

Emergency Water Supplies (EWS)

Generally, Fire Services will secure a water supply from a fire hydrant connected to a pressure fed water main located underground within the road or pavement and this is usually enough for a small fire. Increasingly it is becoming important to have alternative emergency water supplies available that can be used where normal fire hydrant water supplies are further away, the main size insufficient or the flow rate or pressure is inadequate and would not supply the required quantities of water for firefighting. In some cases, fire hydrants are too far away to use, every minute is key when attending a fire incident, and if the supply of water is not secured before the fire appliance runs out of the water lives maybe put at risk as the fire crew will not have the ability to fight the fire, the fire will continue to grow causing more damage to the property and as a consequence more water will be needed to suppress and extinguish the growing fire.

Tanks

There are different types of water tank available such as gravity tanks that are high or elevated to provide pressure (diagram 1), these are generally used to supply water to a fire appliance. A below ground tank or ground level (diagram 2), bladder type reservoir usually provide water to a fire appliance, the water must be extracted using hard wall suction hoses manufactured to withstand the internal vacuum created when using the pump on the fire appliance to extract the water.

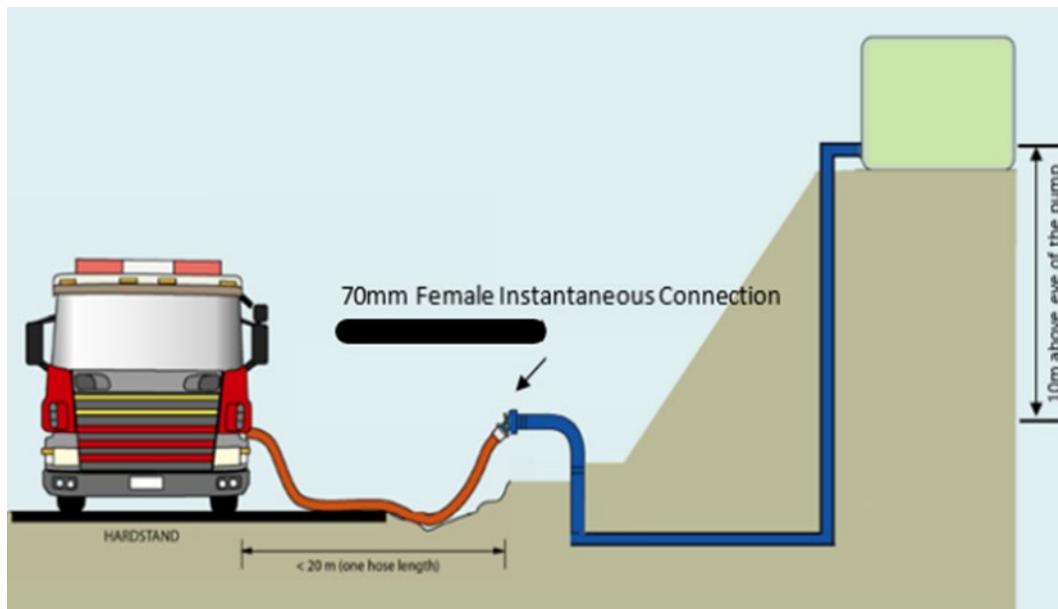


Diagram 1.



