



INFRASTRUCTURE SUBCOMMITTEE AGENDA REPORT

Date: 5/4/2022

To: Infrastructure Subcommittee

From: Clay Holstine, City Manager

Subject: Water Use and Water Reclamation

Recommendation

Review the attached “White Paper” and discuss alternatives

Background

Water use and reclamation are issues growing in importance. For several years we have been discussing ways in which to reduce water demand from landscaping as well as options to reclaim water. Development both in existing Brisbane as well as future development in the Baylands provides opportunities for the City to leverage both issues.

Attached is a thought piece to stimulate conversation on various approaches. The “White Paper” is the beginning of a process. As we develop options, further investigation will be needed. We may wish to bring on consultants for certain aspects of analysis.

Water Use and Reclamation White Paper

Purpose of this White Paper on Water is to start a discussion on potential strategies to reduce non-potable landscaping water demand. Secondly, but as important in terms of long-term strategy, are potential options for reclamation of wastewater effluent.

Our overall goal is to better utilize water resources.

Landscape water use

As we know Brisbane has a sharp dichotomy between residential and commercial properties in terms of landscaping. There is relatively little residential landscaping use due to our small lots and topography. The main use of water in residential Brisbane is by the city for our parks and ballfields.

The business areas, particularly Crocker Park were designed in the 1950's and 60's and have had large lawn and landscape areas. Overtime some properties have voluntarily zero scaped their property. The city several years ago eliminated our lawn areas around City Hall and replaced it with drought tolerant plants and vegetation. We also added a demonstration "Stormwater Management Project" near the entrance to City Hall. Our purpose in making these changes was to both reduce landscaping water use and to provide leadership to the community by showing landscape designs that are both attractive and reduce water demand.

Utility Rate Issues and Drought Management

There are two key issues that arise from reducing water landscaping. By reducing landscape use we will be lowering our revenue which has the effect of spreading "sunken cost" of managing our water system to all users. Historically use of water is 30% of our system cost. The remaining 70% is operation and maintenance of the system.

The second issue concerns elasticity in the management of the system. Currently water consumption is roughly 1/3rd each for residential, commercial, and outdoor landscaping (where there are separate meters for the landscaping). When we have mandatory reductions reducing or even eliminating landscaping is an easy way in which to meet conservation goals. However, as we reduce outdoor landscaping there will be a reduced ability to meet conservation goals. This is an issue we should be aware of as we make this transition.

Potential Strategies

Keeping in mind the above issues and concerns there some strategies that we could explore.

1. An ordinance that would require reduction of landscape watering over a period of time. An ordinance could be stand alone or in conjunction with other measures described below.
2. We have several projects that need to identify water sources to support their projects. These include two projects at Sierra Point and the Quarry. (Baylands also is in need of identifying water. Their needs are significant. For the purposes of this discussion, I will not include them.) If the water demand calculations can be met through conservation of existing water uses, we could set up a system for the commercial users to pay a fee that would then be used to incentivize existing landscape water users to convert to low use water demand.

This is not an entirely new approach for the city. We had an agreement with the project that has now become Phase III on the northwestern tip of Sierra Point to provide the city funding for irrigation improvements and low use residential toilet retrofits in exchange for use of our water allocation.

3. Cal Water also has a program that we could mirror “Lawn be Gone” that allows for applications to take lawns out and replace them with drought tolerant plants and vegetation. The program provides a \$3 per square foot allowance for pre-approved projects that are done within a tight time frame of approval. New plantings come from an approved plant list.

As stated above development projects such as those at Sierra Point and the Quarry could possibly be appropriate for a program where they essentially purchased their water allocation from the City, and we would place those dollars in a fund and provide incentives to existing commercial property owners with landscaping.

Next Steps

The subcommittee should discuss this and provide some input and direction. At a minimum we would need to assess our ability to provide water to the development projects using this type of approach. Another step would be to meet with the commercial property owners in the industrial park, specifically Prologis to get their input and thoughts.

The purpose of this White Paper is to commence the process of discussion and an analysis. Much more thought and ideas need to be part of developing a program.

Reclamation Project/Governance

For many years the idea of having a water reclamation facility on the Baylands in conjunction with the larger Baylands Development has been part of the big picture planning. As we know the Baylands has a bifurcated utility governance with the city providing water and Bayshore Sanitary District providing sewer collection services.

Bayshore Sanitary District collects sewage like us and transports it to the southeast San Francisco Water Quality Control Plant for treatment. A reclamation plan on the Baylands would presumably take the current Bayshore and Brisbane effluent and add the volume from the Baylands.

There are several technical as well as political issues that need to be evaluated to ascertain the best approach to water reclamation on the Baylands and for the existing city of Brisbane. These include timing of building a plant, who would manage it and what sort of reclamation program and reuse would be pursued. In examining potential projects, we should also consider our existing relationship with San Francisco who has several water reuse projects underway.

Reclamation and water demand are subjects of the Bayland EIR, and some data will come from that analysis. We may also want to approach Bayshore Sanitary District regarding hiring a consultant to assist us in identifying opportunities. Now would be a good time to approach them prior to having the EIR completed and any long-term issues of governance being proposed.

Current Water Use Statistics

Average Landscape water use 2019-21:

Crocker Park (includes city meters such as Mission Blue Field) - .037 mgd*

All 3 HOA's - .041 mgd

- Assuming that we could reach a 70% reduction, the amount of water that could be saved is approximately .026 - .028 mgd.

For purposes of comparisons two major bio-science developments at Sierra Point are projected to use the following amounts of water:

P3RE (2 buildings) - .015 mgd.

Shores Development (5 buildings) - .124 mgd.

City Wide water demand projected over the next 25 years (this information was provided to the City Council in July of 2021). We will update at the time we meet.

Year	Partial Rebound - Normal Economy, Weather Normalized Average Demand without Plumbing Code (MGD)
2025	0.894
2030	0.924
2035	0.941
2040	0.957
2045	0.974

* Million gallons per day