PARSONS

Proven Track Record in the Middle East

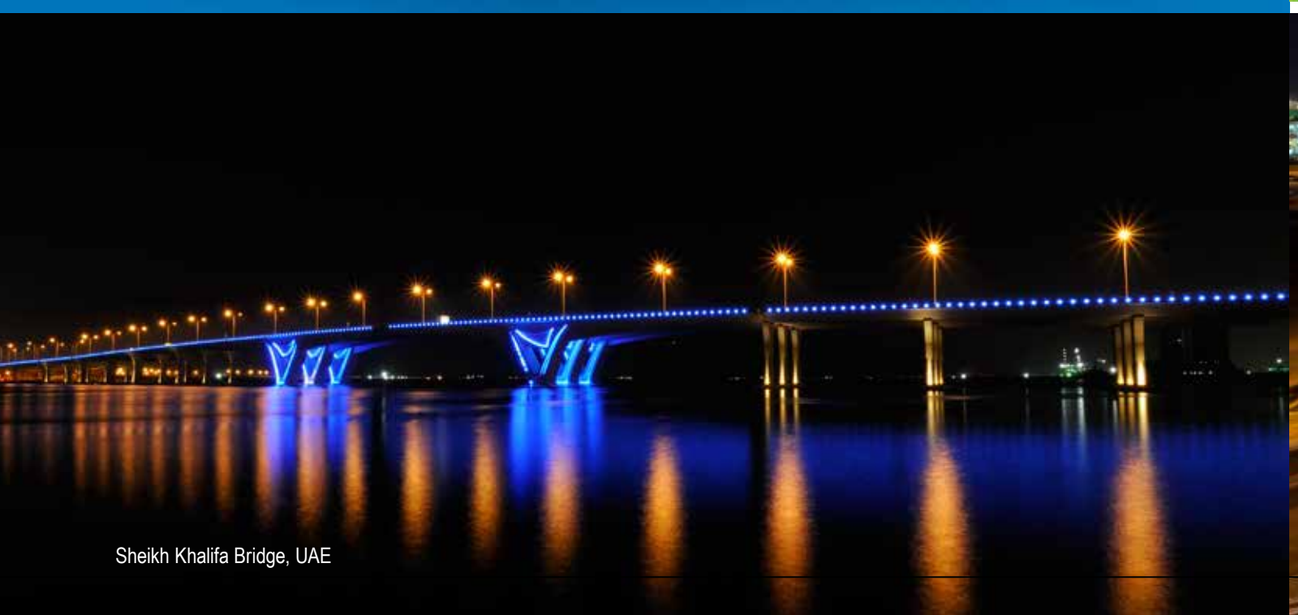
PARSONS

Founded in 1944, Parsons is an engineering, construction, technical, and management services firm. For more than 65 years, we have been combining forward-thinking and cutting-edge technology to improve the way people connect with the world. Our success has been in striking the balance between big ideas and the technical ability to bring them to life. Thanks to Parsons' global network of resources, we have the power to combine technology with unparalleled quality and control. We combine this ability with our unwavering commitment to safety to accomplish projects of any scale, under any conditions.

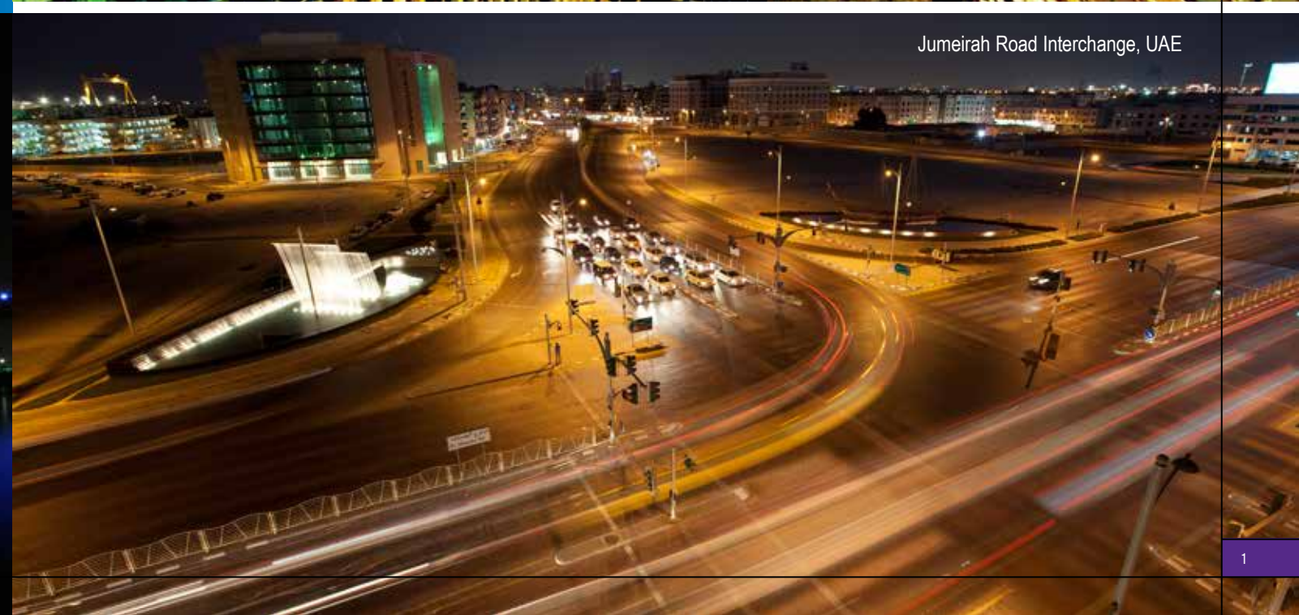
Our history of working in the Middle East dates back to 1953. This experience has equipped us with a broad base of skill sets to address all requirements for large programs, including utilities, roads, bridges, transit systems, water systems, sewer systems, waste management facilities, electrical distribution systems, embassies, universities, government buildings, housing, and other facilities in large mixed-use projects worth billions of dollars.

Our detailed knowledge and experience is critical to rapidly implement projects in compliance with local regulations, design standards, and construction practices. Parsons is part of the business community, and we intend to stay active in the region. We are excited by the prospects and we are committed to be a part of the next phase of sustainable growth in the Middle East.

Lusail City Development, Qatar



Sheikh Khalifa Bridge, UAE



Jumeirah Road Interchange, UAE

Our Markets

Parsons' global leadership in technical, engineering, construction, and management support services has remained constant throughout our decades of operations. Our clients depend on Parsons to deliver safe, cost-effective, and high-quality systems and advanced facilities. Our market strength comes from applying our best practices to state-of-the-art solutions.

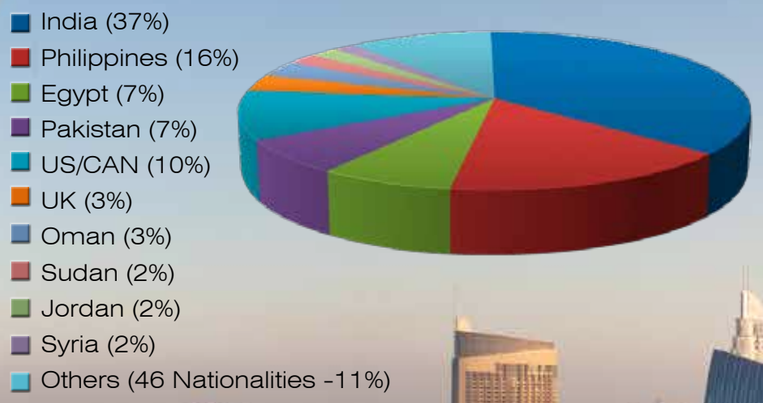
- Asset Management
- Condition Assessments
- Construction Supervision
- Cost Consulting
- Design – Concept, Schematic, and Detailed
- Operations & Maintenance (O&M)
- Planning – Master Planning & Urban Planning
- Program and Construction Management (PM/CM)
- Training

Parsons is the company of choice for project execution. We offer a comprehensive selection of services that cover every aspect of a program or project, including management, procurement, consulting, security, and alternative project delivery. Our long history reflects our innovative solutions that take a project from inception and startup, through execution, to testing and closeout—and often the project continues to serve as a model for the future! When a customer needs a "one-stop" shop for a project, we are selected because we focus on what's most important—the end result.

Parsons' Presence in the Middle East

Diverse Clients Require a Diverse Parsons

Parsons' employees in the Middle East come from 57 countries



Diverse and Inclusive Workforce/Sales Teams/Project Teams

- Age
- Background
- Education
- Experience
- Gender
- Interests
- Lifestyle
- Origin
- Politics
- Religion
- Training/Skills

Representative Projects

From bridges to wastewater treatment facilities to defense and security, Parsons designs, builds, and manages projects around the world. Customers choose us because we follow a skilled, principled approach and have the resources necessary to solve the toughest challenges, creating a model for success. We never lose sight of our most important benefactors—the people living in the communities we serve.

Infrastructure

Developing sustainable infrastructure is essential for the survival, health, and well-being of society—whether it reflects a need for water, transportation, or power systems.

Al Gurm Resort, UAE

Client:
Aldar Properties

Services Provided:
Program Management

Standing discreetly on the edges of the turquoise waters of the Arabian Gulf amidst the mangroves, Al Gurm Resort comprises 69 private luxury homes with future plans for more luxury marine villas and a 5-star boutique hotel and spa. Al Gurm is an eco-friendly development on 1.8 million m^2 of protected mangrove forest and wildlife with a strict "Wildlife First" policy that had to be respected.

Saadiyat Island, UAE

Client:
Tourism Development & Investment Company (TDIC)

Services Provided:
Design and Construction Supervision

When completed, Saadiyat will include a number of distinct districts, single- and multifamily golf course communities, prestigious resort hotels, and world-class museums such as the Zayed National Museum, the Louvre Abu Dhabi, and the Guggenheim Abu Dhabi. Parsons designed and is providing construction supervision for an estimated $5.6 billion of earthwork, roads, water, and wastewater infrastructure.

Lusail City Development and Light Rail System, Qatar

Client:
Lusail Real Estate Development Company

Services Provided:
Program and Construction Management

In addition to our role as program and construction manager for this landmark development, Parsons, in a joint venture with AECOM, is also managing the construction of the new Lusail Light Rail System. The Lusail Light Rail System is essential to the transportation infrastructure of Lusail City, one of the largest real estate development projects in the Middle East and North Africa region. When completed, it will feature 30 km of track (7 km underground), 24 stations (7 underground), service depots, and a viaduct.