Above ground water tanks

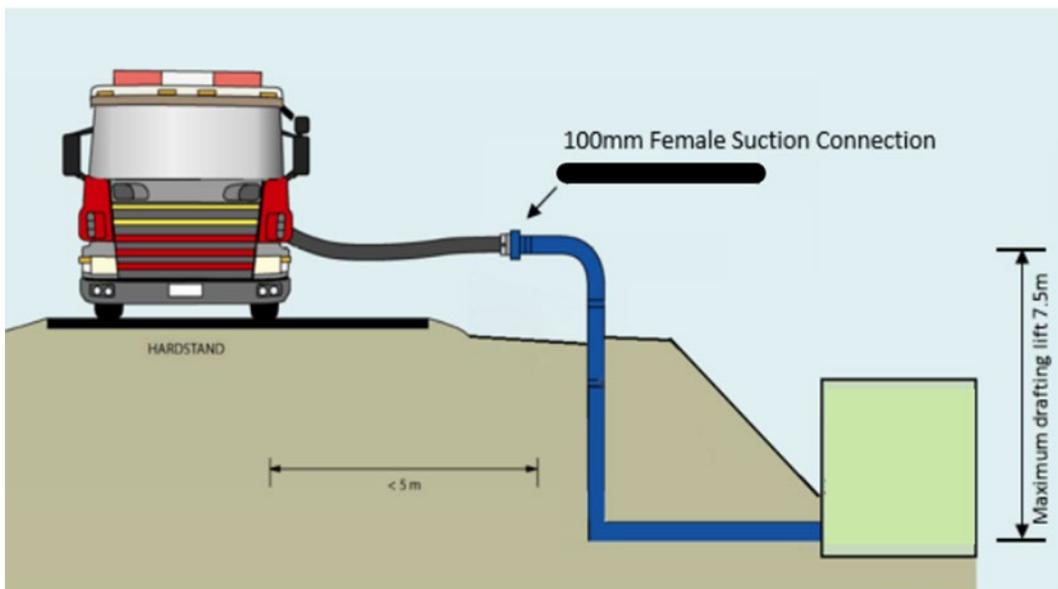
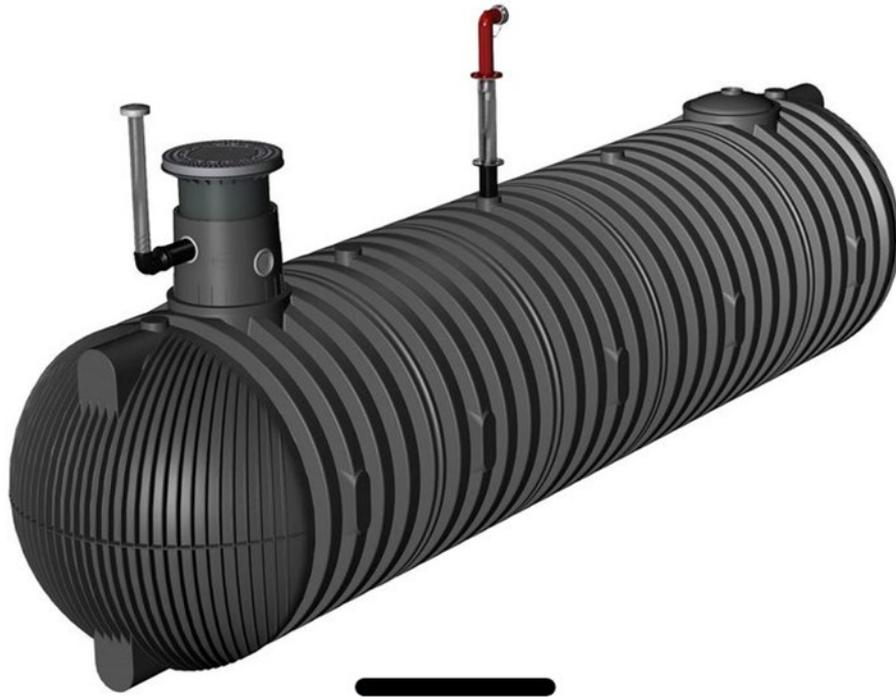


Diagram 2.



Below ground tank.



Outlet connections

The outlet fittings on water bowsers, farm water tanks and bladders are often not compatible with the inlet fittings on fire engines. Fire appliance are commonly a 70mm standard instantaneous coupling, but farm bowsers use very different 2-inch cam lock couplings. Careful attention must be taken to ensure the selection of the appropriate fittings when installing these water supplies. When consulting on the provision of alternative water supplies, WSFRS do request a 4" BSP female screw connection is fitted with an isolating valve to ensure we can then extract the water rather than rely on gravity, as this would be too slow if the tank is not elevated sufficiently. Below are some pictures of a 4" BSP female connection designed to be used with a hard wall suction hose.



