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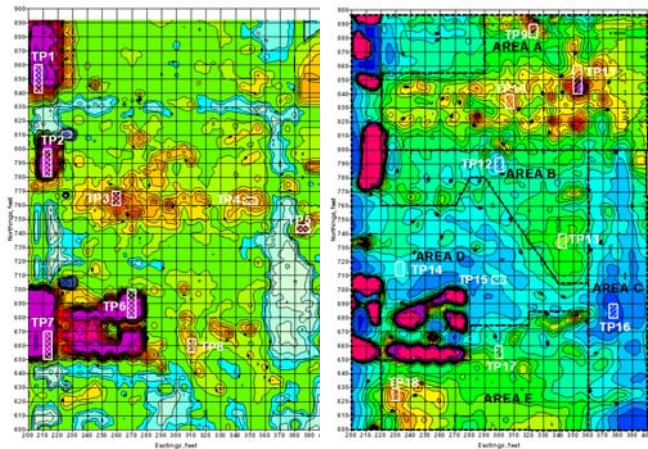
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CASE HISTORY

Geophysical Survey Provides a Basis for Brownfield Development Costs for Urban Site

Challenge:

A Phase I Environmental Site Assessment for a flat, gravel-covered, 1.3 acre parcel in an urban site in Indianapolis, Indiana indicated that the site had been covered with multiple building structures over most of its 100-year usage as an active property. Facilities had included warehouses, a bar, a restaurant, baker, and dentist. However, no records of building demolition had been found during the assessment, although it was suspected that debris from the structure razing had been disposed of on-site. Because of the desire to develop the property, the Phase I ESA recommended a subsurface investigation be conducted to identify any suspected hazardous materials which may have been buried on the site that could impact the cost of development.



Action:

To accomplish the study objectives, MUNDELL personnel completed a multi-faceted geophysical survey using electromagnetic (EM-61, EM-31) and 2-D electrical resistivity (Sting/Swift Imaging System) equipment to locate and characterize concealed metallic objects such as underground storage tanks, steel drums, utilities and metallic debris, and to map variations in different fill materials.

Results:

The results of the survey indicated areas of significant metallic objects and areas of similar subsurface fill materials. Using these maps, MUNDELL recommended the location of eighteen (18) test pits for determining the expected character of the buried materials. The excavations uncovered building and construction debris, concrete slabs, bricks, wood, sheet metal, scrap metal, and slag and ash. No obviously chemically-impacted fill materials of concern or asbestos-containing materials were encountered. Using the quantities of materials estimated from the geophysical survey, and the types of materials found at the site within the test pits, MUNDELL provided a cost estimate range for developing the property (requiring removal of 9 ft of materials for a basement level building) ranged from about \$430,000 (construction debris only removed in fill areas) to \$600,000 (partial areas as special waste), which included the costs of excavation, transportation and landfill disposal of on-site materials.

