

City Talk Column for June 14, 2023

Public Works Department

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The benefits of slowing stormwater runoff

With Memorial Day weekend behind us, it is official that summer is here. And if you have been in Arizona long, you know that shortly after summer begins comes the monsoon season. If the past years are any indication of what we can expect this year, it could be another very wet season for us. Although the rainfall is very welcome, it does cause some inconveniences that we have gotten used to not dealing with during the prolonged drought.

Stormwater runoff has become a prevalent concern lately due to the significant storm events we have seen. This runoff has the potential to cause property damage and if it contains contaminants, it could further impair our treasured Oak Creek. Aquifer recharge is a well-established practice that can be applied to stormwater projects to maximize the capture and infiltration of water underground. These projects can be done on your property and have a positive impact within each neighborhood.

Extractable groundwater has accumulated in aquifers over a very long time. However, this groundwater is being replenished at a much lower rate than it is being pumped. Arizona Water Company, who provides most Sedona residents with water, has stated they have not seen a decrease in the water level in their local wells over many years. This is great news. But you may ask, how can we help maintain this condition?

Although there is a current requirement for new houses to detain, or slow, the runoff, homes built prior to this requirement typically do not have any detention. We have seen a trend of property owners putting down pavers or concrete over a larger portion of their lot to possibly minimize the mud or gravel runoff, but conversely it also sheds water quickly rather than letting it be absorbed in the ground. We are encouraging all property owners to do small detention and retention areas to slow the runoff, resulting in better capture of storm water, which will then help with aquifer recharge.

Retention areas have no outlet or spillway and rely on natural processes of evaporation or percolation for water removal. These areas need to be maintained so that the water does not remain for more than 36 hours after a storm event and become mosquito habitats. Detention areas rely on an outlet pipe to release the runoff after the peak of the event.

Some examples that property owners can incorporate on their property include:

- rain barrels;
- earthen wells around the base of trees or plants to provide deep watering;
- rock dams to slow the runoff in concentrated areas;
- the use of decomposed granite, gravel or rock instead of concrete or pavers;
- the use of grasscrete, permeable pavers or porous concrete;
- swales/channels that direct runoff away from structures toward basins;
- other eco friendly landscaping and hardscaping options, etc.

Please be aware some methods of stormwater detention/retention can lead to damage to structures, or unwanted infiltration, if installed improperly. If you are interested in pursuing these types of

improvements but are not comfortable that it can be done properly, a stormwater professional may be consulted through a local professional engineering consultant.

There are many new and creative ideas to help reduce runoff and increase groundwater recharge and reduce any contaminants that could reach Oak Creek. It is a priority to us all to protect the environment and leave our city better for future generations.