



FREQUENTLY ASKED QUESTIONS DRAINAGE

1. **What is the difference between a soakwell and a drainage pit?**

A *soakwell* is a cylindrical concrete tank with angled holes in the side walls and a sizeable hole in the base that allows the water to soak into the soil, while a *drainage pit* is a completely enclosed cylindrical concrete tank with no holes in the side or base.

2. **What is a drainage sump?**

It is a different name for a drainage pit, as described in point one.

3. **What is a silt pit?**

The function of a silt pit (a lot connection pit) is to capture any silt or solid objects that are present in the stormwater before the water passes into the City's drainage system. Silt pits are generally located inside the lot boundary. In clayey soil, a silt pit can also function as a flow control pit, to allow only a small, constant flow of stormwater to be released into the drainage infrastructure at any one time, while the remaining water is being stored on the lot for a short period of time.

4. **Why are so many soakwells required under the City's standards and regulations?**

Drainage pipes and pits - known as drainage infrastructure - were originally put in place in accordance with the original zoning/density of the land which set out the number of houses and the sizes of the lots. As most lots were large this allowed for rainwater to be managed on the lot and there was no allowance made for water to drain from the lots into the road drainage infrastructure. An increase in residential density means an increase in the number of dwellings and therefore a decrease in the areas that rainwater was previously able to soak into - referred to as pervious areas. The existing road drainage infrastructure is not able to handle the increased volume of water as it was designed and constructed to collect rainwater only off the road. Builders, developers and owners are responsible for the construction of



additional drainage infrastructure that is required within the boundaries of each lot, to accommodate for the increased water volume.

5. **What is the depth of groundwater beneath my property?**

The Department of Water, www.water.wa.gov.au, has the records of the groundwater levels in the Perth Groundwater Atlas. This information is quite broad and may not reflect the individual lots circumstances. Groundwater levels vary with the seasons. For recent subdivisions the City may have records of groundwater levels. Builders/developers are encouraged or may be required to undertake further investigations.

6. **When can a development be connected into the City's drainage infrastructure? Is the builder/developer required to contact the City for information related to each development? Is the existing City drainage information available on the website for the public to gain access whenever it is necessary?**

With approval, a development can be connected to the City's drainage infrastructure when on-site stormwater disposal is not suitable. Connection to the City's drainage infrastructure depends on soil conditions, actual groundwater levels, lot size and when the development is not classified as an 'A' class site. The builder/developer is required to contact the City for information on the availability of a drainage connection for each development, as this information is not available on the City's website.

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7. **Why is there a drainage easement within the lot boundary?**

The purpose of a drainage easement is to protect the drainage pipe within it from being damaged and to provide sufficient space to access and maintain the drainage line whenever necessary. Easement information is available on the property title. For further Easement information please refer to the City's Easement information sheet.

8. **Are plastic soakwells acceptable to the City?**

Concrete soakwells are the preferred choice for soakwells in the City. They are required under all paved areas.



9. **Where a builder connects a pipe in between two soakwells/drainage pits, will it be at the top or the bottom?**

Soakwells are usually connected at the top, whereas drainage pits are to be connected at the base. Detailed information can be obtained by referring to the City's standard drawings.

10. **What type of soils are usually encountered throughout the City? Is a geotechnical report required for every development?**

The most common soil types encountered in the City are sand, clayey sand, sandy clay and clay. The City has a general idea about the locations of various soil types within its boundary; however, all development applications are required to submit a geotechnical report if not previously provided with the subdivision documentation. Geotechnical reports need to be submitted in accordance with the relevant Australian Standards, detailing site conditions with respect to soil, groundwater and stormwater disposal. The report is to nominate whether the site is suitable for on-site infiltration or and what works are required to be implemented to provide for this capability or a suggested alternate means of disposal.

11. **Due to restricted space within a lot, can deeper soakwells or drainage pits be used?**

Soakwells operate efficiently in infiltrating water into surrounding sandy soil when the existing water table is well below the base of the soakwell. However, if the existing water table is high, then shallow soakwells with a larger diameter need to be used to ensure adequate storage capacity. When considering soakwells as a means to dispose of stormwater it is the builder/developer's responsibility to take into account the varying depths during the year of the existing ground water table.

In clayey sites, it is the builder/developer's responsibility to ascertain the invert level of the discharge point and to design a drainage system at the appropriate depth so that stored water will leave the site after a rainfall event.

When planning the layout of the house and stormwater drainage facilities, the builder/developer needs to allow sufficient space to locate the soakwells/drainage pits within the lot.



12. **Why do soakwells have to be connected to each other?**

Soakwells are connected to each other to allow for the even distribution of stormwater between them.

13. **How can a resident assist in avoiding flooding?**

Surfaces that don't allow water to flow through them - referred to as impervious surfaces - such as roads, roofs and paving, can encourage fast-moving and high volumes of stormwater which can cause problems like flooding and erosion. Permeable surfaces, such as grassed areas and porous paving can increase the permeability of the environment and therefore reduce the amount of water running off the surface. Water collecting systems, such as rainwater tanks, which store the water and prevent it from leaving the property for some time and regularly cleaning your gutters, downpipes and silt pits will also assist in water damage prevention.