Our preferred route for the Thames Tunnel project requires a 25km long main tunnel from Acton Storm Tanks to Abbey Mills Pumping Station. The Lee Tunnel will then transfer the flows to Beckton Sewage Treatment Works.

Tunnelling under London

The main tunnel alignment runs mostly under the River Thames. This makes it easier to connect the combined sewer overflow (CSOs) on both sides of the river.

The main tunnel would run through main tunnel drive shafts at Carnwath Road Riverside, Kirtling Street and Chambers Wharf. All of the drop shafts at CSO sites also need to be connected to the main tunnel, either directly or via connection tunnels.

The tunnel needs to slope continuously downward from west to east, so that the CSO discharges can flow by gravity through the tunnel. This will allow the tunnel to empty and keep clean without needing any mechanical cleaning equipment or pumping facilities along the route.

Our proposed tunnel alignment takes into consideration many factors, including:

- avoiding underground structures, such as other tunnels and deep foundations
- minimising possible settlement to old and sensitive structures, such as bridges and tall buildings
- minimising possible settlement to other buildings, including houses, flats and businesses
- engineering limitations, such as the tightest curve that the tunnel boring machine (TBM) can build
- minimising the length of connection tunnels from CSO sites to the main tunnel
- ensuring safety during construction.

Our tunnel has to fall from west to east and go underneath the existing infrastructure under London. It needs to fall one metre every 790 metres so it can be self-cleansing.

Different types of tunnelling machines are better suited to different ground conditions. By locating our main tunnel drive shafts near changes in ground conditions, we can ensure that we use the most appropriate type of machine.