



HK Pipelines

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Hydro-Klean Solves Easement Problem With Hydro-Excavation

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By Andy Mercial, CEO



The City of Des Moines found themselves in a real dilemma when they discovered a manhole on the edge of a steep hillside slope that was 18 foot below grade. The manhole was on an easement on the edge of a residential housing development. It needed to be raised to grade level for access to facilitate an upcoming project. The problem was that the houses were so close together that conventional excavators could not be used, as they would not fit between the houses. From the other side of the easement was a deep ravine that was heavily wooded. Bringing in an excavator big enough to dig 18' deep would mean clearing a path in the timber and destroying many trees. This was also a very expensive proposition. Most importantly, a strong effort had to be given to minimize the affect on the homeowner's property that the manhole was on. The homeowner had a great concern about her flower garden, bushes, trees, and other landscaping being damaged by the project.

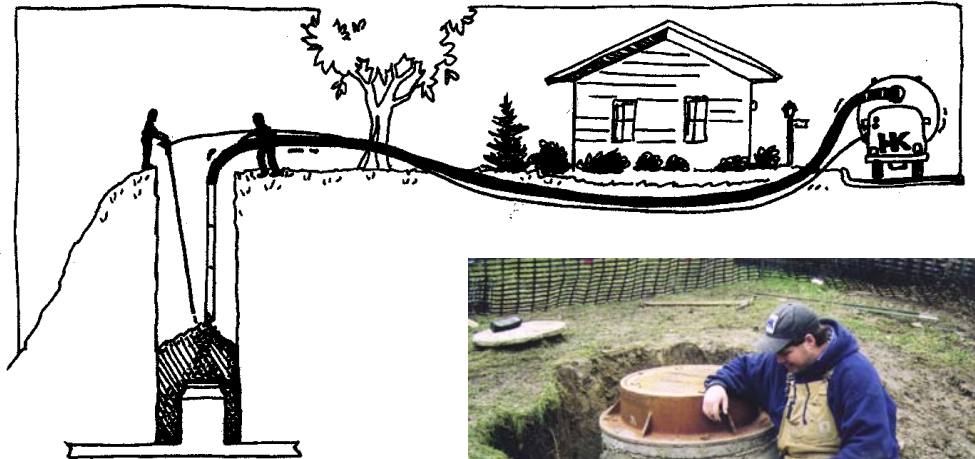
Jeff Hansen, a project manager with the City of Des Moines Engineering Department called Hydro-Klean and requested a proposal to use a method known as hydro-excavation to uncover the buried manhole so it could be raised to grade level. After the project site was examined, it was quickly determined that Hydro-Klean's hydro-excavation process would be ideal.

Hydro-Klean used a water jet and electronic locator from an adjacent manhole several hundred feet away to

locate the exact spot of the buried manhole. With the use of an industrial vacuum machine and a high-pressure jet of water, the hydro-excavation process began. The truck mounted equipment sat on the street with vacuum and high-pressure water hoses running to the excavation site. The high-pressure jet of water was used to loosen the earth and the vacuum hose was used to collect both the water and earth. Down 18' below the existing grade, the manhole was uncovered. A 36" diameter ribbed PVC pipe was used as a riser. The riser was light enough that it could physically be carried from the street to the manhole. The riser was positioned over the existing manhole and secured. High strength K-Crete was then pumped from the street through a hose to fill up the space between the riser and the sides of the excavation. K-crete is a soupy form of concrete that flows easily and self levels. Once the K-crete was setup, the new manhole frame and lid were installed. Last of all, the finish surface restoration was complete.

Jeff Hansen the project engineer said, "The project started out by me visiting the job site and discussing the project with the home owner, who was an elderly lady. I sat with her on her back yard picnic table as I explained to her why the project was necessary. She was very concerned about the potential for damage to her property. Things of concern included preserving the landscape and ground vibration that might affect the house or the steep hillside. Hydro-Klean's hydro-excavation process worked great. All the work was done with hoses, which greatly reduced the landscape damage and the restoration that followed. The project was successfully completed and everyone was happy, including the homeowner."

Next time you find a challenging excavation project, you may want to consider Hydro-Klean's hydro-excavation process. It just might be a better way than conventional excavating to work around confining areas or near other utilities.



HK Service Technician, Billy Ferrell, looks over the unburied manhole.