School of Environment and Natural Resources

CFAES

Converge Technologies

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WHERE?

- 4621 Lyman Dr, Hilliard, OH 43026
- It shares a building with other similar companies
- Easy access and plenty of internship workspace

Fig. 1 Street view of the building during winter

There are workspaces for many different types of projects that the company oversees. The hours are flexible and not all work has to be done in the lab.

Fig. 2 One of the work areas. This area supports a lot of the tech programming for one of the other companies

WHAT WAS MY INTERNSHIP?

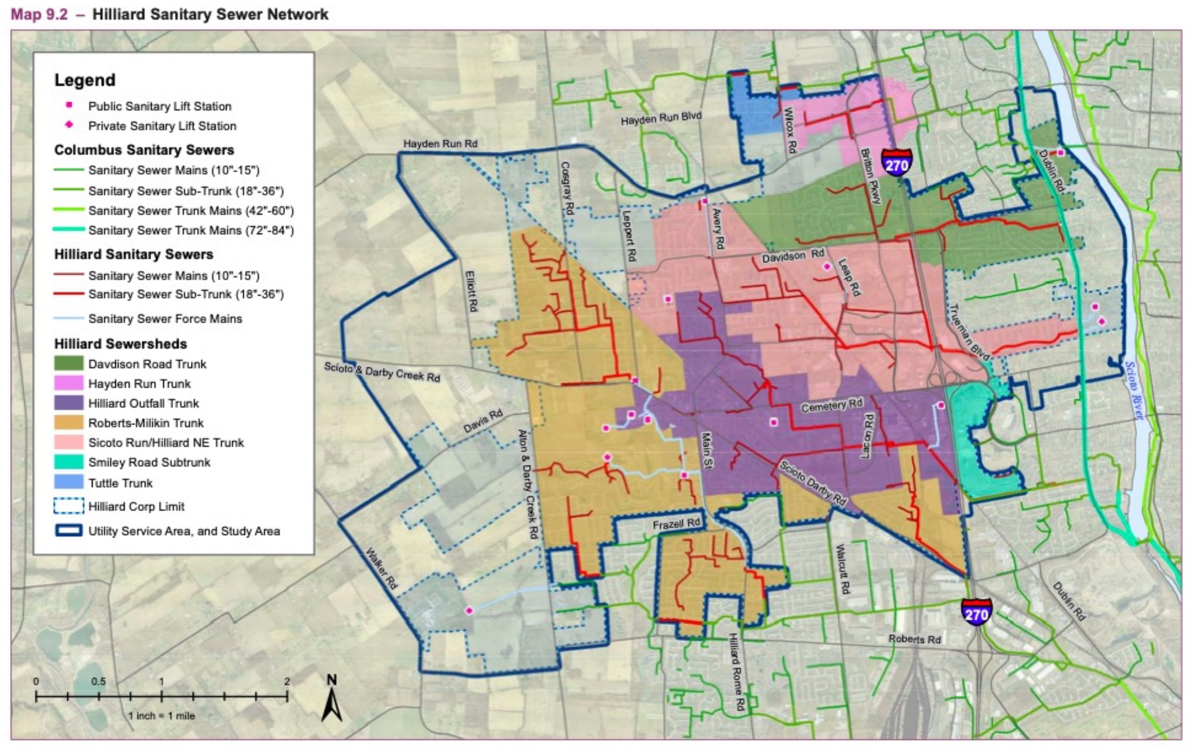


Fig 3. Image of Hilliard's sewer network and sanitary stations

- Hilliard sewer monitoring
- New technology to help understand why sewers got backed up and how to prevent it
- Create a sustainability report to present to different stakeholders
- Take tours around town to observe the conditions of the cities sewer system

JOB REQUIREMENTS

- Meeting with my supervisor weekly to discuss progress and further research
- Emailing other municipalities to understand how they monitor their sewer systems
- Researching how sewer systems work
- Finding other companies that use similar technologies to monitor sewers

Fig. 4 A similar system the company was wanting to install in Hilliard

WHY WAS IT IMPORTANT?

