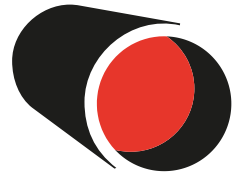




**STEVE
VICK**
INTERNATIONAL



SPECIALIST
Nuclear Solutions

case study

Hunterston A Pipe Trench Foam Filling and Sealing Project

Following the successful delivery of foam filling and sealing works at Hunterston A in 2014 and foam filling of delay tank valve chambers in 2021, Steve Vick International (SVI) was commissioned to deliver a further groundwater / surface rainwater ingress solution using the same proven technology.

The 2014 project involved sealing the active drain system and associated manhole chambers around the Active Effluent Treatment Plant (AETP), preventing groundwater / surface rainwater migration between chambers and reducing the accumulation of contaminated water. The success of this work demonstrated the effectiveness of SVI's proprietary foam filling and sealing technology and provided the basis for its application to the Hunterston A pipe trench project delivered in 2026.



The project also supported Hunterston A's environmental obligations, as eliminating the unnecessary generation of Active Water is a condition of the site's Environmental Permit under the Environmental Authorisations (Scotland) Regulations (EASR).

The project was delivered through a collaborative approach, bringing together colleagues from across the Hunterston A site and Steve Vick International. The combined expertise, commitment and close cooperation of the teams helped deliver an effective solution to an important operational and environmental challenge, while also establishing a strong foundation for subsequent works at the site.



Project Overview

Between May and June 2026, SVI delivered a foam filling and sealing solution to a 75 metre section of the Hunterston A pipe trench extending between the WILWREP, Active Effluent Treatment Plant (AETP), SAWB and Pond Building.

The objective of the project was to prevent groundwater / surface rainwater entering the trench system and associated chambers, eliminating the ongoing requirement for Hunterston personnel to routinely monitor and pump out accumulated groundwater / surface rainwater as part of planned maintenance activities.

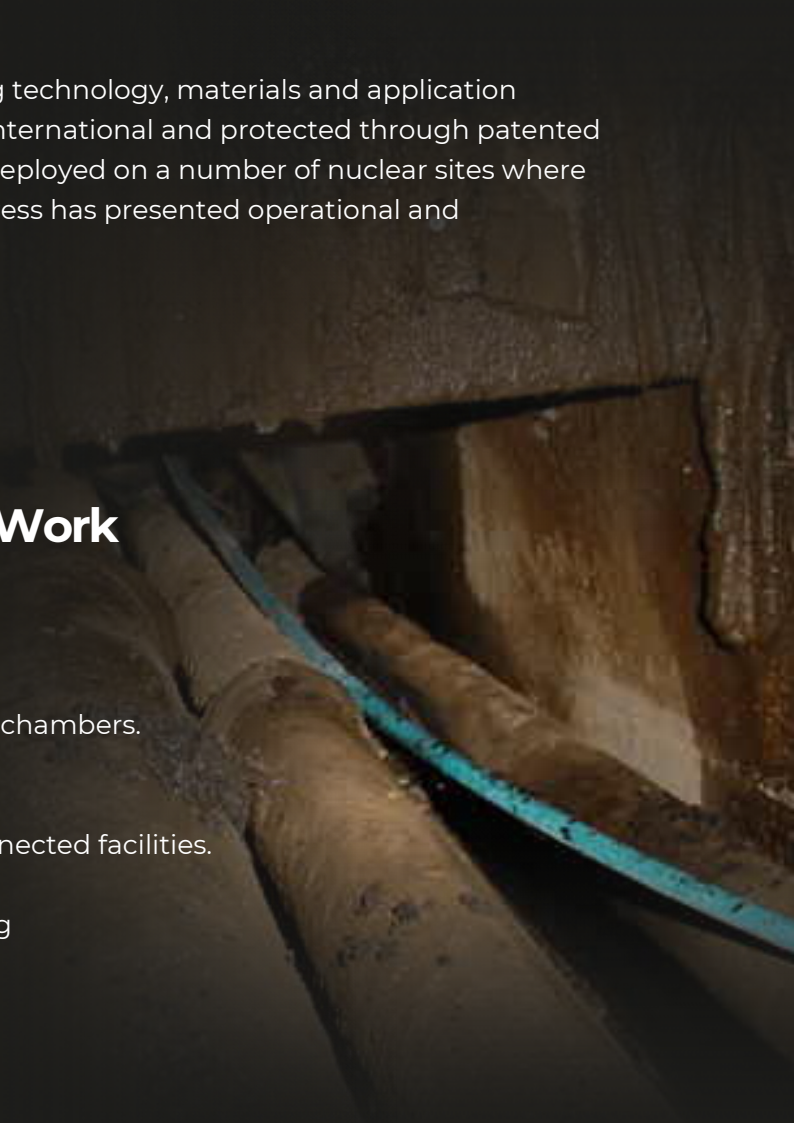
The project utilised SVI's proprietary foam filling technology, materials and application methodology, which are unique to Steve Vick International and protected through patented processes. This solution has been successfully deployed on a number of nuclear sites where long term groundwater / surface rainwater ingress has presented operational and maintenance challenges.

