

Difficult Irrigation Repairs

Irrigation repairs listed on this page can be tricky to perform and usually require professional assistance. Learn more about the process behind each repair listed in our guide and what information you'll want to convey to a QWEL certified contractor when resolving the issue. Please visit the [QWEL Hire a Pro Webpage](#) to access a complete list of locally certified professionals.

Irrigation pressure issues

Bozeman's water distribution system is powered by gravity. Residential irrigation systems are built to operate between 30 to 45 PSI depending on the nozzle type. If your system's operating pressure is outside of that range, it can greatly impact the efficiency of the system.

Signs of high pressure



- Misting sprinkler heads
- Uneven watering on the lawn, resulting in dry spots
- Overthrowing heads, even when properly adjusted

Signs of low pressure



- Sprinklers may not rise to full height
- Spray may dribble or seep from the nozzle
- Underthrowing heads, even when properly adjusted

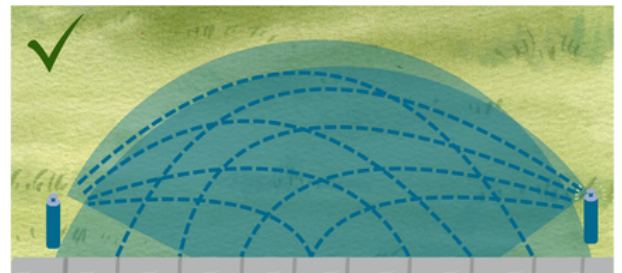
Your system may require a pressure regulating device or booster pump to resolve these issues, depending on system pressure.

Head to head coverage and your irrigation system

Head to head coverage is achieved when the spray from a sprinkler head reaches each adjacent sprinkler head in a zone. This overlap in coverage facilitates a uniform appearance on your landscape and contributes to water efficiency. If your system was designed without consideration for head to head coverage, it may struggle to keep your lawn green. There are many reasons that a system may lack head to head coverage, so correcting this issue across an entire zone can be a daunting and time consuming process.

How to achieve head to head coverage

You may need to replace your nozzles to throw at a proper distance/arc and/or adjust nozzles to achieve head to head coverage. Occasionally, the sprinkler head itself may need to be relocated, which is typically best left to a professional.



Head to head coverage is achieved by both sprinkler heads in the image above. To achieve a uniform lawn appearance, your entire zone/system should achieve head to head coverage.

What your contractor needs to know:

- Which zones you are concerned about

Mainline and lateral leaks

An underground network of pipes make it possible for your aboveground sprinklers to apply water to your landscape. These underground pipes are susceptible to breaks due to age, freezing temperatures, intrusion of tree roots, and many other factors. If you suspect an underground leak in your irrigation system, it is recommend that a professional be contacted to confirm and repair the damage. Underground pipe networks can be challenging to navigate and may be composed of various materials (PVC and polyethylene pipe), which complicates repairs.

Two basic types of underground irrigation leaks:

- **Mainline leak:** Occurs upstream of your irrigation valve(s), causing continuous water waste until the leak is repaired. Close your mainline irrigation valve to isolate the leak until it can be repaired.
- **Lateral leak:** Occurs downstream of an irrigation valve, resulting in continuous water waste while the affected zone's valve is open. Isolate the leak by turning the affected zone OFF until the leak can be repaired.

Signs of underground leaks:

- Zone or zones experiencing very low pressure
- Damp or soggy soil in a particular area
- Excessive water usage

What your contractor needs to know:

- Which zone contains the suspected leak
- If known, the pipe size and material
- If you suspect a mainline or lateral leak

Mixed precipitation

Mixed precipitation rates in a zone may contribute to substantial water inefficiency. An efficient irrigation zone applies water at uniform rate, meaning that each sprinkler or drip emitter applies the same amount of water to the landscape at any given time. Traditional spray heads, rotors, and drip emitters all apply water to the landscape at different rates.

Below are scenarios involving mixed precipitation that may be of concern:

Drip irrigation and overhead spray

- Occurs when sprinklers and drip irrigation are placed on the same zone.
- May cause some areas of the landscape to be overwatered, while others may become stressed from underwatering.
- Resolved by placing a new valve (zone) on the irrigation system and separating the sprinklers from the drip irrigation to achieve matched precipitation in both zones.

Mixed sprinkler nozzle types

- Occurs when different sprinkler nozzle types are placed on the same zone.
- When a zone features traditional fixed spray and VAN nozzles, it is recommended that all nozzles be replaced with multi-stream multi-trajectory (MSMT) nozzles.
- When a zone features traditional fixed spray heads paired with rotors, it is recommend that the spray heads be exchanged with MSMT nozzles to achieved matched precipitation in that zone.

Connecting with your contractor

When contacting a landscape professional to assist you with your repairs, convey the following:

- The issue you are concerned about
- Which zone(s) the issue is impacting
- If you have completed any recent repairs to your system

Are you in need of a water-efficient landscape professional? [Find a local QWEL certified pro](#) to assist you today!

