

66kV Electrical Installation

Hillingdon



POWER

Value	Multi-million
Voltage	66kV
Duration	16 months
Market segment	Network operator

Cable installation

Civils

Principal Contractor

Special Engineering
Difficulties (SEDs)

66kV and 11kV circuits

Traffic management

Environmental permits

Safe excavation

PROJECT SUMMARY

JSM delivered a 10km cable installation in Uxbridge and West Drayton, involving 66kV and 11kV circuits. The route passed through congested urban areas and required careful planning, stakeholder coordination, and specialist solutions to overcome engineering and environmental challenges.

CONSTRUCTION

The route passed through busy roads and residential areas in Uxbridge and West Drayton. It involved installing three 66kV circuits to SSEN standards, connecting into SSEN’s network at Iver. 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.

PRE-CONSTRUCTION

JSM was appointed as Principal Contractor to complete a cable route feasibility study and design. 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.

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.

CHALLENGE > SOLUTION



SED 1 – River Colne Crossing:

Trial holes showed insufficient ducts on the bridge.

SED 2 – River Pinn Crossing:

Bridge route was too risky due to 132kV and telecoms presence.

Risks:

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

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.

