

# Case Study: Large Metropolitan Municipality



# Quad Plus®



Large municipality reports underground breakers that will not trip and required a cost-effective solution without any major demolition to access the breakers.

## Objective

- Repair or replace 52 malfunctioning underground breakers without breaking into the concrete slab or the municipality's budget.

## Solutions

- The Quad Plus Shop Manager devised a procedure to remove the mechanisms from the breakers allowing them to be transported to our Breaker Lab without damaging the concrete slab to remove the entire set of breakers.

## Results/Benefits

- All 52 breakers were restored to working order.
- No concrete was damaged, demolished, or removed to meet the customer's request for a cost-effective, simple solution.
- The municipality was spared the extra time and cost of not only removing the concrete slab, but also from having to replace it once the breaker service was complete.
- Only the mechanisms were removed rather than the entire 1500-pound breaker frame making the task simpler, easier, and possible without heavy equipment.
- Inspection and repair activities were completed in our Breaker Lab and then returned to the customer's location and reinstalled to provide minimal disruption to the customer's site.
- Quad Plus was able to establish a trusting relationship with another loyal customer.

## Background

The Quad Plus Breaker Lab received an inquiry from a large municipality with a very unique problem. They informed our Shop Manager that their breakers would not trip due to a lack of maintenance and previous exposure to 2 or 3 inches of water.

A total of (52) 15HK500 breakers, weighing approximately 1500 pounds each, were malfunctioning. Our Shop Manager discovered that the breaker mechanism frames were rusted and the bearings were seized. Therefore, all 52 breakers would have to be removed and evaluated for repair or replacement. To complicate matters, the breakers were located across three underground levels, with 26 on the first level and 26 on the third level.

To access the breakers, a concrete access slab would have to be removed, the breakers hoisted up level by level for repair, and then the access slab would need to be re-sealed. To replace the repaired breakers, the process would have to be repeated, including the breaking and re-sealing of the access slab. The municipality had concerns over the cost and complication of breaking the concrete slab to remove the breakers.

## Quad Plus Solution

Our Shop Manager developed a procedure to remove the mechanisms from the breakers on-site that did not require breaking the concrete slab. This not only saved the municipality time, but also cost as well. If the concrete slab had to be removed, additional time and budget would have to be allocated to replace it once the breaker maintenance was complete. The crew would also not require heavy equipment to transport the 1500-pound breakers from the facility. At a rate of five to six breakers per week, the team could manually carry the mechanisms up from the underground levels and to the Quad Plus shop for inspection.

Each mechanism was then tested, repaired, and lubricated in the Quad Plus shop before being transported back to the municipality for reinstallation. The municipality was very impressed with the solution devised by our Shop Manager and the service provided by the team at the Quad Plus Breaker Lab. As a result of this job, we gained a happy, loyal customer.