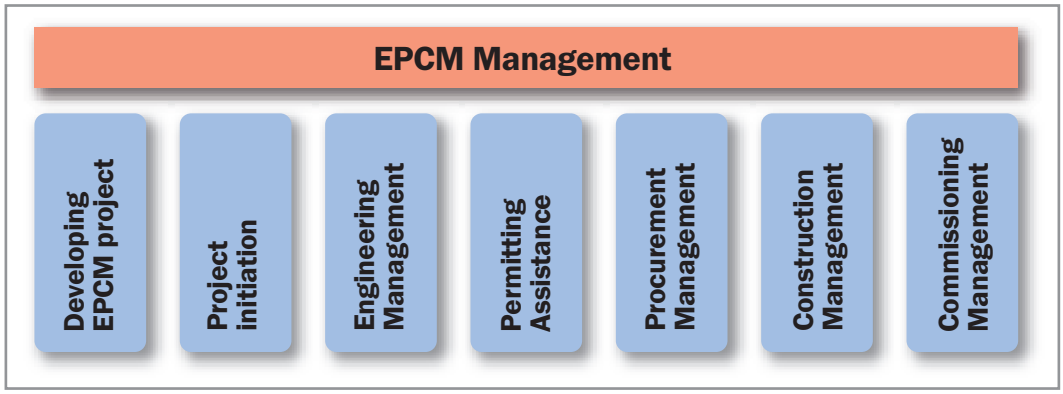
(A Cyient Company)

WIZCARD | HIGHLIGHTING CITEC KNOWLEDGE

CITEC EPCM SERVICES

6/2010

Citec provides services for power plant owners, investors and EPC suppliers starting from techno-commercial services. Total project management including E = Engineering Management, P = Procurement Management, C = Construction Management.
EPCM means in Citec broad full scope multidiscipline services ranging from feasibility studies, total project management, engineering management, procurement management, construction management to commissioning at site. For procured services, equipments and materials the invoice is directed to customer. Customer = Citec's customer.



1 Owner's need	2 Feasibility studies	3 Pre Engineering, Budgetary cost info, business plan	4 Investment decision, Owners decision to create a project	5 Owner decides project type -> selection of EPCM supplier
6 EPCM supplier divides the project in pieces and manages the pieces and total project	7 EPCM supplier defines scope limits and specifications for the pieces and sub-contractors	8 EPCM supplier makes offer request material and asks for offers in customers name	9 Example of pieces: Boiler, turbine, condenser, building, etc. Including engineering, equipment and construction	10 EPCM supplier designs for example BOP (Balance of Plant)
11 Permitting management	12 Engineering mngnt between the pieces	13 Purchasing mngnt Construction mngnt Commissioning mngnt	14 Operation	15 Life cycle management

CITEC ENGINEERING OY AB
P.O. Box 109, FI-65101 VAASA, FINLAND
Tel. +358 6 3240 700 • Fax +358 6 3240 850
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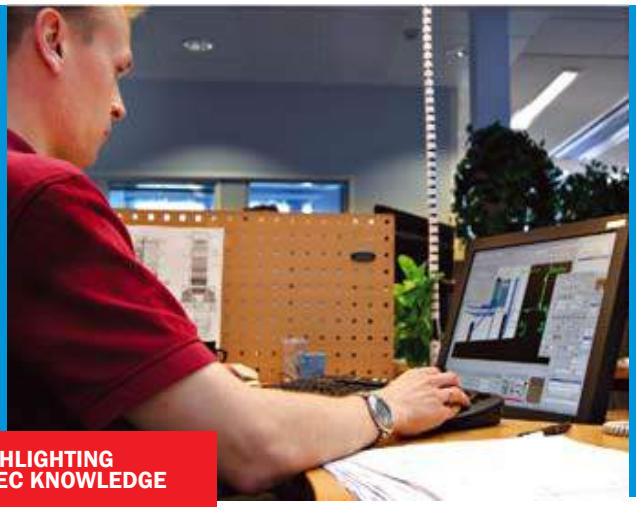

WIZCARD | HIGHLIGHTING CITEC KNOWLEDGE

CONSTRUCTION MANAGEMENT SERVICES

2/2009

Citec Engineering provides multi-discipline solutions, consultant and construction management services for the industry. Our multi-discipline approach allows us to offer a broad scope of services, which we tailor to fit the requirements of our customers.

