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WELL SCREENS - WHAT DO THEY DO?

A well screen is an engineered device used in many water wells to help maintain a good water supply from the aquifer and allow for long-term satisfactory operation of the well.

Water wells are constructed in either unconsolidated materials such as sand and gravel or comparatively hard and (usually) stable bedrock. Well screens are installed in wells where the zone containing the water for the well (the aquifer) is comprised of loose or unstable material. The screen prevents rock fragments from entering the well, helps support the wall of the well and allows water to enter. Silt or sand particles may cause excessive abrasion and early failure of the well pump and/ or plugging of equipment in the home. In addition, sand may accumulate in a well and block off water-bearing zones.

In all wells, it is preferable to have water enter slowly. Turbulent flow can more easily transport particles and agitated water may release minerals and clog up the well. Selection of the right screen and the right length of screen can help improve a well's efficiency and productive life. A commonly used and effective screen type for water wells uses a continuous slot construction, made by wrapping and welding a continuous length of wire or plastic around vertical rods. Wrapped screens have an elongated triangle shape when viewed in cross-section with the "point" of the triangle oriented inwards so that the outside slot width is small compared to the inside spacing. This design allows particles that do penetrate the screen to continue through without getting stuck.

Screens are also made by precision machine slotting (vertical or horizontal slots) or by making louver openings. Louver type well screens (shutter screens) are typically used only for high yield wells. Screens are made in many different slot or opening sizes and are usually installed by fixing the screen to the end of the casing, which is then lowered down the well to the selected water-producing zone(s) of the aquifer.

Many residential wells in bedrock do not need a well screen. Well screens are not a "one size fits all" item, and if one is needed, local well contractors know how to select a screen and choose the appropriate screen length. For most domestic wells a screen length of 4 to 5 feet is usually adequate. State or local well construction codes (in addition to cost) may influence screen selection.

By all means "screen" your wellhead with a flower display or a "wishing well" but don't pile soil around the well casing and never use pesticides, manure or fertilizers around a water well.