

PROJECT HIGHLIGHT

COMPLEX INFRASTRUCTURE PROJECTS REQUIRE EXPERIENCED CREWS AND CAREFUL COORDINATION

On complex, high-stakes infrastructure projects, careful handling of logistical and safety issues is critical to success.

CLIENT: Jacobs

LOCATION: Chesapeake Bay

TECHNOLOGY: Mud Rotary

SERVICE: Over water drilling, sampling

PROJECT OVERVIEW

The Chesapeake Bay Bridge-Tunnel (CBBT) opened in 1964, and was designated as “One of the Seven Engineering Wonders of the Modern World.” It spans nearly 18 miles, allowing vehicles to pass from southeastern Virginia to Maryland and Delaware. In the nearly 60 years since it opened to travelers, the capacity of the CBBT has changed only once, going from two lanes to four.

More recently, it was decided a second parallel bridge-tunnel was needed for a portion of the Bay. Jacobs Engineering Group was selected for the project, but before planning or design could begin they needed vast amounts of subsurface data. Although many drilling contractors offer sampling services, few are as experienced with over water drilling as Aquifer Drilling & Testing, a Cascade Company (ADT), which is why they were selected for the job.

The nature of the site was higher risk than the average over water project. The path of the new bridge-tunnel will begin at the mouth of the Chesapeake Bay, where it meets the Atlantic Ocean. The currents and winds in that location are often extremely strong, and great care was taken to ensure the lift boat did not veer off course when moving, and that the crews aboard were safe. Another hazard was the heavy ship traffic in the bay; it is a major shipping port as well as home to a US Navy base.

The project was further complicated by the Covid-19 pandemic, and the need to put protocols and safety measures in place to prevent infection of personnel.



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RESULTS

To ensure traffic was not impeded when the lift barge was moved, ADT coordinated with pilots in both Maryland and Virginia, the US Army Corps of Engineers, and other stakeholders. They provided twice daily check-ins with those stakeholders to update them about actions or movements that could impact them.

To eliminate the possibility of infection aboard the lift boat, two crews were assigned for the entirety of the project and worked round-the-clock in 12-hour shifts. For 32 days straight, the ADT crews and foreman did not leave the lift boat. Food, medications, toiletries, and all other items needed for the crews were delivered in weekly shipments. To minimize the potential need for a mechanic to board the lift boat should equipment break down, ADT prepared a backup of every tool and part—even parking a second drill rig at the dock—so if breakdowns occurred, they would not have to wait for delivery of parts or repairs of equipment.

The sampling of the Chesapeake Bay is now complete, and the client is using the data gathered for the design phase of the project.



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