

Flint River Basin Water Conservation Requirements

Water conservation measures are **required** for all new and modified agricultural water withdrawal permits issued for groundwater withdrawals, that withdraw water from the Floridan Aquifer, and surface water withdrawals in areas identified by the *Flint River Basin Regional Water Development and Conservation Plan* (2006). Please **refer** to the *Conservation Use Area Maps* document, that can be accessed at the Georgia Water Withdrawal Permitting Forms webpage in the Agricultural section, to determine if these requirements are applicable to your withdrawal(s). (<https://epd.georgia.gov/forms-permits/watershed-protection-branch-forms-permits/water-withdrawal-permitting-forms>)

If your withdrawal(s) match the criteria listed above, these water conservation requirements will become **permanent** conditions of your permit, if a permit is issued, and the required practices must be maintained while your permit is in effect.

The Georgia Environmental Protection Division (EPD) defines water conservation practices as those that reduce water withdrawals and minimizes waste. EPD defines waste as the unnecessary use of water, such as application to non-crop areas. The following is a list of commonly used irrigation practices that reduce water withdrawals and minimize waste.

Center Pivot and Lateral (Linear) Move Irrigation Systems

End Gun: End gun shutoff switches minimize application to non-cropped areas, so that areas such as roads, woodlands, and buildings are not sprayed.

If an end gun is installed, one of the following end gun plans **must be implemented:**

- An automated end gun shutoff will be installed and will eliminate water from non-cropped areas.
- The entire area under the end gun is cropland used in field operations; therefore, an automated end gun shutoff will **not** be installed.

Sprinkler Package: Lower nozzle pressure, lower trajectory angle, and lower discharge elevation reduce wind drift and evaporation. The following sprinkler packages are considered conservation measures:

- High Pressure:
 - Low angle impacts
- Low Pressure:
 - Spray nozzles on top of pipe
 - Spray nozzles on drops below pipe
 - LEPA package at approximately 18" above ground
 - Variable rate irrigation (VRI) sprinkler system

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Drip and Micro Irrigation Systems

Utilizing drip and micro-nozzle systems are considered to be conservation practices. However, they are generally used with high-value crops that require more water. Conservation can be achieved most readily by scheduling irrigation to avoid losses of water and fertilizer due to overly wet soils.

Emitters: The following emitter options are considered conservation measures:

- Micro-sprinkler device
- Non-pressure compensating point source emitters (installed after the tubing is installed)
- Pressure compensating point source emitters (installed after the tubing is installed)
- Line source emitters (emitter manufactured as integral part of tubing)

Delivery System: The following delivery system options are considered conservation measures:

- Buried PVC pipe (permanent)
- Portable PVC or aluminum pipe (above ground)
- Pressure control accomplished by automated or manual valves
- Tubing installed either above ground or less than 3 inches in the ground

Traveler and Big-gun Irrigation Systems

Delivery System: Speed compensation improves application uniformity and buried pipe is less prone to leaks. The following delivery system options are considered conservation measures:

- Cable tow
- Hard hose with or without speed compensation
- Buried pipe
- Portable pipe (above ground)

Gun: Lower trajectory angles reduce wind drift and evaporation. The following gun options are considered conservation measures:

- 27-degree trajectory gun(s)
- 18-degree trajectory gun(s)

Solid-set Sprinkler Irrigation Systems

Sprinklers: Lower trajectory angles reduce wind drift and evaporation. The following sprinkler options are considered conservation measures:

- 27-degree trajectory sprinklers(s)
- 12-degree trajectory sprinklers(s)
- 6-degree trajectory sprinklers(s)

Delivery System: Buried pipe is less prone to leaks. The following delivery system options are considered conservation measures:

- Buried pipe
- Portable pipe (above ground)

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All Systems

Scheduling Methods: Instruments and/or records that help determine when and how much water to apply are considered conservation measures. Implementation of one or more of the following is encouraged:

- Device(s) installed in the soil (i.e., moisture blocks, tensiometers, C-probes,)
- Evaporation pan or other similar based ET device (i.e., UGA EASY Pan)
- Computer model(s) (i.e., Irrigator - Pro)
- Written records of rainfall and crop use (i.e., checkbook method)

General Management/Maintenance: Automated safety and shutdown can avoid pumping water when it is no longer needed or when the system fails. The following are recommended conservation measures for all Flint River Basin Areas:

- Operational rain shut-off switch to automatically shutoff irrigation if predetermined rainfall amount has been received (Applicable to traveler, solid set, and drip irrigation systems only.)
***Required for Flint River Basin Capacity and Restricted Use Areas.**
- Operational pump shutdown safety to prevent pump operation in the event of irrigation system shutdown
***Required for Flint River Basin Capacity and Restricted Use Areas.**
- Leak detection and operational checks. Leak repair and maintenance of proper system operating pressure are standard best management practices.
***Required for all Flint River Basin farm-use permits.**
- Conservation tillage
- Night-time only irrigation