

The Environmental Corner

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Planning For Remediation During Renovation

Soil and groundwater investigations and cleanups can take years before site closure is obtained from the regulatory agencies. Over the course of these activities, it is not unusual for impaired properties and shopping centers to be bought, sold, refinanced and renovated.

If you are the one responsible for the paying for the cleanup, keeping in close contact with the property owners and property managers can save you a lot of headaches and money. Site investigations and remediations tend to drag on for two primary reasons; 1) Lack of funding necessary to complete the work; and 2) slow turnaround time by the regulatory agencies reviewing investigation reports, feasibility studies and remediation work plans. Because the process is stretched over years, neighboring tenants come and go and renovations occur. If you are paying attention, the construction activities associated with new tenants and re-

novations can be used to reduce your overall cleanup costs.

Some examples that we have encountered include installing soil vapor extraction (SVE) wells and underground piping in neighboring empty suites, before the new flooring (tiling, wood or carpet), walls and other structural build outs have occurred. Conducting this work while the units were empty enabled us to install the SVE wells close to the source area without disrupting exist-

ing businesses and without the need for expensive repairs to the suites.

Conversely, we have experienced problems in working around active businesses. We recently encountered a situation where the property owner, our tenant, put in very expensive improvements to a vacant unit for a new tenant without informing us of these modifications. Had we known about the renovations and tenant im-

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As Seen In...

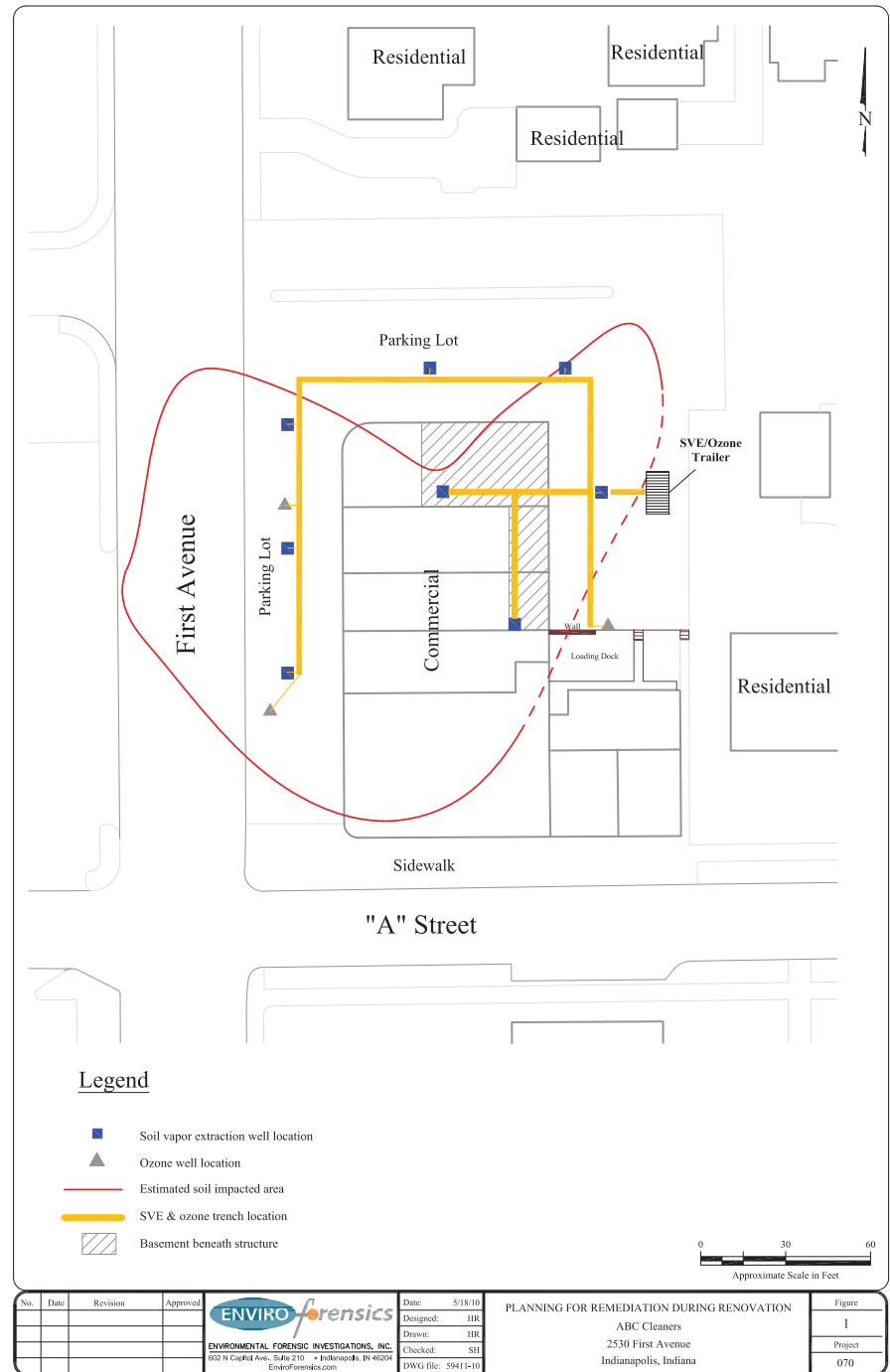
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provements we would have recommended excavating soil within that unit to remove source material. As a result of the tenant improvements, the excavation option is less desirable because we would need to repair the brand new improvements which alone cost several hundred thousand dollars. Now we are looking at installing SVE wells around the perimeter of the building and screening them across pretty tight clay. The result will be a less effective remedial approach that will result in running the SVE system for a longer period of time, which may ultimately cost more on that basis alone.

