



Irrigation Zones and Pipe Before You Trench

A sprinkler system works when each zone stays inside available flow and pressure, then the pipe preserves that pressure to the farthest head.

Irrigation failures are usually hydraulic mismatches hidden underground. Design the zone before selecting the pipe.

Worked example from the live calculator

With 10.8 GPM usable flow and 2 GPM heads, the live irrigation calculator allows five heads per zone. Twenty heads become four zones.

Group heads by precipitation and demand

A zone needs compatible head types and a combined flow that the supply can support with margin. Mixing high-flow rotors with spray heads makes uniform watering difficult.

Protect pressure over distance

Pipe diameter, run length, elevation, fittings, and flow create friction loss. Size for the farthest path, not the shortest branch near the valve.

Verify in the field before burial

Confirm available flow and pressure, flush lines, and test coverage. A paper plan cannot see a partially closed valve or a weak well supply.

Key takeaway. Zone flow sets the demand. Pipe selection protects usable pressure at the farthest head.

Assumptions

- Measure static and dynamic supply conditions at the property, not from a neighbor or a fixture estimate.

Sources

- Irrigation Association design practices, verify local rules

Frequently asked questions

Can I add heads until flow runs out?

No. Leave pressure margin for uniform coverage and real-world losses.

Does larger pipe always help?

It reduces friction but must still fit the layout and economics.

Can one zone mix all head types?

Usually no, because precipitation rates and operating needs differ.

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