Lusail City will feature 19 distinctive districts offering a wide range of facilities:

- Blue-water lagoon with two marinas
- 25,000 residential units housing 175,000 people
- High- and low-rise buildings
- 36 schools
- State-of-the-art hospital
- Underground metro link to new Doha rail network
- Commercial districts and mixed-use areas
- 2 golf courses
- Retail, leisure, and entertainment district and resorts

Yanbu Industrial City, Saudi Arabia

Client:
Royal Commission for Jubail and Yanbu

Services Provided:
Consultancy and Construction Management

Yanbu was developed from what was virtually an anonymous spot in the desert into a community of 150,000 residents. The development of this city and its sister city, Jubail, has been a part of a 30-year master plan to modernize and industrialize undeveloped areas of Saudi Arabia. Parsons has participated as a consultant and construction manager in all phases of development.

Under this ambitious program, Parsons has managed the following infrastructure projects:

- Water Intake Facility: 400,000-m^3/hr capacity, 27 km of fiberglass pipe
- Waste Treatment Plant: 100,000-m^3/d design capacity (additional capacity being added)
- 500 km of potable water lines, storage tank capacity of 460,000 m^3
- Waste Treatment Facilities: 27,000-m^3/d sanitary waste treatment plant and 24,000-m^3/d industrial wastewater treatment; 530 km of sewer lines to collect sanitary and industrial wastewater; and 500-tpd compost plant
- Sea Port: 500 km of streets, 3,200-km airport runway, 33,000 telephone lines, 900-MW power (additional capacity being added), and ~600 km of underground high-voltage power cable
- Community Housing: 2,000 villas, 2,500 townhouses, 4,500 apartments, 3,500 permanent dormitory units, and 20,000 temporary dormitory units, and 13 self-contained, contiguous residential districts
- Education Facilities: 5 kindergartens, 9 primary schools, 2 intermediate schools, 2 secondary schools, 1 international school (total current enrollments: 7,018 students), 1 industrial college (1,000-student capacity) and 4 libraries with gross floor area of 2,200 m^2
- Religious Facilities: 10 mosques
- Health Facilities: 342-bed medical center, 68-bed emergency hospital, and 5 outpatient clinics
- Sports/Open Space and Recreation Facilities: 18 recreation centers, 23 tennis courts, 10 soccer fields, 18 swimming pools, 9 parks, gazebos and public facilities along with water front to accommodate picnickers and swimmers, and 50-boat marina in City Center Bay
- Landscaping: More than 175,000 trees and shrubs, 65,000 m^2 of grass, 160,000 m^2 of other ground cover, and more than 3,000 plant species in city parks and gardens
- Earthwork: More than 70 million m^3 of earth cut-and-fill operations
- Drainage: Drainage system of canals and culverts, huge flood control channel surrounding the entire development and water table stabilization
- Roads: More than 500 km of tertiary, secondary, and primary roads, including a highway, have been built and more are under construction

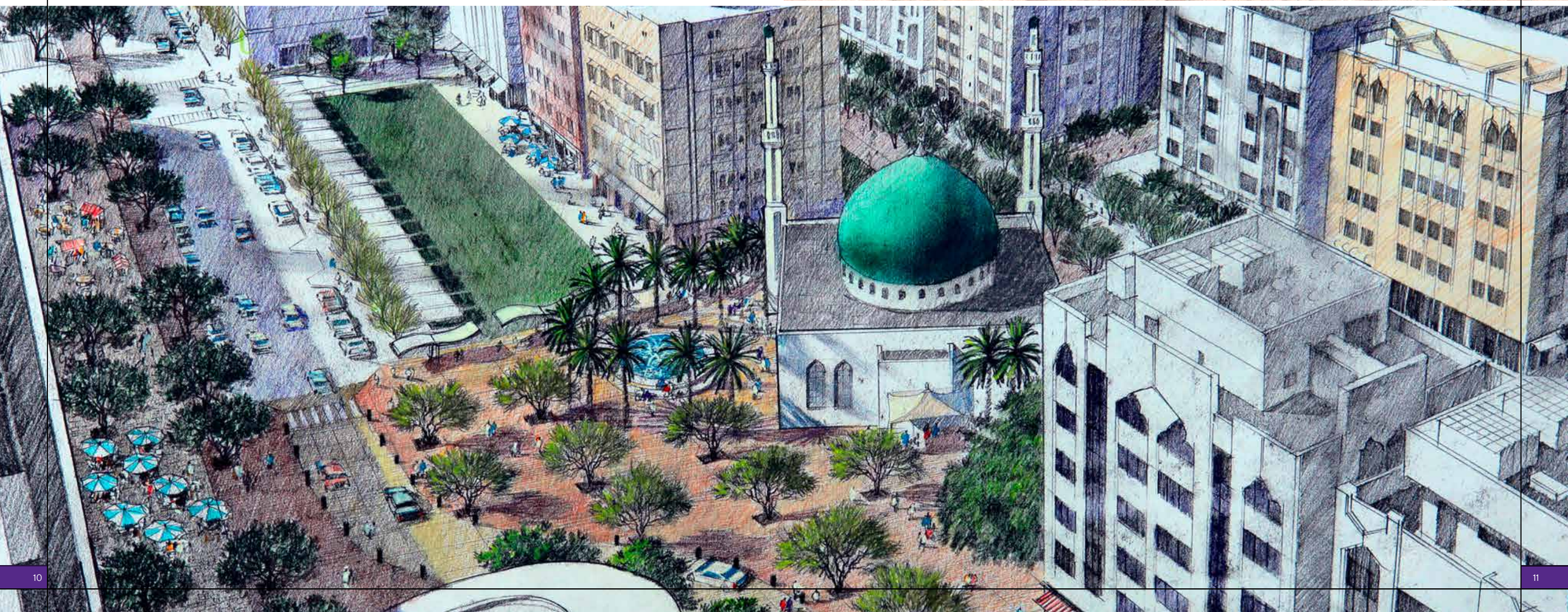
E3-02 Revitalization Program, UAE

Client:
Abu Dhabi Municipality and
Abu Dhabi Urban Planning Council

Services Provided:
Lead Design Consultancy and Planning

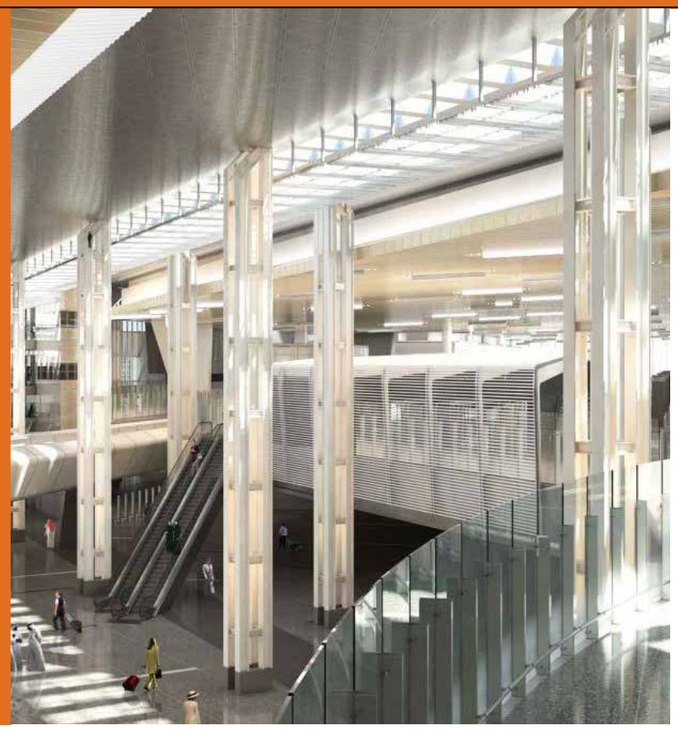
The Abu Dhabi Urban Planning Council and the Abu Dhabi Municipality are undertaking this major project. The first step in this endeavor is the redesign of Sector E3-02, which will be used as a demonstration model for future sector upgrades.

Sector E3-02 improvements will include improvements and realignment of interior roads, underground parking structures, utility relocation and landscaping, and expansion of the public realm. Parsons is currently preparing the sector master plan and will perform design and construction supervision when the plan is complete.



Transportation

We believe that challenges mean solutions. And thanks to Parsons' global network of resources, we have the power to combine leading-edge technology with unparalleled quality and control. We combine this ability with our unwavering commitment to safety to accomplish projects of any scale, under any conditions. All across the globe, with roads, railways, bridges, tunnels, airports, public transit and control systems, Parsons keeps people moving toward a brighter, safer world.



New Doha International Airport, Qatar

Client:
New Doha International Airport Steering Committee

Services Provided:
Project and Construction Management

Parsons is providing design project management and construction management services for the North Node and Winglets D and E for New Doha International Airport, now being built in Qatar. The new airport will replace an existing facility, increase passenger and cargo-handling capabilities, and accommodate Airbus A380 super- jumbo jets. When complete, the North Node will have 8 super wide body gates with dual passenger loading bridges, hotel, first class lounges, and retail and food and beverage shops. The airport is scheduled to open in 2012 with development complete by 2015. The facility will handle 50 million passengers and 2 million tons of cargo annually—three times more than its current capacity. This facility will be the only commercial international airport serving Qatar's capital city of Doha and will be the central hub for Qatar Airways, recognized as the world's fastest growing premium airline.

