Underground Injection Control
Permitting Process

The Department of Environmental Protection's Aquifer Protection program consists of a team of geologists and engineers dedicated to protecting Florida's underground sources of drinking water (USDW) while maintaining the lawful option of disposal of appropriately treated fluids via underground injection wells. A USDW is defined as an aquifer that contains a total dissolved solids concentration of less than 10,000 milligrams per liter. The program implements the Underground Injection Control (UIC) regulations (FDEP rule 62-528) and is dedicated to preventing degradation of the quality of other aquifers adjacent to the injection zone. Subsurface injection, the practice of emplacing fluids in a permeable underground aquifer by gravity flow or under pressure through an injection well, is one of a variety of wastewater disposal or reuse methods used in Florida. The six classes of injection wells are:

» **Class I**

Wells used to inject hazardous waste (new hazardous waste wells were **banned** in 1983), nonhazardous waste, or municipal waste below the lowermost USDW. There are more than 180 active Class I wells in Florida. The majority of the Class I injection facilities in Florida dispose of non-hazardous, secondary-treated effluent from domestic wastewater treatment plants. At locations where hydrogeologic conditions are suitable and where other disposal methods are not possible or may cause contamination, subsurface injection below all USDWs is considered a viable and lawful disposal method. There are favorable hydrogeologic conditions in Florida where the underground formations have the natural ability to accept and confine the waste. See an illustration of a [Class I municipal well](#).

The injection wells are required to be constructed, maintained, and operated so that the injected fluid remains in the injection zone, and the unapproved interchange of water between aquifers is prohibited. Class I injection wells are monitored so that if migration of injection fluids were to occur it would be detected before reaching the USDW. Permitting for these wells is done in our Tallahassee office. Testing is conducted on all Class I injection wells at a minimum of every five years to determine that the well structure has integrity.

**Financial Responsibility**

The UIC program requires applicants for Class I wells to assure, through a performance bond or other appropriate means, that resources necessary to plug and abandon the wells are available. Financial Responsibility may cover post-closure monitoring and any corrective action resulting from this monitoring. Guidance for the financial responsibility requirements can be found at: [Financial Responsibility Options for Owners and Operators of Injection Wells](#). Another financial responsibility option for local governments only can be found at: [Local Government Guarantee document](#).

» **Class II**

Wells used to inject fluids associated with the production of oil and natural gas or fluids used to enhance hydrocarbon recovery. Class II injection wells are regulated by the Department of Environmental Protection, [Oil and Gas Program](#).
» **Class III**

Wells which inject fluids for extraction of minerals (none in Florida).

» **Class IV**

Wells or septic systems which are used to dispose of hazardous or radioactive wastes into or above a USDW. *(Banned in Florida.)*

» **Class V**

Class V injection wells are wells not included Classes I thru IV, and VI. Class V wells are used for the storage or disposal of fluids into or above a USDW. The fluid injected must meet appropriate criteria as determined by the classification of the receiving aquifer. Common types of Class V wells include air conditioning return flow wells, swimming pool drainage wells, stormwater drainage wells, lake level control wells, domestic waste wells, and aquifer storage and recovery (ASR) wells (see below). There are more than 13,000 Class V wells in Florida. *(See below for differentiation of major and non-major Class V wells.)*

**Major vs. Non-Major Class V Wells**

Major Class V wells are permitted through our Tallahassee office. These wells include all ASR wells, aquifer recharge, exploratory and reverse osmosis wells. They also include domestic waste wells completed in a USDW.

Non-Major Class V wells are permitted through our district offices. These wells include domestic wastewater wells below the USDW, closed loop heat pump/air conditioning return flow wells, swimming pool drainage wells, stormwater wells, and remediation wells.

**Aquifer storage and recovery (ASR)**

Aquifer storage and recovery (ASR) is a mechanism for storing water underground through an injection well to be withdrawn in the future for beneficial purposes. Typically, water is stored during times of excess supply for use when supplies are limited. ASR wells are capable of storing treated drinking water as well as reclaimed water, surface water, or groundwater. **However, whether treated or not, water injected into ASR wells must meet Florida's drinking water quality standards.** The level of treatment required after storage depends on the use of the water, whether for public consumption, surface water augmentation, wetlands enhancement, irrigation, saltwater intrusion barrier, etc. Because ASR provides for the storage of water that would otherwise be lost to tide or evaporation, it represents a crucial water supply management strategy for Florida’s future. See a simplified depiction of an ASR well.

» **Class VI**

Wells used to inject carbon dioxide, captured from industrial processes such as power plants, for storage into the subsurface. The [U.S. Environmental Protection Agency](https://www.epa.gov) regulates this class of wells in Florida (none in Florida).
Additional Info

Get an illustration of the various classes of injection wells.

Get a map of Class I and Class V injection wells on Map Direct.

Checklist

Permit Processing Guidance