Trenchless Technology : A Safer, Greener way Forward

In-house no-dig repair and rehabilitation for pipe diameters from 100mm to 1800mm.

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SETTING THE SCENE

What is a “no-dig” solution?

Trenchless techniques that can repair underground pipes without open-trench excavation.

TODAY WE'LL COVER



- The scale of the cable strike problem
- How no-dig removes strike risk
- The no-dig techniques
- The carbon case
- The public impact case
- Recommendations for the Council

WHY THIS MATTERS

The scale of the problem

Open-cut excavation across Great Britain, every year

60,000+

estimated pipe & cable strikes a year across the UK — nearly 5,000 every month

£2.4bn

estimated annual cost of underground utility strikes to the UK economy

7 deaths / 150 injuries

reported to HSE (RIDDOR) from contact with electricity in 2024/25, the latest year on record

Figure covers all electrical-contact incidents; earlier HSE-cited estimates put cable-strike injuries alone at 600+/year

Source: UK Government Geospatial Commission (2022); HSE RIDDOR statistics, 2024/25 (published Nov 2025); LSBUD 'Digging Up Britain' 2025

WHY NO-DIG

Removing the risk of cable strikes



Survey before work starts

Records, radar and camera surveys map buried services first, so the route is planned around what is actually there.



No blind digging

With no open trench, there is no excavator working through ground where buried services may be unmapped.



Work inside the host pipe

Repairs and linings are made within the existing pipe, keeping the work away from neighbouring cables and services.



Fewer people at risk

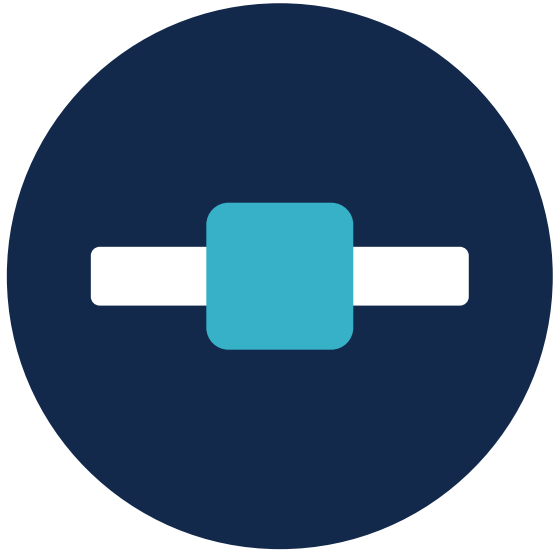
Smaller work areas and less plant on site mean fewer operatives and passers-by exposed if a strike does occur.

TECHNIQUE 01

No-Dig Patch Repair

Seals defects without opening a trench

- A localised resin-impregnated felt or fibreglass patch is inserted through an existing access point to seal a specific defect.
- Cured in place (UV or ambient), bonding directly to the host pipe wall around the damaged section.
- Fastest and lowest-cost option for spot repairs — no full-length relining required.
- Ideal for localised cracks, joint displacement, or small infiltration points.

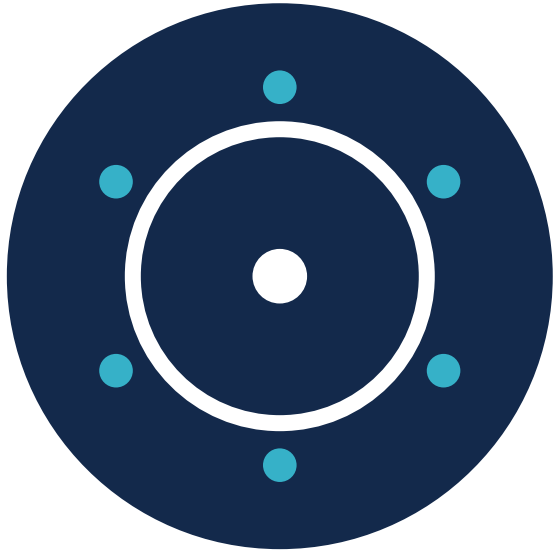


TECHNIQUE 02

UV Lining

Restores full-length structural strength

- A resin-saturated liner is winched or inverted into the full length of the host pipe, then cured using a UV light train.
- UV curing gives fast, controlled cure times and a consistent wall thickness compared with hot-water/steam curing.
- Creates a continuous “pipe within a pipe,” restoring structural strength along the entire section.
- Suited to longer runs and pipes with distributed defects, root intrusion, or corrosion.