Abu Dhabi International Airport Expansion Program, UAE

Client:
Supervision Committee for the Expansion of Abu Dhabi International Airport (SCADIA)

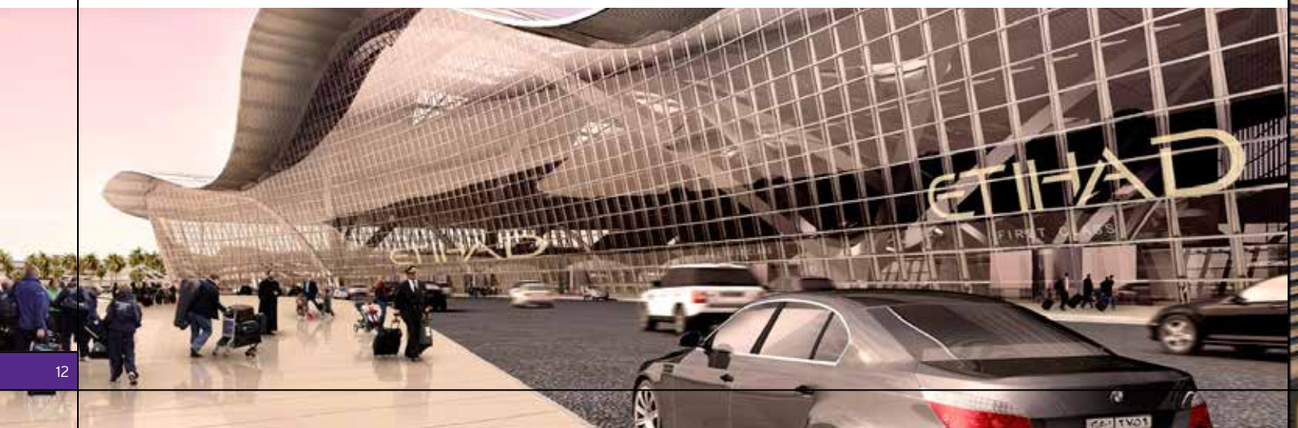
Services Provided:

- Program/project management
- Design management
- Cost and budget control
- Schedule control
- Value engineering
- Quality assurance
- Operational planning
- Constructability reviews
- Safety and security management
- Construction oversight
- Contract administration
- Claims assessment
- Contract closeout and warranty support
- Facility startup and turnover

Expansion Program includes construction of the following:

- New, 39-gate, 620,000-m^2 passenger terminal expandable to as many as 80 gates with a satellite terminal linked by people mover
- New 4,100 x 60 m CAT III, all-weather runway capable of handling the Airbus A-380 aircraft with an ultimate capacity of 75-80 takeoffs and landings per hour
- 10 million to 12 million annual passengers
- Ultimate capacity in excess of 50 million passengers annually
- Commercial retail and office zone of over 950,000 m^2
- Foreign trade zone of 375,000 m^2
- 3,000 close in parking spaces, expandable to 5,000
- New, 162-room, in-transit hotel
- New landside, 4-star, 300-room hotel
- New 110-m tall air traffic control tower
- Expanded corporate flight facilities
- Two new fire stations
- State-of-the-art security systems

Abu Dhabi International Airport was named World's Most Improved Airport by Skytrax in March 2010. This award is based on the votes of more than 9.8 million travelers from 100 countries. Moving up to become the world's number 26 airport—a jump of 47 places from the previous year—has largely been credited to the airport's multibillion-dollar investment program, for which Parsons is providing program management services. Skytrax is recognized worldwide for its major passenger surveys (World Airline Survey and World Airport Survey).



Palm Jumeirah Bridges and Palm Crescent Tunnel, UAE

Client:
Nakheel

Services Provided:
Construction Supervision

The iconic Palm Jumeirah Island Complex is recognizable worldwide, and because it is surrounded by water, bridge and tunnel design and construction have played an important role in its success. Parsons performed tasks required by multiple contracts on this project, most notably the Palm Jumeirah Gateway Bridge. This bridge system consists of two five-lane, six-span bridges that provide access to and from the famous Palm Jumeirah island complex. Envisioned as a landmark bridge for Dubai, the design was chosen from an international competition and includes striking architectural characteristics, such as 30-m high, sail-shaped pylons mounted on the bridge's piers. This project also encompasses six bridges that carry traffic across water channels between the Gateway Bridge and the commercial and residential areas of the trunk of Palm Jumeirah; four bridges located along the trunk; the Crown Crescent Tunnel intersection, located at the end of the vehicular tunnel to streamline traffic to the Atlantis Hotel and other Crown Crescent areas; and the Crown Crescent Tunnel itself, which connects the trunk to the outer crescent, while maintaining the illusion that the outer crescent remains a disconnected island.

Tunnel Characteristics:

- Length: 1,398 m
- Maximum grade: 6% with a 60-kph design speed
- East portal approach: 241 m
- Reinforced concrete box section: 969 m
- West portal approach: 188 m
- Foreign trade zone of 375,000 m^2
- Structural width: 38 m
- Internal clearance height: 5.52 m

Project Highlights:

- Undersea tunnel being constructed using cut-and-cover techniques
- More than 4.3 million m^3 of seawater pumped out
- Numerous safety and quality awards
- 2,500+ laborers working daily onsite at peak
- 185,000 m^3 of concrete poured
- 30,000 tons of reinforcing steel used
- Tunnel fully equipped with electromechanical services

Dubai Floating Bridge, UAE

Client:
Dubai Roads and Transport Authority

Service Provided:
Design and Construction Supervision

When the Dubai Roads and Transport Authority (RTA) had to develop a short-term solution to ease the city's traffic congestion, it conducted a competition to determine the best design. RTA selected our proposal for a floating bridge as the most innovative entry and retained Parsons to provide design and supervision services for the construction of this innovative solution to provide much-needed additional capacity across Dubai Creek.

The bridge was constructed within a 9-month time frame using a design-build method and further affirms Parsons' long-standing commitment to the area's infrastructure and our role as the leading transportation firm in the city of Dubai.

Changing the global landscape means working in concert with the natural environment rather than destroying it. As a world leader in bridge and tunnel design and construction, Parsons has worked on 4,500 bridges of all types in more than 40 countries on six continents.

Business Bay Bridge, UAE

Client:
Roads and Transport Authority (RTA) Dubai

Services Provided:
Design

The Dubai Creek is a natural inlet of the Arabian Gulf that extends 14 km inland into Dubai. Before the construction of the Business Bay Bridge, the Maktoum Bridge, Garhoud Bridge, and Shindaga Tunnel were the only existing creek-crossing structures. All three locations experienced severe traffic congestion during rush hour:

- Maktoum Bridge: 5 lanes each way, 8,000 vehicles/hr
- Garhoud Bridge: 3 lanes each way, 6,100 vehicles/hr
- Shindaga Tunnel: 2 lanes each way, 3,700 vehicles/hr

This traffic created an urgent need for additional creek-crossing capacity. Parsons was the only consultant to recommend constructing an entirely new road corridor, the Ras Al Khor Corridor, which would include a new creek crossing (later named the Business Bay Bridge) to reduce congestion in the existing corridors.

Project Highlights:

- First creek-crossing structure built in Dubai in 25 years
- Full navigation access provided during construction
- Minimum disruption to water flow in Dubai Creek during construction
- 2,500+ laborers working daily onsite during peak construction
- More than 1,700 cast-in-place bored piles constructed
- Nearly 200,000 m^3 of concrete poured
- 25,000 tons of reinforcing steel used
- 6,700 m of bridge barrier installed

Sheikh Khalifa Bridge, UAE

Client:
Tourism Development & Investment Company (TDIC)

Services Provided:
Planning and Design

Sheikh Khalifa Bridge was opened to traffic in October 2009. It links the port district of Abu Dhabi to the new Saadiyat Island development. The bridge sets the stage for visitors to the island's cultural district, which will be home to world-class museums, such as the Louvre Abu Dhabi, Guggenheim Museum, and Sheikh Zayed Museum.

The 1.5-km-long concrete bridge has a main span of 200 m, carries 10 lanes (5 in each direction), and can accommodate two future passenger rail tracks. It is one of the largest bridges in the Middle East.

The bridge was built using several complex bridge construction methods, in particular balanced cantilever and incremental launching, to ensure optimum use of materials and timely delivery on a tight schedule while minimizing the construction impact on the waterway. Parsons provided complete planning and design services for the project, including the bridge and a 2-km access road in a dense urban environment, as well as support to the client during the procurement process and construction supervision.

Innovative Solutions
Landmark Results

Dubai Metro, UAE

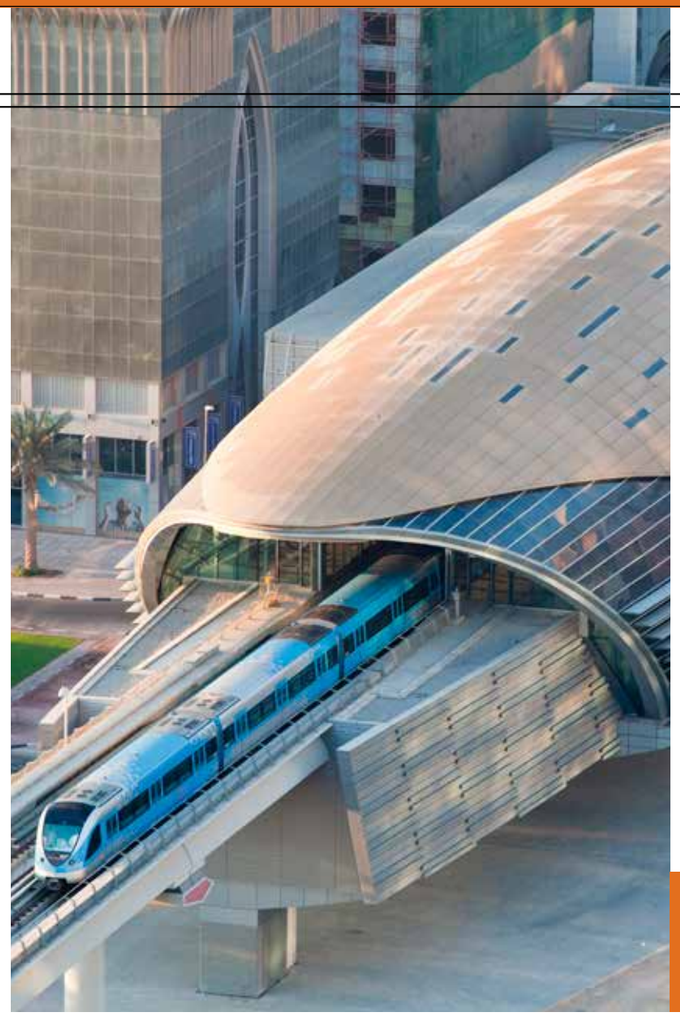
Client:
Roads and Transport Authority (RTA) Dubai

Services Provided:
Program Management, Design Review, and Construction Supervision

Under a joint venture, Parsons has provided overall program management, design review, and construction supervision for the design-build of the Red and Green Lines. Dubai Metro is the first mass transit rail system in the UAE.

The Red Line, the system's Phase 1 inaugural line, opened for business on schedule on 9 September 2009—just 49 months from the project's commencement date. This 53-km rail line runs southwest to northeast from Rashidiya to Jebel Ali: 5.5 km of the railway is underground in one bored tunnel; the remaining 47.5 km operates on an elevated viaduct. The Red Line's 2 depots, 25 elevated stations, and 4 underground stations—2 of which are transfer stations to the Phase 2 Green Line—provide convenient access and multimodal connections for all passengers.

