

Water Use/Allocation Permitting - High Capacity Well –2015

Technical Bulletin 23.1



In accordance with 567 IAC 50.6 and 50.5(2) and 52.6(4), this Technical Bulletin 23.1 is intended to aid proposed Iowa Water Use Permittees in understanding DNR's potential request for additional information for new or modified high capacity wells. In Iowa, the term "high capacity well" (HCW) denotes all wells expected to pump a capacity at or above 500 gallons per minute. Water Supply Engineering (WSE) will provide additional review to construction and withdrawal of proposed production wells in certain geologic setting(s) such as, but not limited to following:

Devonian Limestone, Silurian Dolomite, Ordovician (Galena/Maquoketa Formations), Cretaceous Sandstone, and Buried Sands and Gravels; or if multiple water allocation permits are identified within a 1 mile radius.

DNR – WSE staff may request the following additional information to determine duration of pumping and rate to be permitted, based upon aquifer characteristics and potential for well interference.

The Permittee or Permittee's agent may be asked to submit:

A. Mapped inventory of proposed new HCW drill site inclusive of:

1. **A map of the proposed well site and locations of all nearby well(s)** within a one mile radius of the proposed HCW(s).
2. **Inventory should include well construction records defining:** total depth, casing depth, static /non-pumping water levels and pumping levels, pump capacity and pump & intake depth or elevation of both the proposed well and inventoried wells
3. **Identify** other HCW(s) in a 1 mile radius

B. Test pumping of the production well:

1. **Pump test at a rate of 1.5 times** the anticipated rate and/or equivalent to the design of the proposed water system and for duration sufficient to reach stabilized draw-down in production and observations well(s).
2. **Test pumping results from the production well and one or more observation well(s)** completed in hydrologically connected aquifer(s), as needed to define radius of influence and specific capacity of the production well(s). Per IAC Chapter 52.6

NOTE: Other considerations regarding HCW and well construction and development:

A. The Jordan Aquifer is limited to a 200 gpm withdrawal rate for private irrigation and 2000 gpm for industrial. Per IAC Chapter 52.4(3)

B. Dual completed wells are not allowed – Per IAC Chapter 49.7(5).

There may be local confining beds that serve an important protective function. Permitted use wells shall use casing and grouting to maintain a hydraulic separation between distinct aquifers separated by confining intervals. The administrative authority shall be consulted for possible local regulations when interconnection of aquifers across confining intervals is anticipated.

All water allocation permits for high capacity wells will be internally reviewed within WSE before being issued. For additional information and/or assistance contact:

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