



Sel Environmental
Real Innovation.

Greenstreets for London, Retrofit Suds

Greenstreets for London

Counters Creek Flood Alleviation Pilot Suds Scheme

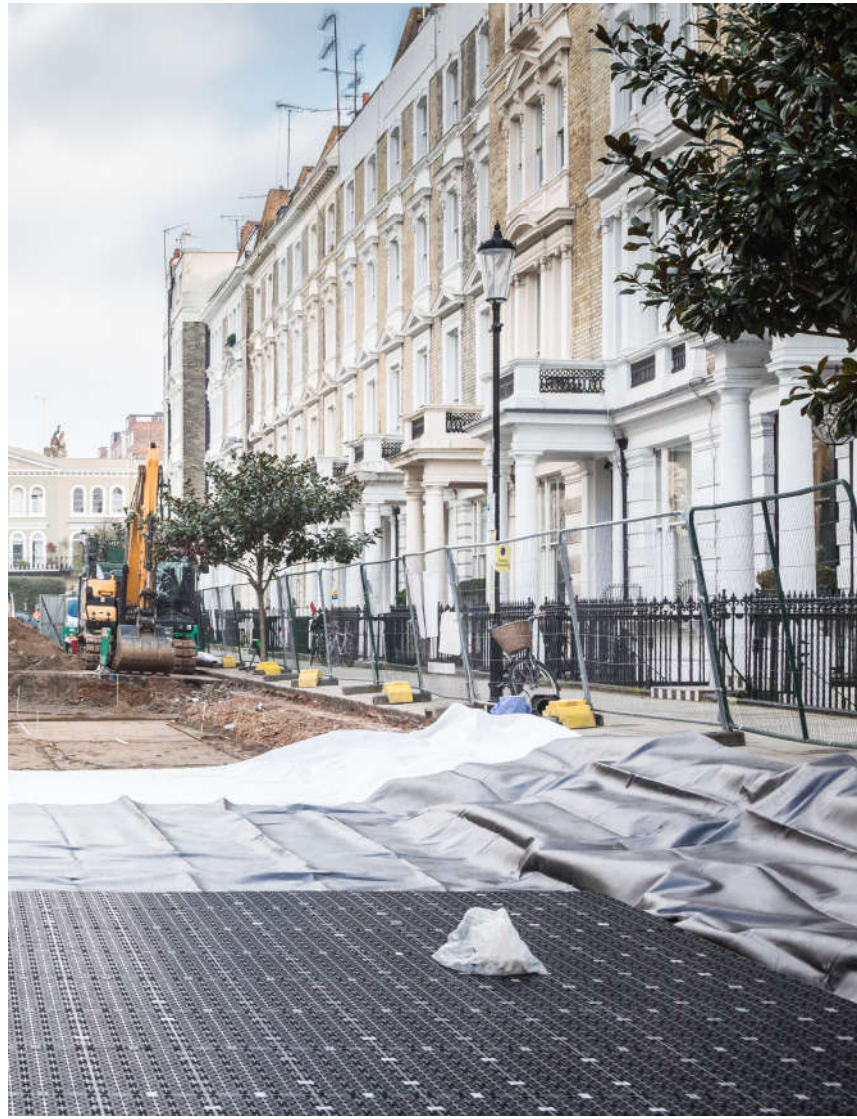
Over time, the area of paved surfaces in urban areas like London increases. This reduces the amount of rainwater that can infiltrate into the soil. Instead, it drains into local sewers, which can increase the risk of sewer flooding. When sewers fill to capacity, they overflow at the lowest point in the network; often through drains, toilets and sinks in basement properties. To address this, Thames Water proposed and funded a scheme called the Counters Creek sewer flood alleviation scheme. The sustainable drainage installation at Arundel Gardens in the Royal Borough of Kensington and Chelsea is part of this scheme.

The purpose of the sustainable drainage systems (SuDS) is to slow the flow of water into sewer during periods of rainfall. At Arundel Gardens the existing flow rates into sewer could be as much as 200 l/s during heavy storms. After the SuDS system was installed the flow into sewer was reduced to around 6l/s, a 97% reduction.

Slowing the flow into sewer requires the rainwater to be temporarily stored during the storm. Space is at a premium in densely populated cities like London so an innovative solution was required.

Sel Environmental worked very closely with the Consultants Atkins Global to deliver a pioneering design which had technical backing from Thames Water, the Royal Borough of Kensington and Chelsea, and Transport for London, to put the storage directly below the surface of the road at Arundel Gardens.