Advanced train control, WiFi communications, automatic fare collection, and platform screen-door technologies make this rail transit system one of the world's most innovative. Leading-edge construction methods have been executed for tunneling and viaduct erection under the direct supervision of Parsons' staff.



Etihad Rail, UAE

Client:
Etihad Rail

Services Provided:
Program Management

The Etihad Rail Project will deliver the first combined passenger and heavy freight rail services in the UAE. The project requires state-of-the-art technology in rolling stock, control systems, special structural design techniques, and many other specialized areas of expertise. The project has an aggressive delivery schedule.

The Parsons-AECOM JV is the Program Management Consultant (PMC) selected by Etihad Rail to provide program management services for the approximately 1,200 km total project length. The project is divided into three key stages defined by geographic areas.

Stage 1 is known as the Shah-Habshan-Ruwais line, providing rail transportation for sulfur from the gas facilities at Habshan and Shah to the Ruwais processing and terminal center. The PMC support for this project will cover the entire project implementation (startup through construction, testing, and commissioning, and defects liability).

Stage 2 extends from Ruwais to Ghweifat on the Saudi Arabian border in the south and from the Liwa Junction (where the Shah line branches from the mainline) to Musaffah, Port Khalifa, Jebel Ali, and Al Ain up to the border with Oman at Al Ain. The geographic area assigned to this stage is not contiguous. The PMC services will cover all program management obligations from project startup to the completion of a design-build tender package.

Stage 3 extends the network to the Northern Emirates; the PMC services will cover all Program Management obligations from project startup to the completion of a design-build tender package.

Across cities and continents around the globe, Parsons is providing people with a superior way to travel. Light, heavy, commuter, high-speed, maglev, and freight rail projects, as well as bus rapid transit systems, do more than keep people connected. They create a cleaner world for us all.

Al Salam Street and Eastern Ring Road Upgrades, UAE

Client:
Abu Dhabi Municipality

Services Provided:
Design and Construction Supervision

Al Salam Street and Eastern Ring Road are a major urban arterial running the length of Abu Dhabi Island, serving as the main carrier of traffic between the central business district and the Sheikh Zayed Bridge and Maqta Bridge. Under four separate contracts, the project includes upgrading a section of the road to an urban expressway by constructing a series of tunnels and grade-separated interchanges. A 5.2-km depressed roadway, one bypass tunnel, six underpasses, one overpass bridge, and grade-separated intersections will be constructed, totaling approximately 13.5 km.

When complete, motorists will be able to bypass signalized intersections on Al Salam Street and travel uninterrupted for the entire length of Abu Dhabi Island. These projects are a vital long-term investment in the continued growth and prosperity of Abu Dhabi and will significantly enhance traffic throughout Abu Dhabi Island to meet anticipated future needs.

Doha Expressway, Qatar

Client:
Public Works Authority (PWA)

Service Provided:
Concept, Preliminary and Detailed Design,
Design-Build-Bid Document Preparation

The Doha Expressway is part of a strategic plan to modernize transportation for Greater Doha. These major new highway corridors link through the suburbs of Qatar's capital city with easy access to the new and old airports, the industrial area, and other major highway arteries such as Salwa Road, Dukhan Road, and North Road.

Parsons performed the initial concept study for a 22-km alignment in 2002 that in 2004 was expanded to 90 km with 39 grade-separated interchanges to serve future development and population growth. Working with the PWA, Parsons considered many factors in developing the final alignment for the upgraded expressway, including cost, traffic flow, existing right-of-way, land acquisition, utility relocation, and overall plans for the future transportation network. The project's 13 packages integrate complete design of major components:

- Controlled access highways
- Frontage roads
- Bridges, tunnels, and retaining walls
- Traffic signals
- Utilities such as communications, water, electricity, sewer, and drainage
- Landscaping
- Microtunnels
- Street lighting

Parsons met the challenge to develop the highest capacity interchange configurations within the constraints of the narrow right-of-way without compromising the facility's safety. We used modified single-point diamond configurations, where appropriate, and at system interchanges developed less conventional multilevel configurations for free flow-through movement with a roundabout for turns. Where turn volumes were exceptionally high, a fourth-level flyover ramp was added.

Parsons' innovations optimized the facility's safety and resolved challenging design issues. The expressway provides a safe, efficient, and modern highway that saves motorists travel time and reduces air pollution in this growing capital city. An independent, international panel of judges with expertise in the roadway development industry honored these accomplishments: our innovative interchange configurations and overall approach to complex technical issues earned Parsons the International Road Federation's prestigious 2004 Global Road Achievement Award in the concept design category.

Muscat Expressway, Oman

Client:
Muscat Municipality

Services Provided:
Design and Construction Supervision

Muscat Municipality awarded the contract for the design and construction supervision of the 53.3-km Muscat Expressway (formerly known as the Southern Expressway) in the Muscat Capital Area. Parsons' scope of work included a comprehensive traffic study and analysis, alignment study, preliminary design, detailed design, and tender documents.

The proposed expressway comprises:

- 3 travel lanes in each direction
- 12 interchanges
- cast-in-place post-tensioned concrete bridges

The main expressway was fully opened to traffic by the 1st of January 2011. The expressway now serves as the principal road corridor in the Muscat Capital Area, greatly alleviating traffic congestion along the only existing major road corridor, Al Sultan Qaboos Street. The expressway traverses varied terrain along its length, including a section through rugged mountainous area that entailed considerable excavation and high mechanically stabilized earth walls.

At Parsons, blending the talents of our experts with state-of-the-art technology has produced 16,000 kilometers of road in 40 countries on six continents. But the true measure of success is in the millions of travelers that drive them every day.

Sheikh Zayed Road Comprehensive Improvements, UAE

Client:
Roads and Transport Authority (RTA) Dubai

Services Provided:
Transportation Planning, Detailed Design, and Construction Supervision

Dubai selected Parsons to design comprehensive improvements to the Sheikh Zayed Road expressway to alleviate congestion and provide for increased traffic volumes from the new developments along the major freeway corridor. Parsons' work on this improvement project began in 1999 at the preliminary study stage, and the program includes upgrading 29 km of Sheikh Zayed Road starting from Trade Center Interchange to Interchange 6. Work includes improving all seven preexisting interchanges and constructing six new interchanges.

Design Elements

- Five-leg, multilevel freeway-to-arterial interchange.
- Eighteen bridge structures at the interchange, plus the Dubai Marina Canal Bridge, which is a 6-span, 4-lane, 375-m-long structure.
- Five elevated viaducts (flyovers) above Sheikh Zayed Road carrying up to 3 lanes of traffic in each direction.
- Eastern leg of the interchange connected to two new arterial roads that are under construction (West Parallel Road and East Parallel Road) and further on to the existing Emirates Ring Road expressway.
- Accommodates the alignment of the Dubai Metro Light Rail Red Line, which runs parallel to Sheikh Zayed Road and has one station on each side of the interchange.
- Service road that runs along the east side of Sheikh Zayed Road and is connected to local communities to provide access to two Dubai Metro railway stations.
- Roadway signage and pavement markings, landscaping, and street lighting.
- Diversions, protection, and/or betterment of major, complex utility services such as Dubai Water and Electricity Authority's high-voltage underground electric cables and large-diameter water mains.
- Sanitary sewers, storm drainage, and irrigation systems with a drainage pump station and a large irrigation underground tank.
- Installation of hundreds of meters of fiber-optic telecommunication cables for Etisalat and du.

Design Challenges

- The design team mastered numerous challenges, beginning with an expedited schedule requested by the RTA. Concept, preliminary, and final designs were accomplished in only 45 days.
- Geometric configuration—the design had to provide for three arterial roads/legs meeting at the interchange.
- Design had to consider the Dubai Metro project, which was designed concurrently (and later constructed concurrently). All clearances had to be calculated precisely, and design modifications were coordinated constantly with the Metro consultant. The rigid right-of-way configuration limited design flexibility.
- The Dubai Marina Canal Bridge (serving a future community of more than 40,000 residents) had to fit precisely between large preexisting utility tunnels. The solution was a curved shape designed from three compound curves. The bridge also provides a 30-m-wide navigational clearance for boats up to 11 m high.

King Abdullah Economic City Master Plan, Saudi Arabia

Client:
EMAAR Properties

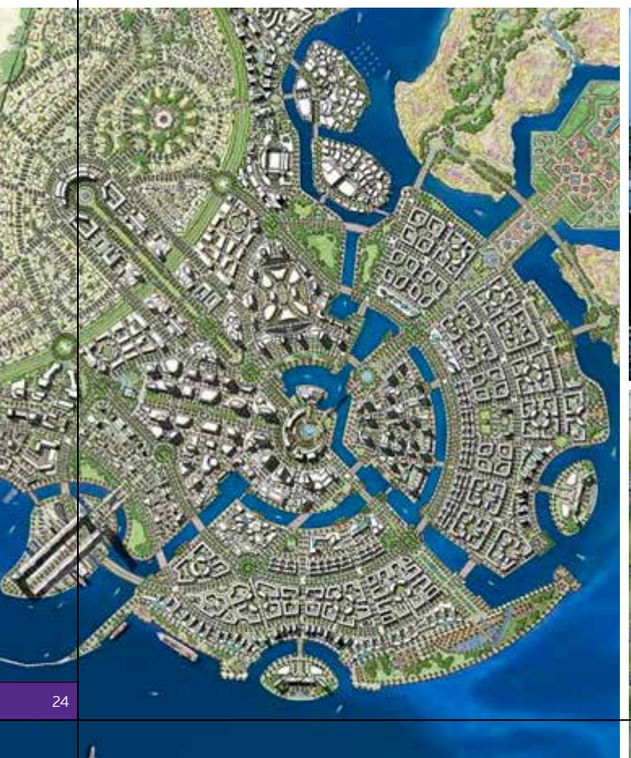
Services Provided:
Master Planning

Parsons provided overall project management services coordinating an international consulting team in formulating of the concept master plan and preparing the final detailed master plan for the strategic development of a new industrial free zone city (King Abdullah Economic City KAEC) on a 185.6-km^2 greenfield site on the Red Sea coast of the Kingdom of Saudi Arabia. Parsons prepared the concept and detailed master plan for the industrial areas, as well as the infrastructure planning for the entire development.