Recently we found ourselves working on a project whereby the new owner of the shopping center was scheduling to have sidewalks enlarged, new curbing and permanent planter boxes installed and new asphalt laid down. The new owner's contractor informed us of the schedule just a few weeks ahead of implementing it. We were told that if we needed to do any work that would compromise the new curbs and asphalt we would be responsible for completely resurfacing and refinishing the newly completed work. In plain English, they would not allow for us to "patch" the pavement or curbs. Note that at the time of this renovation, three suites adjacent to the dry cleaners were empty and in the process of being built out for new tenants.

In an effort to work in parallel with the renovation activities, we had to make some quick decisions. Even though we had not completed a formal feasibility study for the soil and groundwater remediation, we had a pretty good idea of what remedial technology would and would not work. We were comfortable



proposing the installation of an SVE system for the remediation of the soil. For the groundwater system we thought ozone/peroxide injection would be an effective remedial technology, but at the time we had not fully evaluated all of the options and

associated costs. That being said, we knew it would be a tremendous cost savings to install the underground piping which

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served as the SVE well header system, before the curb and asphalt work were completed. We saved additional money by working with site contractors to excavate and backfill the trenches. While we were not able to have the SVE wells installed before the asphaltting due to the schedules of the local drilling companies, we put in traffic vault boxes. These traffic vault boxes were installed and finished as the asphalt was being laid down, which led to a very clean look for the final drive area. Later, we took the vault lids off and drilled and installed our SVE wells through these traffic vault boxes. In taking advantage of the renovation of the empty neighboring suites, we installed SVE wells and completed the underground trenching and piping.

Finally, we ran cost calculations to determine what the additional costs

would be to install the necessary piping and traffic vault boxes for the future implementation of an ozone/peroxide injection system to remediate the site groundwater. Though we hadn't determined for sure what our final groundwater remediation technology would be, it turned out that the cost to install two additional PVC pipes within the SVE header system trench during the renovation activities was far less expensive than installing the system at a later date. In fact, the cost benefit of installing the piping and traffic utility boxes during the renovation activities was spending approximately \$4,000 during renovation and not determining not to use the ozone/peroxide injection system, versus spending over \$150,000 later to install the same system and resurface the asphalt and install new curbs.

In summary, we installed the entire system during the renovation activities at a huge savings to our customer. In addition, we avoided future business interruptions, potential costs for lost business caused by those disruptions, and we were able to remediate contaminated soil closer to the dry cleaner source by accessing the neighboring suites, and we did not need to restore the site to its pristine condition because the finished construction activities performed by the owners at their cost accomplished that. The only downside was the pressure to work during the contractors tight time schedule and the small amount of money that could be lost if the ozone/peroxide injection system is not selected as the final groundwater remediation technology.