Network Plus

Case Study

Domestic Water Meter Installations North West

SOILDRI®
Sustainable Soil Technology

OVERVIEW

Network Plus, a leader in utility and infrastructure services, has embraced SoilDri SEM as a key solution to improve trench backfilling operations across its contracts.

This forward-thinking approach directly addresses a fundamental industry challenge: excavated soils that are unsuitable to compact or reuse.

Without using the SoilDri enhanced material, these materials must be separated, tested and removed from site and replaced with imported aggregate, leading to increased costs, excessive transport movements, and project inefficiencies.

By applying **SoilDri SEM**, Network Plus **reduces** the **moisture content** of excavated soils, enabling **on-site reuse** and **eliminating** the need for **testing**, waste **segregation, disposal and imported pipe bedding** for surround to apparatus and Type 1 803 to the backfill layers. This not only **assists compaction, density, and stiffness** but also delivers significant **cost savings,** operational efficiencies, as a compliant and sustainable backfilling process.

By rolling out this solution across its contracts, Network Plus is setting a **new industry standard**, achieving:

- **Reduced costs** through lower material and transport expenses.
- **Lower carbon emissions** by eliminating unnecessary material movements.
- **Minimised social disruption** with faster, more efficient reinstatement and less vehicle movements.
- **Enhanced H&S** reduced manual handling and minimised open-excavation risks.
- **Improved ESG performance**, supporting sustainability commitments.
- **Quicker project times,** improving overall service delivery.

CHALLENGE

Utility trench excavation regularly exposes soils that cannot be compacted effectively due to excessive moisture content.

In traditional backfilling methods, this problem is addressed by:

Removing the excavated material

The soil that is transported to landfill or the tipping yard, often requires multiple trailer movements or expensive grab lorry services.

Importing aggregate

New material is brought in to replace the discarded soil, typically in the surround to apparatus and backfill layers. (The sub-base layer still requires standard aggregate placement).

This method creates multiple inefficiencies:

- A significant percentage of spoil must be removed, adding cost and logistical challenges.
- Crews spend unnecessary time handling material movements rather than focusing on productive work.
- Imported aggregate must be stockpiled, transported, and then manually placed, increasing labour demands.
- Poor compaction arising from segregated aggregates can lead to substandard ground conditions.

Beyond these inefficiencies, regulatory requirements are now more stringent, increasing the pressure on contractors to find **sustainable alternatives**. With the **removal of RPS 298/299** and the introduction of the **Street Works material classification protocol** and **WM3 regulations**, landfill disposal of trench arisings will be subject to stricter controls.

SoilDri SEM prevents the need for **disposal, transforming** what would usually be deemed a waste **into** a **durable, high-quality, and sustainable material** suitable for **reuse.** This process aligns with the core principles of the waste hierarchy.

SOLUTION

The SoilDri Solution:

By applying SoilDri SEM , Network Plus was able to reuse the soils on-site, removing the need for both spoil disposal and imported stone replacement.

How It Works

- Applied directly on site, it improves the moisture content for optimal compaction without altering the material's physical properties.
- Thanks to its non-binding formula, it meets the **requirements** of **SROH 2020 edition for S4 Surround to Apparatus and S5 Backfill Classification** under the Highway Authority and Utilities Committee Specification
- The compacted material achieved consistent strength and stability, preventing compaction failures associated with unusable soils and segregated aggregates.

- Crews worked more efficiently, avoiding repeated trips to transport spoil and import aggregate, reducing downtime, streamlining operations, and minimising common open-excavation risks such as environmental exposure, trip and fall hazards, and third-party interference.
- Switching to a 150mm compaction foot would further improve backfill performance, reduced health and safety risks, and lowered the weight of materials handled on-site.

ADDITIONAL BENEFITS

The need to send spoil to landfill was eliminated, reducing transport and disposal costs by **up to 90%** and significantly lowering trailer movements.

Imported Type 1 803 usage was **reduced by 80%,** cutting material costs and logistical demands.

The elimination of grab lorries saved approximately **£1000 per day** in transport costs.

Crews were able to **complete jobs faster** without needing to transport spoil to the yard, reload trailers, and move imported stone to site.

Quality Assurance & Testing

To confirm the **structural integrity** of the material, a **Clegg Impact Soil Tester** was used which is an industry-standard method for assessing soil stiffness before subbase application.

The excavated material mixed with SoilDri SEM consistently exceeded expectations, achieving a **CBR reading of 19%, well above the minimum 5% threshold on the fourth drop.**

This demonstrated that the arisings not only reduced moisture effectively but also produced high-quality, load-bearing backfill suitable for compaction.

COST SAVINGS

Total cost per water meter traditional remove & replace method £30

Total cost per water meter treat & reuse (SoilDri) £8

Each water meter excavation (0.7m x 0.7m x 1m) produces approximately one tonne of soil.

Cost Factor	Traditional Method (Remove & Replace)	SoilDri SEM (Improve & Reuse)
Landfill Disposal (one tonne per trench)	£15 per tonne	£0 (eliminated)
Imported Aggregate (one tonne per trench)	£15 per tonne	£0 (minimised)
SoilDri SEM (20kg bag at 2% rate)	N/A	£8 per bag
Total Cost Per Water Meter	£30	£8
Total Cost Savings	Zero	73% reduction

Prices may vary depending on quantity ordered and delivery location. Please contact us directly for a tailored quotation based on your specific project requirements.

REGULATORY COMPLIANCE

SoilDri SEM is fully compliant with the EA-approved 2025 edition of the Street Works UK Protocol whilst meeting the requirements of SROH 2020 edition for S4 Surround to Apparatus and S5 Backfill Classification under the Highway Authority and Utilities Committee Specification.

- **No Waste**
- **Compliant**
- **No Testing**
- **Cost Effective**
- **No Delays**
- **Carbon Efficient**

SUMMARY

By integrating SoilDri SEM into their trench backfill operations, Network Plus achieved significant cost savings, reduced material movements, and improved backfill quality. The ability to improve moisture-laden soil on-site and immediately reuse it removed one of the major inefficiencies in the excavation process.

Applying SoilDri's SEM to excavated soils significantly reduces air voids in the reinstatement layer post-compaction, enhancing the structural integrity for a more stable and durable finish. This approach delivered a faster, more cost-effective, and environmentally responsible alternative to traditional disposal and import methods.

Beyond operational and financial advantages, SoilDri SEM ensures full regulatory compliance with minimal administrative burden. By prioritising on-site reuse over landfill disposal, it upholds the principles of the Waste Hierarchy (Prevent and Reuse), reducing environmental impact, cutting project delays, and supporting long-term sustainability objectives.

This case study demonstrates that SoilDri SEM is not only a high-performance solution for surround to apparatus and trench backfilling but also a future-proof approach that helps contractors stay ahead of regulatory changes while maximising efficiency and cost-effectiveness.

SEE **SOIL**DRI SEM IN ACTION

Filmed on location during this Network Plus project, this short video demonstrates how SoilDri SEM transforms trench arisings into reusable backfill—highlighting the product's speed, simplicity, and compliance in live site conditions.

Watch the case study video here

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