The six components—seaport, industrial district, education zone, financial island, resorts, and the residential area of the City—will work seamlessly together to make the city an important global destination and a focus for the development of both heavy and light industry, services in various sectors, and will bring in a greater level of local investment as well as regional and international foreign direct investment into the Kingdom. Parsons' role in the project included design of port infrastructure, roadways, utilities, rail, and a mini-land bridge.

Specific development land uses are as follows:

- Seaport : 13.8 million m^2 mega-vessel container seaport/rail yard to handle approximately 15 million 20-foot equivalent unit (TEU) containers per year in trans-shipment with available land for expansion to 6 million TEUs per year
- Industrial Park: 53 million m^2 Special Development Zone (Free Zone) Industrial Park establishing KAEC as an Africa and Middle East Export Center distribution hub for multinational corporations, and branding the industrial city as Plastics Valley through synergy with existing petro-chemical industries throughout Saudi Arabia, thereby providing a base for economic diversification and global competition in the manufacturing of downstream petro-chemical by-products
- Cargo Airport: Site assessment for development of a 24-million-m^2 cargo airport providing a key component to an intermodal transportation network
- Educational Zone: Research and development, university and medical center (teaching hospital) complex
- Financial Center: Financial Island with 500,000 m^2 of mixed-use office/retail, hotel, and convention center space.
- Resort yacht clubs with spa, boutique hotels, marina, and leisure facilities; various parks and open spaces; international standard, signature, 18-hole golf courses; executive and resort villas ranging from 700 m^2 to 3,700 m^2; timeshares, resorts, and timeshare hotels with associated resort villas and beaches
- Residential: Villas, townhouses, apartments, lofts, and condominiums



Abu Dhabi Transportation and Roads Improvement Program (TRIP), UAE

Client:
Abu Dhabi Municipality

Services Provided:
Design and Construction Supervision

Parsons has been in charge of the TRIP since its inception in the late 1970s when the firm's transportation planners and traffic engineers developed a staged program of improvements to accommodate increasing traffic flow due to existing and projected urban development.

TRIP involves the planning, design, and construction of an entire urban roadway network in the City of Abu Dhabi. As Program Manager, Parsons is responsible for all TRIP design and construction supervision activities, including the administration of more than 100 separate construction contracts (since inception), which typically include water, wastewater, stormwater, electrical and telephone relocations, and roads and bridges.

Parsons prepares all cost estimates, specifications, and design for roadways, surface drainage, sewerage, bridges, and all traffic-related disciplines including lighting, striping, signs, signals, and closed-circuit television (CCTV), and coordinates utility relocations. Post-design responsibilities include advertisement preparation, prequalifying contractors, preconstruction conferences, reviews of contractor methods and schedules, construction management, supervision and inspection, approval of invoices, preparation of progress reports, and guidance on problem solving and administration of change orders and claims.

Parsons' engineers pioneered the use of slurry-wall bridge foundations in the Middle East on the design of early stages of TRIP. Subsequent stages have required special designs in response to difficult ground conditions. These include the use of pontoon anchorages on two interchanges to overcome high groundwater. Other contracts involve the widening of existing roads and the improvement of intersections, including the installation of a computerized traffic signal system. The Intelligent Transportation System (ITS) design includes a fiber-optic backbone network for the municipality, CCTV coverage of all major traffic areas, automatic detection of vehicles violating speed limits and traffic controls, security and surveillance of sensitive areas, and a separate special-use control center.

Each project differs in scope and details, but the primary objective of all TRIP projects is to provide a roadway network that will safety, efficiently, and economically serve the local and regional transportation needs of Abu Dhabi.

Water and Wastewater

When the challenge is water,
the choice is Parsons.

When the issue is wastewater,
the solution is Parsons.

Al Khor Sewerage Extension to Al Khor Sewage Treatment Works Qatar

Client:
Public Works Authority (ASHGHAL)

Services Provided:
Construction Supervision

The city of Al Khor in the north of the State of Qatar has experienced dynamic growth and development, and the construction of a new sewage treatment works is essential for an adequate treatment capacity of 4,860 m^3/day in line with the projected growth.

The existing sewage treatment plant (STP) was decommissioned after the new STP achieved full functionality. The new STP provides services for irrigation, household use, and community consumption. It is a flagship and model project for Qatar.

Industrial Area Sewerage Phase 2 Doha, Qatar

Southeastern Qatar has experienced tremendous business and population growth, thus prompting ASHGHAL to respond to the growing needs of its constituents. A new industrial sewerage network has been constructed to meet this growing demand. The network is now functional and serves the industrial community. Parsons provided construction supervision services for the project.

Doha and Rayyan Sewerage Pumping Station, Qatar

The existing pumping station was demolished and replaced with a new pumping station to achieve an ultimate flow capacity of 4,750 L/s. Parsons provided high-level supervision ranging from laying the trunk sewer pipeline to the construction of new twin ductile iron rising mains.

South Cobb Tunnel Influent Pump Station, USA

A'Seeb Sewer Network, Oman

Client:
Haya Water (Oman Wastewater Services Company, SAOC)

Services Provided:
Construction Supervision

Parsons has been engaged as engineering and supervision consultant for the Project, which includes the installation of a first sewer network in A'Seeb Willayat of Muscat City, Oman, covering an area of 490 km^2 and including 28,000 house connections. In addition, the project includes the construction of a new 81-mld Sewage Treatment Plant and the construction of 22 km of main collector sewer by micro-tunnelling.

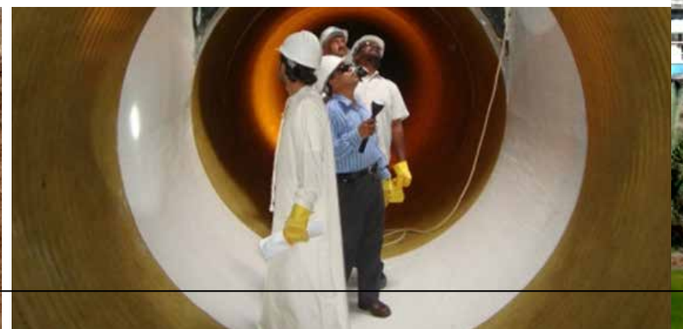
Construction of Trunk Sewer and Associated Treated Effluent System for Al Wathba Wastewater Treatment Plant (WWTP), UAE

To meet the sewage treatment requirements associated with the very rapid expansion of Abu Dhabi, two new major WWTPs were planned by Abu Dhabi Sewerage Services Company (ADSSC) at Al Wathba. Under this project, twin sewer mains of 1,600-mm diameter by 14.5 km long were constructed to divert the sewage from Mafraq to the new WWTPs. An emergency overflow system comprising a 2,400-mm-diameter pipeline of approximately 14 km length has been constructed. A treated sewage effluent (TSE) network has been installed to reuse the TSE produced at the two treatment works. This TSE network consists of approximately 95 km of pipelines with diameters varying from 500 to 2,000 mm and all associated ancillary works.

Construction of Trunk Sewer and Associated Treated Effluent System for Al Saad Wastewater Treatment Plant, UAE

This ADSSC Al Ain project incorporates the provision of interceptor sewers of size varying from 400 to 1,600 mm implemented to redirect the generated sewage to the new WWTW at Al Saad. The total length of the sewers is approximately 36 km. A treated sewage effluent (TSE) pumping station with a capacity of 200 L/s and an HDPE force main measuring 1,200 mm in diameter by 20 km long have also been constructed to divert the TSE from the Al Saad WWTP to the TSE reservoir located at Al Maqam, together with all ancillary works. Estimated construction value of the project is AED650 million.

Parsons provided comprehensive design and construction supervision services using a value-added approach to ensure the completion of this fast-track project as per specified standards, on time and within budget. Implementation of this major project will ensure a continued high standard of service and enhance ADSSC contributions to Greater Abu Dhabi sustainability through water conservation and reuse.



Mafraq Wastewater Treatment Works, UAE

Client:
Sewerage Projects Committee,
Abu Dhabi Municipality

Services Provided:

- Conceptual and feasibility studies
- Preliminary and detailed design
- Tender document preparation and evaluation
- Construction management and supervision
- Startup and training
- Odor control

To increase the efficiency of the original Phase I, Parsons undertook urgent work to improve the treatment capacity by preparing designs for converting two existing effluent storage tanks into sequencing batch reactor units (SBR). These units treated either raw sewage or primary settled effluent in two basins up to a capacity of 40,000 m^3/day to a satisfactory standard for controlled-use irrigation. This work was completed in 1993.

Parsons was retained to plan and design the Phase II extension and supervise construction and commissioning of the extended facility.

The extension project was designed to increase the existing Mafraq Sewage Treatment Works from 104,000 to 260,000 m^3/day. The Phase II work designed by Parsons comprises headworks, primary clarifiers, an activated biological sludge digestion system (extended aeration), secondary clarification, effluent storage, chlorination, sand filtration, anaerobic sludge digestion, and modifications to the drying beds. The facilities include primary sedimentation, activated sludge biological treatment, final settling, effluent filtration, chlorination, storage, anaerobic sludge digestion, sludge drying, and effluent reuse for landscape irrigation.

The treated effluent, which is close to drinking standards, is reused all over Abu Dhabi as part of the irrigation and greening program. A fully equipped laboratory continously monitors the effluent quality to ensure that the final products are environmentally safe. The effluent is treated to 5 mg/L total suspended solids and 5 mg/L biological oxygen demand and is disinfected with chlorine prior to discharge.

The main irrigation pumping station at Mafraq is the largest pumping station in the UAE; it controls the delivery of treated effluent to the mainland treated effluent distribution network.

Egaila Pump Station, Kuwait

Client:
Kuwait Ministry of Public Works

Services Provided:

- Preliminary design
- Final design
- Construction supervision
- Preparation of tender documents
- Tender evaluation

The Ministry of Public Works commissioned Parsons in asssociation with Gulf Consult to carry out the study, design, and preparation of tender documents for the sewage pumping station in the Egaila district. Because a deep tunnel was needed to convey the sewage flows from the coastal catchment area, two separate stages were necessary to pump the tunnel flows. The first stage is rated for an ultimate peak flow of 4,000 L/s. The pumping is configured to draw the sewage discharged from the tunnel and receive the upperflows via a spiral drop structure.

The sewage is screened, degritted, and lifted into the wetwell of the transfer pump station just below ground level. The flow from the collection channel discharges into the second stage transfer pump facility and is pumped directly to the inlet of the Riqqa WWTW. Implementation of this major project ensures a continued high standard of service and will enhance ADSSC's contributions to Greater Abu Dhabi sustainability through water conservation and reuse.