- I was able to sample a job that I could potentially have
- It helped my community understand more about a project with a local company
- It involved the use of different stakeholders which helped spread awareness of the issue
- I experienced a workplace with my peers and supervisors

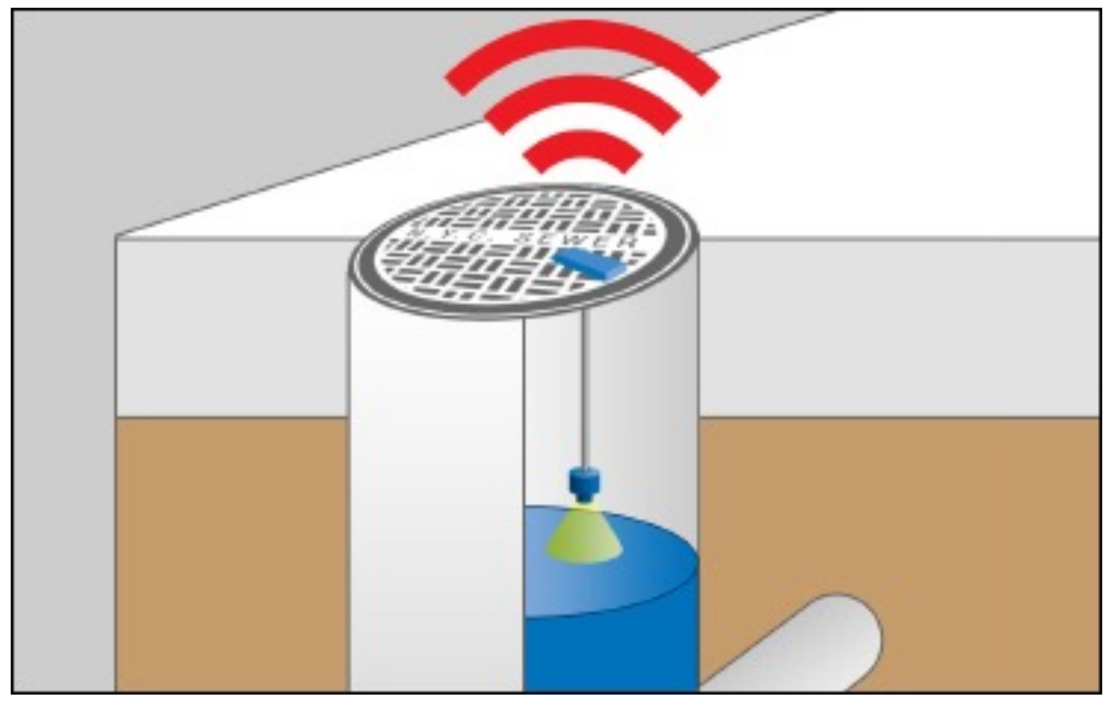
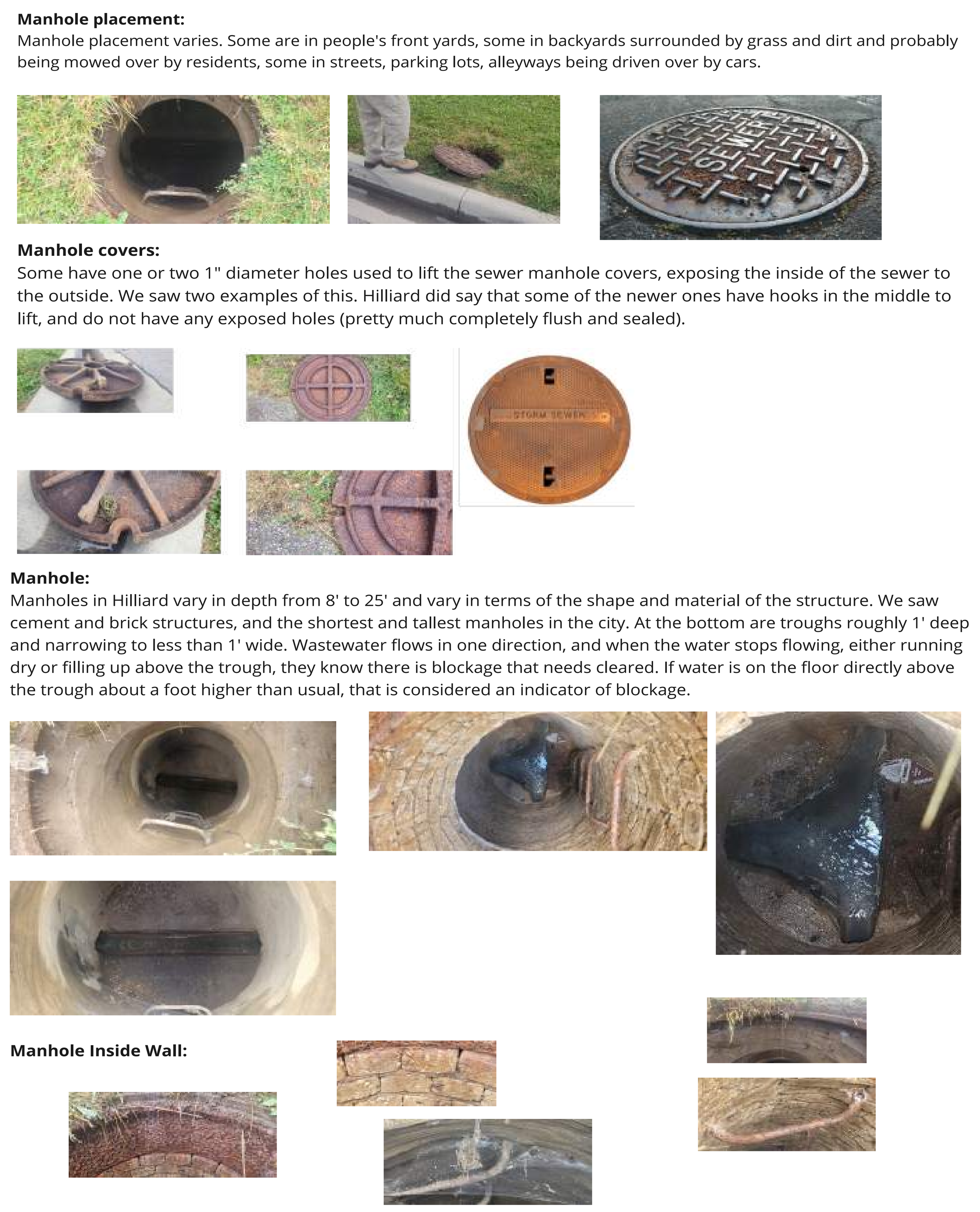


