

RoeVac® Vacuum Sewer Systems

Part 4: References in the Middle East



References and application examples

The Palm Jumeirah, United Arab Emirates

- 2,300 villas
- 1200 vacuum collection chambers
- 23,000 PE
- No network manholes
- Shallow trenches
- One central vacuum station instead of several pump stations
- Saving of construction cost and time



References and application examples
The Palm Jumeirah, United Arab Emirates

2300 Villas



References and application examples

The Palm Jumeirah, United Arab Emirates

Only one central vacuum station



References and application examples

Durrat Al Bahrain, Bahrain



References and application examples

Durrat Al Bahrain, Bahrain

- 11 islands
- 10,500 PE
- 28 km vacuum lines
- 440 vacuum collection chambers
- Only 3 vacuum stations
- Short construction time
- Saving of construction costs



References and application examples

Durrat Al Bahrain, Bahrain



References and application examples
Qatalum Aluminium Plant, Qatar



References and application examples

Qatalum Aluminium Plant, Qatar

- Client: Qatalum (JV Qatar Petroleum + Hydro)
- Designer: SNC Lavalin, Canada
- 5.5 km pipe network
- 63 vacuum collection chambers
- 1 Vacuum Station
 - 20m³ vessel
 - 6 x 5.5 KW vacuum pumps
 - 2 x 13.5 KW discharge pumps



References and application examples
Qatalum Aluminium Plant, Qatar



References and application examples

Qatalum Aluminium Plant, Qatar

- All sewage water is collected with a vacuum sewer system
- Heavy traffic load collection chambers
- Highest project standards to be followed.
- Coordination with an industrial underground “life”.



References and application examples
Qatalum Aluminium Plant, Qatar



References and application examples
Occidental Camp Mukhaizna, Oman



References and application examples

Occidental Camp Mukhaizna, Oman

- Camp for 5.000 staff
- app. 7 km vacuum lines
- 127 vacuum collection chambers
- 1 Vacuum Station
- One of the hottest and most unfriendly climate conditions world wide



References and application examples
Occidental Camp Mukhaizna, Oman



References and application examples
Occidental Camp Mukhaizna, Oman



References and application examples

A'Seeb Wastewater Project, Sultanate of Oman



References and application examples

A'Seeb Wastewater Project, Sultanate of Oman

- Approx. 100.000 PE
- 5 Vacuum stations
- 2,000 vacuum collection chambers
- 3.5 years construction time
- Very narrow streets and old town areas
- Replacement of existing septic tanks
- Connecting new developments



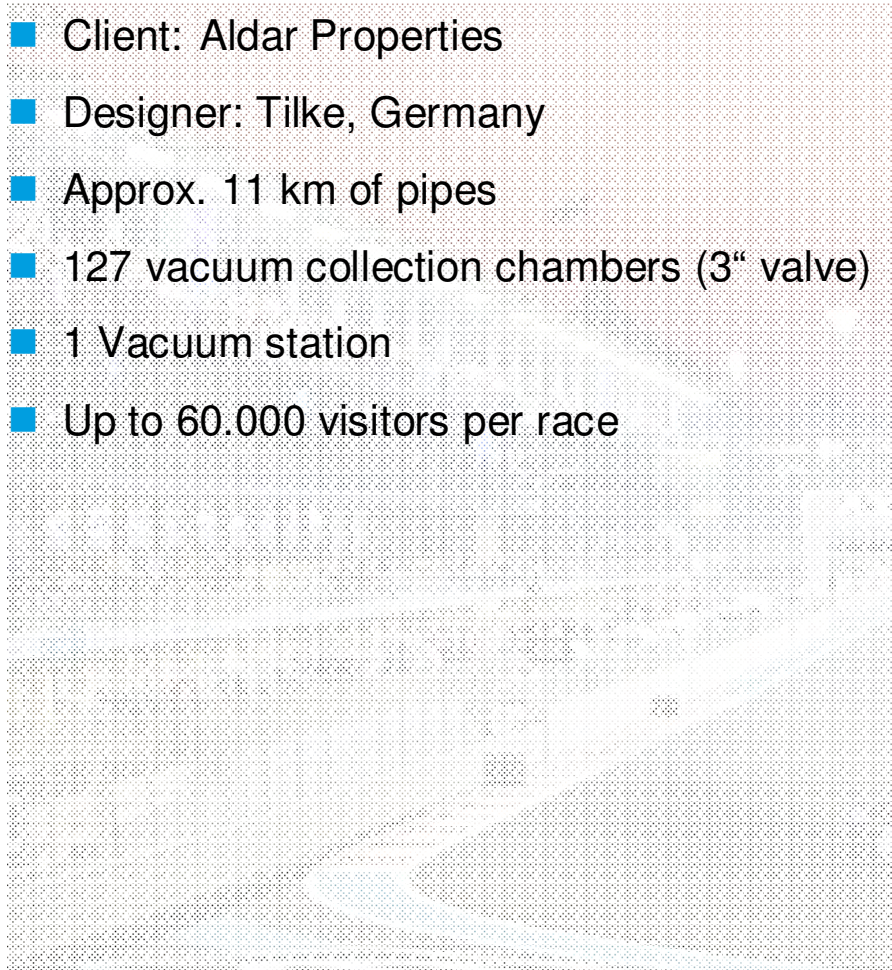
References and application examples
A'Seeb Wastewater Project, Sultanate of Oman



