



# Tech notes



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Pre-engineered Package Lift Stations  
for Wastewater and Stormwater

September 2004 Product Information & Updates • Installation & Technical Tips

## THIS EDITION OF

**TECH NOTES** features the Desert Inn stormwater lift station in Las Vegas, Nev. Public works officials chose to install Romtec Utilities' Pre-engineered Package Lift Station to solve a gravity problem that left standing water in the detention basin. The efficient disposal of stormwater is increasingly becoming a priority for municipalities, as evidence mounts of the health and environmental hazards posed by urban run-off. A pre-engineered package lift station from Romtec Utilities allowed Clark County, Nev., officials to quickly specify, order and install the exact stormwater system they needed. All components arrived at the site in one shipment and the installation was completed in two days.

### The Problem

Public works officials in Clark County, Nev., had a situation: adverse gravity conditions were causing an urban stormwater detention pond to drain improperly, leaving standing water over a 10-acre area. The water, heated by the area's high temperatures, was causing odor and health issues.

One of the areas of concern was mosquito abatement. Warm, standing water is an ideal breeding ground for the insects, which can carry the West Nile virus. The virus has been reported in nearly every state, and made its first appearance in Nevada this year, with Clark County logging two confirmed human cases.

The Desert Inn Detention Basin is part of Clark County Regional Flood Control's drainage system, which consists of 350 miles of channels that bring water into 62 detention basins and, ultimately, to Lake Mead.

After collecting the stormwater and urban run-off, the basins are designed to drain in a metered flow through a pipe system.



A crane places the top slab to finish off the wet well installation; the base, barrel and top slab are all pre-aligned for ease of installation.

However, an adverse-to-grade condition at the Desert Inn Basin, coupled with a flat outlet pipe resulting in frequent back-ups, consistently left four to five inches of standing water over the surface of the 10-floor-acre pond.



Romtec Utilities' Jim Baird explains to contractors how the deflector panel governs flow; top slab is shown with the hatch door open and the safety grate visible.



Romtec Utilities is a dedicated integrator of submersible pumps and lift station equipment manufactured by ITT Flygt.



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## ROMTEC UTILITIES

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### Pre-engineered Package Lift Stations for Wastewater and Stormwater



The wet well fills with water after start-up; the storm pipe is visible in the well wall to the left.



The lift station drains the 10-acre Desert Inn Detention Basin in Las Vegas, Nev.

#### The Solution

The change in elevation from the floor of the Desert Inn pond to the discharge point was just four feet. One option considered was to “chase the grade,” which would have entailed digging up half a mile of roadway to lay pipe that would correct the adverse-to-grade situation and move the water into the storm drains.

That option was deemed too expensive and intrusive, and a pre-engineered lift station – easy to specify, order and quickly install – was identified as the solution.

Romtec Utilities’ Pre-engineered Package Lift Station fit well with the design standards used by Clark County Public Works, says project engineer Jeff Herrick. “That was the big advantage with the Romtec system -- the concrete housing, pipe and the pumps fit in well with the county’s

existing inventory.”

“I was just really impressed with Romtec’s customer service, especially through the shop drawing/design and submittal phase,” Herrick says. “They were really Johnny-on-the-spot getting any customization done that needed done.” One of the custom features was the elimination of the pre-assembled concrete valve vault, which was unnecessary since the lift station is pumping water only 15 feet through the dual forcemains.

All of the other components of Romtec Utilities’ lift station, including the pre-cast, self-cleaning wet well, the factory-assembled control panel, and pre-tested pumps and controls, arrived at the Desert Inn site last August in one shipment, ready to be installed.

The general contractor on

the project was Diamond Construction of Las Vegas. Public works employees watched as a crane lowered the pre-cast barrel sections into the hole excavated by contractor Underground, Inc., and then added the pre-cast top slab containing the Flygt access cover. Installation of the lift station took about six hours, with an additional day to finish installing the pumps, piping and electrical work.

Flygt representatives were on hand to answer questions about the submersible duplex pumps and the MultiTrode monitoring and control system. The Desert Inn lift station controller responds to a sophisticated rain monitoring station located about a thousand feet from the far side of the detention pond. When it’s raining, the pumps start; when it’s not, they stop. The controller technology, coupled with the lift station’s MultiTrode liquid level sensing probe, gives the county the ability to read the pump activity remotely.

The lift station itself is located at the intersection of two six-lane roads on the west side of Las Vegas. The only evidence of its existence is the pre-cast top slab that sits just above ground level, the pump disconnect stand, and the control panel enclosure.

Herrick visited the site recently after a rainfall, and says the lift station works as advertised. “Everything seems to be working well, and we look forward to having the lift station in place when our winter rains start,” he says.

#### FOR MORE INFORMATION:

The Pre-engineered Package Lift Station offered by Romtec Utilities works as well for stormwater applications as it does for wastewater. Municipalities get a solid, tested design tailored to their situation; best-in-class components; and knowledgeable and personal customer service. For more information, call Romtec Utilities at 541-496-3541 or visit [www.romtecutilities.com](http://www.romtecutilities.com).