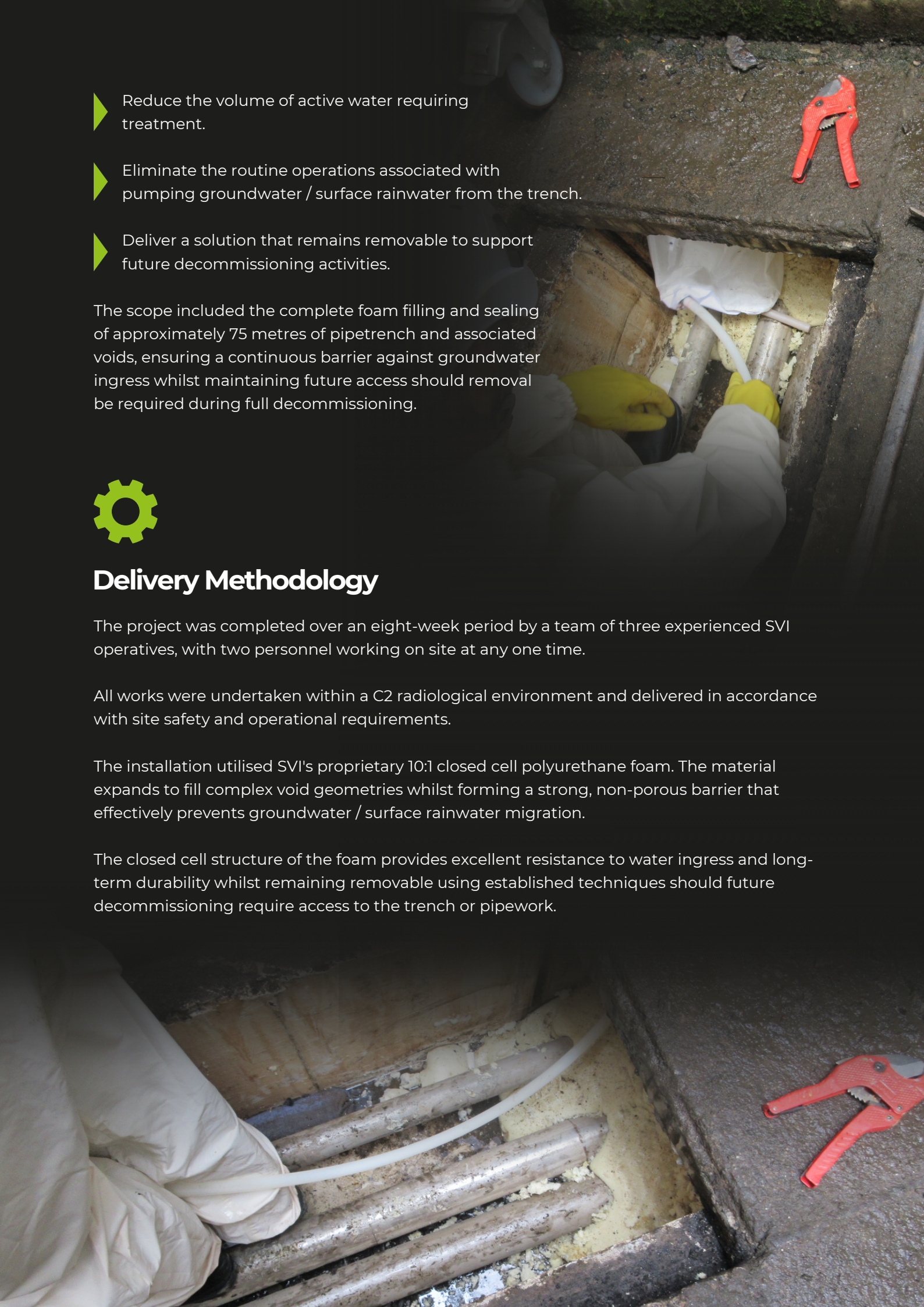


Requirements and Scope of Work

The project requirements were to:

- ▶ Prevent groundwater / surface rainwater ingress into the pipe trench and associated chambers.
- ▶ Minimise the accumulation of activated groundwater / surface rainwater within connected facilities.
- ▶ Reduce the volume of active water requiring treatment.



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- ▶ Reduce the volume of active water requiring treatment.
 - ▶ Eliminate the routine operations associated with pumping groundwater / surface rainwater from the trench.
 - ▶ Deliver a solution that remains removable to support future decommissioning activities.

The scope included the complete foam filling and sealing of approximately 75 metres of pipetrench and associated voids, ensuring a continuous barrier against groundwater ingress whilst maintaining future access should removal be required during full decommissioning.



Delivery Methodology

The project was completed over an eight-week period by a team of three experienced SVI operatives, with two personnel working on site at any one time.

