

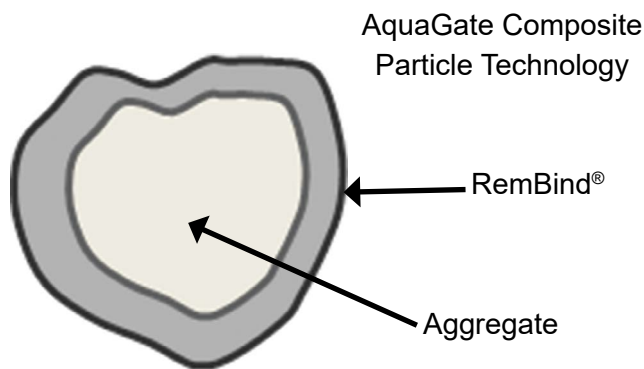
PFAS Surface and Groundwater Remediation

AquaGate+RemBind is a composite particle consisting of an aggregate core coated with the reactive commercial sorbent RemBind.

This unique product facilitates the uniform delivery of powdered RemBind, for the *in-situ* passive removal of Per- and Polyfluoroalkyl Substances (PFAS) in groundwater or surface drainage systems.

The AquaGate+RemBind product design combines two proven world-class technologies:

- RemBind is a powdered sorbent that binds up long- and short-chain PFASs in soil and water. It has been independently validated by government and industry and used commercially worldwide
- AquaBlok (USA) has spent the last decade demonstrating the effectiveness of using powder coated aggregates to treat organic contaminants using permeable reactive barriers (PRBs).



Benefits

- Cost effective - passive process
- Uniform placement of reactive powders
- Easy to apply with conventional equipment
- Can be manufactured at site
- Combines proven technologies



AquaGate+RemBind being used to control leachate from stockpiles

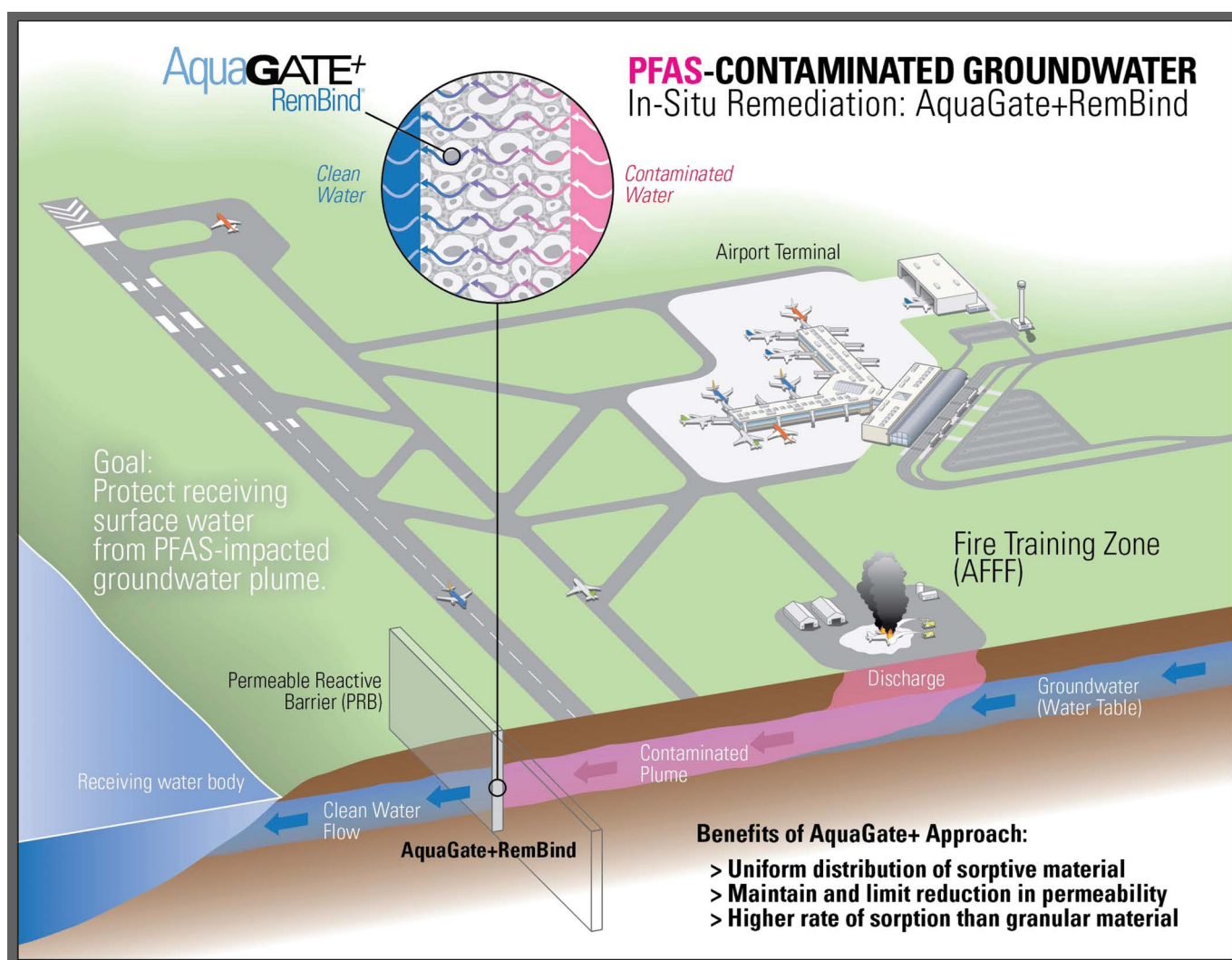
PFAS Surface and Groundwater Remediation

