

'Waste Management Conference 09' experts suggest Vacuum Sewerage Systems to cut construction costs

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The use of Vacuum Sewerage over traditional gravity collection systems especially on reclaimed or manmade islands proves to be far more cost effective in the Middle East - experts commented at the two-day 'Waste Management Conference 09' at the Radisson SAS Hotel in Dubai, concluded on Tuesday (13/01/09).

The conference specifically addressed the challenges and opportunities in the Construction, Wastewater & Solid Waste, and Oil & Gas sectors.

Mohammed Awad, waste water management expert and Director-Business development corodex industries address the 'Waste Management Conference 09'.

Many case studies were discussed during the first day of the conference for Waste Recovery in Cement Kilns, Municipal Solid Waste management in Dubai and cost reducing initiatives towards construction and development through the incorporation of efficient technologies.

In addition to cost cuts, Mohammed Awad, Director Business development, Corodex Industries stressed on the environmental compatibility of the vacuum sewerage technology to collect domestic wastewater from the urban dwellings through the presentation of their already implemented model at Dubai's Palm Jumeirah project.

The recent development within the Gulf countries has resulted in a great demand for environmental and life style friendly technologies to be incorporated within them. In the vacuum sewerage system, the sewer pipelines are kept in vacuum and the sewage is transferred by pressure difference.

With this peculiar transfer principle, the sewer construction cost is saved and the water conservation is much more as opposed to conventional gravity based systems. The vacuum sewerage system is specially suitable for manmade islands and reclaimed land.

'Bearing in mind the immense environmental impact the region poses by having one of the world's largest carbon footprints, it is vital for us to have eco-compatibility as a prime consideration,' he added.

Vacuum Sewerage systems are wastewater collection systems. An air stream generated by differential air pressure drives the wastewater towards a vacuum station. A vacuum sewer system consists of i) a vacuum Station, where the vacuum is generated, the wastewater is collected, and then pumped to a wastewater treatment facility. ii) A vacuum pipeline system, typically consisting of a branched network of vacuum sewer pipe, and collection chambers with pumps and interface valve units.

Vacuum sewer pipes are arranged with high and low points in a specific elevation profile. Batches of wastewater come to rest at low points in the pipe. When air is introduced through an upstream interface valve, the wastewater is pushed plu-wise over subsequent high points towards the vacuum station.

Mohanned Awad, Director Business Development, Corodex Industries Said that Vacuum sewerage systems is far more effective than the traditional gravity collection system, even from an environmental point of view, vacuum sewers are sealed systems. Untreated sewage cannot escape, nor can groundwater or surface water enter the system - a cost-saving measure at the treatment plant. Also, workmen rarely, if ever, come in contact with raw sewage.

For over three decades, vacuum sewerage technology has proven an excellent, and often preferable, option to gravity sewers in all types of terrain and conditions. It has recently gained popularity within the region due to a series of successful applications.

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