All works were undertaken within a C2 radiological environment and delivered in accordance with site safety and operational requirements.

The installation utilised SVI's proprietary 10:1 closed cell polyurethane foam. The material expands to fill complex void geometries whilst forming a strong, non-porous barrier that effectively prevents groundwater / surface rainwater migration.

The closed cell structure of the foam provides excellent resistance to water ingress and long-term durability whilst remaining removable using established techniques should future decommissioning require access to the trench or pipework.



Project Outcomes

The completed installation delivered a fully tested foam filling and sealing system across the full 75 metre length of the trench.

The solution now provides an effective barrier that prevents groundwater / surface rainwater entering the trench, associated chambers and connected buildings.

By significantly reducing groundwater / surface rainwater ingress, the project has removed the routine requirement for Hunterston site personnel to monitor and pump accumulated groundwater / surface rainwater following periods of rainfall or adverse weather. This also reduces the quantity of groundwater / surface rainwater that can become active, lowering the volume of active water requiring treatment on site.



Benefits to NRS

The completed installation delivers a number of operational, environmental and financial benefits to Nuclear Restoration Services (NRS), including:

- ▶ Prevention of groundwater / surface rainwater ingress into the trench network, associated chambers and connected buildings.
- ▶ Elimination of routine pumping and monitoring activities previously carried out by Hunterston site personnel.
- ▶ Reduction in the volume of active water requiring collection, management and treatment.
- ▶ Lower through life costs by removing recurring maintenance activities and reducing the resources required to manage groundwater / surface rainwater ingress.
- ▶ Reduced demand on operational staff, allowing resources to be focused on higher value decommissioning activities.

▶ A removable solution that supports future decommissioning without permanently restricting access to the infrastructure.

▶ A proven technique with an established track record at Hunterston A following the successful 2014 installation.

In addition to improving operational efficiency, the solution offers significant long term cost savings by reducing the ongoing expense associated with pumping, monitoring and treating activated groundwater / surface rainwater throughout the remaining operational life of the facility.

“Achieving this has been a great team effort, bringing together colleagues from across Hunterston A site, and Steve Vick International. Their commitment, expertise and collaborative approach have helped deliver an important contract for the site and laid strong foundations for the next phase of the additional work in the CCP Building.

This has contributed to the huge success of the Resin Trench foam filling Project”.

**John Monaghan
Project Manager, NRS Ltd**





Technical Innovation

The foam filling and sealing system installed at Hunterston A uses proprietary materials, equipment and application techniques developed exclusively by Steve Vick International.

SVI is the only organisation able to provide this patented technology and application methodology, offering a specialist solution specifically developed for underground infrastructure within challenging environments, including the nuclear sector.

The success of both the 2014 and 2026 projects demonstrates how this proven technology can be applied to reduce groundwater / surface rainwater ingress, minimise operational maintenance and support efficient decommissioning across the wider NRS estate.

Conclusion

Building on the success of the original 2014 project, the 2026 pipe trench foam filling and sealing programme has delivered a reliable and effective groundwater / surface rainwater ingress solution for Hunterston A.

The project has reduced the generation of active water, eliminated the need for routine pumping and monitoring of the trench, lowered through life maintenance costs and reduced the volume of water requiring treatment. As a patented, proven and removable solution, SVI's foam filling and sealing technology provides a practical approach that could be replicated across other NRS sites facing similar groundwater / surface rainwater ingress challenges.

Follow On Works: Pond Building Trench Foam Filling

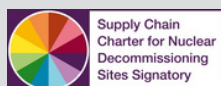
Following the successful completion of the 2026 pipe trench foam filling and sealing project, SVI was allocated further works within the Pond Building to extend the benefits of the completed solution.

The external resin trench had been filled with foam to prevent rainwater ingress and accumulation between the external wall of the Pond Building and the low point of the trench adjacent to the WILWREP external wall. A further section of trench within the Pond Building, extending towards the historic decommissioned caesium removal units, remained open. With the Pond Building awaiting a replacement roof, expected within the next year, rainwater ingress into the building continues to occur. This water was collecting within the isolated section of trench, which had no external route for dispersal and therefore required regular pumping from the below ground void.

As SVI had successfully completed the external trench works and remained mobilised on site, the team was able to continue directly into the Pond Building to fill the remaining section of trench. The objective of this follow on work is to prevent the accumulation of rainwater within the below ground void and move the water management challenge to a more controlled and accessible location.

Following completion of the internal foam filling works, any rainwater entering the Pond Building prior to roof replacement is expected to pool at floor level within the pond area. While this water will still require collection and treatment until the building roof is repaired, this represents a significantly more managed and controllable position than the current accumulation within the isolated below ground trench.

The allocation of this follow-on work demonstrates the value of delivering a successful initial project and maintaining continuity of specialist resources on site. By extending the proven foam filling and sealing approach into the remaining internal trench, NRS can further reduce the operational burden associated with rainwater management while the Pond Building awaits its replacement roof.



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