Pits and Alcoves

Well pits and alcoves are below-ground enclosures that contain a wellhead, pressure tank and associated water system components. Well pits and alcoves are designed to prevent the wellhead and water supply equipment from freezing and to promote a sanitary wellhead area. Well pits and alcoves were in common use before the invention of the pitless adapter in the early 1950s. Pitless adapters rapidly replaced well pits and alcoves as the preferred method to provide protection from freezing. A pitless adapter creates less risk of contaminating groundwater and will cost significantly less to construct than well pits or alcoves.

IMPORTANT FACTS ABOUT WELL PITS AND ALCOVES:

- **DNR APPROVAL** – A well pit constructed after April 10, 1953 requires approval from DNR to verify that the pit construction standards of NR 812.36 are met. The construction specifications are provided in s. NR 812.42(2) for well pits constructed on or before April 10, 1953 and in s. NR 812.36(2) for all other well pits. Extending the casing out of a noncompliant pit constructed on or before April 10, 1953 is a more common practice, requires no DNR approval and typically costs less than modifying the construction of the pit.

- **ALCOVES** – An alcove (also referred to as a subsurface pumproom) is a well pit that shares a wall with the foundation of a basement and has access from the basement. When a well is extended out of a pit, the pit must be backfilled. When a well is extended out of an alcove, the alcove does not have to be backfilled.

- **VALVE PITS** – A pit that only contains water supply pipe and a valve is a valve pit, not a well pit. A valve pit shall be watertight, may not be connected to a sewer, shall be drained to permeable soil or to the ground surface and may not be subject to flooding. Pits that contain a pressure tank are not valve pits and are therefore subject to well pit rules.

- **CASING HEIGHT** – The minimum casing height for an existing well installed within a pit or alcove is six inches if installed on or before April 10, 1953 and 12 inches if installed after April 10, 1953. A pit or alcove well installed on or before April 10, 1953 that has less than a six inch casing height must be extended out of the pit or alcove to 12 inches above the outside grade or the pit or alcove roof if the extension causes an obstruction.

- **WATER ENTRY** – If water enters into a well pit through the walls or floor, the casing must be extended out of the pit and the pit backfilled. If water enters into an alcove through the walls or floor, the casing must be extended out of the alcove. If the basement adjacent to an alcove is subject to flooding, the well shall be filled and sealed.

PLEASE NOTE:

If the well casing is extended out of a pit or alcove, and there is no confirmable well construction report available, the well casing depth and well total depth must be measured prior to extending the casing as described in NR 812.42(11)(a). This is done to prevent extending casing upward on a well that does not meet the minimum code requirements in ch. NR 812 for the casing length and the minimum well depth.
A pit or alcove well is being evaluated

Does the well meet the location standards of NR 812.42(1)(a) and water quality standards of NR 812.42(1)(c)?

Yes

Is there a confirmed well construction report?

Yes

Noncompliant well

No

No

Does the well meet the construction standards of NR 812.42(1)(b)?

Yes

Meet the pit or alcove construction standards of NR 812.36(2)?

Yes

No

No

Remove all water system features then extend the casing up out of the pit to 12 inches above the surrounding grade or for an alcove, just below the alcove roof in areas where the extended wellhead creates an obstruction to the owners activities

Yes

Meet the pit and alcove construction standards of NR 812.42(2) and no water is entering through the floor or walls?

Yes

No

Constructed on or before April 10, 1953?

Yes

No

Pit or Alcove?

Pit

Alcove

Compliant with NR 812

Drill holes in the pit floor, drill holes in at least one wall and backfill with soil equivalent to surrounding soil

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