Other water supplies

Swimming pools, lakes, ponds, and rivers can be used but they must be accessible to either a light portable pump or a fire appliance. Natural water supplies may also be affected seasonally, and this should be taken into consideration. Any alternative water supply must always hold a minimum of 45,000 litres of water and should not reduce less than this in the dry summer season, as it would not be useable by the Fire Service. Also there needs to be clear access for the light portable pump or the fire appliance to gain access to the water, a hard standing area the pump or appliance can be set up. Diagram 3 shows a fixed pipe suction from an open water supply and diagram 4 shows a hard wall suction hose directly into the water.

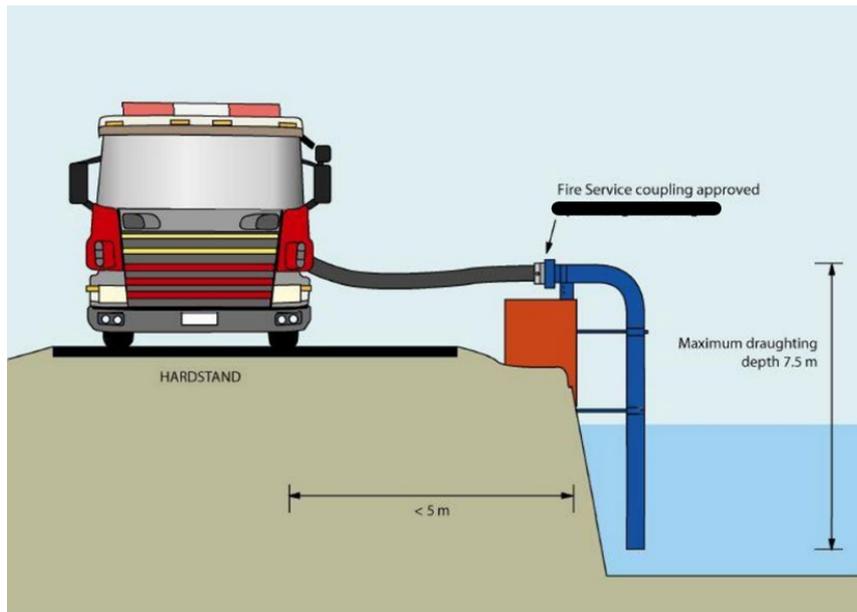


Diagram 3.

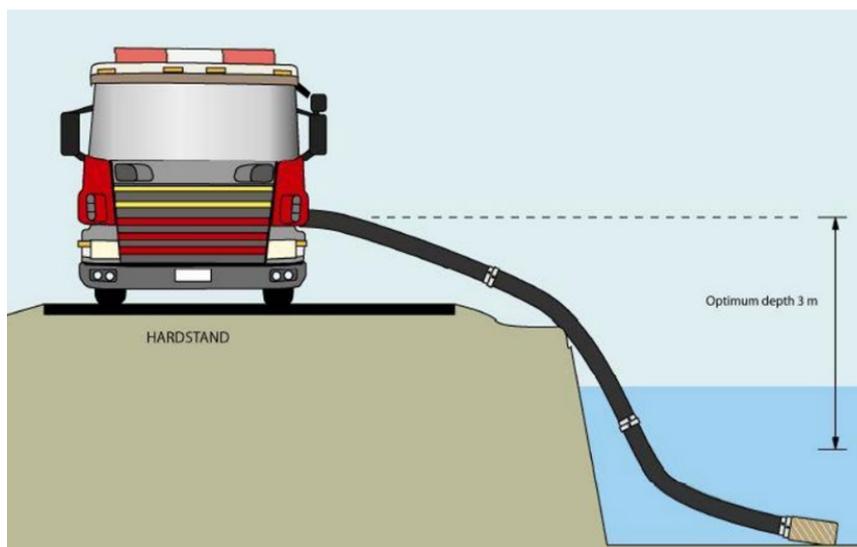


Diagram 4.

Should the Responsible Person require further help or information we may be able to visit the site to offer our recommendations. FRSwaterandaccess@westsussex.gov.uk