66kV ELECTRCIAL CONNECTION

HILLINGDON

Power

Value	Multi-million
Voltage	66kV
Disatnce	10km
Client	Undisclosed
Duration	16 months
Date completed	May 2019

Pre-construction

JSM was appointed as Principal Contractor to deliver a new cable installation comprising of a single, dual and triple 66kV circuits and pilot cables on a 10km route in the London Borough of Hillingdon.

Construction

The route passed through busy roads and residential areas in Uxbridge and West Drayton. It involved installing three 66kV circuits to SSE and IDNO standards, connecting into SSE's network at Ivor. JSM conducted a full site survey to assess surface types, traffic sensitivity, and engineering challenges. Where possible, they proposed alternative routes to avoid congested areas. Traffic management was agreed with LB Hillingdon, including road closures, while aiming to minimise disruption to the public. The route was heavily congested with utilities. JSM used safe digging practices, including cable avoidance tools and hand digging near known services.

Post-construction

Two major river crossings required specialist solutions. At the River Colne, a temporary dam allowed safe excavation and duct installation in the riverbed. At the River Pinn, a flume pipe diverted the water to enable open-cut works. Both crossings were completed successfully with environmental permits in place and all risks carefully managed.

- Cable installation
- Principal Contractor
- 66kV circuits
- Temporary dam
- Flume pipe
- Utility congestion

- Civils
- Special Engineering Difficulties (SEDs)
- Traffic management
- Environmental permits
- Safe excavation

PROJECT CHALLENGES

CHALLENGE

SED 1 – River Colne Crossing: Trial holes showed insufficient ducts on the bridge.

Risks: Flooding, Weil's disease, environmental damage, bat habitat disturbance.

SED 2 – River Pinn Crossing: Bridge route was too risky due to 132kV and telecoms presence

SOLUTION

A specialist contractor built a temporary dam and frame dam over two spans. The area was dewatered, allowing safe excavation and duct installation in the riverbed.

Mitigated by water level monitoring, PPE/life jackets, bat roosting zones, and ensuring no fish/fry were present.

A flume pipe was used to divert the river. Sandbagging and dewatering enabled open-cut excavation, duct installation, and reinstatement.