Although below the surface of the road, rainwater was stored above formation level to avoid existing services. A layer of the high strength sub-base replacement system (Permavoid) was installed within a Selflex welded membrane with a Controflow flow control chamber on the outlet to sewer. Rainwater entered the system through a permeable asphalt road surface with a layer of Sudstex Permafilter oil retaining geotextile. This treatment allowed a passive irrigation system to be incorporated to use the treated rainwater to passively irrigate nearby Magnolia trees.

To minimise disruption of the local residents the works were carried out in four phases along the length of Arundel Gardens and even though the works commenced in November 2016, the successful completion of the project was achieved ahead of the proposed 16-week installation schedule. This was due to a good design, excellent working relationships with the Client, Designers, Contractors, Subcontractors and even members of the public. One of the main reasons this was made possible was the exceptionally proactive communication protocols that were implemented all the way through the entire project from inception, procurement, and implementation.

Thank you to Elizabeth Sale, Stakeholder Engagement and Consultation Specialist Counters Creek flood alleviation scheme who worked tirelessly with communications throughout what became a very successful project and a blueprint for the 'healthy London' of the future.





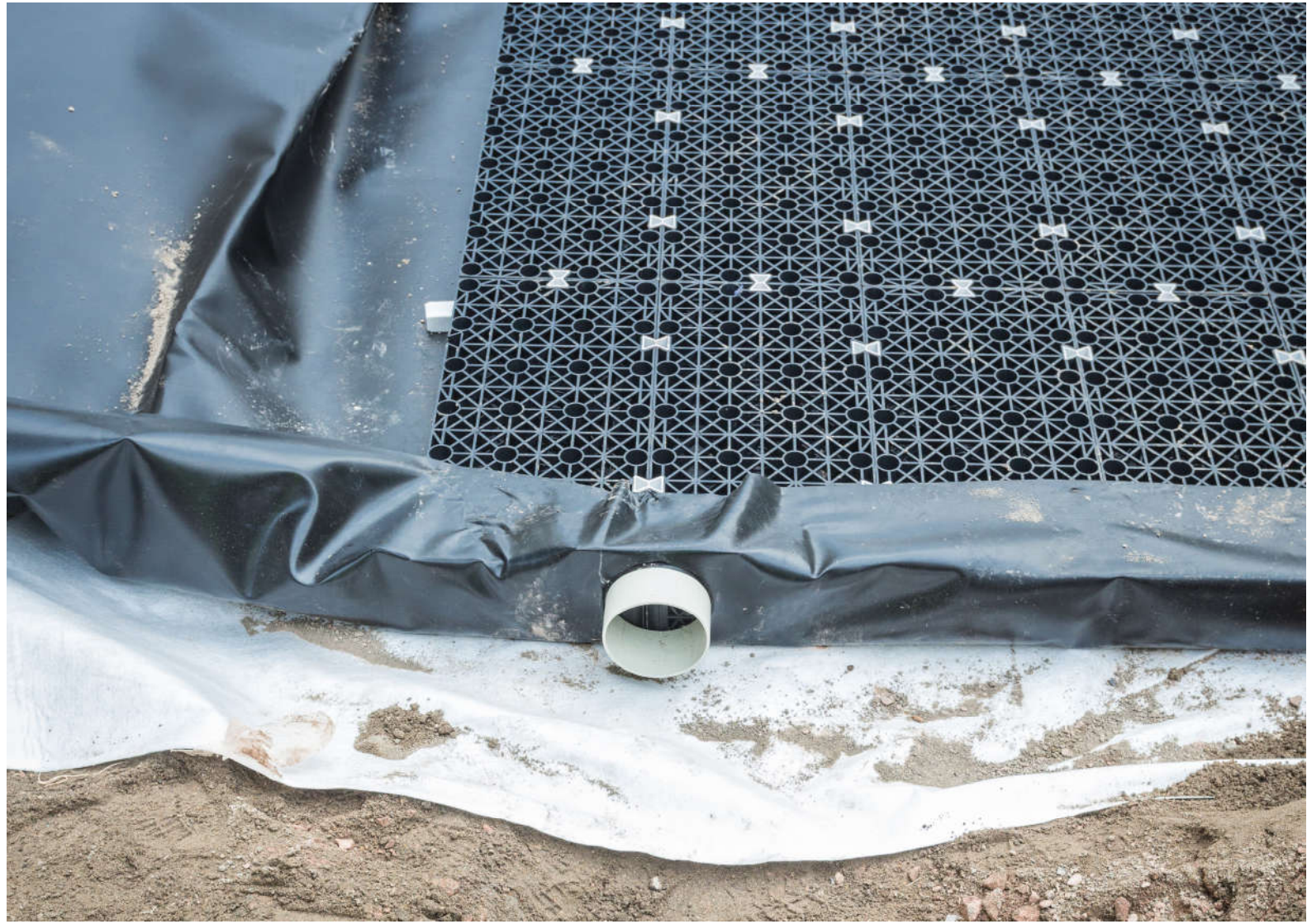




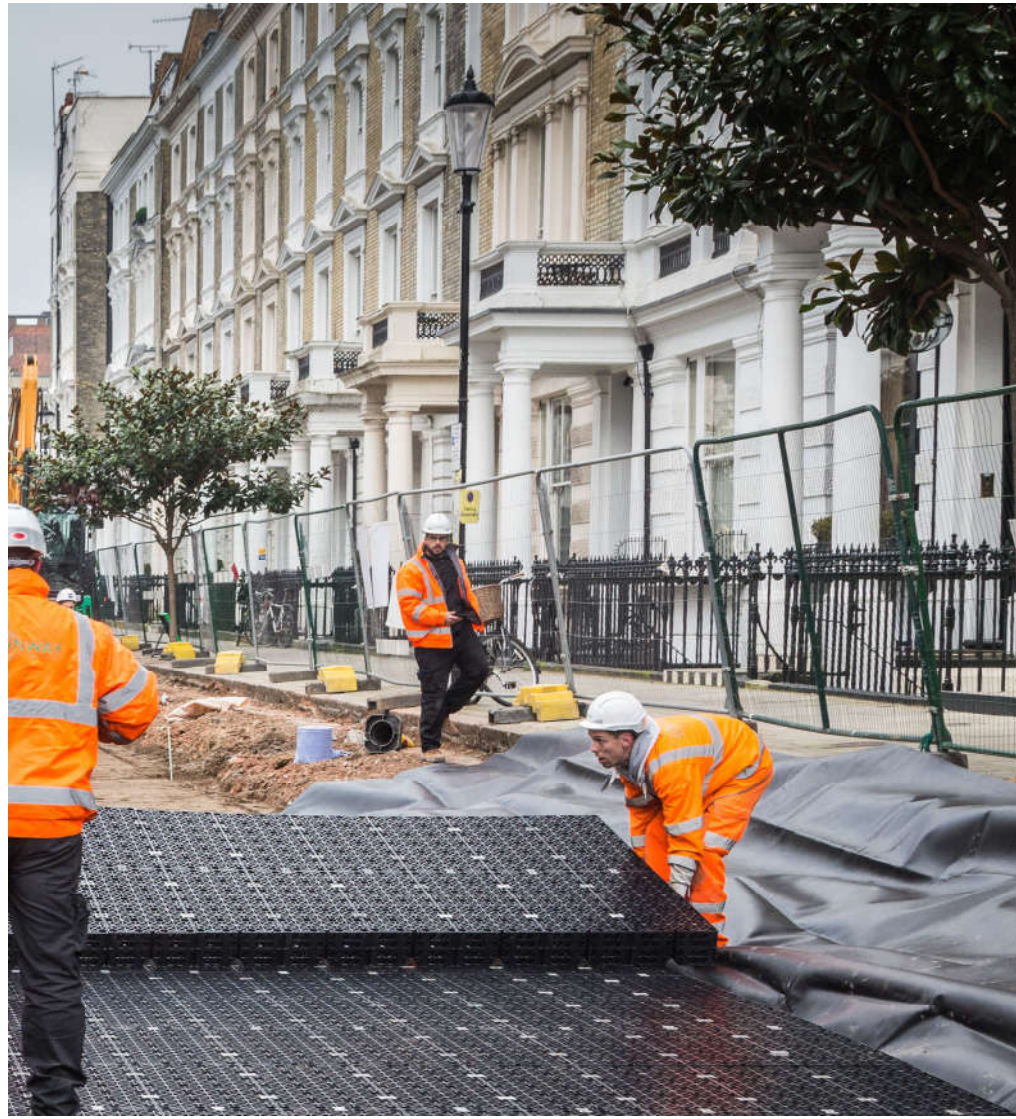












In addition to working closely with the Consultants Atkins Global to deliver this pioneering solution, FM Conway Ltd employed Sel Environmental as the specialist installer of the welded geomembranes, geotextiles and Permavoid system.

FM Conway Ltd are a Contractor for the Royal Borough of Kensington and Chelsea and a key delivery partner for Transport for London.

During the works for the Counters Creek flood alleviation scheme a strong working relationship was established between all parties involved, Thames Water, Royal Borough of Kensington and Chelsea, FM Conway, Atkins Global, Sel Environmental and Local Residents.

"Works carried out professionally. Great working relationship. A pleasure to work with them and have no hesitation in recommending them and look forward to working with Sel again." FM Conway Ltd















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