

Rothenberger Company Corrals Lansing CSOs

BY MICHAEL ANCELL, STAFF EDITOR

On Capitol Hill, where billions of dollars are spent like pocket change and acronyms are part of the everyday language, news that the nation needs \$41.2 billion over twenty-years for CSO (combined sewer overflow) containment barely caused a ripple. But in communities where untreated wastes flow directly into nearby waterways during rainstorms, CSOs splash regularly into public view.

Lansing, Mich., is one of those CSO-stricken communities and has begun a twenty-year project to eliminate the problem. Last year, the city contracted the Rothenberger Company, Inc., a NUCA contractor based in Concord, Mich., for an early, \$2.36 million phase of the CSO-elimination project.

"The sanitary sewer and storm lines were all together, so when it rained a lot, sewage overflowed and dumped directly into the Red Cedar River," said Dan Rothenberger, company president. "To separate the systems, we installed all new sanitary sewer lines, including service leads, and replaced some of the storm lines."

Rothenberger crews installed 10,000 ft. of 8- to 15-in. dia. vitrified clay pipe and 2,000 ft. of 8-in. dia. ductile iron pipe for the sanitary sewer line. The ductile iron pipe provided additional strength on the deeper installations (between 16 and 22 ft.). Connecting approximately 250 homes to the new sanitary line required placing 5,000 ft. of 6-in. dia. vitrified clay and PVC service leads. While the replacement line was being installed, the existing sanitary sewer line was kept in service without bypass pumping. The company also replaced 3,000

ft. of the storm sewer line with 12-in. concrete pipe.

The design engineers specified deep, narrow trenches along the project's tight side streets and heavily congested main thoroughfares, which created several challenges for the contractor. For compaction, the company used a portable Hippo compactor, from JB Development, attached to a Komatsu D37E dozer. The portable compactor enhanced maneuverability and production. "It allowed us to get

up and down the steep grades without a problem, and it compacted between the dozer tracks both forward and backward on each pass," Rothenberger said. "And we used the dozer for backfilling and compacting at the same time, which sped up production."

To protect workers in the trenches, the Rothenberger Company used trench boxes and manhole boxes from Griswold Machine & Engineering, Inc. The boxes were stacked in deeper excavations. In situations where the boxes couldn't reach the bottom of narrow trenches, workers drove 8-ft. by 16-ft. steel plates down the outside of the boxes.

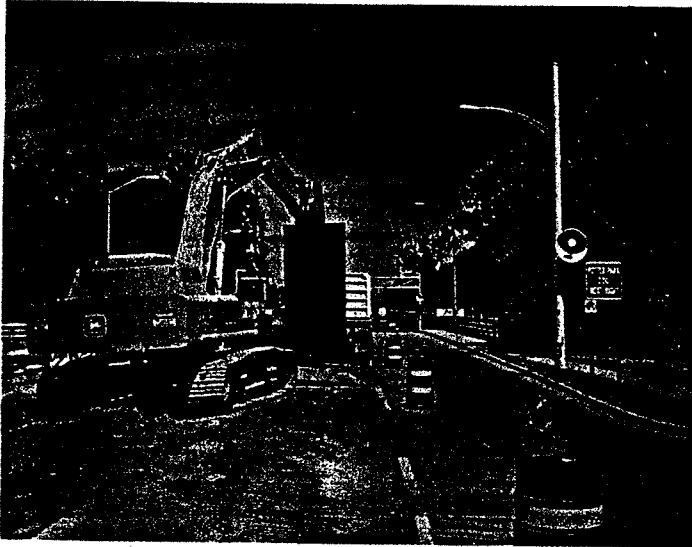
Other key equipment on the job included a Deere 892 track backhoe, a Deere 790 backhoe, a Cat 225 backhoe, Cat 416 and 580 backhoes, a Deere 750 dozer, a Case 450 dozer, Cat 936 and 926 front-end loaders, a Case 380 broom tractor, four dump trucks, and two 20-yd. lead trucks.

