



Fed Ex Miamisburg

As you are reading this, you are probably thinking to yourself that this is just a typical warehouse. What is so special about this building? That is the same way we approached this project in the very beginning as we started working through the design process. We felt that this job was very basic and was going to be very straight forward. As we got deeper into the design we started to see one issue that kept staring us in the face, the underground sanitary lines running through the building.

The building was 800 feet long and all the site utilities were coming into the site on the north end of the project. We had two drain lines that we needed to install in the building. One was the sanitary line that served the restroom groups. Since there were restroom groups at both ends of the building we had one sanitary line going almost from one end of the building to the other. We attempted to get approval for our pipes to come out of the building in two different locations, but this was not permitted.

One whole side of the building contained the area where they brought their trucks into the building to load them. At each one of the (7) bays there was a 116-foot-long trench drain. Each one of these trench drains had to drain into an oil separator that had to be located outside the building, before it could dump into the sanitary line. This caused us to have two long drain lines on opposite sides of the building, both running close to the full length of the building. Due to the length of these underground lines it was going to require us to excavate a trench that was going to be close to 10-foot-deep when we exited the building. This required us to rent a track hoe and a trench box because the back hoe that we were originally planning to use would not handle the weight of the trench box needed to safely get down that deep. The issue was that not only did we have to do this once, for the sanitary, but we would have to turn right around and do it again for the trench drains.

As we considered that scenario, it became very evident that we were going to have a problem. The schedule only gave us 10 days to get the underground sanitary line installed and it was going to take that much time to get one sanitary line completed let alone the second line. We started looking at what it would take to get a second crew going. Even if we wanted to rent the equipment for a second crew, we did not have the extra manpower to do so. As we began to decide what to do, we considered the option of running these two lines in the same trench. It would cause us to install more piping on the one side, but it would allow us to dig one trench



and install both lines down through the building. As we considered that option, it became evident that this was the way that we had to proceed. This left us with one last hurdle that we had to get over.

As mentioned earlier, the trench drains had to drain into an oil separator, before that water could be dumped into the sanitary system. At this point the building was going up faster than we could get our hands on the oil interceptor. This was not just some small tank that needed to go into the ground. This was a 5100-gallon concrete tank that was 13'-4" long, 10'-4" wide and 10'-4" tall and we were being told that it needed to go in the grassy area right outside the building. This was going to be a very large hole right outside the building. Immediately we tried to get the Client to allow us to move the oil interceptor further away from the building so that the hole could be excavated safely without undermining the footer of the building. There was one spot that could have potentially worked, but it was in a parking lot and the tank was not traffic rated, and it was almost through production. This put us back to digging a 20 ft deep hole right next to the building footer.

We contacted MacAllister Rentals and had them come into our office and laid out what our issue was and asked if there was any way that they could help us solve this issue. They explained to us that they had a slide rail system that we could rent that you push into the ground as you dig your hole, thus allowing us to support the dirt up by the building as we dug the hole. Since we were out of options, and time, we decided that this was the way we needed to go. We had to rent a much larger track hoe now to handle the 9000 lb. steel panels and to actually be able to dig this big of a hole. MacAllister got things moving and they brought in one of their guys to train us on how to use their slide rail system. For a company that does not get into doing dirt work very much with heavy equipment, that close to the building, this was a big deal and one stressful week.

Even with all this added expense in renting the equipment to safely install this oil interceptor, it was almost offset by the money saved in combining the two ditches. At the end of the day the project did come in under budget, safe and with a great story to tell.



Design Build Project installing the Plumbing and HVAC systems in the new warehouse building along with finish Administration Area

1100 feet of Trench Drain

One (1) – Oil Interceptor

Forty-Eight (48) – Infrared Heaters

Fifteen (15) – Roof Mounted Exhaust Fans Rated at 50,000 CFMs each

Fourteen (14) – 16 ft Diameter Ceiling Fans

Five (5) – Split Systems in the Office Area



The Details

Size of Project: 249,506 Square Feet

Length of Project : 4 Months – Design 8 Months – Construction

Percentage of Work Self-Performed: 89%