Field Applications

Groundwater Remediation (Permeable Reactive Barriers)

PFAS compounds are highly soluble in water and are transported rapidly through surface run-off, infiltrating groundwater and impacting surface water and sediments (i.e. in a basin, detention pond, lake or river).

Currently groundwater contaminated with PFAS, the most common approach is to remove the water via a pump-and-treat system and discharge the clean water to a nearby sewer or surface water body. Although it's generally agreed that this approach is expensive and an unsustainable solution, few *in-situ* approaches have been developed or proven. However, AquaBlok's AquaGate approach now offers the ability to utilize RemBind adsorptive materials in a Permeable Reactive Barrier (PRB) configuration to prevent migration of a PFAS groundwater plume.



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Field Applications

Emergency Spill Response

AquaGate+RemBind can be used to mitigate runoff during emergency flood or spill response involving PFAS contaminated water or liquids.

Sediment Remediation

At present, the focus on PFAS remediation is on groundwater and drinking water. However, as contaminated groundwater migrates to surface water bodies, such as rivers and lakes, aquatic biota and fish are impacted, as well. There is increasing evidence that these sensitive ecological receptors are impacting the food chain.

To address PFAS accumulations in sediments, AquaGate+RemBind can be applied to limit the impact of PFAS on sensitive biological receptors. In the past the same approach using AquaGate+PAC (powdered activated carbon) and AquaGate+Organoclay have been successful in addressing contamination in sediments.

Surface Water Remediation

At most airports and Defence sites, surface water is managed using an above-ground drain system. To minimize the amount of PFAS contamination leaving site in these drains, above ground PRBs containing AquaGate+RemBind can be installed. Testing and design work for this type of system commenced in Australia in 2018.

Soil Stockpile Leachate Management

Stockpiles of PFAS contaminated soil often require a liner to be installed to manage leachate runoff. For temporary stockpiles, a layer of AquaGate+RemBind can be used as a liner as a practical, simple method for leachate containment. When the stockpile is moved, the product can be sacrificed with the soil.