TECHNIQUE 03

Robotic Cutting

Clears intrusions and restores full flow

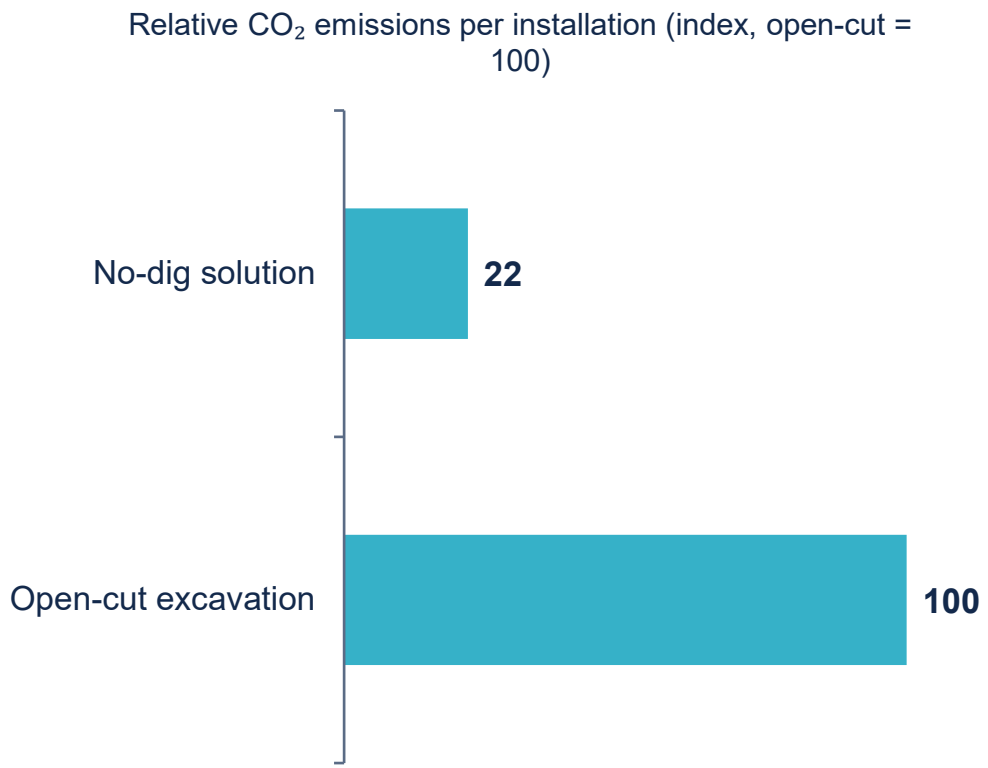
- A remote-controlled cutting robot is driven through the pipe on camera guidance to remove intrusions after lining.
- Re-opens lateral connections and clears obstructions without excavation, using precision mechanical or hydraulic cutting heads.
- Accurate work in pipes as small as ~100mm diameter.
- Typically the final step after patch repair or lining, restoring full flow and connections.



A smaller carbon footprint

Less plant, less spoil, less carbon

- Independent research (University of Waterloo / CATT) found trenchless methods cut greenhouse gas emissions by 78–100% versus open-cut
- TRL research for the Pipe Jacking Association measured carbon savings of up to 75% on typical urban pipeline installs
- Far less spoil to remove and far less reinstatement material (asphalt, concrete) to manufacture and transport
- Project durations often run under half that of open-cut — fewer machinery hours, fewer vehicle movements



Source: NASTT / University of Waterloo (CATT); Transport Research Laboratory for the Pipe Jacking Association. Figures illustrative of typical urban installations — actual savings vary by project.

Less impact on the public

Fewer road closures

Shorter project durations mean fewer diversions, less congestion and quicker return to normal traffic flow.

Streets stay intact

No large trench means pavements, verges, trees and gardens are left undisturbed.

Less noise & dust

No-dig plant runs quieter and cleaner than open-cut excavation equipment, for less disruption to residents.

High streets stay open

Local trade and pedestrian access are preserved rather than blocked off for weeks at a time.

AT A GLANCE

Open-cut vs. no-dig

	Open-cut excavation	No-dig solution
Typical duration	Full project timeline	Often under half the time
Cable strike risk	Dependent on operator judgement	Designed out via survey & routing
Carbon emissions	Baseline (100%)	Up to 78–100% lower
Road closures	Frequently required	Rarely required
Surface reinstatement	Extensive	Minimal to none

THE ASK

Recommendations for the Council

1

Mandate a no-dig feasibility check

Require a utility search and no-dig feasibility assessment as standard for all excavation permit applications.

2

Adopt a ‘no-dig first’ policy

Default to trenchless methods for suitable pipe and cable works, with open-cut as the exception to justify.

3

Run a pilot scheme

Trial no-dig methods on a high-footfall route or known cable-dense corridor to build a local evidence base.

4

Track and report the gains

Measure carbon, cost and disruption savings from the pilot to strengthen the case for wider adoption.

Thank You

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