EXECUTIVE SUMMARY

In 2006, Twin City Foods (TCF) requested technical assistance from the Department of Ecology's Technical Resources for Engineering Efficiency (TREE) team. The company processes potatoes in Prosser, Washington and treats their own wastewater prior to discharge into the Yakima River. The wastewater plant occasionally cannot meet discharge limits for BOD and TSS. TCF was interested in opportunities within the processing plant to decrease solids and hydraulic loading to the wastewater plant.

TREE completed five visits to the facility during summer and fall of 2006 to make observations and measurements. TCF provided available wastewater sampling data, water use records, utility costs, and other information requested by TREE.

This report presents an evaluation of this facility's opportunities to decrease; solids loading, hydraulic loading, energy use, and solid waste generation. Below is a list of the most important recommendations for the company to consider. Where possible, TREE estimated the amount of savings. See Table 1.

1. Clean out the BVF to increase BOD and TSS removal
2. Install boiler economizers to reduce energy use
3. Recover and use biogas from the BVF to power boilers and/or microturbines
4. Decrease the solids going to the BVF. In particular, consider:
    - recycling liquid from the centrifuge back to the starch recovery system
    - repairing the leaking reel in the USDA area
5. Decrease amount of water going to the BVF. In particular, consider:
    - decreasing the water use in the peeler mufflers
    - reusing water for defrosting
6. Improve recordkeeping
    - Install flow meter to measure BVF influent
    - Update water balance occasionally
7. Reroute swamp cooler discharge
8. Assess safety of solid waste compactor against 1997 ANSI standards
9. Recycle fluorescent tubes
10. Evaluate silt disposal
11. Segregate incompatible chemicals
12. Improve containment for chemical storage

TABLE 1: QUANTIFIED OPPORTUNITIES

Opportunity		Natural gas	
		therms / year	*$ / year*
1	Install boiler economizers	Up to 64,000	Up to $64,000
2	Recover and use biogas from BVF assuming current production scenario	Up to 430,000	Up to $430,000