

## WHAT IS THE CITY WORKING ON?

The City has been working on upgrading its wastewater treatment facilities to meet growing demands. The City partially completed facilities planning in 2018, resulting in a Phase 1 project expanding liquid treatment capacity while enabling highly effective phosphorus removal. That planning effort deferred solids handling planning until after the liquid treatment capacity expansion project's completion since the new liquid treatment processes affected the solids handling capacity of the facility. In 2023, the City completed a facilities plan amendment addressing the solids handling capacity. Several feasible alternatives were evaluated. After careful consideration, Alternative 2 was chosen for implementation. This alternative focuses on sustainability, resiliency, and future-proofing the facility for improved treatment effectiveness.

## WHY IS THE PROJECT NEEDED?

The need for this project arises from the city's tremendous current (and projected future) growth and development which strains the existing infrastructure. The current equipment is aging. Existing treatment equipment has been rehabilitated, but is at the end of its useful life. The existing processes are not sustainable, and there is not enough storage capacity available onsite to meet WDNR regulations. These strained conditions exist NOW and will continue to worsen as the City continues to grow. Growth projections are estimated at 40% over the next 20 years.

Federal grants, funding, and incentives are available to offset the cost of the project (investment), presenting an opportunity for the City to make a generational investment in treatment effectiveness that is consistent with the City's goals for sustainability. By securing federal grants and utilizing available incentives, the City aims to minimize borrowing costs for this essential infrastructure upgrade.

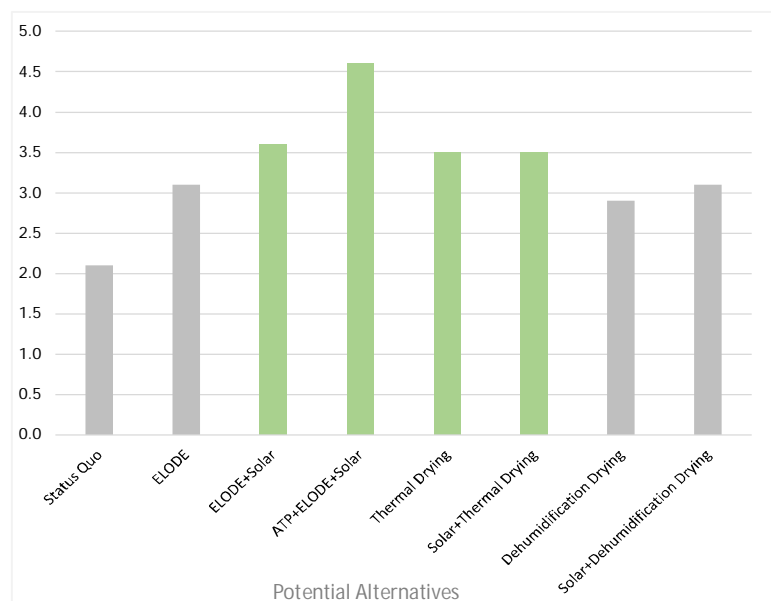
## WHAT ALTERNATIVES WERE CONSIDERED?

The plan reviewed a range of alternatives evaluating them based on:

- Safety, operability, and maintenance
- Resiliency, stability, and robustness
- Quality of life
- Environmental stewardship and sustainability
- Longevity and flexibility

The alternatives were scored by staff, with four options selected for further review. Each of the four feasible alternatives was investigated for the cost of implementation (capital costs) as well as operating costs. Considered together over a 20-year period, these values form the Total Present Value of the alternative, allowing for an apples-to-apples comparison.

Non-Economic Scores of Potential Alternatives



Each alternative was evaluated using a combination of cost and non-economic factors, based on its present worth and non-economic score. Alternative 2 had the highest value score and was selected for implementation. This alternative had the highest non-economic ranking score and was the 2<sup>nd</sup> lowest cost of the feasible options.

	Alternative	Non-Economic (NE) Score	Total Present Value (TPV) \$M	Value Score (NE Score/TPV x 100)
1	ELODE + Solar	3.6	36.8	9.9
2	ATP + ELODE + Solar	4.6	41.7	11.1
3	Thermal Dryer	3.5	47.2	7.4
4	Solar + Thermal Dryers	3.5	57.8	6.1

**WHAT IS INCLUDED IN THE PROJECT?**

This project will complete the solids handling portion of the facilities plan (the remaining half of the 2020 upgrade) facilitating the sustainable, reliable treatment of the City’s wastewater to an exceptionally high standard for the next 20 years. The project includes installing a solar drying greenhouse to reduce costs and environmental impact, revamping processes to prevent failures, and implementing a Class A solids process for safe disposal. It also aims to enhance treatment quality and prepare for future opportunities in solids disposal.

