United States Department of Agriculture
NRCS Natural Resources Conservation Service

Dry Hydrant

Alabama Job Sheet No. AL432

Definition

A dry hydrant is a non-pressurized pipe assembly permanently installed in existing lakes, ponds, or streams permitting the withdrawal of water by fire fighting equipment.

General Information

Dry hydrants should be located where a dependable source of water is available, and where fire-fighting vehicles can easily access the site.

The water source must be able to supply at least 250 gallons per minute for 2 hours (30,000 gallons). There must be at least 2 feet of water beneath the dry hydrant pipe intake and 2 feet above the pipe intake (or 1 foot if a special design, such as a slotted intake, is used), even during extreme drought conditions (50-year drought). In order to meet these requirements, the hydrant will have to be located where the watershed drainage area is adequate to supply the dependable source of water. The dry hydrant must be close to the water source to allow the fire truck to pump water without excessive resistance to flow. The pumping resistance due to elevation differences and pipe friction cannot exceed 20 feet. The fire truck connection should be adjacent to an all-weather access road.

Access, topography, and location should be approved by local fire department personnel prior to installation. A map showing exact location of the hydrant and vehicle access should be furnished to the local fire department and landowner. Also, prior to installation, the local fire department should obtain a letter of approval from the landowner to use the site.

The dry hydrant pipe material may be rigid conduit such as plastic, iron, steel, aluminum or ductile iron pipe that meets material specifications. PVC shall be at least Schedule 40 or SDR-26 and 6 inches nominal diameter or larger. The pipe must be fitted with an intake screen or strainer and standard fire truck hose adapters for quick connect/release operations acceptable to the local fire department. A recessed hydrant (below ground-level connection) may be used in areas with special needs such as high vandalism areas or for low profile and esthetic needs.

Plans and specifications should be prepared and required permits obtained prior to initiating any work.

Operation and Maintenance

After dry hydrant installation, the site should be graded for surface drainage and vegetated or otherwise protected from erosion. The site should be clear of obstructions and have vegetation mowed/controlled regularly to keep the area readily available for emergency use.

Pumper testing of the dry hydrant should be done annually to verify site usability. The test should include back flushing followed by pumping at the maximum design flow rate. Silt, debris, aquatic growth, or other interference to full operation of the dry hydrant should be removed.

References

NRCS AL Conservation Practice Standards
Critical Area Planting - Code 342
Dry Hydrant - Code 432

Dry Hydrant Worksheet

Land User: _____ **County:** _____ **Date:** _____

Farm No.: _____ **Tract No.:** _____ **Assisted By:** _____

Location: _____

Has location map been furnished to local fire departments and a copy provided to the landowner? Y_____N_____

Pipe Material: Iron _____ Steel _____ Plastic: Sched. 40_____ SDR 26_____

Other_____ Pipe Diameter: _____ in.

Amount water source is able to supply: _____ gpm

Height of water below dry hydrant intake: _____ ft Height of water above pipe intake: _____ ft

Type of pipe intake: _____