Fig. 5 An example of a type of sensor used at one of the sanitation stations



Manhole placement:
Manhole placement varies. Some are in people's front yards, some in backyards surrounded by grass and dirt and probably being mowed over by residents, some in streets, parking lots, alleyways being driven over by cars.

Manhole covers:
Some have one or two 1" diameter holes used to lift the sewer manhole covers, exposing the inside of the sewer to the outside. We saw two examples of this. Hilliard did say that some of the newer ones have hooks in the middle to lift, and do not have any exposed holes (pretty much completely flush and sealed).

Manhole:
Manholes in Hilliard vary in depth from 8' to 25' and vary in terms of the shape and material of the structure. We saw cement and brick structures, and the shortest and tallest manholes in the city. At the bottom are troughs roughly 1' deep and narrowing to less than 1' wide. Wastewater flows in one direction, and when the water stops flowing, either running dry or filling up above the trough, they know there is blockage that needs cleared. If water is on the floor directly above the trough about a foot higher than usual, that is considered an indicator of blockage.

Manhole Inside Wall:

WHAT DID I LEARN/CHALLENGES?

- How to communicate with team members and superiors
- Work with others on a time schedule
- How to start a research project and create my own sustainability report
- How to adjust my work according to feedback from my supervisor
- Remote work was difficult to complete/there was a lack of motivation
- I was the only person in the department working on the project
- There wasn't enough time to complete the project or see the successes/failures

Fig. 6 Is an example of a sensor that would be installed around Hilliard and hopefully around other similar municipalities

ACKNOWLEDGEMENTS

I want to thank my supervisor at Converge Technologies, Eric Wagner, for the opportunity to work with him on this new and important project. I would also like to thank my advisors for helping guide me through the internship process. It gave me the opportunity to sample a potential career.

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