Fire water management
Managing firewater and firefighting foams

This fact sheet explains how to dispose of fire water and firefighting foam collected while extinguishing a fire at a property or during fire training exercises.

What is fire water?

In many firefighting situations, large volumes of water can remain pooled onsite after a fire has been extinguished.[1] We refer to this as fire water. It is not uncommon for the fire brigade to add special firefighting foams to assist in extinguishing fires, especially when fighting industrial blazes. At chemical sites, foams are often automatically dosed into fixed firefighting equipment when the system is activated.

Fire fighting foam

What risks does fire water pose?

Fire water may contain materials that present a risk to Greater Western Water's sewerage network, including firefighting foams, products from combustion and raw materials which may not have been ignited.

These hazardous compounds can:

- pose an occupational health and safety risk to sewer workers
- cause accelerated sewer asset corrosion or create an explosive atmosphere within sewers
- upset or inhibit sewage treatment plant operations
- compromise the quality of recycled water and biosolids produced at treatment plants and/or
- harm the environment if they pass through the sewage treatment plant untreated.

Firefighting foams have several intrinsic properties that can have detrimental environmental impacts when they are discharged into the sewer.

- They may cause excessive foaming at sewage treatment plants, which can float and accumulate on top of treatment tanks and take up large fractions of treatment volume. Foams pose a risk to sewage plant operations and the environment as they can overflow onto walkways and surrounding areas.
- Firefighting foams may not be treatable at sewage treatment plants because they are designed to be non-flammable and are typically highly stable chemical compounds. This stability often results in foams being non-biodegradable allowing them to pass through treatment and enter the environment where they can bio- accumulate.

[1] This document is relevant to fire water that may have been contained within bunds as well as that which has escaped bunded areas or was never captured in a bund (fire water run-off).

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Can fire water be directed to sewer?
All fire water should be contained on site and should never be directed to sewer without first having received Greater Western Water's consent.

In the case where there is insufficient opportunity to gain consent prior to discharge (emergency discharge), Greater Western Water should be notified of the discharge immediately so that downstream impacts can be managed.

In either case, customers should notify Greater Western Water and provide the necessary details including:

- Company name
- Contact person
- Business type
- Possible contaminants
- Urgency (i.e., timeline, expected duration)
- Contingency
- Control and mitigation measures; and
- Possibility of obtaining a fire water sample.

Depending on the urgency of the situation, Greater Western Water may also require the customer to perform one or more of the following steps before giving consent to discharge:

- justify that the sewer is the most appropriate option for disposal
- provide details on the volume of fire water to be discharged
- complete a laboratory analysis of the fire water so the contaminants and their concentrations are known. Requests to discharge older-types of halogenated foams containing PFOS (perfluorooctane sulfonate) or PFOA (perfluorooctanoic acid) are typically rejected due to their non-biodegradability and may need to be collected by a licensed waste disposal contractor who can appropriately treat such contaminants
- supply a Safety Data Sheet (SDS) for the fire-fighting foams present within the contained fire water; and/or
- provide details on how the discharge to sewer will occur (and if necessary what pre-treatment will be applied).

Greater Western Water will make an assessment based on the information provided and may accept or reject the application to discharge to sewer or request that additional information be supplied.

Regular fire system testing
For customers that undertake routine fire system testing involving the use of foams, clauses to manage the risks may be included in the relevant Trade Waste Agreement rather than dealing with each instance separately.

For emergency fire water discharge, call Greater Western Water Faults and Emergency on 132 642.

For general information about fire water management, call Greater Western Water on 131 691, email tradewaste@gww.com.au or talk to your site's assigned GWW Representative.