The primary aspects of the project are:

**SUSTAINABILITY**

- Install a solar drying greenhouse to evaporate water from the solids using solar power instead of fossil fuels. This process will save up to \$400,000 in annual trucking costs while eliminating the greenhouse gas emissions associated with 300+ semi-truck loads on our roads.
- Consider adding solar panels to existing structures to further increase the facility’s solar generation capacity.
- Use electrically powered equipment in conjunction with renewable energy efforts to minimize fossil fuel use.

**RESILIENCY AND ROBUSTNESS**

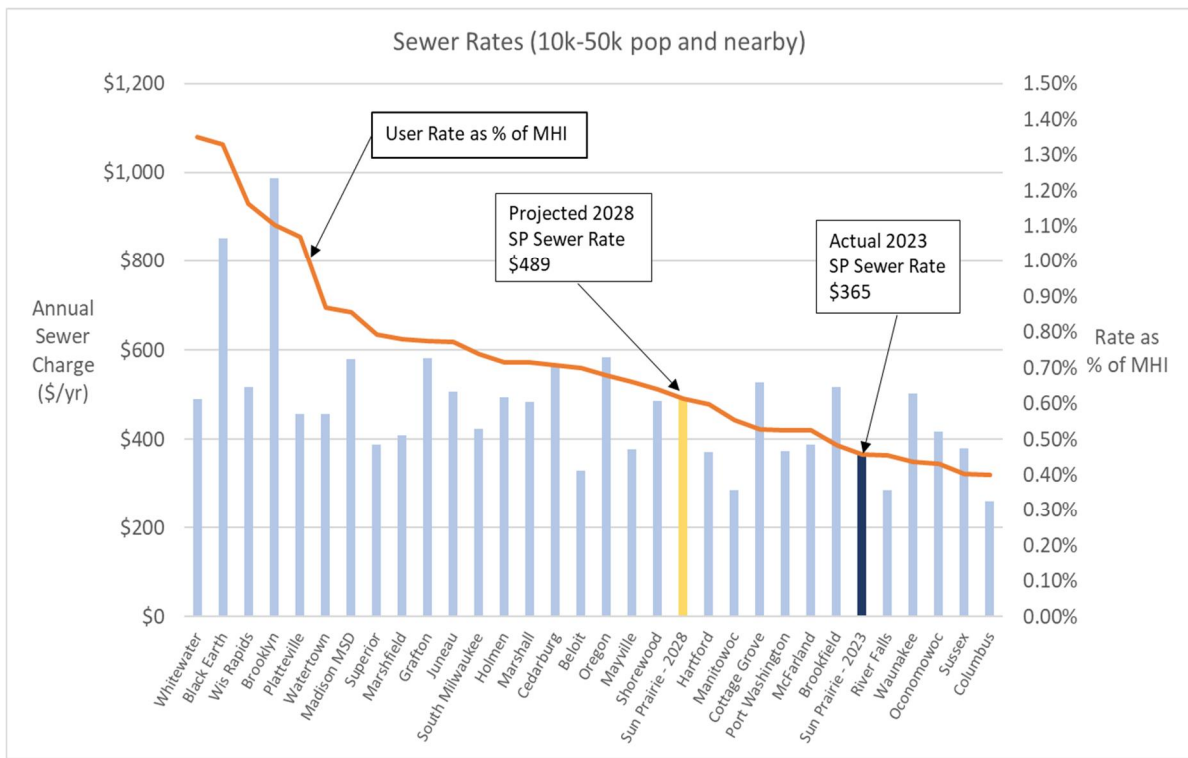
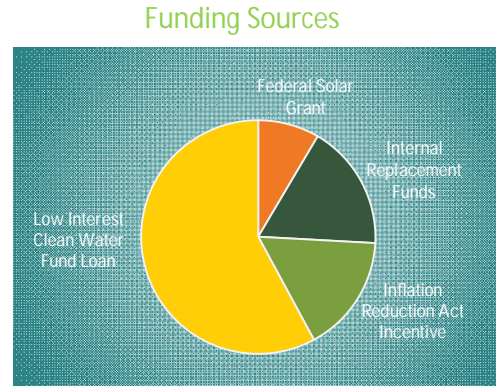
- Revamp existing processes and add equipment to prevent critical failures within the process.
- Implement a Class A solids process to safely and effectively dispose of biosolids.

**LOOK TO THE FUTURE**

- Implement processes improving the quality of treatment provided at the facility, positioning the facility for future opportunities for solids disposal.
- Pursue future planned capital projects now, capitalizing on a favorable investment climate to maximize return.

**WHAT DOES THIS MEAN FOR RATEPAYERS?**

The project maintains very affordable rates compared to neighboring cities while providing the required improvements to maintain the City’s ability to provide exceptional wastewater treatment. The proposed project will add approximately \$10/month per household in the service area. The City has secured federal grants, will pursue available incentives, and has funds on hand to reduce the required borrowing.



**PROJECT TIMELINE**

