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GILA COUNTY COMMUNITY DEVELOPMENT

Scott Buzan, Interim Director

April 5, 2017

Jim Olsson
522 S. Cienega Rd.
Payson, AZ 85541

Rich Dillenburg
672 S. Morris Meadows
Payson, AZ 85541

RE: Preservation of septic system leach areas

Gentlemen,

In response to your questions regarding compatible uses of septic system primary and reserve leach areas that will not negatively impact their proper function I provide the following:

Treatment of the sewage generated by a home so that the water is properly cleansed and able to rejoin the water table is accomplished in two steps:

- First, quiet conditions in the septic tank allow the lighter and heavier particles in the waste stream to separate and be retained in the tank for removal by a pump truck at a later date. During the retention time a small amount of digestion by anaerobic bacteria takes place. These activities together result in the removal of about half of the harmful sewage organisms.
- The job of the leach area of a septic system is to treat (remove) the remaining half of the sewage generated by the home. This is accomplished in the soil surrounding the leach lines by aerobic (air breathing) bacteria that capture and digest the harmful organisms. For aerobic bacteria to be present and sustained it is essential that air be present in the soil to 4' below the bottom of the leach line, normally a depth of 10' to 12'. Air passes to those depths from the surface through natural pores in the soil. Consequently, for a septic system to function properly it is essential to preserve the soil's ability to transfer air to the aerobic bacteria deep in the soil profile.

To assure that a septic system can continue to perform its intended functions over time, State of Arizona rules specify that the land surface of both the primary and reserve leach areas, to a distance surrounding these areas to a distance of 5' in all directions, be maintained in a natural, uncompacted state. Setbacks protecting the leach areas are provided in AAC R18-9-A312.C. These setbacks apply to all activities by both man and animal that may compact the soil or otherwise make it unusable for or unable to accomplish its intended function. These activities include but are not limited to such things as vehicle parking or driveways, building construction, patio or cement surface construction, corrals,

heavier grazing areas or other uses that compact or cover the land surface thereby restricting air flow to the subterranean soils.

Please feel free to contact me should you need any additional information or have any additional questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Jake", with a stylized flourish extending from the end.

Jake

Jake Garrett, P.E.
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Environmental Engineering Manager
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