

# Bloomfield Single Family HOA 2021 Irrigation Audit



## Key Findings

In 2021, Conserva Irrigation was hired by the City of Rosemount and the Vermillion River Watershed Joint Powers Organization (VRWJPO) to conduct a Stage 2 Irrigation Audit. The purpose of conducting the audit was to document and recommend upgrades to improve system efficiency. Key findings included:

- Three controllers operate a total of 32 irrigation zones, irrigating 3.63 acres or greenspace
  - The controller is not a smart (weather-based) controller capable of remote monitorization
- Locations of rain sensors were not suitable or couldn't be found to test them. Ensure all are working and in good open and testable locations.
- A number of rotor and spray heads were leaking
- All spray heads are using water-inefficient nozzles
- Zones have poor coverage/spacing that led to water sprayed onto roads or sidewalks
- Some spray head zones are running for longer than is needed.

**Table 2. Financial Implications for Recommended Efficiency Upgrades**

| Efficiency Upgrade(s)   | Estimated Cost | Estimated Annual Cost Savings | Return on Investment |
|---|----------------|-------------------------------|----------------------|
| Install EPA WaterSense approved smart controllers (22% water savings) | \$2,385        | \$1,722                       | ~ 1.5 years          |
| Install high-efficiency spray nozzles (10% savings)                   | \$12,480       | \$783                         | ~ 16 years           |
| Upgrade all rotors with proper nozzle size (10% savings)              | \$8,580        | \$783                         | ~ 11 years           |

Ensuring your irrigation contractor performs 3-4 maintenance checks annually will alert you to broken equipment more quickly

The VRWJPO has a service contract template to ensure your contractor is performing maintenance checks

**Table 1. Critical Repairs and Adjustments**

| Critical Repair(s)                           | Estimated Cost | Count | Total Cost     |
|--|----------------|-------|----------------|
| Replace damaged 6" rotors                    | \$65/head      | 23    | \$1,495        |
| Replace broken spray heads                   | \$95/head      | 12    | \$1,140        |
| Install two rain sensors and move one sensor | \$175          | 2     | \$350          |
| <b>Total Cost</b>                            |                |       | <b>\$2,985</b> |

## Recommendations

There are a couple of items that can be implemented to increase the efficiency of Bloomfield Single Family HOA's irrigation system. However, prior to implementing recommended efficiency upgrades, the Board should implement the critical repairs in Table 1. Water and cost savings shown in Table 2 only apply when the system is operating without deficiencies (broken heads, unneeded heads, etc.). Annual cost savings associated with efficiency upgrades are based on City of Rosemount 2021 utility billing rates, historic use trends and audit findings.