As on many underground projects, subsurface conditions slowed the work and altered the contractor's strategy, though not always in a negative way. Prejob bores showed more sand than was actually encountered, as most of the ground was clay soil in dry conditions. "We were glad the clay



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was as hard as it was because of the depths and tightness of the trenches," Rothenberger said. "We had some deep cuts in some real tight areas."

The existing sanitary sewer line, which had to be crossed, leaked badly and slowed job progress, as did some unforeseen obstacles. "We ran into some differing site conditions, but that's typical on jobs like this," Rothenberger said. "With the depth of our trenches and the number of existing utilities, it's hard to know everything that's down there. We came across existing water and gas mains and a lot of unknown sewer lines. We had a lot of downtime while we were down there investigating."

Traffic considerations also played havoc with the company's schedule. "We were working on some major streets that tie one side of town to the other and could only be closed one at a time," Rothenberger said. "We had to have one street black-topped and opened before we moved on to the next."

The original contract did not call for any street reconstruction beyond patching where the trenches were cut. But once digging began and city officials saw the poor condition of the streets and the ground underneath, the city dipped into their street budget and issued change orders. The Rothenberger Company constructed

7,000 ft. of new road, complete with curbs and gutters.

The start of the project was delayed last fall because new gas mains and services had to be installed before the sewer work could begin. Working behind the gas contractor required extra coordination and slowed progress throughout the project.

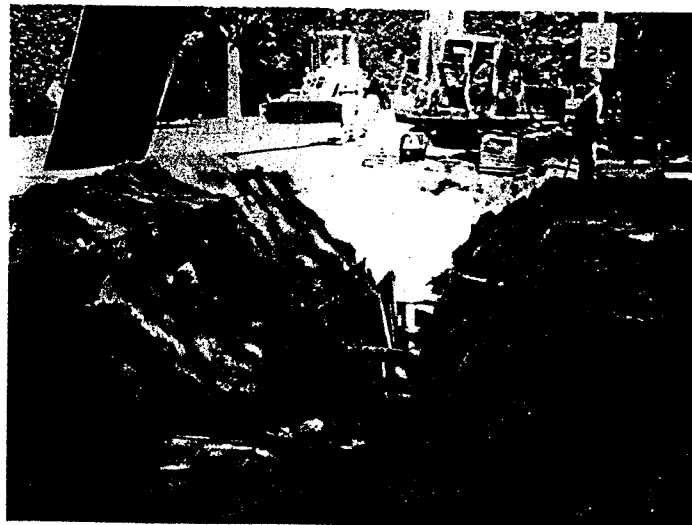
Politics usually play a part in any large public works project, but in Lansing there was a bit of a twist. "A unique challenge arose last fall around election time, when we were working near the governor's mansion," Rothenberger reported. "It's a very political area, and a lot of things were going on. We were trying to shut down roads, but we'd have bus

loads of people coming in almost every day. Getting them in and out took a lot of coordination."

The Rothenberger Company also scored big points in the neighborhoods where they worked by leaving trees in place and building a new city park. The company was looking to dispose 20,000 cu.yds. of unsuitable backfill, and a neighborhood association was looking to turn a 3-acre abandoned parking lot and field into a park. It was a perfect match. The company provided 3 ft. of cover, graded it (complete with a sledding hill), constructed catch basins, brought in top soil, and planted grass.

"The neighborhood children loved it," said Dan Breton, Rothenberger's project manager. "And we enjoyed doing it for them because they were fun kids. I think our guys are going to miss them when we move on to the next project."

Despite the delays, the Rothenberger Company completed the project in mid-November. Dan Rothenberger credited a good rapport with the city and the design engineers, McNamee, Porter, and Seeley, Inc., for a smooth project. He also praised his staff, especially Dan Breton and his foremen Tom Shinaver and David Rothenberger. "Our people did a great job," he said. "I was really impressed." ■



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