



Staff Report

File #: 16-043

Version: 1

Date: 6/6/2016

Item #: c.

TO: Mayor and City Council

THROUGH: Steve Powers, City Manager

FROM: Peter Fernandez, PE, Public Works Director

SUBJECT:

Application for funding from the Energy Trust of Oregon for Rebuilding the South Primary Effluent Pump at the Willow Lake Water Pollution Control Facility.

Ward(s): All Wards

Councilor(s): All Councilors

Neighborhood(s): All Neighborhoods

ISSUE:

Shall Council authorize the City Manager to apply for and, if granted, accept up to \$40,000 in grant funding from the Energy Trust of Oregon to offset the costs of rebuilding an existing primary pump at the Willow Lake Water Pollution Control Facility?

RECOMMENDATION:

Authorize the City Manager to apply for and, if granted, accept up to \$40,000 in grant funding from the Energy Trust of Oregon to offset the costs to of rebuild an existing primary pump at the Willow Lake Water Pollution Control Facility.

SUMMARY AND BACKGROUND:

The Willow Lake Water Pollution Control Facility operates five vertical turbine pumps at the South Primary Effluent Pump Station. The pumps are utilized to convey wastewater effluent from the south primary clarifiers to the aeration basins for secondary biological treatment. The operating point of each pump is around 25 million gallon per day (mgd). Depending on the seasonal variation and process demands, between 10 and 50 mgd is delivered to the aeration basins.

In December 2015, one of the pumps failed. Although the damage was extensive, staff determined that the existing pump head and column sustained only minimal damage and was rebuilt. To better manage seasonal fluctuations of primary effluent at Willow Lake, staff has elected to take advantage of the rebuild and reduce the pump's lower bowl and motor size. The downsizing will provide greater

flow control of primary effluent to the aeration basins during low flow periods, resulting in a reduction of energy costs. The rebuilt pump has an operating point around 15 mgd with a smaller motor downsized to 125 hp from the original 200 hp.

Energy Trust of Oregon

The Energy Trust of Oregon provides project development assistance in the form of cost-share funding for projects such as this one. Upon Council approval and submittal of the Renewable Energy Project Installation Application, Energy Trust staff will review the proposed project for funding. Energy Trust funding for the project is dependent on the project's meeting the grant program's financial, technical, and budgetary requirements. Energy Trust has previously funded similar projects in cities throughout the state.

FACTS AND FINDINGS:

An Energy Efficient Measurement was conducted by Energy Trust staff and attached to this report as Attachment A. Energy Trust staff estimated the electric cost savings, installed costs, grant funding levels, and payback periods for the option considered. Sole source documentation, associated with the pump rebuild, will be prepared based on the evaluation provided by Energy Trust.

Staff estimates the pump rebuild cost at \$80,000. This cost includes purchase and installation of the pump parts and the 125 hp motor. The rebuilt motor used during low flow periods will result in energy cost savings of \$18,179 annually. The payback period with proposed Energy Trust funding of \$39,241 is estimated at 2.4 years. Acceptance of the Energy Trust funding will offset approximately 50 percent of the total estimated cost of this project.

Staff has had a number of meetings and discussions with Energy Trust representatives regarding the project scope and funding availability. As a result of these conversations, staff is optimistic the Energy Trust will approve the funding for this project. Upon Council approval, staff will submit a grant. If Energy Trust approves the City's grant, staff will move forward with the south primary effluent pump and motor purchase and installation. Once the pump and motor are installed and proof of the installation is submitted to Energy Trust, the City will be issued a check for the grant award.

Jue Zhao
Wastewater Treatment Division Manager

Attachments:

1. Economic Summary

05/18/16