We have been involved in global projects since 1987. Besides the engineering and project management work, we can help with foreign standards, local requirements and contacts with authorities. We can take full project management responsibility or assist in site inspections, as well as in Site Management from Mobilization - demobilization at site – the choice is yours!

Multi-engineering services

Our competence embraces engineering capabilities in plant and mechanical engineering, civil engineering, electrical and automation, process and environment, as well as product development and modularization.

We are able to manage the full project responsibility of Site Management from Mobilization - demobilization, as a total enterprise or part thereof according to the customer's requirements. We can also execute specific tasks and technical services, such as dynamic analyses, FEM calculations, fire protection or pipe calculations.

Quality is for us a question of professional pride. Our certified quality management system is an objective for continual improvement and is followed up by Bureau Veritas Certification.

Citec construction management services

- Contract document development
- Contract bidding, negotation and award
- CPM schedule development and monitoring
- Contract administration
- Cost control
- Quality and safety monitoring
- Budget management and change control
- Project Controls
- Design Coordination
- Site Management

For more than 20 years Citec Engineering has been providing global Site Management for EPC contracts. We offer you experienced personnel, who has international experience and can be deployed at short notice for long and short term contracts. Our staff has diverse technical and management skills. We can provide you Health & Safety Officers, Site Engineers and Site Agents, Project Managers and Coordinators, Quality Control Managers and Work Managers.

Citec – the one for the job!

Citec Engineering provides multi-discipline technical solutions and project services for the Power, Civil, Rail Vehicle and Process Industries. Behind the scenes Citec's experts take on tasks that are not our customers' core activities. This leaves you free to take the leading role in your own field of expertise. You be the star – we'll do the stunts!

Citec companies

The Citec companies are Citec Engineering and Citec Information. We employ approx. 1100 people.

Headquartered in Finland, we currently have locations in Sweden, UK, France, Russia, India and China. Having broad expertise in various fields enables us to offer comprehensive solutions to our customers.

CITEC ENGINEERING OY AB
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Tel. +358 6 3240 700 • Fax +358 6 3240 850
www.citec.com

citec

Energy & Power: Jordan, Amman

Location:

Jordan, Amman

Customer:

Wärtsilä, (AES, USA)

Project:

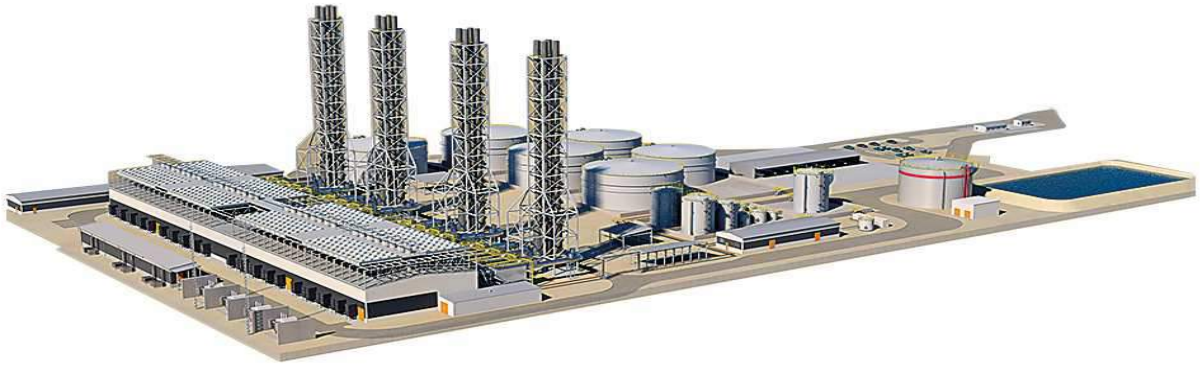
Sixteen 20 MW 18V50DF engines, net power 250 MW

Plant type:

Tri fuel plant: uses light or heavy fuel oil or gas

Citec scope:

Concept, Basic, Detailed design,
Engineering management
Project management,
Procurement management,
Document management,
Site supervision
Multidiscipline scope:
Process & Equipment
Piping
Electrical
Automation
Civil & HVAC
Fire fighting & Detection



Energy & Power: Kinyerezi, Tanzania

Location:

Kinyerezi, Tanzania

Customer:

Jacobsen Electro

Capacity:

150 MW GT Plant

Citec scope:

Concept, Basic, Detailed design, Engineering management, Partly Project management, Procurement management, Document management, Site supervision

Full multidiscipline scope:
Process & Equipment
Piping
Electrical
Automation
Civil & HVAC
Fire fighting & Detection