

567—49.8(455B) Well location and separation distances (SDs).

49.8(1) Wells shall be located with consideration given to the lot size; soil contour, porosity, and absorbcency; local groundwater conditions; flooding; publicly available geologic data including but not limited to well logs; and other factors necessary to implement the rules.

a. Frost pits. Wells cannot be located within frost pits. Frost pits that do not contain wells are allowed for the purpose of housing other appurtenances, such as pressure tanks and valves, provided the frost pits are not located closer than ten feet from any well.

b. Relation to buildings. Wells shall be located so that no building interferes with reasonable access for cleaning, treatment, repair, testing, inspection, or other maintenance. Wells cannot be located in basements.

c. Easements. No well shall be located on a property not owned by the well owner unless an easement allowing such placement is reviewed and approved by the administrative authority and the easement is legally recorded.

49.8(2) The following minimum lateral SDs in Table I below from all private wells shall apply for the common structures or sources of contamination listed in the table. The lack of specific distances to other possible sources of contamination, such as refuse disposal sites and high-pressure gas lines, does not minimize their potential hazard. Other possible sources shall be evaluated in each particular situation and a distance arrived at that is based on pertinent facts. The well contractor shall consult the administrative authority for assistance in determining a proper distance in such cases.

TABLE I: Private Well Separation Distances

Structure or Source of Contamination	Required Minimum Lateral Distance, as Measured Horizontally on the Ground Surface, in feet	
	Private Wells	
	Deep Well ¹	Shallow Well ¹
WELLS:		
Public wells:		
Public water supply well – deep or shallow	200	400
Below-ground level finished water storage facility	50	
Private wells:		
Existing private wells that do not conform to 567—Chapter 49	100	
Existing private wells that conform to 567—Chapter 49	10	
WASTEWATER DISPOSAL SYSTEMS:		
PSDSs and onsite treatment systems – closed portion ²	50	
PSDSs and onsite treatment systems – open portion ²	100	
Wastewater treatment works ^{3,4,5}	400	
CHEMICALS:		
Transmission pipelines (including but not limited to fertilizer, liquid petroleum, or anhydrous ammonia) ⁶	100	200
Chemical and mineral storage or preparation areas, including areas for spray materials, commercial fertilizers, or chemicals that may contaminate groundwater, except for liquid propane gas (LPG)	150	
Liquid hydrocarbon storage tanks, except for LPG	100	
LPG storage tanks	15	
ANIMALS:		
Animal enclosures (such as confinement buildings or open feedlots)	100	200
Animal Wastes:		
Storage basins or lagoons, or runoff control basins	1000 ⁵	
Solids stockpiles, solids settling facilities, or storage tanks	100	200
WATERBODIES:		

Structure or Source of Contamination	Required Minimum Lateral Distance, as Measured Horizontally on the Ground Surface, in feet	
	Private Wells	
	Deep Well ¹	Shallow Well ¹
Flowing streams, ponds, lakes, reservoirs, wetlands, or drainage channels ⁷	25	
MISCELLANEOUS		
Anaerobic lagoons ⁵	1000 ⁸	
Solid waste landfills and disposal sites ⁸	1000	
Roadside ditches and road rights-of-way	15	
Cisterns, well pits (containing a well head), yard hydrants, or frost pits	10	
Property lines ⁹	4	
Land application of septage ¹⁰	500	
Land application of sewage sludge	200	
CONVEYANCES: ¹¹		
Gravity sanitary sewers and sanitary sewer force mains including those carrying water treatment plant wastes:		
Water main materials ¹²	25 ¹³	
Standard sanitary sewer materials ¹²	50 ¹³	
Storm sewers, general minimums	10	
Independent clear water drains or pump house floor drains	10	
Building sewer service lines and laterals ¹⁴	10	

¹Deep and shallow wells are defined in rule 567—40.2(455B).

²PSDS (private sewage disposal system) is defined in 567—subrule 69.1(2). For the purposes of this table, “onsite treatment system” includes any wastewater treatment system not included in the definition of a PSDS (i.e., provides treatment or disposal of domestic sewage from more than four dwelling units or 16 or more individuals on a continuing basis) that is utilizing wastewater treatment technologies described in 567—Chapter 69 to treat domestic waste. Closed portion refers to the part of a treatment system that is fully contained and does not allow effluent or pretreated effluent to enter soil or groundwater (e.g., septic tank or impervious vault toilet). Open portion refers to the part of a treatment system that allows effluent or pretreated effluent to discharge into soil or groundwater for treatment or disposal (e.g., soil absorption system or unlined ISSF system). These SDs also apply to septic systems that are not considered privately owned.

³For the purposes of this table, “wastewater treatment works” includes lagoons and mechanical treatment plants as described in this superscript. The term “lagoons” includes aerated lagoon systems, advanced aerated lagoon systems, and waste stabilization lagoons, as defined in 567—subrule 81.1(1), and holding ponds, equalization basins, and sludge digestion or holding tanks, as described in the Iowa Wastewater Facilities Design Standards (IWFDS). The term does not include lagoons used to dispose of water treatment plant wastes and anaerobic lagoons used for animal wastes (as noted in superscript 5). The SD from lagoons shall be measured from the water surface. The term “mechanical treatment plants” includes activated sludge systems and fixed film biological treatment systems, as defined in 567—subrule 81.1(1), and any other wastewater disposal system that is not a PSDS, an onsite treatment system, or a lagoon.

⁴The SD between an existing, nonpotable, deep or shallow private well and an industrial treatment works may be reduced from 400 feet to 200 feet to accommodate the expansion of an existing industrial treatment works, provided the well and the treatment works share the same ownership.

⁵The 400-foot SD between a private well and an anaerobic lagoon, earthen manure storage basin, earthen manure slurry storage basin, or runoff control basin shall be 1,000 feet. If an applicant for a private well construction permit demonstrates through percolation testing that the seepage loss through the lagoon

or basin does not exceed 1/16 inch per day (0.0625 inch/day), the SD shall be 400 feet. The percolation test shall meet the requirements of ASTM D1587/D1587M-15 and 567—subrule 65.15(11).

⁶These private well SDs apply only if a more restrictive setback is not set by the pipeline owner.

⁷Includes drainage channels that may have a direct connection to the groundwater table or a surface water.

⁸Solid waste, when referring to landfills and disposal sites, means garbage, refuse, rubbish, and other similar discarded solid or semisolid materials, including but not limited to such materials resulting from industrial, commercial, agricultural, and domestic activities.

⁹This distance applies unless a mutual easement is signed and recorded by both parties.

¹⁰Septage shall be land applied in accordance with 567—Chapter 68.

¹¹The SDs are dependent upon two factors: the type of piping that is in the existing sewer or drain, as noted in the table, and that the piping was properly installed in accordance with the standards.

¹²These are the type of materials or pipe used to construct the type of sewer, main, or drain as specified, in accordance with 567—subrule 43.3(2) and Section 2.4 of the IWFDS.

¹³The 25- and 50-foot SDs do not apply to private closed-loop geothermal wells. The SD between closed-loop geothermal systems and both gravity sanitary sewers and sanitary sewer force mains shall be 10 feet.

¹⁴The SD for building sewer service lines and laterals shall be considered the minimum distance when constructing sewer lines and shall be increased where possible to provide better protection.

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