

Claret Springs

2020 Irrigation Audit



Key Findings

In 2020, 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:

- One controller operates a total of 21 irrigation zones, irrigating 5.46 acres or greenspace
 - The controller is a smart (weather-based) controller capable of remote monitorization
- Rotors had heads and nozzles that didn't match the coverage and amount of water needed
- Zones have poor coverage/spacing that led to water sprayed onto roads
- An island adjacent to parking spaces would benefit from reducing or eliminating the turf
- Adjustment of rotor positions in the ground is needed to have proper irrigation coverage
- Zone layout did not account for microclimates leading to inefficient water distribution

Table 2. Financial Implications for Recommended Efficiency Upgrades

Efficiency Upgrade(s)	Estimated Cost	Estimated Annual Cost Savings	Return on Investment
U4.), U5.) Replace rotors with wrong nozzle sizing and coverage and raise/straighten heads (10% water savings)	\$3,890	\$732	~ 5 years
U1.) Install EPA WaterSense spray heads (10% water savings)	\$5,580 (\$4,080 with available cost share)	\$732	~ 5.5 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
1R.) Replace damaged 5" rotor	\$65/head	5	\$325
2R.) Replace broken nozzles	\$20	19	\$380
3R.) Move head (per foot)	\$15/linear foot	30'	\$450
4R.) Cap unneeded head/line	\$35	5	\$175
Total Cost			\$1,330

Recommendations

There are a couple of items that can be implemented to increase the efficiency of Claret Spring'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 2019 utility billing rates, historic use trends and audit findings.