Infrastructure Reconstruction Program, Phase 2, Iraq

Client:
USAID / Bechtel (Prime)

Services Provided:
A/E design, Project Management, Planning, Integration

Parsons provided A/E and construction surveillance services to rebuild the water and wastewater systems as part of the infrastructure reconstruction of Iraq. Projects included replacement of numerous irrigation pumps and related equipment to enhance the irrigation of 2.5 million hectares of land in Iraq. We implemented a Rural Water Project in 16 of the 18 Governorates to design and build 71 new rural water supply and treatment facilities and 268 treated water distribution points serving an estimated 530,000 people in more than 400 villages.

"[Parsons] performed superlatively. Since the project's re-scoping, we achieved a dramatic increase in production… This and subsequent accomplishments were feats requiring an inordinate amount of coordination …between disparate partners scattered from the village level up to the US Ambassador's office and that of the Minister of Municipalities and Public Works."

—Mark Oviatt, Senior USAID Advisor

Parsons' Water and Wastewater Capabilities


South Cross WWTP, USA

- Biological nutrient removal
- Combined sewer overflows
- Conventional and advanced wastewater treatment
- Desalination and membrane treatment
- Economic analysis
- Environment documentation
- Groundwater collection, treatment, monitoring and remediation
- Hydraulic and water system modeling
- Membrane bioreactors
- Permitting
- Reservoirs and dams
- Residuals/biosolids management
- Sanitary sewer overflows
- Source water assessments
- Surface water treatment process analysis and design
- Tunnels, river and lake intakes, and outfalls
- Ultraviolet disinfection
- Wastewater collection systems
- Water quality modeling in distribution systems
- Water reclamation
- Water reuse
- Water transmission and distribution pipelines, storage, and pumping

Santa Clara Water, USA

Education, Housing, and Public Buildings

Our facilities serve as industry models because we help our professionals stay abreast of our customers' requirements. Through Parsons' internal websites, our employees are able to "attend" more than 400 Parsons University classes that focus on best practices and technological advances. The expertise and experience of our staff reflect our inside-out approach to engineering, and we are proud that our standards are recognized by our award-winning facilities. In addition to facility condition assessments, master planning, design, and construction services, we bring our professional excellence and experience to help our clients achieve their goals easily, meet their requirements, and save time and money. Parsons knows the most effective processes that balance the budgetary, technical, and aesthetic concerns associated with the design and construction of LEED-certified buildings.

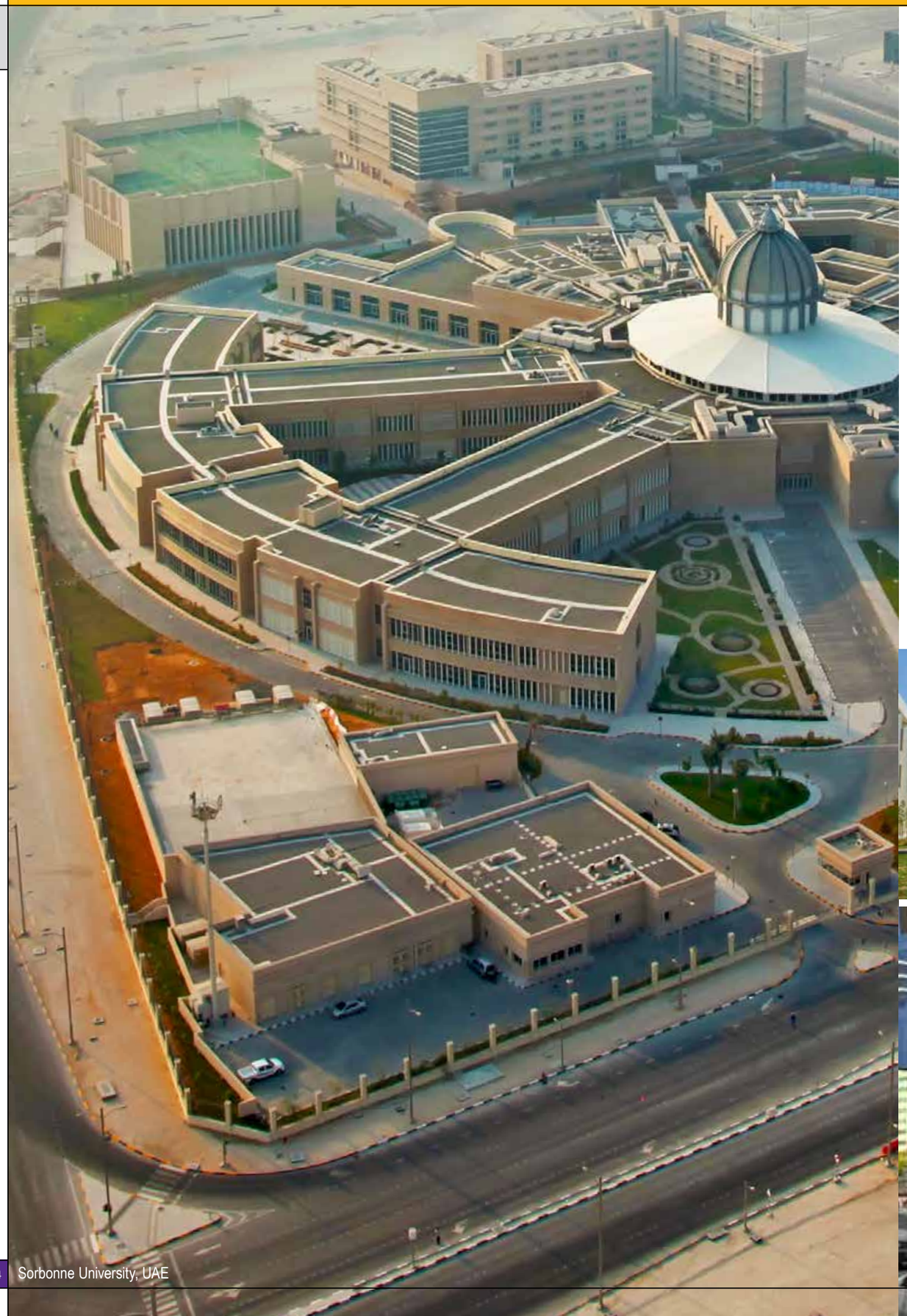
Zayed University and Sorbonne University, UAE

Client:
Mubadala Development Company

Services Provided:
Program Management

Through a public-private partnership initiative, Mubadala is constructing two institutions of higher learning in Abu Dhabi: Paris-Sorbonne University Abu Dhabi and Zayed University. In 2008, Mubadala hired Parsons to provide project management services for both greenfield campuses. Parsons is responsible for supplying the appropriate resources, systems, and procedures to effectively deliver these design-build projects in a timely manner within the approved budget.

Phase One of Sorbonne University was completed in September 2009 and comprises five buildings, including a technical services facility, lecture wing, administrative, dining hall, library, and external works and support structures. Phase Two was completed in July 2010 alongside the fully functional Phase One, adding 500 rooms of dormitory space, an additional lecture wing, a new production quality theater, multipurpose sports hall, a 3-story, partially underground parking structure, an iconic domed structure, and various themed landscaped gardens. Because Paris-Sorbonne University is the first facility to be occupied on Al Reem Island, its construction involved a number of issues: ensuring safety for students and staff, controlling traffic around the site, and providing utilities for its operation. All issues were solved to the client's satisfaction, and the University now serves more than 450 students.



Sorbonne University, UAE

Middle East and Asia Learning Center, UAE

Client:
Schlumberger

Services Provided:
Program Management

Parsons managed the construction of a 3-story complex with 482 rooms and a dining room that serve not only the accommodations but all staff on the premises. The accommodations are complemented with video/IT rooms, library, squash courts, green space, and an indoor air-conditioned basketball court. The program includes value engineering to achieve a guaranteed maximum price for the facility. Parsons has also coordinated with the Abu Dhabi National Oil Company for the construction of a new substation to meet the facility load demand. The facilities' design includes the installation of solar panels on the roof for water heating. A single solar panel can provide hot water to six rooms. Additional solar panels provide water heating for the kitchen facilities as well as the restrooms in the common areas. The new accommodations' facilities were completed in March 2010.

General Authority of Youth and Sports Welfare and Ministry of Finance Building for Independent Authorities, UAE

Client:
Emirates Real Estate Corporation

Services Provided:
Program Management

The Ministry of Culture, Youth & Social Development total building area is 13,178 m^2 and consists of basement, ground floor, and three floors above ground with office space for 155 employees, an inclusive auditorium, restaurant, staff nursery, and 118 parking areas.

The construction area of the new Ministry of Finance building is 51,132 m^2; the building consists of 3 basements, ground floor, and 10 typical floors. The layout will help to provide and support efficient interaction and information exchange between the Ministry and its clients.

Under Parsons' management, the project complies with sustainability requirements. The design has been developed to incorporate both the Ministry's particular requirements and characteristics with due consideration for the latest international and E-government standards.

400 Public Houses and Related Infrastructure in Madinat Zayed, UAE

Client: Abu Dhabi Center for Housing and Service Facilities Developmenet

Services Provided:
Project Management

The project is located in the Western Region of the Emirate of Abu Dhabi. It consists primarily of the construction of 400 housing units along with services and infrastructure. Parsons' role is management of the entire project.

