

Facility Manager Project Profile

Curt Sawan

The Big Dig

How a Red Lobster facility manager resolved a collapsed storm drain pipe

Welcome to our second FM Project Profile, an interview-style series in which a restaurateur spotlights a major facilities project. By sharing one of their most memorable facilities jobs, our members hope to share insight and inspiration. This month's profile comes from Curt Sawan, CRFP, a Manager of Facilities for Red Lobster Restaurants.

Briefly describe the project.

I was contacted by the property manager of a mall, who told me a storm-diversion pipe that ran under the property was collapsing. They discovered it when they were inspecting their portion of the pipe and were going to reline it with shotcrete. I met them on site and walked the pipe; it was 6 feet wide and ran 1,400 linear feet. We came to our portion, and it was collapsing. It was only 3 feet high, and the pipe was curling around itself. There was washout around the pipe, causing a cavity to develop in the soil of about 5x5 feet. It was definitely concerning, because if left alone a sinkhole would develop. The pipe ran under our grease trap and the dumpster approach area.

What were the possible different solutions, if any?

There were no other solutions other than to excavate, extract the damaged pipe and install a new section.

What was the initial scope of work? Construction length? Cost estimate (if you are willing to share)?

The project manager had his team come up with the initial scope based on the approximate depth of the pipe, which was thought to be 19 feet to the top of the pipe. Measuring from the inlet and outlet side, it was also thought to be about 20 feet long. We determined the depth of the pipe by measuring from the top of the manholes on either side to the top of pipe. This gave a total excavated depth of 25 feet. A standard track hoe could be used for the excavation, although it would tax its full depth capability. Upon replacement of the pipe, we would shotcrete the bottom of the remaining pipe to minimize further deterioration and strengthen the bottom of the pipe, since there were ruts in the galvanized steel pipe after 40 years of use. The joints would be encased in about 2 feet of concrete.

How did you choose a contractor?

I had not been involved in a site project such as this and had no contractors. I asked the project manager who he was using and for other potential bidders. I wanted someone who was familiar with this type of work and also had local contacts with the state and county.

Was there any involvement from the city or county, other than permitting?

They did provide inspections and made periodic visits to inspect the work. The contractor I used did a lot of state and federal work, so they knew the inspectors. This allowed them to take photos if the inspector was unavailable to show what was completed.

What internal departments were initially involved in the decision-making process?

The Facilities department, Construction for review and Operations to approve the funding.

What hidden issues arose during construction?

There were several issues that arose from the beginning. All lines were marked; the grease trap was exposed; we had issues with the electrical lines. The main feed to the building was encased in cement and the drain lines were too close to proceed. We had to relocate the grease trap, repipe the sewer line and re-dig the hole for the grease trap. This was located about 10 feet from the building, and there was some concern regarding the footings.

In order to keep the restaurant open, we had to hook up a pump to the sanitary line to pump the effluent to the manhole while the excavation and resetting took place. The initial time frame was one to two days on the pump, but this increased to more than a week. The pump quit working over the weekend, causing back-ups into the restaurant, and getting another pump took several hours.

Once that was completed, the main digging proceeded, which involved a hole about 12 feet wide by 25 feet deep and 25 feet long. There was no room to store the soil, and the conditions to excavate were tight because there was a service road on one side, a building on the other and a dumpster enclosure on the third. The soil had to be taken off site, which took about an hour round trip per load. Due to the confines and depth, a portable shoring box could not be used. We used a panelized shoring system, which had to come from central Pennsylvania on three flatbeds. We also needed to use about 20 percent of the parking lot for a staging area, which took away parking for the guests.

Once we were down to where the pipe was supposed to be, we continued digging to locate the pipe. It wasn't where it was supposed to be based on the initial measurements. We used a probe and found the pipe was an additional 5 feet deeper than originally planned. This meant we needed a larger track hoe that could dig deeper.

The depth of the pipe was more than 38 feet to the bottom. It took another week to locate the equipment and get it on site. It also meant we needed a shoring system that would go deeper. We had to partially backfill the hole, pull out the old shoring panels and rebuild and excavate. The soil had to be trucked back and forth at a cost of almost \$200 a load. It took about 15 trips to bring enough soil in to safely work. Once it was filled and the new panels were installed, the soil was again trucked out. We finally exposed the pipe and found the measurements were off by almost 8 feet; since we couldn't just move the box over or extend it, we had to once again backfill, pull the box, wait for more shoring, rebuild the shoring and truck the soil offsite.

How much time was added to the project due to the hidden conditions?

What went from a 45-day schedule to almost four months.

What was the total project cost (if you are available to share)?

The original contract was for about \$150,000, and the final project cost \$250,000.

What steps, if any, did Operations need to take to assist with the job?

The trash containers were moved, so operations did not have easy access to the dumpster; they had to walk an additional 30 to 40 feet for trash runs. This also

impacted deliveries, as they had to add an additional 50 feet for truck access. They also only had a sidewalk about 5 feet wide to walk by the 30-foot-deep hole with mud and gravel as their companion. The parking was reduced by about 20 percent, and the employees had to park farther away to allow for guest parking. The length of the ongoing project made them anxious, and they wanted their property back.

In hindsight, what would you have done differently to either speed up the work or minimize the costs?

Originally, I thought there should be a way to accurately locate the pipe. As I researched and talked to engineering firms and contractors, I learned there is no equipment that can track a line that deep. I was aware of “sewer rats”—robotic cameras used to run through large lines—and figured they had a tracking device. They do not. Also, on laying the lines initially, there can be “wobble,” and it isn’t always a straight line. This means the longer the run, the more measurements taken underground could be off. The line does not run with zero deflection, so this added some angst as to where the line was supposed to be.

I did find out that you can do test borings to get a more accurate measurement, but this costs about \$15,000. At the time, we decided not to go this way. In hindsight, it was the way to go as it would have eliminated the guessing and reduced the overrun cost due to the additional shoring and excavating.

What were the main “takeaways”?

Seek advice from others who know; verify, verify, verify; stay on top of the project; and use a contractor who is well versed in the work at hand.

The other takeaway was this: The project manager for the mall had done the initial measuring. I should have had the contractor retrace the steps and verify the information before starting. This may have revealed some of the discrepancies.

Curt Sawan, CRFP, is Manager of Facilities with Red Lobster Restaurants and is in charge of managing the mid-Atlantic region. He has been in Facilities Management for 30 years, with the last 20 in the restaurant industry.