



#### Location

Silvertown to Greenwich

#### Client

Riverlinx

#### Tonnage

4,000 tonnes

#### Completion date

April 2024

## Silvertown Tunnel Propping Silvertown to Greenwich, London

**To improve public transport access across the river and relieve pressure on the Blackwall tunnel, Severfield is assisting with the construction of a new 1.4km twin-bore road tunnel linking Silvertown to North Greenwich, London.**

Severfield is constructing a tunnel under the Thames, thereby linking Silvertown to Greenwich, London. This new 1.4km twin-bore road tunnel will be the first for over 30 years and will be excavated by the largest Tunnel Boring Machine (TBM) ever used in the UK: its cutter-face has an astounding 11.91-metre diameter. All excavation not being undertaken by the TBM will be supported by props in Severfield's supply.

Severfield is providing the connection, design, supply of materials, fabrication, and delivery of the 41.5m long props at both sides of the tunnel. In addition, we are supplying over 600 tonnes of water beams.

Considering the size of the prop sections, Severfield designed transport frames that allow for up to three prop sections to be transported at once; these frames were simultaneously used to pick up new material from the mill. Culling transport cadence reduced associated transport carbon emissions significantly.

The standard detail for prestressing props is to use grout-filled flat jacks, which are devices used when the application or control of large forces is required. Once the prestress force is transferred into the prop, the grout cures, thereby locking in the force. However, due to the technical aspect of this project, grout-filled flat jacks could not be used: Severfield had to design a bespoke hydraulic jacking system to pre-stress 38 props with 500 KN (50t) of force. At the end of this project, the props will be offered for buyback at a set rate per tonne, all so that we can reuse them on other projects in the future in line with sustainability.

A complex project such as this illustrates Severfield's ability to implement alternate solutions and deliver projects on time and without complications.