The project includes the following components:

- 400 public housing units (design to be provided by others)
- 25 buildings (4 levels each with 2 apartments per level) for 200 apartments (design by others)
- 1 (200-person) mosque and 2 (100-person) prayer areas (design by others)
- 1 athletic facility that includes a gymnasium, outdoor swimming pool, and multipurpose ball field
- 2 kindergarten schools (design by others)
- 1 elementary school (design by others)
- 1 services complex (including library, post office, clinics, stores, civil defense facilities, police station, etc. by others)
- 1 public park (design by others)
- Several landscape areas

Ministry of Housing Program, Saudi Arabia

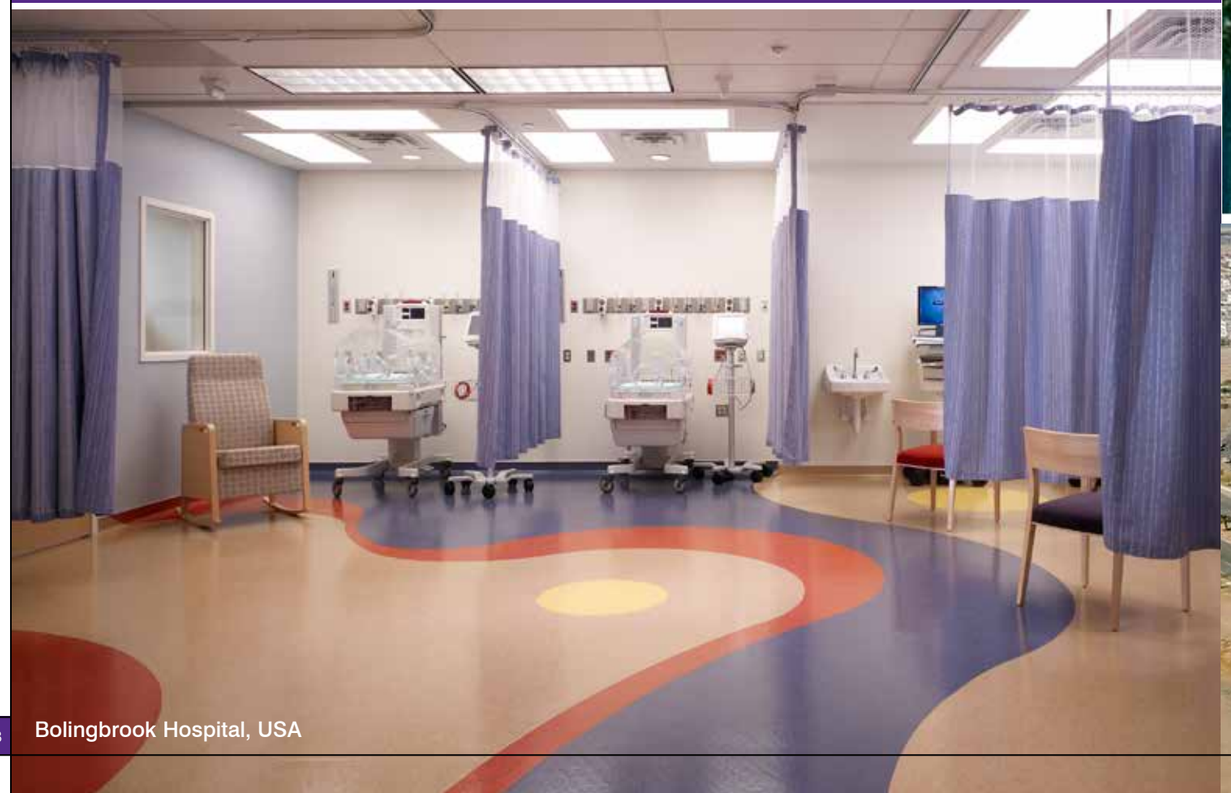
Client: Ministry of Housing, Saudi Arabia

Services Provided:
Master planning, design of infrastructure and housing, construction supervision

There is a pressing need for housing in the Kingdom of Saudi Arabia. The government has developed a program to supply more than 500,000 homes over the next few years. Parsons has been awarded the first package released by the Ministry of Housing as part of this ambitious program. This initial package comprises 11 sites spread across the kingdom, encompassing some 32 million m^2 of developed space. Each site covers a different area ranging from 10 million m^2 in Dammam to 729,000 m^2 in Khamis Mushayt. The project scope includes master planning, design of infrastructure and housing, as well as construction supervision of the 11 Saudi community developments.

Healthcare Facilities

Without a doubt, hospitals are the most complex environments for design and construction. Parsons provides a comprehensive approach to guide hospitals through the regulations and intricacies found specifically in medical environments. The value that Parsons brings to our customers is a wealth of knowledge across the entire building spectrum.



Bolingbrook Hospital, USA

Sidra Medical Research Center, Qatar

Client: OHL – Contrack/JV

Services Provided:

- Site Civil Drainage Design
- Site Utilities Design
- Landscape Architecture Design
- Structural Engineering (nonmedical buildings)
- Architectural Design (nonmedical Buildings)
- Traffic Engineering

Sidra Medical and Research Center is an ultra-modern, all-digital academic medical center that is being designed and planned to the best international standards in health sciences. It will offer care for women and children, in addition to select medical and surgical services for adult men and women. The high-tech facility will help build Qatar's scientific expertise and resources. The Centre will initially have 382 beds with infrastructure to enable expansion to 550 beds in a subsequent phase.

Royal Commission Medical Center and Health Care Centers, Saudi Arabia

Client: Royal Commission for Jubail and Yanbu

Services Provided:

- Design Review
- Construction Management
- Site Supervision
- Contract Administration

Parsons provided design review and full construction management, including site supervision, contract administration, claims review, and closeout for the new Royal Commission Medical Center in Yanbu, Saudi Arabia. The project included several schedule extensions for the construction contractor to perform client-requested additional work, including a special ward for treatment of burn victims.

Parsons also provided facility operation and maintenance services for the 342-bed Medical Center and Health Care Clinics and Warehouse as well as the Single Female Staff Housing Complex and other staff housing facilities. The Medical Center is a 5-story building including male and female in-patient wards, surgical suites, intensive care unit, neonatal intensive care unit, maternity suites, pediatric unit, internal medicine units, psychiatry care units, out-patient section, emergency section, radiology, laboratory, pathology, pharmacy, and physiotherapy sections.

Environmental/ Sustainability

- Environmental Remediation
- Air Quality
- Renewable Energy and Infrastructure
- Technology

RIO North Project—Environmental Assessment and Remediation, Iraq

Client:
U.S. Army Corps of Engineers

Services Provided:
Projects Management and Environmental Assessment

The U.S. Army Corps of Engineers awarded a contract with three 1-year options to the Parsons Iraqi Joint Venture with Worley Parsons. The contracts covered a full range of services:

- Extinguishing oil well fires
- Environmental assessments and cleanup at oil sites
- Oil infrastructure condition assessments
- Engineering design and construction necessary to restore the infrastructure to a safe operating condition
- Oilfield, pipeline, and refinery maintenance
- Procurement and importation of fuel products
- Distribution of fuel products within Iraq
- Technical assistance in marketing and sale/export
- Technical assistance and consulting services to the Iraqi oil companies

Desert Islands, UAE

Client:
Tourism Development & Investment Company (TDIC)

Services Provided: Infrastructure Design

Sustainability and Environmental Considerations at the Heart of the Design Process

The Desert Islands Development, which lies off Abu Dhabi's western coastline, will consist of five islands, including Sir Bani Yas Island, a nature reserve and home to many of the region's endangered species. The development will include an Arabian Wild Life Park, 5-star hotels and villas, royal palaces, and the world's first "sustainable" Gary Player golf course. Sustainability is at the very heart of decision making within the project and is a key component in the solutions identified. In fact, all design options in the project are life-cycle costed and evaluated against a range of sustainability criteria. To date, more than 28 sustainability design proposals have been documented and 10 have been incorporated into the final design; the rest are in the final stages of study.

Sustainable achievements in numbers:

Potable Water System

- Average water demand reduced by 20% due to use of efficient water fixtures and appliances
- About 7 billion liters of irrigation water savings per year due to use of drought-saline-resistant and native planting species compared with the "business as usual" irrigation rates of Abu Dhabi.
- About 1.8 billion liters of treated sewage effluent will be used to irrigate about 30% of all irrigable areas —a further reduction in desalinated water demand.

Energy Systems

- 20% reduction in average power demand to due use of energy-efficient electrical appliances and equipment and compared with the general unit power consumption rates in Abu Dhabi
- Annual energy savings: about 85,000 MWh.

Wastewater Systems

- Desert Islands is currently tendering the largest reed bed wastewater biotreatment in the UAE with a treatment capacity of 250,000 liters per day.

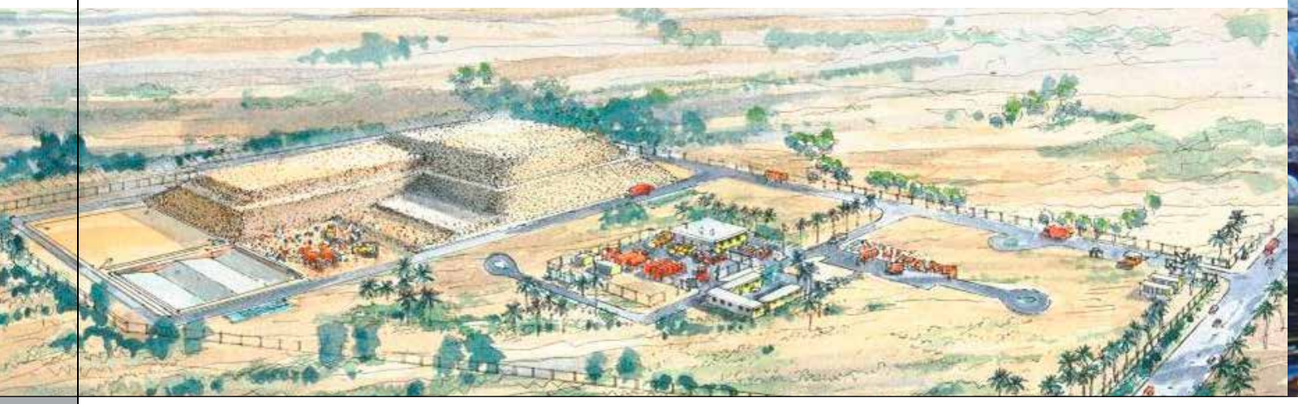
Baghdad Municipal Solid Waste Landfill, Iraq

Client:
Iraq Project and Contracting Office

Services Provided:
Planning, Design, Construction, Onsite Training

Parsons planned, designed, and constructed the first environmentally sound landfill in Iraq. This $23 million fast-track, design-build project includes a 125-acre landfill facility consisting of 12 landfill cells and 10 support facilities. Parsons developed a master plan to provide a 20-year capacity landfill and performed design and construction of the first phase.

The landfill, which serves approximately half of the 5 million residents of Baghdad, is planned to accommodate 3,300 m^3/day of noncompacted municipal solid waste and 115 tons of rubble. Through this project, Parsons is providing Iraqis with a modern, environmentally acceptable landfill facility to be used as the country's model in the future.



