



Salem City

Wastewater Treatment Plant Upgrade

Project Summary

January 11, 2018

❖ Our wastewater treatment plant needs to be replaced.

- Our existing lagoon system treats wastewater for discharge to Beer Creek, which flows into Utah Lake.
- The State and EPA are requiring us to reduce the following pollutant levels.
 - Significantly lower ammonia limits, with a 2021 deadline.
 - New statewide phosphorus limits, with a 2020 deadline.
- We may get additional limits in the future as the effort to clean up Utah Lake continues.
- The lagoons are unable to meet these new discharge limits.

❖ We have reviewed local and regional alternatives.

- We have extensively explored many alternatives to come up with the best solution.
- The options investigated include the following.
 - Upgrading the existing lagoons.
 - Constructing a new regional system with Payson and Spanish Fork to serve all cities.
 - Sending our wastewater to an expanded existing treatment plant at Payson or Spanish Fork.
 - Constructing our own new treatment plant.

❖ Constructing our own new treatment plant is the best solution.

- We have sought to find the best solution that meets our current and future needs, while keeping our wastewater rates as low as possible.
- Due to the high cost, Payson and Spanish Fork are not interested in a new regional treatment plant.
- There is no significant operation or financial benefit to sending our wastewater to another city.
- We selected to build a new mechanical treatment plant on a new site.

❖ This is a substantial project, and will impact our sewer rates.

- The estimated cost of the project is \$20 million.
- This will be funded by the State, with a 30-year loan at a 1.15% interest rate.
- Average monthly sewer rates will increase from \$28 to approximately \$54.
- The monthly charge will be a new base rate plus tiered usage rate combination.
- The base rate will not include a 10,000 gallon allowance.
- Rate increases will occur in two steps beginning in 2018.
- Impact fees will be paid by future developments for their share of the new treatment plant.

❖ We are ready to begin construction.

- We expect to bid the project in April 2018, and begin construction in July 2018.
- Construction will take about 18 months, so the new plant should be operating by January 2020.

Frequently Asked Questions

1. Why do we need to do this?
Lower discharge limits are the primary reason. The State of Utah has given us a new permit with lower limits. Neighboring cities are also receiving new lower limits, however they have mechanical treatment plants that can meet the new limits with minimal upgrades (our lagoon system cannot).
2. What agencies oversee wastewater issues?
Nationally, the Environmental Protection Agency (EPA) is responsible for protecting the quality of our water. In Utah, the Department of Environmental Quality, Division of Water Quality (DWQ) is responsible for wastewater. DWQ gives us permission to discharge treated wastewater, and establishes pollutant limits.
3. Specifically, what limits are changing and how do we currently compare?
The most pressing limits are for ammonia and phosphorus. Ammonia has changed from a daily maximum of 23 mg/L to 5 mg/L, and a new 1.5 mg/L monthly average maximum has been added. This change was required by the EPA. The lagoons currently discharge 15-20 mg/L in the winter, when biological activity is low. Phosphorus has a new limit of 1 mg/L, and the lagoons discharge 3-4 mg/L. Another future change in ammonia criteria from EPA may lower the limit further. DWQ is also considering implementing state-wide nitrogen limits within the next 10 years.
4. Why can't we continue to use the current lagoons?
Lagoons cannot meet the low ammonia and phosphorus limits. The mechanical treatment system alternatives presented in the planning study can meet these limits.
5. What happens if we do nothing?
We can be fined by the EPA. The Clean Water Act allows for penalties of up to \$16,000 per day per violation.
6. What alternatives were explored?
We began the planning work in 2015, and have explored many alternatives including upgrading the existing lagoons, replacing the lagoons with a new mechanical treatment plant, sending our wastewater to neighboring cities for treatment, and forming a new regional treatment system. We also reviewed new emerging technologies, such as treatment systems using algae.
7. Why are the regional alternatives not preferred?
We would need to construct a new pumping and piping system to convey the wastewater to the neighboring treatment plant, then participate in upgrades and operational costs of their treatment plant. This cost is similar to building our own treatment plant, but we lose control over the wastewater effluent and user rates.
8. How will we fund the project? Are we eligible for grant money?
Unfortunately, our city's average household income is higher than the state average, which means that we are not eligible for grants. The project will be funded through a federal or state government loan. We looked at several funding sources, including private funding (3-4% interest rate), other State sources such as CIB (2.5%), and federal funding such as USDA (3.5%). The Utah Clean Water State Revolving Fund has been identified as the best funding option, with an interest rate of 1.15% and a loan term up to 30 years.
9. Why does the sewer rate increase by such a large amount?
The loan costs are the main driver in the rate increase. We currently do not have any debt for the lagoons. The annual payments for the new treatment plant will be around \$900,000. Along with an increase in operating costs, this will more than double our annual wastewater department budget from \$800,000 to \$1.9 million.
10. Is there a schedule that we are required to meet?
The discharge permit includes a compliance schedule. We must submit construction plans by 2/1/2018, start construction by 2/1/2019, and complete construction by 8/1/2021.