References and application examples

Yas Marina Circuit, Abu Dhabi

- Client: Aldar Properties
- Designer: Tilke, Germany
- Approx. 11 km of pipes
- 127 vacuum collection chambers (3" valve)
- 1 Vacuum station
- Up to 60.000 visitors per race



References and application examples
Yas Marina Circuit, Abu Dhabi



References and application examples
Yas Marina Circuit, Abu Dhabi



References and application examples

Umm Al Quwain Marina

- Client: Emaar Properties
- Approx. 5 km vacuum pipe network
- 277 Villas
- Approx. 50 vacuum collection chambers
- Finished in less than 6 months complete design-build
- 1 Vacuum Station
 - 20m³ vessel
 - 3 x 11 KW vacuum pumps
 - 2 x 4.7 KW discharge pumps



References and application examples

Umm Al Quwain Marina



References and application examples

Umm Al Quwain Marina



References and application examples
Umm Al Quwain Marina



References and application examples

Sanitation of a sewer system in Löwenhagen, Germany

- Existing mixed sewer system in average 4m depth and very difficult underground conditions
- Existing sewer system is damaged in large sections
- Up to 500% surface and ground water infiltration
- The capacity of the STP is not sufficient for such large flows and water reaches the rivers untreated during rain falls
- Authorities were looking for an easy solution to change the existing sewer system into a separated system with minimum impact to existing infrastructure



References and application examples

Sanitation of a sewer system in Löwenhagen, Germany

Solution

- The old mixed sewer is now used as pure storm water system
- A parallel vacuum sewer system has been installed in shallow depth for sewage water only
- The whole vacuum sewer system has been installed in trenchless technology with only small openings
- Minimum impact on roads
- This solution required only 50% of the investment costs compared to a gravity system



References and application examples

Advantages of vacuum sewer system in these specific cases:

- Narrow streets
 - Vacuum systems only require small diameter pipes and small trenches
 - Excavation works can be minimized and reduced to small machines
 - Less manhole covers in the prestigious old town

- Old buildings with potential structural weakness
 - No deep trenches, less trench supports, no risk of collapsing
 - No big machinery – Less vibrations, less damages to structures

- Lots of existing obstacles underground
 - Flexibility of the layout
 - Possibility to overcome unexpected obstacles during construction

Our support

Roediger Vacuum supports your projects

- Free feasibility studies and budget proposals
- Design of vacuum stations and profiles
- Hydraulic and hydro-pneumatic calculations
- Drawings, documentation and manuals for the construction and operation of vacuum sewer systems
- Construction field training and on demand site supervision
- On site delivery of equipment and installation of vacuum stations by German technicians
- Maintenance support, training and after sales

Our support

Roediger Vacuum supports clients and consultants with design works and documents

- Our free feasibility studies include
 - Vacuum station design and sample drawings
 - Vacuum sewer network routing and dimensioning of diameters
 - Design guidelines for consultants
 - Support for BOQs for vacuum sewer specific equipment
 - Individual solutions for specific problems
 - Standard specifications for vacuum sewer systems in an editable versions
- In addition, full technical submittals, construction drawings for the vacuum station as well as pipe profiles will be provided upon award of a project

Contact details and offices

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