

# Trout Brook Interceptor Electromagnetic Survey

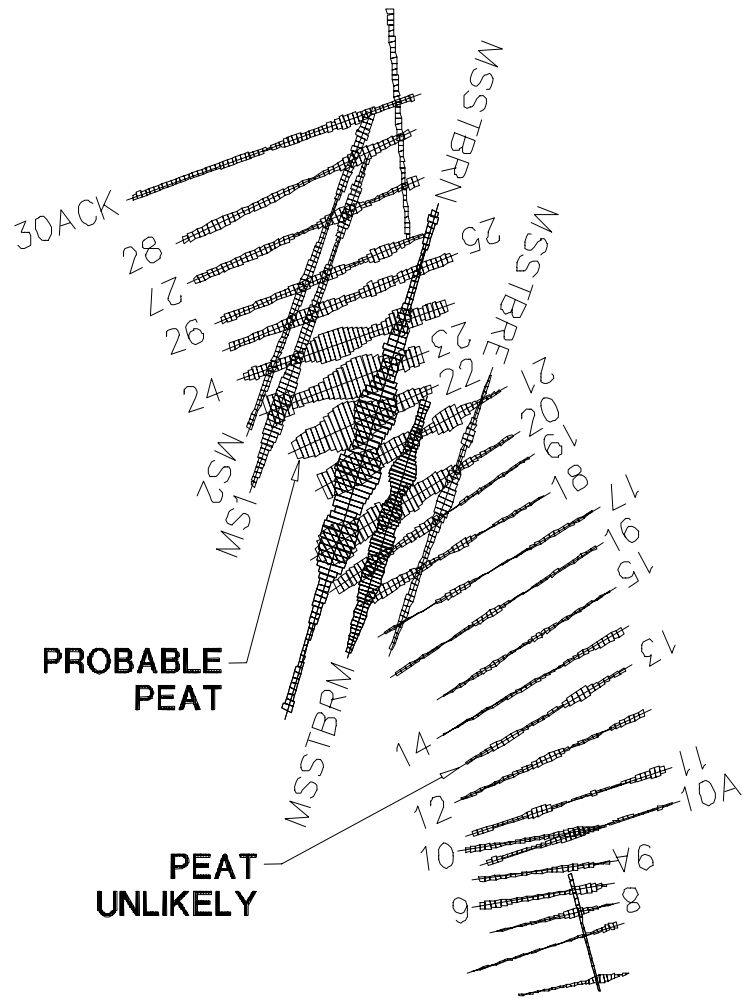
The Trout Brook Interceptor (TBI) Project is an 18,000 linear foot sanitary sewer following a buried valley in St. Paul, MN. Most of the alignment lies in open areas following existing railroad lines. Existing drilling records in the area indicate that near-surface peat deposits exist intermittently along the alignment corridor.

Electrical conductivity of soils is strongly related to water content. Since peat at the TBI site was known to have a much higher water content than other soils in the area, an electromagnetic survey would show the presence of peat.

Early during the design phase of the project, an electromagnetic exploration program was conducted to determine the extent of the near surface peat deposits. A series of traverses were run throughout the TBI alignment using a one-man, continuous-reading Geonics EM31 instrument. The quantity measured was soil electrical conductivity. In total, 100 traverse lines averaging 600 feet each were run with sensing at ten foot intervals.

The data for each traverse was plotted graphically on a map of the alignment corridor shown at the right, with areas containing peat evident. The widths of the bars on the graph indicate conductivity, with wide bars indicating high soil conductivity and the possible presence of peat. In some areas, metal objects such as railroad tracks, bridge steel, etc. gave readings that must be considered separately.

The method was used for alignment evaluation before field drilling commenced.



**Owner — Metropolitan Council Environmental Services**

**Completion Date – 1988**

**Construction Cost - \$6 Million**

**CNA**  
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