Al Wafra Oil Field, Kuwait

Client: Confidential

Services Provided:
Drilling Oversight, Soil Sampling, Sample Analysis

This project consisted of chemical characterization of large waste piles and pits at the Al Wafra, Kuwait facility. Characterization samples were collected using both hand methods and hollow-stem-auger drilling methods. The project objectives were to define the levels of total petroleum hydrocarbons (TPH) in the stockpiles and to determine if the color of the soil was an indicator for TPH level. The stockpiles were characterized using hollow-stem auger/split spoon sampling methods.

The drill cuttings were described via the Unified Soil Classification System with particular attention paid to color using Munsell color charts. Samples were then analyzed on site to determine the level of TPH contamination.

Emirates Investment Park, UAE

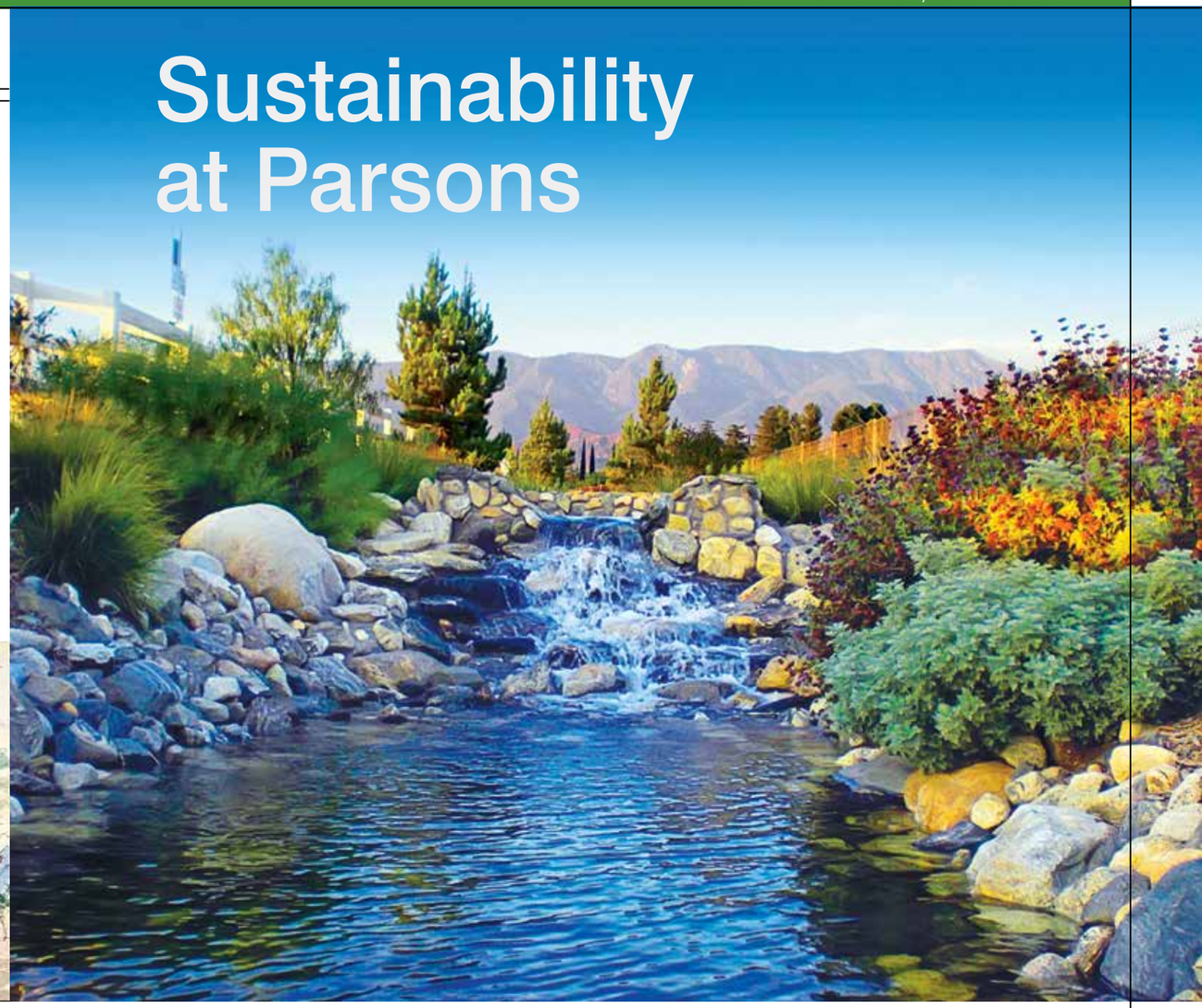
Client:
Al Qudra Real Estate/QP International

Services Provided:
Environmental Impact Study, Concept & Detailed Master Plan, Concept Infrastructure Design

Parsons prepared and environmental impact study for this light industrial mixed-use community will located on a greenfield site of 22.7 km^2. Specific baseline surveys included the following:

- Terrestrial Ecology
- Noise
- Air Quality
- Soil and Water Resources
- Environmental Management Plan

Sustainability at Parsons



We work with our clients to understand their specific sustainability objectives and ensure that these are addressed in our designs and approaches. The following highlighted projects discuss some specific sustainable solutions that have been achieved for our clients.

- The Salam Street project in Abu Dhabi uses LED lighting and intelligent traffic control systems to reduce energy requirements with a subsequent reduction in associated carbon emissions.
- In our work with the Saudi Arabia Ministry of Housing, we are developing sustainable guidelines for the master plans of affordable housing developments that are being created for Saudi nationals. These developments will be designed to minimize energy and water requirements, create a shared sense of community, and promote healthy lifestyles.
- For more than two decades, we have been working with the Abu Dhabi Parks and Recreational Facilities Department (PRFD) on projects dealing with landscaping, groundwater management, storm water management, distribution networks for treated sewage effluent (TSE) and management of assets. We have helped PRFD to develop landscaping approaches that use TSE, for irrigation to reduce the need for potable water, make use of native and drought-adaptive species, and create an attractive environment for the inhabitants of Abu Dhabi.
- The Emirate of Abu Dhabi has created the Estidama Framework to ensure that new buildings in the Emirate are developed to the highest sustainability standards. The Al Ain Traffic Management Centre is designed to achieve a 2 Pearl Rating under this framework, representing a high level of sustainability. To achieve this standard, we have employed water- and energy-saving solutions together with a focus on material reuse and recycling.

Defense/Security

Our work in defense is broad: it covers everything from destroying chemical weapons to designing simulated villages to training soldiers. Parsons' core competencies stem from our long history of first-of-a-kind, one-of-a-kind security projects, providing and operating complex facilities and systems for safely handling nuclear and other highly hazardous materials.

U.S. Air Force Peace Shield Program, Saudi Arabia

Client:
U.S. Air Force

Services Provided:

- Constructibility Analysis
- Construction Administration
- Cost Control
- Technical Inspections
- Design Review
- Quality Assurance
- Project Management Review

As the Inspection and Engineering Services Contractor for the U.S. Air Force (USAF), Parsons helped build radar data acquisition facilities and underground command and control centers throughout Saudi Arabia. We provided technical inspections, design review, quality assurance, and construction administration for all projects. We also provided a complete independent cost estimate and participated in project management review. The construction cost of all facilities totaled $1.5 billion. We worked on several hundred facilities at 55 sites. The Kingdom of Saudi Arabia contracted with the USAF to build defense communication systems around the perimeter of the country. This was the largest construction project ever managed by the Air Force.

Construction began in 1985 and was completed in 1996. The project included five new underground Sector Command Center/Sector Operation Centers, one renovated underground Command Operation Center, 17 long-range radar facilities, two base operations centers, 10 AWACS (military aircraft) ground entry stations, one maintenance facility, 33 communication site facilities, and several other support facilities. Communications and electronic equipment alone cost $3.5 billion.

Saudi Naval Expansion Program (SNEP), Saudi Arabia

Client:
Ministry of Defense and Aviation

Services Provided:

- Master Planning
- Engineering Design
- Logistics and Operations and Maintenance (O&M) Support

Two complete Saudi naval bases at Jeddah and Jubail and an inland Royal Navy Command Headquarters Base at Riyadh were master planned, and all onshore facilities were designed by Parsons as part of SNEP. The two coastal bases provide operations, logistical, and other technical support, including ship repair and maintenance, for the Saudi Navy.

The inland naval headquarters base acts as a command, training, and communications control center for all naval force operations. A complete training complex is provided at Jubail to train the shipboard and shore personnel required by the expanded Saudi naval capability.

The variety of SNEP facilities designed, furnished, and equipped by Parsons included mosques, shopping centers, housing, dormitories, recreation facilities, health clinics, administrative offices, training schools, ship repair facilities, naval armories, tactical communication centers, and water, power, and transportation infrastructure.

Military Facilities, Gizan Region and Farasan Island, Saudi Arabia

Client:
General Directorate of Military Works,
Ministry of Defense and Aviation

Services Provided:

- Project Management
- Cost Estimating
- Architectural
- Structural
- Civil
- Environmental
- Airfields
- Harbors and Marine Facilities
- Security Systems

This project entailed the design of military and naval facilities at three main sites and at nine "remote" sites.

This mega-project comprises the design of three airfields 3,500 m in length; air-traffic control towers; Category III navigational aids; communications systems; two naval bases complete with O&M facilities for naval vessels including two ship repair facilities, one of which has a ship lift capable of raising a 5,000-ton vessel out of the water.

The project has nearly 400 building types and more than 14,000 individual building units. A critical element of the design in the master planning phase was the identification of suitable sites for the naval bases. Numerous studies, including tidal and environmental impact studies, were undertaken for a number of potential sites to ensure that the sites selected met the stringent criteria that were established and that would result in a minimal impact on the fragile marine and ecological environments in which the sites would be located.

PARSONS

100 West Walnut Street
Pasadena, CA 91124
U.S.A.
Phone: +1 626.440.2000

www.parsons.com

Abu Dhabi, UAE
P.O. Box 5498
Tel: +971 2 614.2416
Fax: +971 2 621.8984

Dubai, UAE
P.O. Box 9123
Tel: +971 4 402.9700
Fax: +971 4 336.7920

Doha, Qatar
P.O. Box 2091
Tel: +974 4405.8444
Fax: +974 4437.7434

Muscat, Oman
P.O. Box 162, Postal Code 117
Tel: +968 2 439.0600
Fax: +968 2 448.2890

Kingdom of Saudi Arabia
P.O. Box 1174
Riyadh 11431
Tel: +966 11 440 9700

Manama, Kingdom of Bahrain
P.O. Box 5790
Tel: +973 1 754.1001
Fax: +973 1 753.1442