



For Solutions...
For Success.



Case Study #207

Helping to Keep DiMillo's Afloat

DiMillo's famous floating restaurant utilizes Gorman-Rupp pumping solution to move wastewater from restaurant to city sewer system.

Once a converted car ferry that originally ran between New Castle, Delaware, and Pennsville, New Jersey and later between Newport and Jamestown, Rhode Island, today, DiMillo's Restaurant is one of the largest floating restaurants in America. Rising and falling with the tide twice a day, the restaurant is surrounded by water, offering spectacular table views, fresh seafood, choice cuts of beef and Italian fare to Portland Harbor's Long Wharf residents and tourists year round.



But where there's a restaurant business, there's wastewater – and a lot of it to be moved. The water that is used within this 65' x 206', three story restaurant for normal day-to-day operations – cooking, dish washers, toilets, floor drains and more – is all pumped up and away from the restaurant via a unique mission critical design. "Health department regulations are strict. If our pumps malfunction, we're required to close our doors," shares Sam DiCenzo, Pump Maintenance Engineer for DiMillo's. To avoid a costly shut down – even for a day – the DiMillo family made the decision to invest in a smart design, smart technology and support they could rely on.



The floating nature of the restaurant requires the engineered design to pump wastewater from a holding tank located in the bottom of the vessel up to the pier sewer connection – an incline of approximately 90 feet. When the holding tank reaches its level, the tank will be automatically pumped down, forcing the wastewater out another 500 feet to the city's main sewer line — carrying everything from gray water to sanitation for treatment. To meet this unique challenge, two Gorman-Rupp T-Series pumps are enlisted, designed to perform on an alternating basis. In this automatic alternation design, pump efficiency is maximized while pump wear and tear is equalized. As the first pump shuts down, the second pump automatically kicks in on the next pump down cycle.

The discharge to the city's main sewer is further accomplished by using flexible piping, a design specification created to address the need for the discharge operation to move up and down with the tide. "The normal tide is 10 to 11 feet, but we can get more extreme tides here," offers Steve Thayer, of Hayes Pump Inc. "With such extreme deviations in travel ways, pumping the waste from the restaurant to its eventual destination at the city sewers was a design challenge."

The technology used to address this unique challenge is a Gorman-Rupp LE model packaged pump station. The total solution, which incorporates duplex pumps and the associated piping, settings and control panel technology, further incorporates high water alarms, alerting DiMillo personnel of potential problems with the pumps, before they arise. "Everything I need to know is right there on the panel itself," adds DiCenzo. "In the course of any given day, I'm probably in and out of the control room 25 times – I'm not servicing the pump during those visits, I'm



poking my head in to see what the controls are telling me, and then I go about my day. To me, these controls are a visual check.”

“The pumps are the original Gorman-Rupp Classic T-Series design, including original level controls which were the old float switches,” adds Thayer. “We have since refitted the level control system via the Gorman-Rupp EPS (electronic pressure switch) retrofit kit with the electronic solid state pressure transducer set-up.”

Routine maintenance to unclog a troubled pump is to be expected in this high volume, mission critical environment. In most cases, debris has fowled the inlet, whereby the unique

self-priming, centrifugal Gorman-Rupp design allows DiCenzo and his team to ready the system without calling in maintenance technicians to clean the pump’s parts that plugged, unclogging the blockage. By draining the tank and then identifying the source of the problem, DiCenzo can also pull the spare parts that the restaurant keeps on hand to immediately rectify the situation.

“Generally, I’m never down more than 30 or 40 minutes – and when I am, 99% of the time, it’s a debris blockage, a very simple fix, or one of the air release valves have jammed or the inlet to the sump has clogged,” shares DiCenzo. “But even if a pump goes down due to debris, they’re so easy to maintain that it’s as easy as one-two-three for us now. We simply look at it and know what you’re going after. And if the maintenance requires something a little trickier, all I have to do is make a call to Hayes Pump, and they can generally walk me through it -- to get me back up and running. I love these pumps.”

In fact, to date the restaurant has enjoyed a relatively maintenance- and problem-free solution for now nearly 24 years, with the original technology out-performing any industry standard and continuing to function nearly flawlessly today. Only once in more than a two decade history has the restaurant found the need to replace a pump -- due to a casing, which had worn out after 23 years. During another particularly stubborn blockage, the engineers at DiMillo’s opened one of the pumps by removing the cover plate, only to reveal a badly worn impeller. The impeller, which had been functioning well for more than eleven years, was worn to just 6” – reduced more than 30 percent from a standard 8 3/4” impeller diameter.

“Even when worn to just 6”, the pumps were still working. I’ve worked with a lot of pumps in my time in the ship repair business, but I swear by these pumps,” shares DiCenzo. “I’ve seen these pumps handle a lot of debris and drain water. They work great. Typically, when you put six months on most pumps, that’s when you start having problems. That’s not the case with these pumps we have here, I trust them,” boasts DiCenzo.

About The Gorman-Rupp Company

Gorman-Rupp is a leading manufacturer of pumps and pumping systems for the municipal, water, wastewater, sewage, industrial, construction, petroleum, fire and OEM markets. Pumps include self-priming centrifugal, centrifugal, submersible, trash, priming assist, rotary gear and air-driven diaphragm pumps. In addition, Gorman-Rupp manufactures a complete line of packaged lift stations and booster stations, which include pumps, motors, controls, piping, accessories and enclosures. The company prides itself on manufacturing and delivering the right pump for the job.

