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Convergence - Confinement Method in Shallow Tunnels

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Abstract:
The application of the Convergence-Confinement method (C.-C. method) to design of shallow tunnels is investigated by compar1ng results of the method with field measurements for two tunnels in stiff clay in Edmonton, Canada. Both tunnels were excavated under very similar conditions. The only important difference between them was the depth to diameter ratio. Because of this ratio the two tunnels exhibited different responses to analyses be the C.-C. method. The deep tunnel showed a good agreement between the analysis and field data, while the shallow tunnel did not. This discrepancy was attributed to the non-axisymmetric mode of deformation developed around the shallow tunnel.

Keywords: Convergence-Confinement Method (C.-C. Method); C.-C. Method of Lining Design of Shallow Tunnels in Stiff Soils; stiff clay in Edmonton; plasticity in the soil.