

Application Engineering Bulletin

Heavy Rains Cause Major Problems Along Roswell Road

Heavy rains in north-central Georgia led to the collapse and sinking of the two lanes of a heavily traveled road near Atlanta, causing, in turn, the collapse of a retention wall protecting the road from an adjacent lake. In addition, the damage threatened to flood a large nearby apartment complex. Quick action on the part of Thompson Pump to redirect the lake water allowed the Georgia Department of Transportation to direct repairs on the road and retention wall and prevent further damage.

During the previous month, the Atlanta metropolitan area had experienced significant rainfall, with some areas of the city receiving more than 12 inches. Such a large amount of rain always brings problems for commuters, with general traffic slowed and many local roads temporarily flooded. But for the travelers of Roswell Road, things got much worse when storms dropped too much rain onto the Fountain Lake area along Roswell Road, a few miles north of Atlanta. Fountain Lake borders Roswell Road and has a large apartment complex built next to it. When rainwater saturated the ground under the northbound lanes of Roswell Road next to the four acre lake, the two lanes cracked and collapsed. The failure of the road then caused the retention wall along the lake to collapse as well, leaving the northbound lanes of Roswell Road under water.



Heavy rains caused Roswell Road to crack and collapse causing the retention wall along the lake to collapse as well, causing flooding on the heavily traveled northbound lanes.



A trailer that fell into the retention pond when Roswell Road collapsed.

In addition, rising water, pressure on other parts of the retention wall and lake water from the road created a looming threat to the large apartment complex. Any further deterioration in the wall or road would lead to significant flooding of the 400 unit complex. It was obvious that the lake's water levels needed to be reduced immediately to alleviate the threat of flooding and reduce traffic congestion as soon as possible.



GDOT crews repair Roswell Road while a Thompson Pump 8-inch Dry Prime Compressor-Assisted Trash Pump dewatering the four acre lake.

Local officials quickly called on the Georgia DOT to respond to the crisis. In Georgia, the DOT is responsible for all roadway maintenance. They arrived at the scene and began to assess the problems.



Thompson Pump's 8-inch Dry Prime Compressor-Assisted Trash Pump reduces the flooding threatening Fountain Lake Apartments

As part of his normal coverage of the Atlanta metro area, Daniel Hamsley, of Thompson Pump, was monitoring local news for an update on storm and flood potential. Hamsley, a Job Site Pumpologist® for Thompson Pump, happened to be in the area, and, after he heard about the situation, drove straight to the site to see if he could help. As a Job Site Pumpologist®, Hamsley was trained to provide immediate pumping solutions in the field. According to Hamsley, *"The main retention wall behind the complex had created extreme water pressure which collapsed a retention wall forming a small rising lake in front of the complex, so I called in for two 8 inch pumps to be dispatched to the site"*.

Hamsley had two Thompson model 8TSC 8-inch Dry Prime Compressor Assisted Trash Pumps brought over from the local Thompson rental fleet warehouse. Once operational, the pumps Hamsley selected pumped 5,000 gallons per minute out of the lake. The lake water was redirected to an area several hundred yards away, where the ground water level was not as high and there was no threat to any nearby structures.

The quick response by Thompson Pump to lower the water level in the lake allowed Rogers Bridge Company to get below the foundation of the retention wall and begin work on a new retention wall. The retention wall was approximately 240 feet long where it had collapsed along Roswell Road.



The quick response by Thompson Pump allowed GDOT crews to begin repairs to Roswell Road and the retention wall bringing traffic back up-to-speed.

Lowering the water level took the better part of a week. The pumps will remain on site while the work on the wall is being done. It will be several weeks before the retention wall and Roswell Road are repaired enough for normal traffic to resume. However, the damage and repair time could have been considerably greater if not for the timely response and quality performance of Thompson Pump people and products.