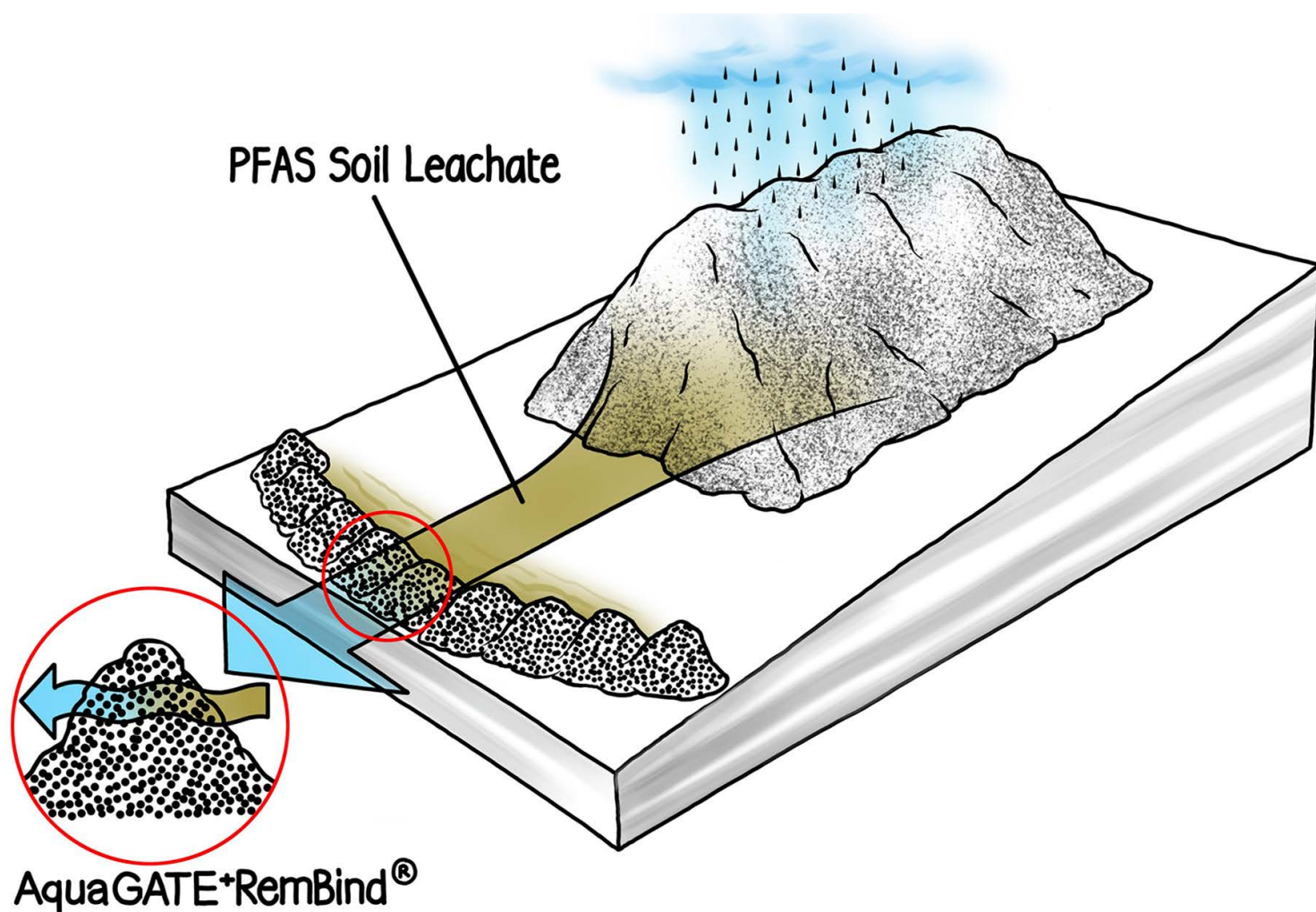


Sediment Remediation



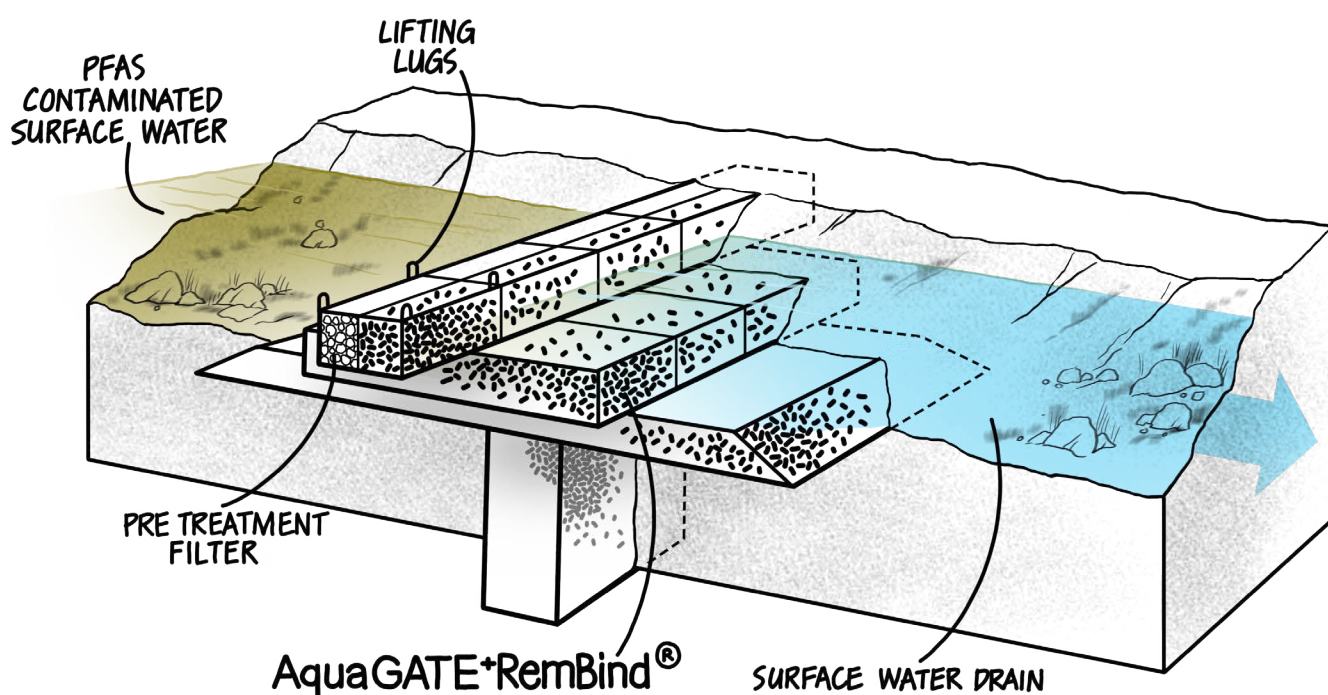
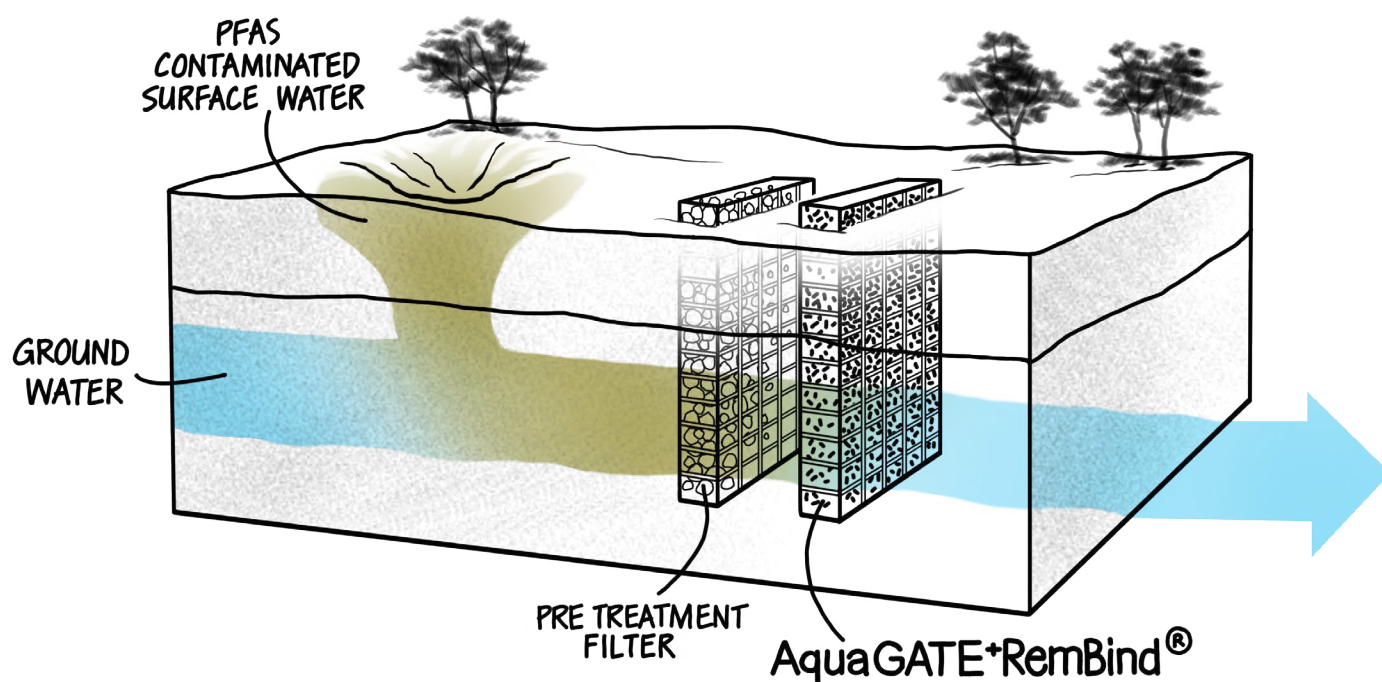
Groundwater Remediation
(Permeable Reactive Barrier)

Site Conceptual Designs



PFAS Surface and Groundwater Remediation

Site Conceptual Designs



PFAS Surface and Groundwater Remediation

Site Conceptual Designs

